

**FLORAE MALESIANAE PRECURSORES XXIII**  
**THE GENUS RHODODENDRON IN MALAYSIA**

by

H. SLEUMER\*

SUMMARY

In this revision of the Malaysian species of the genus *Rhododendron* L. 261 species and 55 varieties and forms have been distinguished, of which 96 species (some obviously hybrids) and 29 varieties are described as new; 10 species have been reduced to the rank of a variety or form, and 67 species, varieties, or forms have for the first time been regarded as synonym. In the keys to several subsections or series the extra-Malaysian species are included.

INTRODUCTION

In the large genus *Rhododendron* the attention of the systematists and horticulturists has become concentrated during more than a hundred years on the Asiatic and American species, as these were collected on a big scale and introduced into cultivation in temperate regions, becoming thus rather easily accessible for scientific investigation. The Malaysian species of the genus, however, are much less known, and only local treatments have been made, for example by J. J. Smith for Java, by Schlechter for a part of New Guinea, and by Copeland<sup>1</sup> f. for the Philippines. In the present paper a general revision of all Malaysian *Rhododendrons* is undertaken for the first time. In connection with it a revision of *Rhododendron* in Indochina and Siam has been worked out by the author \*\*, because Asia-centred groups of species penetrate into Malaysia as far as Luzon and Sumatra, and essentially Malaysian ones go northwards as far as South Indochina.

Nearly the complete herbarium material of *Rhododendron* available to-day from Malaysia has been investigated. The loss of the types formerly preserved at Berlin and Manila could be compensated to a large degree by iso- and syntypes from other herbaria, and in part by recently collected toptype material.

\* Rijksherbarium, Leyden.

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The very rich collections which have been made in the past two decades in the mountains of Central Celebes by Eyma and in the highlands of New Guinea by Brass, Clemens, Eyma, Hoogland, and Womersley, have yielded many new species which helped to distinguish more clearly some apparently natural smaller groups of species within the genus. The North Sumatran mountains, thoroughly explored by Van Steenis, do not seem to have a comparable centre of speciation. The richness of the flora of the mountains of New Guinea, demonstrated by novelties in nearly every not too small recent collection, is an indication that our knowledge of this mountain flora is still far from complete. This holds particularly for the Ericaceae which are so richly represented in that flora, both in number of species and specimens.

Little is known of the local variation of Rhododendrons, especially of possible differences between terrestrial and epiphytic specimens of obviously the same species. Further we know nearly nothing about the certainly important role of natural hybridization, if compared with our knowledge of the natural interbreeding among Asiatic Rhododendrons, which has been studied in cultivation. We know from crossing experiments made with Malaysian Rhododendrons in European green-houses in the last century, e.g. *R. longiflorum*, *R. brookeanum*, *R. jasminiflorum*, *R. javanicum*, and *R. malayanum*, that all these species can be crossed rather easily. As they are not hardy, they have found but little interest outside botanical gardens, and most hybrids have disappeared. Natural hybrids between Malaysian Rhododendrons are recognizable in the herbarium, if one parent has very pronounced or dominant characters, such as *R. malayanum* with its peculiar type of scales or *R. jasminiflorum* with its outstanding shape of the corolla, and if the other parent does not belong to the same subsection. Hybrids between species within the same subsection may sometimes be distinguished on the spot when growing along with the parents, but can hardly be recognized from herbarium material alone even when both parents are collected with them. Characters such as habit of the plant, and colour of leaves and flowers, which might help to suggest the presence of a local hybrid, become less conspicuous or are almost lost by the drying process or by the cutting of the plant into small pieces of herbarium size. A better insight in this matter can be expected from future intensified field work and mass collections which will lift our knowledge above the present herbarium status. In consequence, the work offered here does not claim to be more than a basis for such future work on the Malaysian Rhododendrons.

Herbarium specimens have kindly been sent on loan from the following institutions:

Arnold Arboretum (A)	Kuching (SAR)
Bogor (BO)	Lae (LAE)
Brisbane (BRI)	Leyden (L)
Calcutta (CAL)	Manila (PNH)
Cambridge (CGE)	Melbourne (MEL)
Canberra (CANB)	New York (NY)
Florence (FI)	Stockholm (S)
Genève (G, in part)	Utrecht (U)
Gray Herbarium (GH)	Wroclaw (BRSL)
Kepong (KEP)	

The Clemens set as far as still existant in Berlin (B), the material preserved in London (BM), Kew (K), Edinburgh (E), and Paris (P) has been studied during several visits paid to these herbaria.

The Malaysian specimens of *Rhododendron* in the herbaria of Berkeley (UC) and Washington (US) have not been examined by the author because they have been revised, as far as the Philippines are concerned, formerly by Dr H. F. Copeland, and cited by him in his papers; most of these specimens are represented by duplicate numbers in the other herbaria cited above.

All measurements given in the descriptions are based on dried specimens. To get the corresponding sizes in living flowers,  $\pm 20\%$  should be added, to conclude from experiments I made.

Descriptions in Latin are restricted here to the new species and varieties as detailed descriptions of all taxa concerned will be given in English in "Flora Malesiana".

A f means, that the specimen is lost and has not been seen by me. I have, however, studied the whole of the Berlin material before its destruction.

#### RHODODENDRON L.

*Rhododendron* Linne, Sp. Pl. 1: 392. 1753; G. Don, Gen. Syst. 3: 843. 1834 (*in* *Azalea* L.); DC, Prodr. 7: 719. 1839; Miq., Fl. Ind. Bat. 2: 1057. 1859; Ann. Mus. Bot. Lugd.-Bat. 1: 41. 1863; Becc, Malesia 1: 199. 1878; Clarke *in* Hook, f., Fl. Br. Ind. 3: 462. 1882; K. & G. *in* J. As. Soc. Beng. 74, ii: 73. 1905; Koord., Exk. Fl. Java 3: 2. 1912; *in* Nova Guinea 8 (4): 875. 1912; J. J. S. *in* K. & V., Bijdr. 13: 92. 1914; J. J. S. *in* Nova Guinea 12 (2): 129. 1914; *I.e.* 12 (5): 495. 1917; *I.e.*, 1.193—205.



1918; Millais, *Ehodod.* 1917; Schltr in *Bot. Jahrb.* 55: 137—160. 1917/18; Koord., *Fl. Tjib. jam.* 233, p. 2. 1918; Ridl., *Fl. Mai. Pen.* 2: 215. 1923; Millais, *Rhodod.* 2nd ed. 1924; Copel. f. in *Philip. J. Sc.* 40 (2): 133. 1929; J. J. S. in *Nova Guinea* 18: 89. 1936; Copel. f. in *Am. Midi. Nat.* 30: 602. 1943; Amshoff in *Back., Bekn.* *Fl. Java* (em. ed.) 7 B, *fam.* 162, p. 1. 1948; Sleum. in *Bot. Jahrb.* 74: 511. 1949.—*Azalea* L., *Sp. Pl.* 1: 150. 1753.

LECTOTYPE SPECIES. — *R. ferrugineum* L.

KEY TO THE SUBGENERA, SECTIONS, AND SUBSECTIONS

1. Plants lepidote, i.e. covered with scales (i.e. epidermal trichomes) at least on the undersurface of the young leaves, generally also on the tips of the branchlets and in the floral region. Seeds manifestly appendaged to long-tailed at both ends  
Subgen. *Rhododendron* sect. *Vireya*
2. Scales 'disk-shaped', i.e. their marginal zone entire or nearly so (only slightly—regularly or mostly irregularly—crenulate) and narrow in relation to the generally darker, often thick or swollen centre. Scales on the branchlets and/or the pedicels whether or not on top of short, thickish, persistent epidermal stalks, never stalked on the leaves.
3. Corolla short-tubular in general, rarely funnel-shaped or (tubular-) campanulate, the lobes straight or spreading. E. Asia, Malaysia.  
Subsect. *Pseudovireya* (spp. 1—24)
3. Corolla trumpet-like or salver-shaped, the tube elongate and  $\pm$  narrow., straight or slightly curved, the lobes 1/4 or less of the total length of the corolla, spreading  $\pm$  horizontally. Malaysia (New Guinea). Subsect. *Siphonovireya* (spp. 25—29)
2. Scales 'star-shaped', i.e. their marginal zone distinctly—regularly or irregularly—lobed, dentate or incised (lacerate) to various degree at least on the branchlets, foliage, and corolla (sometimes more disk-like on the ovary), narrow to wide in relation to the mostly darker, generally but slightly or not thickened centre. Centre of the scale flat or deepened to various degree (scale 'sessile'), even protracted downwards into a shorter or longer slender foot or column (scale 'dendroid').
4. Scales in general markedly 'dendroid' and each one on top of distinct and permanent epidermal — bluntish or subapiculate — tubercle; upper and/or undersurface of the leaves  $\pm$  rough to the touch after the proper scales are gone. (Marginal zone of the scales usually wide, deeply, often narrowly incised, thus becoming similar to a stellate hair. Corolla of various form.) Malaysia (Celebes, New Guinea). . . . Subsect. *Phaeovireya* (spp. 30—64)
4. Scales usually 'sessile', rarely 'subdendroid', mostly not on tubercles, or on top of very low and subinconspicuous, certainly not permanent epidermal tubercles; the leaves quite smooth, at least in fully mature leaves on both faces. (Marginal zone of the scales narrow to wide, the centre mostly  $\pm$  impressed in the epidermis of the leaves).
5. Centre of the scales rather large and very dark (sooty or dark chestnut- or blackish-brown). Marginal zone of the scales relatively wide,  $\pm$  deeply and broadly obtusely several-lobed, becoming silvery with age. Scales of 2 distinctly different sizes, i.e. very many smaller and few much larger ones irregularly mixed, all very dense, touching or overlapping each other, at least in part.



- (Scales of a similar type, but smaller, less distinctly inequal and spaced for their greater, overlapping for their smaller number: hybrids of species of this subsection with species of other subsections). Malaysia (W. Malaysia, Celebes, Ceram, Buru). . . . . Subsect. *Malayovireya* (spp. 65—78)
5. Centre of the scales mostly rather small and of various colour (but never so dark as in subsect. *Malayovireya*). Marginal zone of the scales wider or narrower, mostly but moderately ( $\pm$  halfway) lobed or dentate. Scales all equal in size, very spaced to very dense.
  6. Scales very dense, touching or slightly overlapping each other, generally rather large, still forming a coherent layer on the undersurface of  $\pm$  mature leaves which is persisting for a rather long time (the remaining pits after the proper scales finally are gone, dense or very dense, at least more dense than in subsect. *Euvireya*). Malaysia . . . . . Subsect. *Albovireya* (spp. 79—91)
  6. Scales lax to subdense, always distinctly spaced on the undersurface of  $\pm$  mature leaves, rather small in general and often early caducous (or the marginal zone early dissolute).
  7. Corolla trumpet-like or salver-shaped, the  $\pm$  straight tube elongate and narrow, the lobes relatively short, equalling *Vi* or less of the total length of the corolla and spreading  $\pm$  horizontally. Malaysia. . . . . Subsect. *Solenovireya* (spp. 92—120)
  7. Corolla tubular, campanulate or funnel-shaped, the tube in general wider and shorter than in the preceding group, the lobes equalling % or more of the total length of the corolla, erect or  $\pm$  funnel-shaped expanded. E. Asia (2 spp.), Malaysia. . . . . Subsect. *Euvireya* (spp. 121—255)
  1. Plants elepidote, i.e. without scales. Seeds whether or not with short irregular appendages, but no proper long tails at both ends.
  8. Flower-buds or inflorescences strictly terminal (solitary).
  9. Flowers and leafy branchlets (new foliate shoots) developing from different buds: the former from terminal buds, the latter from axillary buds of leaves of the past season. Hairs, if bristle-like, not flattened. (Leaves persistent.) E. Asia, Malaysia (Malay Peninsula, Sumatra).  
Subgen. *Hymenanthes* sect. *Hymenanthes* subsect. *Irrorata* (spp. 256—258)
  9. Flowers and leafy branchlets (new foliate shoots) developing from the same terminal bud, the latter from the axils of the lowest, scale-like bracts of the present season. Hairs often bristle-like and flattened. (Leaves persistent or deciduous.) E. Asia, Malaysia (Philippines).  
Subgen. *Anthodendron* sect. *Anthodendron* (sp. 259)
  8. Flower-buds or inflorescences, although seemingly 'terminal', really lateral (mostly several together), arising from the axil(s) of the uppermost leaf (or leaves). E. Asia, Malaysia (Malay Peninsula).  
Subgen. *Azaleastrum* sect. *Choniastrum* (spp. 260—261)

### Subgenus RHODODENDRON

Subgen. *Rhododendron*. *R.* subgen. *Eurhododendron* Endl., Gen. 759. 1839, *p.p.*—*R.* subgen. *Lepidorrhodion* Koehne, Deutsch. Dendrol. 449. 1893; Sleum. in Bot. Jahrb. 74: 530. 1949.—*R.* sect. *Eurhododendron* DC, Prodr. 7: 721. 1839, *p.p.*; Miq., Fl. Ind. Bat. 2: 1057. 1859.

### Section VIREYA (Bl.) Copel. f.

*Rhododendron* sect. *Vireya* (Bl.) Copeland f. in Philip. J. Sc. 40 (2): 136, 151. 1929; Sleum. in Bot. Jahrb. 74: 536. 1949.—*R.* subgen. *Vireya* (Bl.) Clarke in Hook, f., Fl. Br. Ind. 3: 462. 1882; Copel. f. in Am. Midi. Nat. 30: 604, 1943.—*Vireya* Bl., Bijdr. 854. 1826; G. Don, Gen. Syst. 3: 846. 1834.—*Vireya* Bl. ex Steud., Nom. 2nd ed. 2: 744. 1841.

**TYPE SPECIES.** — *R. javanicum* (Bl.) Benn. (*Vireya javanica* Bl.).

### Subsection PSEUDOVIREYA

*Rhododendron* subsect. *Pseudovireya* (Clarke) Sleumer in Bot. Jahrb. 74: 537. 1949; in Blumea Suppl. 4: 47. 1958.—*R.* subgen. *Pseudovireya* Clarke in Hook, f., Fl. Br. Ind. 3: 464. 1882.—*R.* subsect. *Discovireya* Sleum. in Bot. Jahrb. 74: 539. 1949 (based on *R. retusum* (Bl.) Benn.).—*R.* sect. *Zygomorphanthe* Schltr., l.e. 55: 145. 1918, p.p.

**TYPE SPECIES.** — *R. vaccinioides* Hook, f.

#### KEY TO ALL SPECIES OF SUBSECTION PSEUDOVIBBYA

1. Branchlets covered at the tips with  $\pm$  distinctly stalked (peltate) scales in the youngest, densely verruculose and scabrid by the remaining stipes in the older parts, where the proper scales have gone.
2. Calyx well developed, deeply lobed to the base, the lobes 3–4 mm long, oblong, obtuse.
3. Leaves c. 1,8 by 0,6 cm, without distinct lateral nerves. East Himalaya, S. E. Tibet, N. E. Upper Burma, Yunnan. . . . . *R. vaccinioides* Hook. f.
3. Leaves 2,5–3,6 by 1,2–1,6 cm, with distinct lateral nerves impressed above. S. Tibet . . . . . *R. asperulum* Hutch. & Ward
2. Calyx short (the lobes rarely up to 2 mm), or rim-like only.
4. Calyx long-ciliate, i.e. laxly or  $\pm$  densely set with rather long, whitish hairs at the margin.
5. Leaves obovate to oblong-obovate, arranged in distinct pseudowhorls, (1,5–) 2,5–4(–6,5) by (0,8–)1,2–1,8(–3) cm. (Umbels (2–)4–10-flowered).
6. Corolla strictly tubular, 2–2,5(–3) cm long, lepidote and pubescent outside.
7. Style lepidote at the base, bearing no hairs at all. Sumatra, Java.
  - la. *R. re<tusum* var. *retusum*
  7. Style laxly patent-pilose at the base or in the lower half. Sumatra.
    - lb. *R. retusum* var. *trichostylum*
    6. Corolla tubular-campanulate, c. 1,4 cm in length, lepidote but epilose outside. Sumatra . . . . . lc. *R. retusum* var. *epilosum*
5. Leaves lanceolate or oblong-lanceolate, alternate, densely crowded, 0,6–1,2 by 0,2–0,3 cm. New Guinea . . . . . 2. *R. taxoides*
4. Calyx very laxly and shortly ciliate, or mostly not ciliate at all.
8. Flowers solitary or rarely in twos.
9. Corolla campanulate.



10. Corolla bright orange. Ovary densely scaly and softly pubescent. S. Tibet.  
*R. insculptum* Hutch. & Ward
10. Corolla yellow. Ovary exclusively scaly. Tonkin, Yunnan, Kweichow.  
*R. emarginatum* Hemsl. & Wils.
9. Corolla tubular.
11. Corolla 1—1.3 (rarely up to 1.5) cm. Leaves 4—9 mm long.
12. Leaves entire or nearly so, the margin hardly or not thickened (and but slightly revolute).
13. Leaves elliptic or elliptic- or oblong-obovate, obtuse or subacute at the apex, laxly lepidote underneath. Pedicels very slender, lepidote and shortly patent-pilose. New Guinea . . . . . *3a. R. pulleanum* var. *pulleanum*
13. Leaves broad-obovate to nearly rounded, often retuse at the apex, ± densely lepidote beneath. Pedicels rather stoutish, densely lepidote, very sparsely or not pilose. New Guinea . . . . . *4. R. nummatum*
12. Leaves well visibly crenulate by the impressed scales at the ± thickened margin (ovate or elliptic-ovate, obtusely acuminate).
14. Leaves (5—)6—9 (rarely and but partly in the same specimen up to 12) by 4—7 mm. New Guinea . . . . . *5a. R. gaultheriifolium* var. *gaultheriifolium*
14. Leaves 3—4(—5) by 3—4 mm. New Guinea.  
*5b. R. gaultheriifolium* var. *exposition*
11. Corolla (1.5—)1.7—2.4 cm long (when 1.5 cm long then the leaves at least in part exceeding 10 mm in length). Leaves 6—30 mm long.
15. Leaves elliptic, or ovate- or oblong-elliptic, it acuminate at the apex.
16. Leaves ± oblong-elliptic, 8—12 by 4—6 (rarely up to 8) mm. Corolla red. New Guinea . . . . . *6a. R. oreites* var. *oreites*
16. Leaves elliptic or ovate-elliptic, 11—15 by 5—8 mm. Corolla greenish-yellow. New Guinea . . . . . *6b. R. oreites* var. *chlorops*
15. Leaves narrowly to broadly obovate or suborbicular, obtuse or retuse at the apex.
17. Leaves narrow or elongate-obovate, 6—9(—10) by (2—)2.5—4 mm. New Guinea . . . . . *7. R. erosipetalum*
17. Leaves obovate to broad-obovate or -suborbicular, or, if oblong-obovate, at least 5 mm wide.
18. Leaves obovate-suborbicular, 7—10 by 5—8 mm. New Guinea.  
*8. R. ha/meliiflorum*
18. Leaves obovate or broad-obovate, or oblong-obovate.
19. Leaves 6—10 by 4—6 mm. New Guinea.  
*3b. R. pulleanum* var. *maiusculum*
19. Leaves 10—25 by 5—12(—18) mm.
20. Anthers 1—1.2 mm long. Capsules 1—1.5(—1.8) cm long.
21. Calyx lobes minute (c. 0.5 mm), spreading or reflexed.
22. Leaves ± broadly obovate, 1.5—2.5 by 0.8—1.3(—1.8) cm. (Corolla lobes, besides the scales, epilose or laxly pilose outside, laxly or not ciliate). New Guinea . . . . . *9a. R. lindaueanum* var. *lindaueanum*
22. Leaves oblong-obovate, 1—1.5 by 0.5—0.7 cm.
23. Corolla lobes (besides the scales) epilose, not ciliate. New Guinea.  
*9b. R. lindaueanum* var. *psilacrum*

23. Corolla lobes (besides the scales) rather densely ciliate. New Guinea.  
*9c. R. lindaueanum* var. *cylopicum*
21. Calyx lobes c. 1 mm, ± appressed to the corolla. (Corolla lobes not ciliate.) Celebes. . . . . *9d. R. lindaueanum* var. *bantaengense*
20. Anthers 2 mm long. Capsules 7—8 mm long. Malay Peninsula.  
*10. R. spathulatum*
8. Umbels 3—5-flowered.
24. Leaves minutely, but well visibly crenulate, ovate to elliptic- or oblong-ovate or elliptic, rarely obovate-elliptic, slightly or not revolute at the margin.
25. Leaves 0,7—1,8 by 0,5—1,2 cm; scales very densely set, partly touching each other on the undersurface of the leaves; nerves ± inconspicuous beneath.
26. Leaves (0,8—)1—1,8 by 0,7—1(—1,2) cm. New Guinea.  
*lla. R. saruwagedicum* var. *saruway edicum*
26. Leaves 0,7—1,2 by 0,5—0,8 cm. . . . . *lib. R. saruwagedicum* var. *alpinum*
25. Leaves (1,5—)2—3,5 by (1,2—)1,5—2(—2,2) cm; scales less densely set, all distant from each other on the undersurface of the leaves; nerves ± conspicuous beneath. New Guinea . . . . . *12. R. invariorum*
24. Leaves quite entire, obovate-spathulate or broadly oblanceolate, much revolute at the margin (the nerves mostly distinctly prominent beneath). Malay Peninsula . . . . . *13. R. perakense*
1. Branchlets covered at the tips with sessile or nearly sessile scales, inconspicuously verruculose or mostly smooth when the proper scales have gone.
27. Corolla distinctly funnel-shaped or campanulate.
28. Leaves reticulate beneath. Branchlets sordid-brown-velutinous at the tips. Sumatra . . . . . *H. R. vanderbiltianum*
28. Leaves not reticulate beneath. Branchlets papillose-puberulous or pilose at the tips.
29. Ovary short-pubescent. (Filaments villous at the base. Leaves obovate, c. 5 by 1,8—3 cm.) Formosa . . . . . *R. kawakamii* Hayata
29. Ovary exclusively lepidote.
30. Filaments glabrous.
31. Leaves oblong-obovate or narrow-elliptic, sometimes nearly lanceolate, 1,3—2,8 by 0,5—1,1 cm. Malay Peninsula . . . . . *15. R. scimundii*
31. Leaves elliptic or elliptic-suborbicular or (broadly) obovate, (2,5—)3—5 by (1,5—)1,8—2,3(—3) cm. Malay Peninsula . . . . . *16. R. scortechinii*
30. Filaments villous above the base. (Leaves obovate, (2,5—)3—4(—4,5) by (1—)1,5—2 cm.) Tonkin. . . . . *R. sororium* Sleum.
37. Corolla tubular or nearly so, **mostly** somewhat widened towards the limb.
32. Umbels (4—)6—12-flowered (with longish subpatent hairs on the pedicels when only 4- or 5-flowered).
- 33. Leaves 0,8—1,8 cm by 2—3 mm. Sumatra . . . . . 17. R. adinophyllum**
33. Leaves 2,5—3 by 1,2—1,9 cm. New Guinea . . . . . *18. R. cyrtophyllum*
32. Flowers solitary or in twos (very rarely up to 4 in an umbel, but then pedicels not longish subpatent-pilose).
34. Calyx lobes distinct, elongate-subovate-triangular, obtuse, c. 2 mm long.
- 35. Leaves 4—6(—7) by c. 1 mm, densely crowded. Borneo.**  
*19a. R. ericoides* var. *ericoides*



35. Leaves 8—10 by 1,6—1,8 mm, rather densely crowded. Borneo.  
19b. *R. ericoides* var. *silvicolum*
34. Calyx lobes broadly ovate-rounded, obtuse, very short (up to 1 mm), not rarely  
± inconspicuous.
36. Leaves lanceolate, subacute at the apex and at the base (4—6 by 1,5—2,5 mm).  
Celebes. 20a. *R. nanophyton* var. *nanophyton*
36. Leaves ovate or oblong or elliptic or obovate, ± obtuse at the apex and/or  
at the base.
37. Corolla 2,5—3,2 cm long.
38. Leaves ovate to elliptic-ovate or elliptic, 5—8(—12) by 3—5(—8) mm. N-JW  
Guinea. 21. *R. schizostigma*
38. Leaves obovate, 1,9—4,3 by 0,7—1,9 cm. Buru, Ceram. 22. *R. meliphagidum*
37. Corolla 1—2 (rarely up to 2,5) cm long.
39. Leaves small, obovate-oblong, 2,5—4(—6) by 1,5—2(—2,5) mm. Celebes.  
20b. *R. nanophyton* var. *petrophilum*
39. Leaves larger.
40. Branchlets besides the scales not hairy at all. Corolla lobes distinctly erose-  
denticulate at the apex. New Guinea. 23. *R. ciliilobum*
40. Branchlets besides the scales short-pubescent or patent-puberulous at the  
tips. Corolla lobes entire at the apex. Borneo, Celebes, Philippines.  
24. *R. quadrasianum* s. lat.

For the varieties follow the key:

41. Ovary exclusively lepidote (not hairy at all).
42. Corolla lepidote, and, at least laxly, pubescent outside.
43. Corolla 20 (rarely up to 25) mm long and strictly tubular. Philippines.  
24d. *R. quadrasianum* var. *malindangense*
43. Corolla 10—15(—16) mm long and somewhat subcampanulate-dilate  
distally.
44. Pedicels pubescent and ± densely lepidote at the anthesis. Perulae  
lepidote and pubescent dorsally.
45. Leaves rather broadly and shortly obovate, 15—20(—28) by (5—)  
6—8(—10) mm. Philippines. 24b. *R. quadrasianum* var. *davaoense*
45. Leaves it elongate-obovate, (10—)12—20(—22) by 3—5 (rarely up to  
6) mm. Philippines. 24c. *R. quadrasianum* var. *rosmarinifolium*
44. Pedicels pubescent, but not or very sparsely lepidote at the anthesis.  
Perulae glabrous dorsally or nearly so.
46. Leaves obovate, (11—)12—18(—20) by 4—7(—8) mm. Philippines.  
24e. *R. quadrasianum* var. *marivelesense*
46. Leaves narrow-obovate, 8—10(—11) by 2—3(—4) mm. Philippines.  
24f. *R. quadrasianum* var. *intermedium*
42. Corolla mostly exclusively lepidote, or rarely almost so, i.e. also with  
some hairs at the base, or glabrous.
47. Leaves (15—)17—30 by (7—)9—13 mm. (Pedicels pubescent and lepidote.)  
Philippines. 24a. *R. quadrasianum* var. *quadrasianum*
47. Leaves 6—16 by 2,5—6 mm.
48. Leaves ± broadly obovate, (3—)4—5(—6) mm wide. Pedicels lepidote  
and laxly pubescent, sometimes exclusively lepidote. Celebes.  
2kg. *R. quadrasianum* var. *selebicum*

48. Leaves narrowly and  $\pm$  elongate-obovate, 2.5—4(—5) mm wide. Pedicels very laxly lepidote, nearly always epilose. Celebes, Borneo.

24h. *R. quadrasianum* var. *euneifolium*

41. Ovary lepidote and rather densely pilose to nearly villous.

49. Leaves narrow-obovate, (5—)9—16 by 3—5 mm. Borneo.

49. Leaves broad-obovate, (11—)16—22 by (5—)7—10 mm. Borneo.

24j. *R. quadrasianum* var. *borneense*

### 1. RHODODENDRON RETUSUM (Bl.) Benn.

*Rhododendron retusum* (Bl.) Bennett in Benn. & Br., Pl. Jav. Rar. 86 in texto, 88, t. 20: 1838; DC, Prodr. 7(2): 724. 1839; Hassk., Cat. Hort. Bog. 161. 1844; Mor., Syst. Verz. Zoll. 42. 1846; Planch., Fl. Serres 5: 477-480 b. 1849; Zoll., Syst. Verz. 2: 137. 1854; Houtte, Fl. Serres 10: t. 1044'. 1854/55; Hook., Bot. Mag. t. 4859. 1855; Lemaire, Ill. Hort. 2: t. 70. 1855; Anon., Florist t. 100. 1855; Miq., Fl. Ind. Bat. 2: 1058. 1859; I.e. Suppl. 1: 251, 586 (f. *angustifolia*). 1860; Ann. Mus. Bot. Lugd.-Bat. 1: 44. 1863; Bl. & Fisch., Fl. Javae, Pl. inéd. t. 7 & 7 B, f. 2 A & B. 1863-83; Boerl. in Veth, Midden Sumatra 4(2): 22. 1884; Koord., Junghuhn Gedenkb. 185. 1910; Exk. Fl. Java 3: 5, / 2. 1912; Koord.-Schum., Syst. Verz. 1: /am. 233, p. 106. 1912; J. J. S. in K. & V., Bijdr. 13: 110. 1914; Ridl. in J. Fed. Mai. St. Mus. 8: 58. 1917; Millais, Rhodod. 235. 1917; Koord., Fl. Tjib. fam. 233, p. 4. 1918; Hochr. in Candollea 2: 491. 1925, *inch* var. *macranthum* Hochr. I.e. 492; Sp. Moore in J. Bot. 63: Suppl. 57. 1925; Doct. v. Leeuw. in Trop. Natuur 16: 190, / 33. 1927; Pangrango 204, pi. 29A. 1933; J. J. S. in Merr. in Contr. Arn. Arb. 8: 122. 1934; Steen. in Trop. Natuur 24: 143. 1935; Back., Bekn. Fl. Java (em. ed.) 7B: /am, 162, p. 3. 1948.—*Vireya retusa* BL, Bijdr. 856. 1826; G. Don, Gen. Syst. 3: 848. 1834.—*Azalea retusa* (Bl) O. Ktze, Rev. Gen. Pl. 2: 384, 387. 1891.

#### 1a. var. RETUSUM

SUMATRA. Atjeh: Laut Pupandji, 2050 m, van Steenis 6524. Redelong volcano, c. 1830 m, *Bangham* 920. East coast: G. Sibajak, 1800—2000 m, van der Meer Mohr 5049; *Lorzing* 7330, 13515. Kabandjahe, G. Sinabung, 1100—2400 m, *Roesel* (*Herb. Lorzing* 307). G. Pintu, 2000 m, *Carel Hamel & Rahmat Si Toroes* 600; *Frey-Wyssling* 5. G. Pangulubao, 2100 m, *Heusser* 8. Berastagi, *For. Dep. F.M.S.* 25137 *Symington*. G. Sinabung, 2000—2470 m, *For. Dep. F.M.S.* 2465i *Symington*; *Lorzing* 8U3; *Bartlett* 86U7. West coast: G. Singalang, 2700—2870 m, *Fates* H62; *Beccari P.S.* 168; *Docters van Leeuwen* 3988; *Schiffner* 237k; *Meijer* 3840, 3883. G. Sago, 1800—2000 m, *Meijer* 3637, 5850; *Meijer & Vermeulen* 5472. G. Tandikat, 1700—2400 m, *Meijer* 3940 (-> var. *epilomm*). G. Malintang, 2260 m, *Biinnemeijer* 4065, 4184. G. Talang, 2350—2500 m, *Teijsmann H.B.* 784 (BO; U, type of *R. retusum* f. *angustifolium*); *Biinnemeijer* 5249, 5506. G. Talamau, 2300—2800 m, *Jacobson s.n.*; *Bunnemeijer* 836a, 985. G. Kerintji, 2750—3410 m, *Jacobson* 2468; *Biinnemeijer* 9851, 10022, 10374; *Holtum s.n.*; *Robinson & Kloss s.n.*; *Meijer* 6117; *Jacobs* 4399. G. Merapi, 2200—2740 m, *Schiffner* 2354, 2373, 2382; van Borssum W. 2223; *Blauw s.n.*; *Biinne-meijer* 4731, 4907, 5006. Palembang: G. Dempo, 2300—3100 m, de Voogd 383, 1569; *Ajoeb* (*Exp. Jacobson*) 525; *Bally* 5; *Brooks* 15906; *Forbes* 2372, 2400a. Benkulen: B. Daun, 2400 m, de Voogd 1395. G. Pesagi, 2232 m, van Steenis 3638; *ibid.*, 2135 m, *Forbes* 2040.



JAVA. Bantam: G. Karang, 1770 m, *Koorders* 9680; *Horsfield s.n.* 'Bantam', *Forbes* 135. Djakarta / Preanger: G. Gede, 2100—2900 m, *Reinwardt s.n.*; *Zippelius s.n.*; *King s.n.*; *O. Kuntze* 4718; *Bakhuizen van den Brink* 65; *Junghuhn s.n.*; *Hallier* 438, 454; *Möller* 8; *de Voogd* 738; *Schiffner* 2358; *Pulle* 4119; *Kjellberg s.n.*; *Yates* 2797, 2812; *van Steenis* 1986, 17558; *Backer* 3237, 31284; *Hub. Winkler* 1822; *Docters van Leeuwen* 12960, 13226. G. Papandajan, 1800—2600 m, *Holstvoogd* 302; *Burck* 163, 371; *Schiffner* 2364; *Kjellberg s.n.*; *van Steenis* 4130, 6782; *Coert* 634; *Backer* 5570; *Koens* 439; *Koorders* 42059. Papandajan-Garut, 2135 m, *Gibbs* 6479. Kawah Manuk, 1860 m, *Holstvoogd* 502; *Schiffner* 2368; *Koens* 176. G. Guntur, 1500—1920 m, *Anderson* 465; *Bakhuizen van den Brink* 2340; *Koens* 111; *Kerkhoven* 17; *G. Pangrango*, 2135—3000 m, *van Ooststroom* 13310; *Visser C* 50201; *Docters van Leeuwen* 134, 5450, 8717; *Koorders* 15630, 31956, 31972; *Kurz* 304, 2346; *Yates* 2769; *Smith s.n.*; *Schiffner* 2362, 2363; *Waitz s.n.*; *Burck s.n.*; *Junghuhn s.n.*; *de Monchy s.n.*; *van Steenis* 5196; *van Ooststroom* 13351. G. Salak, 1600—2100 m, *Reinwardt s.n.*; *Zollinger* 1685 p.p., 1685 X p.p.; *Koorders* 36742; *Bakhuizen van den Brink* 589, 24-21; *van Steenis* 3038. G. Malabar, 2165 m, *Anderson* 147; *Forbes* 1061. G. Sunda, 1900 m, *Bakhuizen van den Brink* 4602; *van Slooten* 474. Kamodjang, *Bakhuizen van den Brink* 3667. Garut, *Burck s.n.* Tjikurai, *Scheffer D* 71. Tjibodas region, 2400 m, *Koorders* 2393; *Veldhuis s.n.*; *de Monchy s.n.*; *Scheffer s.n.*; *Bruggeman* 133. G. Patuha, 2200—2300 m, *van Steenis* 6884; *Korthals s.n.*; *Lörzing* 1828. Kawa Tjibumi, S.W. Patuha, 1750 m, *Lörzing* 1350. Pangentjongan region, Telagabodas-G. Patuha, *Koorders* 9669. Tjigenteng, G. Kendeng, *Koorders* 9670. Tangkuban Prahur, 1800 m, *Docters van Leeuwen* 2259. G. Wajang, *Rant* 623; *Denker* 9. G. Tilu, *Junghuhn s.n.* Sine loco: *Blwme s.n.* (L, type of *Vireya retusa*; U); *Junghuhn* 90; *Horsfield s.n.*; *Kollmann s.n.*; *E. Meyer S.n.*; *Forbes* 723 bis; *Lobb* 252. Kedu: G. Prau, 2400 m, *Lörzing* 703. G. Merapi, *Junghuhn s.n.* Djieng, *van der Meer Mohr s.n.* Pasuruan: Tretes, G. Ardjuno, *Coert* 437.

lb. var. *trichostylum* Sleum., *nov. var.*

Foliis minoribus 1,5—2,5 cm longis, 0,7—1,4 cm latis et praecipue stylo basi vel in inferiore media parte patenter pilosulo a typo diversum.

SUMATRA. Atjeh: Gajo Lands, top G. Lembuh to bivouac Halfweg, 2700 m, forested slope below the summit, fl. brickred, 23-2-1937, *van Steenis* 9169 (A, BO, K; L, type; SING). Putjuk Angasan, above Penosan, 1350—1500 m, *van Steenis* 8316. Bur ni Telong, 2560 m, *Frey-Wyssling* 23.

lc. var. *EPILOSUM* J. J. S.

*Rhododendron retusum* (Bl.) Benn. var. *epilosum* J. J. Smith in *Bull. Jard. Bot. Btzg* III, 13: 446. 1935.

SUMATRA. West coast: Padang Highlands, B. Gombak, 2330 m, *Bunne-meijer* 5732 (A; BO, type; K, L, SING).

2. RHODODENDRON TAXOIDES J. J. S.

*Rhododendron taxoides* J. J. Smith in *Nova Guinea* 18: 92, t. 18, 2. 1936.

NEW GUINEA. Northern part: Doormantop, 3250—3520 m, *Lam* 1598 (BO, lectotype; L), 1626, 1643.

## 3. RHODODENDRON PULLEANUM Koord.

*Rhododendron pulleanum* Koorders in Nova Guinea 8(4) : 879, t. 154, 4. 1912; J. J. S., *I.e.* 12(2): 130. 1914; *I.e.* 18: 90. 1936—*R. minimifolium* Wernh. in Trans. Linn. Soc. ser. 2 Bot. 9: 98. 1916, p.p.

## 3a. var. PULLEANUM

NEW GUINEA. Southwestern part: Hellwig Mts (Mt Agathodaemon), 2000—2500 m, von Römer 1198 (BO, lectotype), 1207; *ibid.*, 2600 m, *Pulle* 574; van Nouhuys s.u. Ascent to Mt Carstensz, 2530—3350 m, B. Kloss s.n. (BM, the left specimen on the type sheet of *R. minimifolium*). Mt Goliath, 2600—3450 m, de Kock 46. Northern part: Doormantop, 1420 m, Lam 1445. Nassau Mts, 1900—2600 m, Docters van Leeuwen 10827, 10905. 18 km SW of Bernhard Camp, Idenburg R., 2100—2150 m, Brass 12176, 12178, 12442, 12445.

## 3b. var. maiusculum Sleum., nov. var.

Folia 6—10 mm longa, 4—6 mm lata. Corolla ± 1,7 cm longa. Pedicelli dense lepidoti omnino pilosi.—An species propria?

NEW GUINEA. Northern part: 20 km N of Lake Habbema, 2300 m, common on open sandy crest of ridge, shrub 1—1,5 m, fl. red, 10-1938, Brass 10834 (A, type).

## 4. RHODODENDRON NUMMATUM J. J. S.

*Rhododendron nummatum* J. J. Smith in Nova Guinea 18: 91, t. 17, 2. 1936.

NEW GUINEA. Northern part: Doormantop, 3200 m, Lam 1807 (BO, type; L). Southern part: Hellwig Mts, von Römer 1321 (BO). Northern part: Morobe Distr., above Sambanga, ascent to Mt Saruwaged, 2135—2440 m, Clemens 9504. Central Highlands: Wahgi-Jimmi Divide, 3170 m, N.G.F. 5303 Womersley. Southeastern part: Central Distr., Wharton Range, Murray Pass, 2840 m, Brass 4657; Mt Tafa, 2400 m, Brass 4894; Main Range, Mt Victoria, NW of the 'Gap', c. 2440 m, Carr 15263. Milne Bay Distr., Mt Donana, 2440—2680 m, Crutwell 923, 924.

## 5. RHODODENDRON GAULTHERIIFOLIUM J. J. S.

*Rhododendron gaultheriifolium* J. J. Smith in Nova Guinea 18: 90, t. 17, 1. 1936.

## 5a. var. GAULTHERIIFOLIUM

NEW GUINEA. Northern part: Doormantop, 3520 m, Lam 1661 (BO, lectotype; L). 11 km NE of Wilhelminatop, 3400 m, Brass 9661 (→ var. *expositum*). Lake Habbema and vicinity, 2900—3225 m, Brass 9024, 10666 p.p., 10669, 21109. Eastern Highlands, Mt Wilhelm, 3350—3960 m, Semple & Rayner s.n.; Stonor 12; *ibid.*, Lake Aunde, c. 3500 m, N.G.F. 8958 Womersley; *ibid.*, Lake Piunde, c. 3615 m, N.G.F. 8834 Womersley. Southern part: Hubrecht Mts, 3100 m, *Pulle* (Versteeg) 2420. Wichmann Mts, 3000 m, *Pulle* 999. Western Highlands, Upper Minj R. valley, on Minj-Nona Divide, 3410 m, Pullen 229.

## 5b. var. expositum Sleum., nov. var.



Folia valde coriacea et lucida, 3—4(—5) mm longa, 3—4 mm lata. Capsulae 6—7 mm longae, 2,5—3 mm crassae.

NEW GUINEA. Northern part: 2 km E of Mt Wilhelminatop, 3700—3800 m, common in alpine grassland or on exposed sandstone, fl. red to orange-red, Brass & Meijer Drees 10113, 10122 (A; L, type), 10331; 7 km NE of Mt Wilhelminatop, 3800 m, Brass & Meijer Drees 9918; 3 miles E of Mt Wilhelminatop, 3650 m, Brass 9 il 5.

## 6. *Rhododendron oreites* Sleum., *nov. spec.*

### 6a. var. OREITES

Frutex gracilis erectus 2—2,5 m altus, sparse ramosus. Ramuli teretes, 1,5—2 mm diam., apicibus dense lepidibus stipitatis (vel peltatis) adpersi, in partibus inferioribus glabrescentes et verruculosi, rugosi. Folia alterna, praecipue ad partem superiorem innovationum conferta, oblongo-elliptica, apicem versus sensim subacuminata, apice extremo subobtusa, basi late in petiolum attenuata vel breviter subtruncato-rotundata, coriacea, in sicco supra saturate olivaceo-brunnea usque nigrescentia, subtus pallidiora et cupreo-brunnea, utrinque persistenter subdense lepidota (lepidibus in vivo lutescentibus, in sicco rufescentibus, rotundis, zona marginali angusta, integris vel subintegris, centro magno bene incrassato paullo impresso), imprimis inferne revoluta et lepidibus immersis subcrenulata, 8—12 mm longa, 4—6 (raro usque ad 8) mm lata, costa supra paullo impressa, subtus prominente, nervis lateralibus supra haud, subtus paullo vel haud visibilibus; petioli sat graciles, c. 2 mm longi, lepidoti. Flores solitarii. Perulae exteriores triangulares, interiores ovatae usque oblongae, apiculatae, firmule membranaceae, apice dorso lepidotae, ceterum glabrae, sat longe denseque albido-ciliatae, usque ad 5 mm longae, 2,5 mm latae, saepius pedicellum sub anthesi et interdum sub fructu involucrantes. Bracteolae filiformes, laxe pilosae, c. 6 mm longae. Pedicelli graciles, dense substipitato-lepidoti, epilosi, sub anthesi c. 1 cm longi, postea usque ad 1,5 cm elongati. Calyx parvus, obliquus, cupularis, c. 2,5 mm diam., breviter 5-lobus, lobis subacutis vel obtusis corollae appressis  $\pm$  1 mm longis. Corolla parum zygomorpha, tubulosa, rubra, cum lobis 1,6—1,7 cm longa, basi c. 3, ad limbum c. 6 mm diam., extus margine loborum glabro excepto dense lepidota, intus glabra, lobis 5 subrotundatis extus superne glabris vel laxissime brevissime pilosis, intus glabris, margine crenulatis vel eroso-denticulatis, haud ciliatis, 3—4 mm diam. Stamina 10, corollam longitudine aequantia, parum inaequilonga; filamenta in vivo saturate rubra, glabra, inferne linearia, superne filiformia; antherae in vivo brunneae, obovato-oblongae, c. 1 mm longae. Discus glaber, vix prominens. Ovarium breviter ovoideo-cylindricum,  $\pm$  dense lepidibus substipitatis vel sessilibus indutum, c. 4 mm longum, usque ad 1,5 diam., apice sensim in stylum glabrum sat gracilem sub anthesi corollam aequantem denique parum elongatum abiens; stigma clavatum sublaterale. Capsula cylindrica, (0,8—) 1—1,2 cm longa,  $\pm$  0,35 cm diam., profunde 5—sulcata, sat dense lepidota, valvis haud vel parum tortis.

NEW GUINEA. Northern part: 7 km NE of Mt Wilhelminatop, 3560 m, common shrub in subalpine forest, 9-1938, *Brass & Meijer Drees 9627, 9992* (A, type; L); 11 km NE of Mt Wilhelminatop, 3400 m, *Brass & Meijer Drees 965U*. 6 km NE of Lake Habbema, 2900—3000 m, *Brass 10666* (L).

6b. var. *chlorops* Sleum., *nov. var.*

Folia elliptica vel ovato-elliptica, quam in typo maiora, 11—15 mm longa, 5—8 mm lata. Corolla viridi-lutea.

NEW GUINEA. Northern part: 6 km NE of Lake Habbema, abundant in a shrubby opening in the forest, 3000 m, 10-1938, *Brass 10668* (A, type; L).

#### 7. RHODODENDRON EROSIPETALUM J. J. S.

*Rhododendron erosipetalum* 5. J. Smith in *Nova Guinea* 18: 91, t. 18, 1. 1936; Kaneh. & Hatus. in *Bot. Mag. Tokyo* 56: 479. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Mt Mundi, 1800 m, *Mayr 15, 18* (BO, lectotype; L, phot.); *ibid.*, Mt Ditschi, 1400 m, *Mayr 56*. Mt Koebre, 2300 m, *Kanehira & Hatusima 13659* (BO). Mt Tombrok, between Anggi Gita and Anggi Gigi, 2200 m, *Bergman s.n.* Mt Nettoti, top, 1980 m, *van Royen 3858*.

#### 8. RHODODENDRON HAMELIIFLORUM Wernh.

*Rhododendron hameliiflorum* Wernham in *Trans. Linn. Soc. ser. 2 Bot.* 9: 98. 1916.

NEW GUINEA. Southern part: Mt Carstenz, 2530—3350 m, *B. Kloss s.n.* (BM, type).

#### 9. RHODODENDRON LINDAUEANUM Koord.

*Rhododendron lindaueanum* Koorders in *Nova Guinea* 8(4): 878. 1912; J. J. S., *I.e.* 12(5): 498. 1918 (*lindauianum*).—*R. lindaueanum* Koord. var. *latifolium* J.J.S., *I.e.* 12(2): 130, t. 29, A. 1914.—*R. retusum* [non (Bl.) Benn.] Wernh. in *Trans. Linn. Soc. ser. 2 Bot.* 9: 94. 1916.—*R. fuchsoides* Schltr in *Bot. Jahrb.* 55: 147. 1918.

9a. var. LINDAUEANUM

NEW GUINEA. Southern part: Mt Carstenz, 1190—2040 m, *B. Kloss s.n.* (BM, '*R. retusum*'). Hellwig Mts, c. 2500 m, *von Rb'mer 777*; *ibid.*, Erica top, 1460—1520 m, *von Romer 10k3* (BO, lectotype of *R. lindaueanum*); *Pulle 820*; Hellwig Mts, 1900—2600 m, *Pulle 578, 791, 828, 895*. Mt Dromedaris, 1250 m, *Pulle 601*. Mt Goliath, 1900 m, *de Kock 31* (BO, type of *R. lindaueanum* var. *latifolium*). Northern part: 18 km SW of Bernhard Camp, Idenburg R., 2100 m, *Brass 12177*. 'Pelsspitze', Sepik R. region, 1400—1500 m, *Ledermann 12560'* (B, type of *R. fuchsoides*, f). Northeastern part: Morobe Distr., Mt Saruwaged, c. 2440 m, *Clemens 5876, 5877*; *ibid.*, Masak R., 1830—2440 m, *Clemens 7549*.

9b. var. *psilacrum* Sleum., *nov. var.*

Corollae lobi pilosi, haud ciliati. Folia oblongo-obovata, 1—1.5 cm longa, 5—7 mm lata.



NEW GUINEA. Northern part: 18 km SW of Bernhard Camp, Idenburg R., on exposed summit in mossy forest at 2150 m, fl. red, 2-1939, *Brass 12444* (A, type; L).

9c. var. **cyclopicum** Sleum., *nov. var.*

*Rhododendron lindaeanum* (non Koord.) J. J. Smith in *Nova Guinea* 12(2) : 129. 1914; *I.e.* 18: 89. 1936 (*lindauianum*).

A typo corollae lobis sat dense ciliatis differt. Folia oblongo-obovata, 1—1.5 cm longa, 5—7 mm lata.

NEW GUINEA. Northern part: Mt Cyclops, 1400—2000 m, *Gjellerup 558* (BO, type; L); *Mayr 592, 628; van Royen 3711*.

9d. var. **BANTAENGENSE** J. J.S.

*Rhododendron lindaeanum* Koord. var. *bantaengense* J. J. Smith in *Fedde, Rep.* 30: 163. 1932; *Lam in Blumea* 5: 576. 1945, *in texto*.

**CELEBES.** Southwestern part: G. Bantaeng (Peak of Bonthain), 2890 m, *BHinnemeijer 12250* (BO, type; L); *ibid.*, top of Bawakraeng, c. 2800 m, fl. red, *van Zijll de Jong 27*.

10. RHODODENDRON SPATHULATUM Ridl.

*Rhododendron spathulatum* Ridley in *J. Str. Br. R. As. Soc.* 61: 25. 1912; *J. Fed. Mai. St. Mus.* 6: 49. 1915; *Fl. Mai. Pen.* 2: 220. 1923.

MALAY PENINSULA. Perak: G. Kerbau, 1525—2135 m, *SF 3973 Haniff* (K; SING, type); *Morgan s.n.; Robinson s.n.; For. Dep. F.M.S. 31485, 32120, 32148 Symington*. G. Riam, *Morgan s.n.* Pahang: G. Siku, Ulu Telom, *For. Dep. F.M.S. 27652 Jdamat*.

11. RHODODENDRON SARUWAGEDICUM Foerster

*Rhododendron saruwagedicum* Foerster in *Fedde, Rep.* 13: 222. 1914; *Schltr in Bot. Jahrb.* 55: 148. 1918.

11a. var. **SARUWAGEDICUM**

NEW GUINEA. Northeastern part: Morobe Distr., Mt Saruwaged, top ('Bolan'), c. 3800 m, *Keysser s.n.* (B, type, f; BM); *ibid.*, c. 3050 m, *Clemens 7295, 10096*. A-mieng, on Yaneng R. (a tributary of the Buso R.), above the mouth of Tosapik Creek, *Clemens 12320 p.p.*

11b. var. **alpinum** Sleum., *nov. var.*

A typo foliis constanter minoribus 0,7—1,2 cm longis, 0,5—0,8 cm latis capsulisque paullo brevioribus et crassioribus differt. Frutex c. 1,8 m altus. Flores rubri.

NEW GUINEA. Northeastern part: Western Highlands, Mt Kinkain, Central Kubor Range, Upper Minj R. valley, in alpine thicket, 3595 m, *Pullen 223* (CANB, type).

12. *Rhododendron invasorium* Sleum., *nov. spec.*

Frutex. Ramuli novelli dense lepidis orbiculatis crassis subpeltatis instructi, paullo angulati, rubrobrunnei, c. 2 mm diam., vetustiores teretes, subdense lepidoto-verruculosi, 3—4 mm diam.; internodia (1—) 2—6 cm longa. Folia in pseudovorticillis 3—4-meris ad nodos 2 (—3) ultimis disposita, ultro 1—2 in superiore tertio internodiorum alternatim inserta, elliptica vel varius obovato-elliptica, apice rotundata, glandula apicali parum distincta, basi latissime attenuata usque rotundata, raro levissime cordata, coriacea, in sicco supra sordide olivacea, subnitentia, subtus brunnea usque rubescentia vel pallide cuprea, opaca, initio utrinque sat dense lepidota, supra maturitate glabrescentia, subtus persistenter subdense et distanter lepidota (lepidibus sat parvis, crassiusculis, intense rufescentibus, rotundatis, integris, centro satis magno bene impresso), margine cartilagineo haud revoluta regulariter minute crenulata, (1,5—) 2—3,5 cm longa, (1,2—) 1,5—2 (—2,2) cm lata, costa supra angusta, cum nervis et venis in foliis maturis bene impressa, subtus inferne petioli crassitudine obtuseque prominente, superne sensim diminuta et multo minus elevata, nervis lateralibus utroque latere 4—6, irregularibus, curvato-conjunctis, subtus prominentibus, venis laxis indistincte reticulatis, subtus parum visibilibus; petioli crassi, applanati, 3—4 mm longi,  $\pm$  1,5 mm crassi. Umbellae 3—4-florae. Gemmae floriferae obovoideae, c. 1 cm longae,  $\pm$  0,5 cm diam. Perulae exteriores late ovatae, interiores oblongo-obovatae, obtusae, dorso medio densissime lepidotae, epilosae, margine breviter fimbriatae, 4—8 mm longae,  $\pm$  4 mm latae. Pedicelli crassiusculi, dense substipitato-lepidoti, epilosii, 1—1,5 cm longi. Calyx oblique discoideus, obscure lobatus, dorso dense lepidotus, c. 3 mm diam. Corolla tubulosa, ut videtur intense rubra vel purpurea, parum zygomorpha, superne paullo dilatata, 1,5—1,8 cm longa, extus dense lepidota, intus glabra, tubo 1—1,2 cm longo, 0,3—0,4 cm diam., lobis erectis obovatis 5—6 mm longis, c. 4 mm latis. Stamina 10, inaequalia, longiora dimidium corollae loborum attingentia; filamenta inferne linearia, superne filiformia, omnino glabra; antherae obovatae, 1,8 mm longae, c. 0,6 mm latae. Discus glaber. Ovarium conicum, densissime lepidotum, epilosum, c. 4 mm longum, 2 mm diam., abrupte in stylum basi lepidotum ceterum glabrum 5—6 mm longum contractum, stigmate capitato breviter 5-lobo. Fructus ignotus.

NEW GUINEA. Southeastern part: Morobe Distr., Edie Creek near Bulolo, coloniser on sluiced area, fl. 20-7-1957, *N.G.F.* 9532 *White* (L, type; LAE).

## 13. RHODODENDRON 'PERAKENSE' K. &amp; G.

*Rhododendron perakense* King & Gamble in *J. As. Soc. Beng.* 74, ii: 76. 1905; *Ridl.*, *Fl. Mai. Pen.* 2: 216. 1923.

MALAY PENINSULA. Pahang: Cameron Highlands, *For. Dep. F.M.S.* 25939 *Jdamat*; *ibid.*, G. B(e)rumbun, 2135 m, *Wray 1574* (CAL, type); *ibid.*, G. Irau, *For. Dep. F.M.S.* 365Jfl *Symington*; *ibid.*, G. Batu Brinchang, c. 1830 m, *For. Dep. F.M.S.* 36520 *Jdamat*.



## 14. RHODODENDRON VANDERBILTIANUM Merr.

*Rhododendron vanderbiltianum* Merrill in Not. Nat. Ac. Nat. Sc. Philad. 47: 5. 1940.

SUMATRA. Atjeh: Mt Losir, 2120—2800 m, *Ripley & Ulmer 13, 14, 81* (A, fragm.; L. phot.; PH, type, not seen); *ibid.*, upper course of the Lau Alas R., 2100—2250 m, open mountain heath, *van Steenis 8442*. G. Goh Lembuh, top, c. 3000 m, *van Steenis 9039*. G. Kemiri, 2900—3314 m, *van Steenis 9631*. Pang-mog, 2200 m, *Fairchild 115*.

## 15. RHODODENDRON SEIMUNDII J. J. S.

*Rhododendron seimundii* J. J. Smith in Gard. Bull. S.S. 8(3): 262. 1935.

MALAY PENINSULA. Pahang: G. Tahan, 1675 m, *Seimund 159, 175, 343* (SING, lectotype), 893.

## 16. RHODODENDRON SCORTECHINII K. &amp; G.

*Rhododendron scortechinii* King & Gamble in J. As. Soc. Beng. 74, ii: 76. 1905; Ridl., Fl. Mai. Pen. 2: 219. 1923.—*R. orion* Ridl. in J. Fed. Mai. St. Mus. 5: 39. 1914; Fl. Mai. Pen. 2: 217. 1923.

MALAY PENINSULA. Perak: loco haud indicato, *Scortechini 401b* (CAL, lectotype of *R. scortechinii*; K), 753. Larut, G. Bubu, 1525—1645 m, *Wray 3840*; *Cantley s.n.*; *ibid.*, summit, c. 1950 m, *For. Dep. F.M.S. 30849 Symington*. G. Batu Puteh, 2040 m, *Wray 311*. G. Brumbun, 2135 m, *Wray 1572*. Pahang/Selangor: G. Mengkuang Lebah, 1465—1770 m, *Robinson s.n.* (BM, K; SING, type of *R. orion*). Selangor: G. Moyang, c. 1675 m, *For. Dep. F.M.S. 56672 Symington*.

## 17. RHODODENDRON ADINOPHYLLUM Merr.

*Rhododendron adinophyllum* Merrill in Not. Nat. Ac. Nat. Sc. Philad. 47: 3. 194Q.

SUMATRA. Atjeh: Mt Losir, c. 2600 m, *Ripley & Ulmer 58* (A, fragm.; L, phot.; PH, type, not seen); *ibid.*, central top, 3300—3460 m, *van Steenis 8584*. G. Lembuh, summit, c. 3000 m, *van Steenis 9062*. Putjuk Angasan, 2700 m, *van Steenis 8339*. Mt Kemiri, 2900—3314 m, *van Steenis 9641*.

## 18. RHODODENDRON CYRTOPHYLLUM Wernh.

*Rhododendron cyrtophyllum* Wernham in Trans. Linn. Soc. ser. 2 Bot. 9: iJt. 1916.

NEW GUINEA. Southern part: Mt Carstensz, 2520—3050 m, *B. Kloss s.n.* (BM, type).

## 19. RHODODENDRON ERICOIDES LOW ex Hook. f.

*Rhododendron ericoides* Low ex Hooker f. in Hook., Ic. Pl. t. 887. 1852; Walp., Ann. 5: 446. 1858; Stapf in Trans. Linn. Soc. ser. 2 Bot. 9: 198. 1894; Gibbs in J. Linn. Soc. Bot. 42: 104. 1914; Merr., En. Born. 461. 1921.

## 19a. var. ERICOIDES

BORNEO. North Borneo: Mt Kinabalu, 2440—4096 m (summit), *Low s.n.* (CGE; K, type); *Haviland 1066*; *Burbidge s.n.*; *Gibbs 4189* (cited '4180'), 4199, 4276, 4306; *Nat. Coll. 67*; *Haslam s.n.*; *Clemens 10579, 10659* (cit. Merr., not seen), 27104, 28931, 31666, 51421; *SF 27608 Carr*; *KEP 80366, 80381 Wyatt-Smith*; *Sinclair as. 9112*; *Jacobs 5765*.

19b. var. **silvicolum Sleum., nov. var.**

A typo foliis laxius dispositis 8—10 mm longis, 1,6—1,8 mm latis differt.—Apparently a shadow form.

BORNEO. North Borneo: Mt Kinabalu, in forest trail at 1525 m, April-June 1933, *J. & M. S. Clemens 30081* (E; K, type).

20. **Rhododendron nanophyton Sleum., nov. spec.**

## 20a. var. NANOPHYTON

Fruticulus nanus. Ramuli erecti, graciles, apicibus ± papilloso-puberuli, superne dense foliati, inferne defoliati vestigiisque foliorum delapsorum incrassatis pulvinatis disperse obsiti. Folia alterna, lanceolata, apice breviter attenuata, subacuminata, obtusiuscula, basi cuneata, in medio latissima, coriacea, opaca, supra in sicco sordide olivaceo — viridia, subtus brunnea, supra diutius laxe lepidota, denique ± glabrescentia, subtus persistenter laxe usque subdense lepidota (lepidibus rotundis, margine angustissimo integris vel subundulatis, centro saturate rubro-brunneo incrassato, distincte impresso), margine haud vel vix recurva, lepidibus impressis crenulata, 4—6 mm longa, 1,5—2 (—2,5) mm lata, costa supra leviter impressa, subtus parum prominente, nervis obsoletis; petioli sat tenues, semiteretes, ± 1 mm longi. Flores solitarii vel bini. Perulae ovatae usque anguste ovatae, acuminatae, dorso superne minute pubescentes laxaeque lepidotae, ciliatae, usque ad 5 mm longae et 2 mm latae. Bracteolae filiformes, apice subspathulatae et dense ciliatae, 4—5 mm longae. Pedicelli gracillimi, dense lepidoti, 5—6 mm longi. Calyx minutus, patellaris, ad limbum patentem undulatus et obscure 5-lobus, extus lepidotus, intus glaber. Corolla saturate lateritia, tubulosa, paullo obliqua, ± recta, cum lobis 1,3—1,4 (—1,5) cm longa, basi 2,5, infra lobos c. 3,5 mm diam., extus loborum margine excepto ± dense crasseque lepidota, intus glabra, lobis 5 parum inaequalibus ovato-subrotundatis, c. 3 mm longis, 2 mm latis, apice irregulariter crenulatis (haud eroso-denticulatis). Stamina 10, subinaequilonga, corollam longitudine ± aequantia vel paullo e corolla exserta; filamenta linearia, basin versus dilatata, glabra, 1—1,3 cm longa; antherae late oblongae, 1,3—1,5 mm longae. Discus glaber. Ovarium conico-ovoideum, 5-sulcatum, dense lepidotum, c. 2 mm longum, 1,2 mm diam., sensim in stylum abiens; stylus crasse filiformis, glaber, 7—8 mm longus, stigmatibus breviter clavato sat parvo. Capsula haud visa.

CELEBES. Central part: Enrekang, Rante Mario, open country, 3100—3300 m, fl. 17-6-1937, *Eyma 682* (A, BO, K; L, type).



20b. var. **petrophilum** Sleum., *nov. var.*

A typo ramulis distinctius papilloso-puberulis, foliis obovato-oblongis apice obtusis plerumque paullo retusis, inferne papilloso-puberulis, 2,5—4 (—6) mm longis, 1,5—2 (—2,5) mm latis, pedicellis minutissime pilosis, calycis lobis breviter sed distincte ciliatis, antheris subgloboso-obovoideis 1 mm longis et latis distinctum.—An species propria?

CELEBES. Central part: Enrekang, Latimodjong Range, on rocks just below the western edge of the plateau of bivouac Heinrich, but not on the rocks of the plateau itself, locally abundant, 3200—3250 m, fl. 28-6-1937, *Eyma 1046* (A, BO, K; L, type).

21. **Rhododendron schizostigma** Sleum., *nov. spec.*

Frutex debilis, 0,3 usque ad 1,5 m altus. Ramuli erecti, novelli graciles, ad apices tantum laxe lepidoti et foliati, inferne defoliati stigmatibusque foliorum delapsorum pulvinatis crassis instructi. Folia alterna, conferta, subimbricata, ovata vel elliptico-ovata vel elliptica, breviter obtuse acuminata, brevissime glanduloso-apiculata, basi subtruncato-rotundata, rarius late cuneata, coriacea, in sicco brunnea, subtus paullo pallidiora, ± opaca, supra hie inde lepidota sed maturitate glabrescentia, subtus laxe lepidota (lepidibus rotundis vel subrotundatis, margine integris vel subintegris, centro saepius sat parvo, haud vel vix impresso), margine subcartilagineo plana, lepidibus impressis crenulata, (5—) 6—8 (—12) mm longa, (3—) 3,5—5 (—8) mm lata, costa supra haud vel minute immersa, subtus parum prominente, nervis obscuris; petioli c. 1 mm longi. Flores solitarii vel bini. Perulae ovato-acuminatae, membranaceae, glabrae, lucidulae, usque ad 1,3 cm longae et 0,8 cm latae. Bracteolae lineari-subspathulatae, glabrae, ad usque 1 cm longae. Pedicelli crassiusculi, sub anthesi 10—14 mm longi, dense lepidibus subsessilibus obtecti. Calyx minutus, obliquus, disciformis, undulatus, lobis obsoletis. Corolla tubulosa, superne paullo ampliata, laete rubra, cum lobis 2,6—2,9 (—3,2) cm longa, basi 3—4, infra lobos c. 6 mm diam., extus inferne laxissime lepidota, in superiore media parte glabra, intus glabra, tubo c. 2—2,2 (—2,5) cm longo, lobis late ellipticis 6—7 (—8) mm longis, 4—5 (—6) mm latis, roargine undulatis. Stamina 10, inaequalia, ± 2,5 cm longa; filameuta linearia, glabra, basin versus paullo dilatata, superne filiformia; antherae late subobovato-ellipticae, 1,5—1,7 mm longae, 1 mm latae. Discus glaber. lobis crassis paullo prorumpentibus. Ovarium oblique ovoideoconicum, densissime lepidotum, c. 4 mm longum, 2 mm crassum, apice sat abrupte in stylum crassiusculum glabrum sub anthesi c. 1,5 cm longum abiens, stigmatate sensim incrassato-turbinato irregulariter clavato-plurilobulato. Capsula haud visa.

NEW GUINEA. Northern part: Lake Habbema, 3225—3345 m, abundant in heavy ground moss of open thickets or in shrubberies of peaty ridges, fl. red, 10-1938, *Brass 9275, 9567* (A, type; L). Southern part: Hubrecht Mts, 3100 m, open vegetation, fl. 7-2-1914, *Pulle (Versteeg) 2U21* (L).

## 22. RHODODENDRON MELIPHAGIDUM J. J. S.

*Rhododendron meliphagidum* J. J. Smith in Fedde, Rep. 30: 162. 1932.

MOLUCCAS. B u r u, summit of Mt Togha, 1800—2050 m, *Stresmann 374* (L, type). C e r a m, G. Murkele, 2000—2500 m, *Rutten 1477*.

23. *Rhododendron ciliilobum* Sleum., *nav. spec.*

Frutex erectus. Ramuli sat breves, teretes, subdense lepidibus rubiginosis sessilibus vel subsessilibus induti, in partibus vetustioribus defoliatis haud vel obscure verruculosi, omnino epilosi. Folia versus apicem ramulorum recentium subverticillatim congesta, obovata, apice rotundata vel plerumque brevissime retusa, basin versus cuneata, coriacea, supra in sicco brunnea, subtus pallidiora, supra laxe lepidota denique ± glabrescentia, in sicco rugosula, subtus subdense lepidota (lepidibus subrotundis sessilibus, margine angusto tenui subintegris, centro sat crasso magno bene impresso), integra, margine inferne brevissime revoluta, superne plana, (1,1—j 1,3—1,8 (—2) cm longa, (0,5—) 0,6—0,8 (—1) cm lata, costa supra levissime impressa, subtus obtuse prominente, apicem versus ± evanescente, nervis supra obsoletis, subtus haud vel vix visibilibus; petioli teretiusculi, lepidoti, rugosuli, 2—3 mm longi. Flores solitarii vel bini. Perulae ovatae usque obovato-spathulatae, apiculatae, dorso superne sericeae et lepidotae, usque ad 6 mm longae et 3 mm latae. Bracteolae filiformes, apice pilosulae, usque ad 5 mm longae. Pedicelli sat graciles, dense substipitato-lepidoti laxe brevissimeque pubescentes, 6—8 (—10) mm longi. Calyx minutus, margine undulato brevissimo patens vel reflexus, vix 2 mm diam., dorso lepidotus brevissimeque pilosulus, lobis obtusis brevissimis. Corolla tubulosa, apicem versus parum dilatata, bene evoluta c. 2 cm longa, basi c. 3, infra lobos c. 5 mm diam., extus laxe lepidota, intus glabra, lobis 5, ovatis usque suborbiculatis 4 mm longis, 3—4 mm diam., initio rectis, denique ± patentibus, apice manifeste eroso-denticulatis et ciliatis. Stamina 10, corollam longitudine ± aequantia, initio inclusa, demum paullo exserta; filamenta filiformia, glabra, ± 1,8 cm longa; antherae 1,3 mm longae. Discus glaber. Ovarium subovoideo-cylindricum, c. 2,5 mm longum, 1,5 mm diam., densissime lepidotum, epilosum, apice sensim in stylum abiens; stylus crasse filiformis, glaber, ± 1,7 cm longus, stigmatibus breviter claviformi, irregulariter lobato. Capsula c. 1,3 cm longa, 0,35 cm diam., oblique subcylindrica, profunde 5-sulcata.

NEW GUINEA. Western part: Wissel Lake region, Enarotali-Kugapa, heath-vegetation Egogitoagapa, fl. 29-3-1939, *Eyma 4787* (BO; L, type); Upper Enaroto valley and Puraida ridge, 1755 m, *Eyma 4852*.

## 24. RHODODENDRON QUADRASIANUM Vid.

*Rhododendron quadrasianum* Vidal, Rev. Pl. Vase. Filip. 170. 1886; Merr. in Publ. Gov. Lab. Philip. 29: 43. 1905; Philip. J. Sc. 1: Suppl. 111. 1906; *I.e.* 2: Bot. 292. 1907; *I.e.* 3: Bot. 382. 1908; Elm., Leaflet. Philip. Bot. 3: 1106. 1911; Millais, *Rhodod.* 233. 1917; Merr., *En. Philip.* 3: 244. 1923; Millais, *Rhodod.* 2nd ser. 218.



1924; Copel. f. in Philip. J. Sc. 40(2) : 139, pi. 1. 1929; Hutch, in Stevens., Spec. Rhodod. 823. 1930; Lam in Blumea 5: 574. 1945.—*R. retusum* (nort Benn.) F. Vill., Novis. App. 353. 1883.

24a. var. QUADRASIANUM

*Rhododendron quadrasianum* Vid. var. *quadrasianum* Vid., l.c.; Copel. f., l.e. 140, pi. 1 f. 1, 2 (not typical).

PHILIPPINES. Luzon: Albay, Mt Mayon, 1330—2000 m, Vidal 819 (K, type); B.S. 6502 Robinson; P.N.H. 1U87, 1818k, 18332 Mendoza.

24b. var. *davaoense* (Copel. f.) Sleum., nov. stat.

*Rhododendron quadrasianum* Vid. var. *davaoense* (Copel. f.) Sleumer.—*R. quadrasianum* Vid. f. *davaoense* Copel. f. in Philip. J. Sc. 40: 143, pi. 1 f. 9, 10. 1929.—*R. quadrasianum*, Vid. f. *negrosense* Copel. f., l.c. 142, pi. 1 f. 6.

PHILIPPINES. Luzon: Sorsogon, Mt Bagaua, B.S. 23A22 Ramos. Laguna, Mt Banahao, B.S. 19588 Ramos, p.p.; Loher 6178, 13682. Quezon, Mt Maheyhey, Lobb 568 (K). Mindanao: Davao, Mt Apo, 2440 m, Williams 25h3 (GH, K, NY; PNH, type of *R. quadrasianum* f. *davaoense*, f; US, cit. Copel., not seen); de Vore & Hoover 287 (cit. Copel. f.); Copeland 1036 (cit. Copel. f.); Mearns s.n. (cit. Copel. f.); Elmer 11656, p.p.; Clemens 15652. Mt McKinley, P.N.H. 1009 Edano. Cotabato, Mt Matutum, Copeland s.n. (cit. Copel. f.); B.S. 85081 Ramos & Edano. Leyte: Wenzel 930. Negros: Canlaon Volcano, 1860—1960 m, Banks s.n. (cit. Copel. f.); Merrill 247 (PI; PNH, type of f. *negrosense*, f; U; US, not seen); P.N.H. 21956, 21991 Edano. Mt Mapara, F.B. 13616 Curran & Merritt (cit. Copel. f.). Dumaguete, Cuernos Mts, 1600 m, Elmer 9738; Britton 330.

24c. var. ROSMARINIFOLIUM (Vid.) Copel. f.

*Rhododendron quadrasianum* Vid. var. *rosmarinifolium* (Vid.) Copeland f. in Philip. J. Sc. 40: 144, pi. 1 f. 13—18. 1929.—*R. rosmarinifolium* Vid., Rev. Pl. Vase. Filip. 172. 1886; Rendle in J. Bot. 34: 355. 1896; Merr. in Publ. Gov. Lab. Philip. 29: 43. 1905; Philip. J. Sc. 2: Bot. 292. 1907; l.c. 3: Bot. 382. 1908; Millais, Rhodod. 236. 1917; Merr., En. Philip. 3: 245. 1923; Millais, Rhodod. 2nd ser. 225. 1924; Hutch. in Stevens., Spec. Rhodod. 824. 1930.—*R. quadrasianum* Vid. f. *halconense* Copel. f. in Philip. J. Sc. 40: 141, pi. 1 f. 5. 1929.—*R. cuneifolium* (non Stapf) Rendle in J. Bot. 34: 355. 1896; Merr. in Publ. Gov. Lab. Philip. 29: 43. 1905.—*R. quadrasianum* Vid. var. *intermedium* Merr. in Philip. J. Sc. 3: Bot. 382. 1908, p.p.; En. Philip. 3: 244. 1923, p.p.—*R. quadrasianum* Vid. f. *banahaoense* Copel. f. in Philip. J. Sc. 40: 145, pi. 1 f. 2U. 1929.—*R. quadrasianum* Vid. f. *pulogense* Copel. f., l.c. 144, pi. 1 f. 19—23, 28; Lam in Blumea 5: 575. 1945, p.p.

PHILIPPINES. Mindoro: Mt Halcon, Merrill 5736 (K, NY, P; PNH, type of *R. quadrasianum* f. *halconense*, f; US, cit. Copel., not seen); ibid., Mt Dulangan, 1525 m, Whitehead s.n.; ibid., Hong Peak, 1600 m, P.N.H. 20U99 Rabor. Luzon: Benguet, Loher 3766, 3767, 5066; ibid., Mt Santo Tomas, 2100—2270 m, Elmer 5798; Sinclair & Edano 9811; Williams 1335; F.B. U167 Merritt; McClure 160U (cit. Copel.); Merrill 117UU; F.B. 25129 Leano; B.S. U5095 Ramos & Edano; Clemens 5880 (cit. Copel.); F.B. 5Q3U Curran (cit. Copel.); P.N.H. 35898 Steiner; La Trinidad, Elmer

6377; Baguio, *Elmer* 8588, 14285; Mt Pauai, *B.S.* 31988 *Santos*; *B.S.* 8423 *McGregor*; *Merrill* 4752; *P.N.H.* 7484 *Sulit*; *B.S.* 82378 *Quisumbing*<sup>1</sup> & *Sulit*; *Clemens* 16394 (cit. Copel.); Mt Pulog, *B.S.* *UHi Ramos & Edaño* (A, BRI, NY; PNH, type of *R. quadrasianum* f. *pulogense*, f; UC, not seen); Mt Igorrotes, *Callery* 38. **Lepanto**, *Whitehead* anno 1896; Mt Data, *F.B.* 14453 *Darling*; *F.B.* 10949 *Curran* (cit. Copel.); Bauko, *Vanoverberg* 277. Bontoc, *Vidal* 1530 (A, fragm.; FI; K, type of *R. rosmarinifolium*; L); *Vanoverbergh* 1966; Mt Caua, *B.S.* 38072 *Ramos & Edaño*; Bontoc-Banaue, *Britton* 18. Ifugao, Mt Polis, *B.S.* 19736 *McGregor*. Laguna, Mt Banahao, 2200 m, *Cuming* 804 (BM, CGE, FI, K, L, MEL; PNH, type of *R. quadrasianum* f. "*banahaoense*, f); *F.B.* 7888 *Curran & Merritt* (cit. Copel.); *B.S.* 9847 *Robinson* (cit. Copel.); *Quisumbing* 1312 (cit. Copel.); *F.B.* 872 *Klemme*; *B. S.* 19588 *Ramos*, *p.p.*; *Loher* 6203, 6206. Zambales/Pampanga, Mt Pinatubo, *Elmer* 22198; *B.S.* 2537 *Foxworthy*; *Clemens* s.n. Biliran: Mt Suiro, 1350 m, *P.N.H.* 21698 *Sulit*.

24d. var. MALINDANGENSE (Merr.) Copel. f.

*Rhododendron quadrasianum* Vid. var. *malindangense* (Merr.) Copeland f. in *Philip. J. Sc.* 40: 142, *pi. 1 f. 7, 8.* 1929.—*R. malindangense* Merr. in *Philip. J. Sc.* 3: Bot. 256, 381. 1908; Millais, *Rhodod.* 206. 1917; Merr., *En. Philip.* 3: 244. 1923; Millais, *Rhodod.* 2nd ser. 183. 1924.

PHILIPPINES. Mindanao: Misamis, Mt Malindang, *F.B.* 4705 *Meams & Hutchinson* (BO, K, NY; PNH, type, f; US, not seen). Agusan, Mt Urdaneta, *Elmer* 13695. Bukidnon, Mt Candoon, *B.S.* 38929 *Ramos & Edaño*; Mt Katanglad, 2300 m, *P.N.H.* 10122 *Sulit*. Camiguin: Camiguin Volcano, *B.S.* 14661 *Ramos*.

24e. var. marivelesense (Copel. f.) Sleum., *now. stat.*

*Rhododendron quadrasianum*, Vid. f. *marivelesense* Copeland f. in *Philip. J. Sc.* 40: 141, *pi. 1 f. 3, 4, 25—27.*

PHILIPPINES. Mindoro: Mt Halcon, *F.B.* 4408 *Merritt* (cit. Copel.); *Merrill* 6158. Luzon: Bataan, Mt Mariveles, *Merrill* 3215 (BM, K, NY, P; PNH, type, t; US, cit. Copel., not seen); *Leiberg* 6302 (cit. Copel.); *Whitford* 278, 1104 (cit. Copel.); *Merrill (Borden) Decades* 299; *Elmer* 6765; *F.B.* 2090 *Borden* (cit. Copel. f.). Rizal, *Loher* 15098. Laguna, Mt Maquiling, 1200 m, *Loher* 3764, 6188, 6209; *F.B.* s.n. *Curran & Merritt* (cit. Copel.); *Baker* 377; *Elmer* 17488; *F.B.* 28925 *Sulit & Salvosa* (cit. Copel.); *P.N.H.* 9580 *Andaya*; Mt San Cristobal, *Gates* s.n. (cit. Copel.). Batangas, Mt Agas, *F.B.* 7716 *Curran & Merritt* (cit. Copel.).

24f. var. INTERMEDIUM Merr.

*Rhododendron quadrasianum* Vid. var. *intermedium* Merrill in *Philip. J. Sc.* 3: Bot. 382. 1908; *En. Philip.* 3: 244. 1923; Copel. f. in *Philip. J. Sc.* 40: 143, *pi. 1 f. 11, 12, 29.* 1929.

PHILIPPINES. Luzon: Zambales, Mt Tapulao, *F.B.* 8063 *Curran & Merritt* (PNH, type, f; US, cit. Copel., not seen); *B.S.* 5082 *Ramos* (cit. Copel.); *F.B.* 8086 *Curran & Merritt*; Mt Pinatubo, *Clemens* 17474 (cit. Copel., to judge from the locality possibly var. *rosmannifolium*). Benguet, *B.S.* 5722 *Ramos*; *B.S.* 40316 *Ramos & Edaño*; *F.B.* 15840 *Curran & Merritt* (cit. Copel.). Bontoc, Mt Sisipatan, 1830 m, *Santos* 5533. Abra, Mt Paraga, *B.S.* 7104 *Ramos*.



## 24g. var. SELEBICUM J. J. S.

*Rhododendron quadrasianum* Vid. var. *selebicum* J. J. Smith in Bull. Jard. Bot. Btzg III, 13: 443. 1935; Bot. Jahrb. 68: 199. 1937.—*R. quadrasianum* Vid. f. *monodii* Lam in Blumea 5: 576. 1945.

CELEBES. Enrekang, G. Batutoding, *Rachmat (van Vuureri)* 933 (BO, type of var. *selebicum*,; L); between Angin Angin and Pintealón, near Pintealon, 2400—2600 m, *Eyma* 514; B. Poka Pindjang, 2600 m, *Kjellberg* 3924; Pokapindjang-Tinabang, 2800—3000 m, *Eyma* 652. Palu, E of Lake Lindu, G. Ngilalaki, 2335 m, *Bloembergen* 3988. Masamba, between Kambuno and Tomadu, 2550—2800 m, *Eyma* 1408. Kolonedale, E slope of Tomongkobae group, *Eyma* 3956. Mamasa, Mt Mambuliling, N of Mamasa, 2700 m, *Monod de Froideville* 120 (BO, L, type of *R. quadrasianum* f. *monodii*).

## 24h. var. CUNEIFOLIUM (Stapf) Copel. f.

*Rhododendron quadrasianum* Vid. var. *cuneifolium* (Stapf) Copeland f. in Philip. J. Sc. 40: 145. 1929.—*R. cuneifolium* Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 198, t. 15 f. B, 3. 1894; Gibbs in J. Linn. Soc. Bot. 42: 104. 1914; Millais, *Rhodod.* 150. 1917; Merr., En. Born. 461. 1921, p.p.; Millais, *Rhodod.* 2nd ser. 121. 1924.—*R. quadrasianum* Vid. f. *pulogense* (non Copel. f.) Lam in Blumea 5: 575. 1945, p.p.

Borneo. North Borneo: Mt Kinabalu, 1650—2745 m, *Haviland* 1180 (K, type; SAR); *Gibbs* 4151, 4420; *Clemens* 10786 p.p., 27912, 31692, 32707; *KEP* 80359 *Wyatt-Smith*; *Darnton* 588; *Sinclair* c.s. 9084.

CELEBES. Makale, Makale-Bi(n)tuang, Rante Karua, 1200 m, *Monod de Froideville* 187.

## 24i. var. VILLOSUM J. J. S.

*Rhododendron quadrasianum* Vid. var. *villosum* J. J. Smith ex Merrill, En. Born. 463. 1921, *nom. nud.*; J. J. Smith in Bull. Jard. Bot. Btzg III, 13: 444. 1935, *descr.*; Lam in Blumea 5: 576. 1945, *incl.* f. *lutea* Lam, f. *rubra* Lam, *I.e.*—*R. cuneifolium* (non Stapf) Ridl. in J. Str. Br. R. As. Soc. 63: 61. 1912.—*R. cuneifolium* Stapf var. *subspathulatum* (non Ridl.) Merr. in Sarawak Mus. J. 3: 541. 1928.

BORNEO. Western Borneo: G. Damus (Upper Sambas R.), *Hallier* 575 (BO, type; CAL, K, L, P, U). Sarawak: Mt Kalulong, c. 1520 m, *Pickles* 3747. Mt Dulit, c. 1250 m, *Richards* 1985. Mt Murud, 1900 m, *Mjb'berg* 98 (BM, '*R. cuneifolium* var. *subspathulatum*'). Mt Batu Lawi, Ulu Limbang, *Moulton* s.n. (SAR, 'it. *cuneifolium*'). Ulu Baram, *Anon.* s.n. (SAR). North Borneo: Mt Kinabalu, 1370—1680 m, *Clemens* 10786 p.p., 31944, 32326 (A, BM, E, K; L, type of f. *rubrum*), 32449, 32989, 40575, 40664 (A, BM, E, K; L, lectotype of f. *luteum*), 50761; *SF* 26415 *Can.* Brunei: B. Tangoi, 820 m, *BRUN* 754 *Ashton*.

## 24j. var. BORNEENSE J. J. S.

*Rhododendron quadrasianum* Vid. var. *borneense* J. J. Smith ex Merrill, En. Bom. 462. 1921, *nom. nud.*; J. J. Smith in Bull. Jard Bot. Btzg III, 13: 444. 1935.

BORNEO. Sarawak: Lingga, *Anon.* s.n. (SAR). Mt Tiang Laju, *Hewitt* s.n. Central Eastern part: W. Kutei, Mt Kemul, 1800 m, *Endert* 4256 (A; BO, type; L). Central Western part: Amai Ambit, *Hallier* 3437.

Subsection **Siphonovireya** Sleum., *nov. subsect.*

*Rhododendron* sect. *Hadranthe* Schltr. in Bot. Jahrb. 55: 157. 1918, p.p.

Lepides disciformes, integrate vel subintegrae (subcrenatae), in parte marginali tenuiore quam centrum (saepius incrassatum) angustiores. Corolla tubaeformis, tubo ± recto elongato et ± angusto, lobis rel. brevibus (usque ad ½ long, corollae aequantibus), ± horizontaliter patentibus.

TYPE SPECIES. — *R. habbemae* Koord.

The subsection is limited to New Guinea.

KEY TO THE SPECIES OF SUBSECTION SIPHONOVIREYA

1. Leaves distinctly prominent-reticulate underneath. . . . . 25. *R. habbemae*
1. Leaves not or obscurely reticulate underneath.
2. Style both lepidote *and* patent-pilose in the lower third part. 26. *R. cinchoniflorum*
2. Style ± lepidote only, entirely epilose.
3. Corolla tube strictly cylindric, or but slightly dilated in the upper part. Filaments laxly to densely patent-pilose to the lower 1/2—2/3 part, glabrous above.
4. Capsule c. 10 by 0.5—0.6 cm. Petioles (9—)11—16(—22) mm long. Corolla tube 7—8(—8.5) cm long. . . . . 27. *R. agathodaemonis*
4. Capsule (2.5—)3—4(—5) by 0.4 cm. Petioles (3—)5—8 (rarely up to 12) mm long. Corolla tube 4—5.5 (rarely up to 7) cm long. . . . . 28. *R. herzogii*
3. Corolla tube dilated gradually from the base upwards. Filaments glabrous or at least so in the lower, sometimes very laxly papillose-pubescent in the upper half. . . . . 29. *R. incommodum*

25. RHODODENDRON HABBEMAE Koord.

*Rhododendron habbemae* Koorders in Nova Guinea 8(4): 877. 1912 (*habbemai*); J.J.S., *I.e.* 12(2): 142. 1914; *I.e.* 12(5): 510. 1917.—JR. *bodenii* Wernh. in Trans. Linn. Soc. ser. 2 Bot. 9: 94. 1916.

NEW GUINEA. Western part: Mt Carstensz, 2530—3350 m, *B. Kloss s.n.* (BM, type of *R. bodenii*). Hellwig Mts, 2000—2600 m, *von Rb'mer* 775, 1202, 1208 (BO, lectotype of *R. habbemae*); *Pulle* 790, 850; *van Nouhuys lit.* Noordwest R., 2600 m, *Coenen* 85. Mt Goliath, 3000—3450 m, *de Kock* 66, 152.

26. **Rhododendron cinchoniflorum** Sleum., *nov. spec.*

Frutex, ramulis sat gracilibus, teretibus, internodiis 2—8 cm longis, ultimis subdense lepidotis. Folia per 4—6 ad pseudoverticillos disposita, ovato-elliptica vel plerumque elliptica, apice breviter subobtuse acuminata, haud raro glandula apiculata, basi subtruncato-rotundata usque leviter cordata, coriacea, in sicco supra saturate olivacea, subtus rubescenti-brunnea, opaca, supra subdense ± caduce lepidota, subtus dense lepidota (lepidibus sicut in partibus ceteris minutis subrotundis margine ± undulatis supra haud, subtus valde manifeste impressis, in sicco nigrescentibus), integra, (1,6—) 2—2,5 (—3) cm longa, 1—1,6 cm lata, costa supra immersa, subtus crasse prominente, nervis lateralibus utroque latere 3—4



in foliis maturis levissime immersis, in foliis junioribus paullo prominulis, generaliter supra parum visibilibus, subtus quasi obsoletis, reticulatione nulla; petiolus lepidotus, 1,5—3 mm longus, 1—1,5 mm erassus. Umbellae 4—6 (—7) florum. Perulae exteriores ovato-acutae, interiores obovatae, in dorso medio lepidotae, usque ad 1 cm longae et 0,7 cm latae. Bracteolae lineares, c. 6 mm longae, 1 mm latae. Pedicelli sat graciles, dense rufolpidoti, 5—8 mm longi. Calyx patelliformis, c. 2,5 mm diam., limbo sub anthesi patente vel reflexo, extus lepidotus, intus glaber, margine undulatus et 5-lobulatus. Corolla hypocrateriformis, colore haud cognito, in sicco sordide rubescens (in vivo alba?), tubo subrecto, vix curvato, basi paullo 5-saccato, extus densissime lepidoto, intus glaberrimo, 2,5—3 cm longo, per totam longit.  $\pm$  2,5 mm diam., lobis patentibus obovato-ellipticis 1—1,2 cm longis, 0,8—0,9 cm latis, extus quam tubus laxius lepidotis, intus glabris. Stamina 10, haud vel vix exserta; filamenta filiformia, inaequilonga, laxe pilosa, 2—2,9 cm longa; antherae late oblongae, 2—2,5 mm longae. Discus brevissimus,  $\pm$  dense albedo-pilosus. Ovarium cylindrico-conicum, dense lepidotum, c. 4 mm longum, 2 mm diam., apice abrupte in stylum attenuatum, leviter 5-sulcatum; stylus c. 2,3 cm longus, in inferiore tertio lepidotus et breviter patenti-pilosulus, superne sensim glabrescens; stigma breviter turbinatum, minutissime crenulatum. Capsula haud cognita.

NEW GUINEA. Western part: Wissel Lake region look-out Perai, 2400 m, fl. 11/17-10-1939, *Eyma 5UU* (BO; L, type).

#### 27. RHODODENDRON AGATHODAEMONIS J. J. S.

*Rhododendron agathodaemonis* J. J. Smith in Fedde, Rep. 12: 209. 1913; in Nova Guinea 12(2): 142, t. 37 A. 1914; *Le.* 12(5): 510. 1917.—J?. *hellwigii* (non Warib.) Koord. in Nova Guinea 8(4): 878, t. 153. 1912.

NEW GUINEA. Southwestern part: Hellwig Mts, Agathodaemontop, 2577 m, *von Römer 1U5* (BO, type). Mt Wichmann, top, 3050—3100 m, *Pulle 983, 1019*. Mt Hubrecht, c. 3200 m, *Pulle (Versteeg) 2129*. Northwestern part: Mt Wilhelmina, Lake Habbema, 3345 m, *Brass 9271*.

#### 28. RHODODENDRON HERZOGII Warb.

*Rhododendron herzogii* Warburg in Bot. Jahrb. 16: 15, 25. 1892; K. Sch & Laut., PI. Schutzgeb. 487. 1901; Schltr. in Bot. Jahrb. 55: 160, / 6. 1918.—*R. agathodaemonis* (non J.J.S. 1913) J.J.S. in Nova Guinea 18: 99. 1936—*R. carringtoniae* (non F.v.M.) Lane-Poole, For. Res. 130. 1925; White & Francis in Proc. R. Soc. Queensl. 39: 68. 1928; Stonor, Rhodod. Year Book 6: 49, / 50. 1951.

NEW GUINEA. Northwestern part: Wissel Lake, Illaga, B. W. 3278 *Johannes* (fl., fr.). Nassau Mts, 2600 m, *Docters van Leeuwen 10830* ('*R. agathodaemonis*'). Balim R., 2100 m, *Brass 11758*. Bele R., c. 20 km N of Lake Habbema, 2100 m, *Brass 10833*. Northeastern part: Behind Nondugl, Wahgi Valley watershed, *Gilliard s.n.* Upper Chimbu Valley, c. 1980 m, *N.G.F. 8879 Womersley*. Jimmi Valley,

1770 m, *N.G.F. 7785 Womersley & Millar*. Mt Hagen, 2285—3050 m, *Stonor 3; Gilliard s.n.* Asaro-Mairi Divide, Goroka Subdistr., 2400 m, *Hoogland & Pullen 5U18*. Finisterre Mts, 1700—2100 m, *Hellwig 30V* (B, type, f; BO, K). Mt Saruwaged, Divide between Nomi and Ake R., c. 2135 m, *Lane-Poole 527* ('*R. earringtoniae*'); Matap, 1525—1830 m, *Clemens 11261 a* (fr.). Morobe Distr., Wau, Edie Creek, 2285 m, *N.G.F. U726 Womersley, N.G.F. 9533 White*; *ibid.*, Mauri Creek, 2135 m, *N.G.F. 875U Womersley*; Central Distr., Alola, 1890 m, *Carr 13635*.

## 29. *Rhododendron incommodum* Sleum., *nov. spec.*

Frutex. Ramuli sat graciles, subteretes, ad internodia ultima laxe lepidoti; internodia 0,5—6 cm longa. Folia 3—4 ad pseudovercillos disposita, elliptica rarius elliptico-oblonga, apice late obtuse acuminata vel subrotundata, basi in petiolum cuneato-attenuata, coriacea, in sicco supra plumbeo-grisea, subtus pallide brunnescentia, initio supra laxe lepidota (lepidulis parvis rotundis crassiusculis sicut in partibus ceteris margine pallidior tenuioreque integris vel subcrenatis, flavescens), demum glabrescentia, subtus subdense, ± persistenter et impresso lepidota, integra, margine basin laminae versus paullo revoluta, 5—7,5 cm longa, 2,5—4 cm lata, costa supra leviter immersa, subtus inferne crasse prominente, superne fere evanescente, nervis lateralibus costae angulo acuto insidentibus 4—6-jugis, obscure inter sese curvato-conjunctis, supra parum impressis, subtus prominulis, reticulatione nulla; petioli subtrefces, rugosuli, 4—20 mm longi, basi c. 1,5 mm diam. Umbellae c. 8-florae. Perulae haud visae. Bracteolae filiformes laxissime lepidotae. Pedicelli sat graciles, in sicco rubescenti-brunnescentes, subdense lepidis rotundis flavescens minutis obsiti, c. 10 mm longi, 0,5 mm diam. Calyx suboblique patellaris, undulatus, brevissime 5-lobus, lepidotus, c. 2,5 mm diam. Corolla tubulosa, 5,5 cm longa, rubra, tubo recto vel plerumque leviter curvato 3,5—4 cm longo, basi c. 3 mm diam., lobos versus a basi gradatim dilatato, infra lobos c. 1 cm diam. attingente, extus laxe vel subdense flavescens lepidoto, intus laxissime brevissime piloso, hic inde lepidote instructo, lobis obovatis vel oblongo-obovatis patentibus extus laxissime lepidotis, intus glabris, 1—1,5 cm longis, 0,5—0,7 cm latis. Stamina 10, e fauce bene exserta, ± 5 cm longa; filamenta filiformia, glabra vel in dimidio inf eriore glabra, superne laxissime brevissime papilloso-pilosula; antherae obovato-oblongae, 3 mm longae, 1 mm latae, basi obtusae. Discus glaber. Ovarium elongato-conicum, densissime lepidotum, c. 5 mm longum, 1,7 mm diam., sensim in stylum gracilem epilosum omnino laxe lepidotum c. 5 cm longum abiens; stigma breviter turbinatum sat parvum. Capsula haud visa.

NEW GUINEA. Northeastern part: Morobe Distr., Sattelberg region, Ogerammang, c. 1830 m, fl. 23-12-1936, *Clemens 4733* (A, B; L, type); *ibid.*, 1525 m, fl. red, *Clemens 5015*.

This species is somewhat anomalous in the subsection, the corollas being dilated gradually from the base to the limb and the lobes not as



distinctly horizontally spreading as in the other species; certainly near *R. herzogii* Warb., which equally shows the lobes less patent than it is normal in the subsection.

### Subsection PHAEOVIREYA

*Rhododendron* subsect. *Phaeovireya* Sleumer in Bot. Jahrb. 74: 539. 1949—*R.* sect. *Zygomorphanthe* Schltr, l.c. 55: 145. 1918, p.p.—*R.* sect. *Hadrnanthe* Schltr, l.c. 157, p.p. (lectotype sp.: *R. hellwigii* Warb.)—*R.* sect. *Schistanthe* Schltr, l.c. 140, p.p.

TYPE SPECIES. — *R. beyerinckianum* Koord.

#### KEY TO THE SPECIES OF SUBSECTION PHAEOVIREYA

1. Ovary exclusively and densely stellate-lepidote, i.e. no simple hairs present (except possibly at the very apex of the ovary and on the style).
  2. Style up to 2 mm long. Leaves 0.8—1.6 cm long, 0.4—0.7 cm wide (very much revolute).
    3. Anthers dehiscent by anticous pores. Style columnar, 1.5—1.6 mm long.
      4. Leaves alternate, equally distant from each other. Corolla  $\pm$  1.3 cm long, the lobes 4—5 mm diam. Celebes. . . . . 30. *R. eymae*
      4. Leaves in distant pseudowhorls. Corolla (1.5—) 1.7—2.2 cm, the lobes 7—9 mm diam. New Guinea. . . . . 31. *R. revolutum*
    3. Anthers dehiscent by posticous pores. Style obconical, hardly 1 mm long. (Leaves in pseudowhorls.) New Guinea. . . . . 32. *R. extrorsum*
  2. Style manifest, at least 5 mm long. Leaves longer.
    5. Leaves strongly revolute (linear). New Guinea. . . . . 33. *R. hooglandii*
    5. Leaves not revolute or only so at the very margin (not strictly linear).
      6. Style thick, c. 2 mm diam. Ovary 4—5 mm diam. Leaves large, (7—) 10—16 by (3.5—) 6—10.5 cm.
        7. Corolla a deep blood red, 6.5—7 (—8) cm long. Style 3—3.5 (—4) cm. New Guinea. . . . . 34. *R. hellwigii*
        7. Corolla white or cream, whether or not with a rose tinge or pink with a reddish throat, (11—) 11.5—12.5 cm long. Style 5.5—6.5 cm. New Guinea. . . . . 35. *R. superbum*
  6. Style  $\pm$  slender, up to 1 mm diam. Ovary 1.5—2.5 (rarely up to 3) mm diam. Leaves mostly medium-sized or small.
    8. Leaves narrowly subovate- to linear-lanceolate, 0.3—0.9(—1.3) cm wide.
      9. Style stellate-lepidote in the lower part, practically epilose, otherwise glabrous, 1.5—2 cm. Corolla glabrous outside. New Guinea. . . . . 36. *R. prainianum*
      9. Style distinctly patent-pilose to the top. Corolla  $\pm$  densely lepidote or subdensely pilose outside.
        10. Corolla rather densely stellate-lepidote, but epilose outside.
          11. Pedicels up to 5 mm long. Style 6 mm long. New Guinea 37. *R. neriifolium*
          11. Pedicels (0.7—) 1—1.3 cm long. Style 1.7—3 cm long. New Guinea. . . . . 38. *R. rarum*
        10. Corolla subdensely pilose outside, elepidote. New Guinea. 39. *R. delicatulum*
  8. Leaves of various shape, 1 cm wide only in the narrowest leaves of a specimen, at least in part or mostly all much wider.
    12. Style laxly  $\pm$  patently short-pilose (at least at the base), not lepidote at all.



13. Leaves chartaceous to subcoriaceous.
14. Corolla glabrous outside. Outer perulae  $\pm$  obtuse. Filaments laxly pilose  
New Guinea. . . . . 40. *R. bryophilum*
14. Corolla laxly stellate-lepidote outside. Outer perulae long-subulate. Filaments glabrous. New Guinea. . . . . 42b. *R. dielsianum* var. *stylotrichum*
13. Leaves stiff-coriaceous. New Guinea. . . . . 41. *R. tuberculiferum*
12. Style not pilose at all (otherwise whether or not stellate-lepidote).
15. Style entirely glabrous or stellate-lepidote at the very base only.
16. Corolla sparsely stellate-lepidote outside. New Guinea. . . . .  
42a. *R. dielsianum* var. *dielsianum*
16. Corolla completely glabrous outside.
17. Corolla 5-lobed  $\pm$  halfway, c. 2.5 cm long. New Guinea. . . . . 43. *R. stolleanum*
17. Corolla 5-lobed to 1/3, 3.5—3.8 cm long. Celebes. . . . . 44. *R. psilanthum*
15. Style stellate-lepidote at least in the lower third.
18. Filaments glabrous or very sparsely hairy. Disk glabrous.
19. Leaves coriaceous,  $\pm$  stiff, very densely stellate-lepidote ('tomentose') initially, the scales persistent for a rather long time,  $\pm$  distinctly revolute at the margin. New Guinea. . . . . 45. *R. beyerinckianum*
19. Leaves subcoriaceous, less densely stellate-lepidote initially, not or but slightly revolute at the margin, the scales  $\pm$  fugacious.
20. Leaves ovate or oblong-ovate. New Guinea. . . . . 46. *R. leptanthum*
20. Leaves (broadly) elliptic to oblong-elliptic, rarely subobovate-elliptic. New Guinea. . . . . 47. *R. warianum*
18. Filaments densely hairy below. Disk hairy at the upper margin. New Guinea. . . . . 48. *R. phaeochitum*
1. Ovary all over densely set with simple hairs, or hairy and lepidote to various degree.
21. Corolla (8—)9—12 cm long, including the lobes.
22. Style glabrous except some hairs and/or scales at the very base.
23. Ovary oblongoid-cylindrical, densely covered with  $\pm$  stiff hairs, the hairs completely covering the scales. Corolla glabrous outside. New Guinea. . . . . 49. *R. gardenia*
23. Ovary  $\pm$  bottle-shaped, densely covered with hairs and scales on the lower (seed-bearing) part, but  $\pm$  exclusively scaly in the upper (constricted) part and the very base of the style. Corolla laxly lepidote outside. New Guinea. . . . . 50. *R. magnificum*
22. Style lepidote and/or hairy at least in the lower half.
24. Style predominantly hairy and laxly stellate-lepidote in the lower half, gradually more lepidote and less hairy in the following  $\frac{1}{4}$ , exclusively stellate-lepidote for some mm above, glabrous for the uppermost part. Anthers (8—)10—11 mm long. New Guinea. . . . . 51. *R. konori*
24. Style densely stellate-lepidote and epilose in the lower  $\frac{2}{3}$ , glabrous above. Anthers c. 6 mm long. New Guinea. . . . . 52. *R. opulentum*
21. Corolla up to 7 cm long. Anthers up to 6 mm long; if longer, see 51. *R. konori*
25. Leaves sessile or subsessile (petioles rarely up to 4 mm long).
26. Style glabrous except some spreading hairs at the base. Ovary predominantly stellate-lepidote, with some scattered hairs in the upper part. New Guinea. . . . . 41. *R. tuberculiferum*



26. Style hairy or hairy and lepidote at least halfway. Ovary predominantly hairy, the tomentum  $\pm$  covering the scales.
27. Corolla 2.5—2.8 cm long including the lobes. Leaves 1.6—4 by 1.2—1.7 cm.
28. Leaves ovate, the base slightly cordate. Umbels 3-flowered. Corolla outside laxly lepidote and sometimes very sparsely pilose too, inside laxly pilose. New Guinea. . . . . 53. *R. spondylophyllum*
28. Leaves elliptic, the base  $\pm$  rounded. Flowers solitary. Corolla outside sparsely pilose, inside glabrous. New Guinea. . . . . 54. *R. melantherum*
27. Corolla at least 4 cm long including the lobes. Leaves (3—)3.5—7.5 by (1.6—)2—4.5 cm.
29. Leaves ovate or elliptic or suborbicular, sometimes obovate-elliptic. (Corolla 4—4.5 cm.).
30. Corolla broad-tubular,  $\pm$  zygomorphic; lobes  $\pm$  erecto-patent, 1—1.2(—1.3) by 0.8—1 cm. New Guinea. . . . . 55. *R. cyatheicolum*
30. Corolla funnel-shaped,  $\pm$  actinomorphic; lobes widely spreading, 1.5—1.9 cm. New Guinea. . . . . 56. *R. asperum*
29. Leaves oblong-elliptic. (Corolla (4.5—)5—5.5 cm long including the lobes.) New Guinea. . . . . 57. *R. rhodochroum*
25. Leaves distinctly petiolate.
31. Corolla 5-lobed  $\pm$  halfway, 2—2.3 cm long including the lobes. New Guinea. . . . . 58. *R. gilliardii*
31. Corolla generally 5—7-lobed up to 1/3, rarely to 2/3 of its total length.
32. Corolla at the anthesis densely covered with rufous stellate scales as is the calyx which bears no hairs at all.
33. Leaves oblong, the base truncate-rounded or slightly cordate. Umbels 4—8 (—10) flowered. Anthers purplish in fresh specimens. New Guinea. . . . . 59. *R. haematophthalmum*
33. Leaves broad-elliptic or ovate-elliptic, the base very broadly attenuate to nearly rounded. Umbels 2—3-flowered. Anthers brown in fresh specimens. New Guinea. . . . . 60. *R. phaeops*
32. Corolla laxly covered with rufous, stellate, early caducous scales, or glabrous. Calyx lepidote and laxly hairy dorsally and/or at its margin.
34. Anthers  $\pm$  2.5 mm long. Corolla (3—)3.5(—4) cm long including the lobes. New Guinea. . . . . 61. *R. truncicolum*
34. Anthers 3.5—6 mm long. Corolla (4—)5—7 cm long.
35. Style with a short but distinct purely lepidote zone above the lower zone, where hairs and scales are equally mixed together or the hairs are predominant. Leaves rounded or mostly  $\pm$  cordate at the base. New Guinea. . . . . 62. *R. phaeopeplum*
35. Style equally hairy or hairy and lepidote throughout, no proper upper lepidote zone visible. Leaves cuneate to rounded at the base.
36. Leaves obtuse at the apex, the nerves not or but faintly visible. Corolla narrow-funnel-shaped, regular, white or rose, the tube straight or nearly so. Calyx lobes very short, rounded-obtuse. New Guinea. . . . . 63. *R. rappardii*
36. Leaves shortly acuminate and apiculate, the nerves and some reticulation visible. Corolla tubular, zygomorphous, bright red, the tube  $\pm$  curved. Calyx lobes 1.5—2 mm, acutish. New Guinea. . . . . 64. *R. rubellum*



30. *Rhododendron eymae* Sleum., *nov. spec.*

Frutex enanus, 10-25 cm altus. Ramuli divaricati, teretes, superne dense lepidibus squamulosis rufis obtecti, inferne scabridi, nigrescentes, internodiis brevissimis 0,5—1,5 cm tantum longis. Folia secus ramulos ultimos distributa, aequaliter distantia, alterna, ovata vel suboblongo-ovata, apice breviter acuminata, acutiuscula, basi subtruncato-rotundata, valde coriacea, rigida, fere omnino revoluta, supra olivacea, subtus rufa, novella utrinque stellato-lepidota, matura supra glabrescentia, subtus  $\pm$  persistenter lepidota (lepidibus squamulosis profunde stellato-laceratis, subsessilibus, centro minuto  $\pm$  infundibuliformi toro epidermali persistenti insidentibus), scabridula, integra, 0,8—1,2 cm longa, explanata 0,4—0,7 cm lata, in statu revoluta vix 2—3 mm lata, costa supra obscura, subtus parum prominente, nervis obsoletis; petioli lepidoti crassi, 0,5—1,5 mm longi. Flores terminales solitarii vel plerumque bini, rarius terni. Perulae ovato-acuminatae, dorso apice lepidoto excepto glabrae, usque ad 1 cm longae et 0,6 cm latae. Bracteolae filiformes, glabrae, usque ad 8 mm longae. Pedicelli dense rufo-squamosolepidoti, sub anthesi (0,7—) 1—1,2 cm longi, fere 1 mm crassi. Calyx parvus, densissime squamuloso-lepidotus, irregulariter 5-dentatus, dentibus late deltoideis subacutis 1 mm longis vel dente uno alterove usque ad 3 mm elongato. Corolla inferne tubulosa, superne ad limbum dilatata, carnosula, sulfurea,  $\pm$  1,3 cm longa, tubo subcylindrico 8—9 mm longo, basi 3—4 mm, infra lobos 5—6 mm diam., extus densissime rufostellato-lepidoto, intus glabro, lobis suberectis vel paullo patentibus subspathulato-orbicularibus 4—5 mm diam., extus margine excepto densissime lepidotis, intus glabris. Stamina 10, inaequilonga, pro parte faucem corollae paullo excedentia, pro parte breviora; filamenta filiformia, supra basin ipsam parum dilatata, glabra; antherae late oblongae, poris anticis dehiscentes, c. 1,5 mm longae, 1 mm latae. Discus humilis, glaber. Ovarium in vivo colore vinoso, ovoideo-conicum, densissime stellato-lepidotum, 3—4 mm longum,  $\pm$  2,5 mm diam., cum stylo subabruptum; stylus crasse columnaris, glaberrimus, c. 1,6 mm longus, stigmatate subcapitato brevissime 5-lobulato. Capsula ovoidea, apice breviter ampullaceo-contracta, 8—9 mm longa, c. 5 mm diam., dense rufo-stellato-lepidota, stylo persistente, c. 1,5 mm longo rostrata, valvis haud tortis, calyce paullo aucto, pedicello 1,5—1,8 cm longo.

CELEBES. Central part: Enrekang, Rante Mario, 3100—3300 m, fl. 17-6-1937, *Eyma* 684 (A, K; L, type PNH, SING, U)

31. *Rhododendron revolutum* Sleum., *nov. spec.*

Frutex humilis 10—40 cm altus. Rami in speciminibus altioribus saepius repetito-dichotome divisi, in speciminibus enanis indivisi, inferne cortice cinereo vel nigrescenti obtecti. Ramuli teretes, c. 1,5 mm diam., apicibus dense stellato-lepidoti et scabridi, internodiis 1—3 (—4) cm longis. Folia ad nodos 2—3 ultimos in pseudoverticillis 4—6-meris disposita, sat anguste ovata, apice breviter acuminata, subacuta, basi truncato-rotundata, coriacea, rigida, valde (plerumque ad costam) revoluta, initio



utrinque dense rufo-brunneolepidota (lepidibus in zona marginali irregulariter et  $\pm$  profunde stellato-incisis, centro minuto basi dendroideo-extenuatis, elevationibus epidermalibus punctiformibus crassis persistentibus insidentibus), cito supra glabrescentia, nitidula, olivaceo-viridia, scabrida, subtus diutius lepidota, integra, 1—1,4 cm longa, explanata 4—7, in statu revoluta  $\pm$  4 mm lata, costa supra levissime impressa, subtus obscura, nervis obsoletis; petioli crassi, lepidoti, 0,5—1 mm longi. Flores terminales solitarii vel bini. Perulae exteriores ovato-subulatae, dorso  $\pm$  lepidotae, interiores anguste ovato-acuminatae, margine lepidibus cito caducis obsitae et ciliatae, ceterum glabrae, usque ad 1 cm longae et 0,5 cm latae. Bracteolae filiformes laxae longe-pilosae et lepidotae, c. 1 cm longae. Pedicelli densissime rufo-stellato-lepidoti, sub anthesi 1,2—2 cm longi, fere 1 mm crassi. Calyx suboblique disciformis, dense rufo-stellato-lepidotus, c. 3—4 mm diam., lobis obtusis vix 1 mm longis. Corolla tubuloso-infundibuliformis, laete rosea, (1,5—) 1,7—2,2 cm longa, tubo 0,9—1,4 cm longo, basi rotundato et 3—4 mm diam., superne sensim ampliata, infra lobos c. 5—6 mm diam., extus dense stellato-lepidoto, intus glabro, lobis 5 subspathulato-orbicularibus crenulatis 7—9 mm diam. extus ad basin et mediam laxae stellato-lepidotis, intus glabris. Stamina 10, inaequilonga, vix e fauce exserta; filamenta linearia, supra basin paullo dilatata, glabra; antherae oblongo-ellipticae c. 1,3 mm longae, poris anticis dehiscentes. Discus humilis, glaber. Ovarium ovoideo-conicum, dense stellato-lepidotum, apice obtusum seu cum stylo abruptum, c. 5 mm longum, 3 mm diam.; stylus columnaris, glaber, c. 1,5 mm longus, 0,4—0,5 mm diam., stigmatibus turbiniformi-subcapitato leviter 5-lobato. Capsula ovoideo-ellipsoidea, dense stellato-lepidota, c. 8 mm longa, 4 mm diam., stylo glabro columnari 2,5 mm longo rostrata, stigmatibus manifeste 5-lobato, pedicello c. 2 cm longo.

NEW GUINEA. Northern part: Lake Habbema, 3325 m, camp, restricted to crevices and sandy niches on sterile limestone slopes, fl. 8-1938, *Brass 9528* (A; L, type).

### 32. *Rhododendron extrorsum* J. J. S.

*Rhododendron extrorsum* J. J. Smith in *Nova Guinea* 18: 95, t. 19, 2. 1936; Lam in *Nat. Tijd. N.I.* 89: 97, f. 54 (phot.). 1929.

NEW GUINEA. Northern part: Doormantop, 3500 m, *Lam 1668* (BO, type; L, P).

### 33. *Rhododendron hooglandii* Sleum., *nov. spec.*

Frutex divaricato-ramosus. Ramuli in partibus novellis dense lepidibus stellatis peltatis verruculosi, tactu asperi,  $\pm$  1,5 mm diam., in partibus vetustioribus cito cortice cinerascete vel albescente longitudinaliter rum-pente obtecti, 2—5 mm diam.; internodia 2—6 (—8) cm longa. Folia in pseudoverticillis 4—6-meris ad nodos ultimos 1—2 (—3) disposita, linearia, apice subobtusa, basi in petiolum angustata, coriacea, in sicco supra sordide diluteque viridia, opaca, subtus brunnescentia, utrinque dense



lepidota (lepidibus parvis lutescentibus peltatis profunde stellato-incisis, stipite excepto mox caducis), scabra, modo eorum *Ledi palustris* valde (fere ad costam) revoluta, (3—) 3,5—5,5 cm longa, in statu revoluto sicco 2—3 (—4) mm lata, costa supra levissime impressa, subtus inferne petioli crassitudine, superne sensim diminuta, nervis obscuris; petioli (4—) 5—8 mm longi, crassiusculi, dense stipitato-lepidoti. Umbellae (1—) 2-florae. Gemmae floriferae in statu juvenili tantum visae, perulis exterioribus subulatis, interioribus ovatis subacuminatis, subobtusis, dorso medio lepidotis glabris, lepidoto-fimbriatis. Bracteolae haud visae. Pedicelli crassiusculi, dense flavido-stipitato-lepidoti, epilosi, ± 1 cm longi. Calyx oblique patelliformis, valde obtuse et brevissime 5-lobus, dorso densissime substipitato-lepidotus, c. 3 mm diam. Corolla tubulosa, paullo curvata et zygomorpha, rosaceo-rubra, tota 2,8—3 cm longa, extus dense lepidibus varie dentatis vel lobatis (interdum subintegris) sessilibus vel brevissime stipitatis induta, intus glabra, tubo 2—2,3 cm longo, basi c. 5 mm diam., sursum vix ampliato, lobis late obovatis 5—8 mm longis et latis. Stamina 10, corollam aequantia vel paullo exserta; filamenta linearia, in vivo rubra, glabra; antherae subquadrato-oblongae, in vivo purpureae, c. 1,5 mm longae, 1 mm latae. Discus glaber. Ovarium subconicum sursum sensim in stylum attenuatum, perdense lepidotum, epilosum, c. 5 mm longum, 2 mm diam. Stylus sat gracilis, in vivo ruber, ima basi lepidotus, ceterum glaber, c. 2 cm longus; stigma subcapitatum, in vivo viridi-lutescens, 5-lobum. Capsula c. 1,8 cm longa.

NEW GUINEA. Northeastern part: E. Highlands, near Kerigomna Camp, Goroka Subdistr., c. 3000 m, fl. 9-7-1956, *Hoogland & Pullen 5576* (CANB; L, type). W. Highlands, Upper Minj Valley, on the Minj-Nona Divide, 3410 m, *Pullen 228*.

### 34. RHODODENDRON HELLWIGII Warb.

*Rhododendron hellwigii* Warburg in Bot. Jahrb. 16: 15, 26. 1892; K. Sch. & Laut., Fl. Schutzgeb. 487. 1901; Schltr in Bot. Jahrb. 55: 157. 1918; Diels, Lc. 62: 487. 1929.

NEW GUINEA. Northeastern part: Finisterre Mts, 1700—2100 m, *Hellwig 315* (B, type, †). Mt Saruwaged, 3600—4000 m, *Keysser 54* (B, †); *ibid.*, 2135—3050 m, *Clemens 5228, 5875, 9503 A, 9504 A*; *ibid.*, Buso R., 1830—2400 m, *Clemens 5267, 6273, 6280*; *ibid.*, Sambanga, 1525—1830 m, *Clemens 6966, 7139 a, 7184 a* (A, B; L, neotype); *ibid.*, Masak R., *Clemens 7556 a*. Wantoat, 1065—1830 m, *Clemens 11113*. Matap, 1525—1830 m, *Clemens 40935, 41048*.

Very similar in leaves and buds, flowers not seen, reported to be red, possibly conspecific:

NEW GUINEA. Northern part: Mt Cyclops, 2160 m, *Mayr 664* (BO).

### 35. *Rhododendron superbum* Sleum., *nov. spec.*

*Rhododendron devrieseanum* vel *aff.*, Stonor in Rhodod. Year Book 6: 50, f. 48. 1951 (*devriesianum*).



Frutex epiphyticus, 1,5—2 m altus. Ramuli teretes (5—) 6—7 mm crassi, apicibus striati et in sicco paullo applanati, ad internodia ultima dense caduce stellato-lepidoti, resp. scabriduli, internodiis 5—10 cm longis. Folia ad nodos in pseudoverticillis c. 4-meris disposita vel in superiore internodiorum parte alterna et  $\pm$  approximata, late elliptica vel ovato-elliptica, interdum subobovato-elliptica, valde coriacea, rigida, apice late attenuata brevissimeque subacuminata vel obtusa, basi subtruncato-rotundata vel cordulata, in sicco supra olivaceo-viridia vel brunnea, subtus brunnescentia, utrinque opaca, initio utrinque lepidota (lepidibus sat parvis irregulariter stellato-laceratis, centro minuto tuberculis persistentibus insidentibus), supra cito, subtus tarde glabrata denique tuberculis numerosissimis brevissimis scabrida, integra, haud revoluta, (8—) 10—12 cm longa, (4,5—) 6—8 cm lata, costa supra inferne distincte, superne minus profunde immersa, subtus inferne valida, applanata, c. 4 mm lata, laminae apicem versus gradatim evanescente, nervis lateralibus c. 8-jugis; infimis duobus  $\pm$  e basi laminae enascentibus, ceteris a costa patenter abeuntibus, inferne subrectis marginem versus curvatis et inter sese anastomosantibus, utrinque parum elevatis, venis quam nervi minus conspicuis laxis, supra in foliis plane maturis levissime impressis, subtus prominulis, reticulatione propria obsoleta; petioli validi, applanati, supra bene sulcati, lepidoti, 1,5—2 cm longi, 2,5—3,5 mm diam. Umbellae 3—5-florae. Perulae haud visae. Bracteolae lineares usque lineari-subspathulatae, laxe pilosae, usque ad 2 cm longae. Pedicelli robusti, dense rufo-stellato-lepidoti, (0,8—) 1,2—2,4 cm longi, 2—2,5 mm diam. Calyx obliquus, cupulatus, dorso lepidotus, 7—9 diam., lobis obtuse deltoideis 1,3—2 mm longis arcte brevissime fimbriatis. Corolla infundibuliformis, carnosula, in vivo albida vel cremea vel dilutissime lutea, interdum imprimis ad tubum roseo-tincta vel dilute rosacea, intus ad tubum intensius rubescens, fragrans, (11—) 11,5—12,5 cm longa, ad limbum 9—10 (—12) cm diam., tubo e basi sensim dilatato 6,5—7,5 cm longo, basi  $\pm$  1, infra lobos 2—2,5 cm diam., extus omnino glabro, intus in inferiore dimidio pilis albidis  $\pm$  retrorsis sat densis induto, ceterum glabro, lobis 6—7  $\pm$  patentibus late obovatis vel spathulatis, 4,5—5 cm longis, 3—3,5 cm latis, glabris. Stamina 12—14, corollae tubum longitudine parum excedentia, inaequilonga; filamenta linearia, basi c. 1 mm lata, inferne densissime usque dense subpatenter pilosula, superne angustiora et ad  $\frac{1}{2}$  usque  $\frac{2}{3}$  partem glabra; antherae lineari-oblongae, 8—9 mm longae, c. 1,5 mm latae, thecis basi minutissime lobulato-protractis. Discus manifestus, 1 mm altus, glaber. Ovarium crasse cylindrico-conicum, dense cupreo-stellato-lepidotum, c. 11 mm longum, 4 mm diam., cum stylo interdum  $\pm$  abruptum; stylus glaber, 5,5—6,5 cm longus, c. 2 mm crassus, stigmatate capitato obscure 6—7-lobo. Capsula fere matura cylindrica, basi sat longe, apice brevius attenuata, supra medium latissima, c. 5 cm longa, 1,3 cm diam.

NEW GUINEA. Central part: Bismarck Mts, behind Nondugl, Wahgi Valley watershed to Purari R., 1585—1745 m, *Gilliard s.n.* (A); Hagen Range, c. 2895 m, *Stonor 10* (E). Mt Otto area, Omahaiga R., Collins mill, 2440 m, *Robbins 869*. Northeastern part: Mt Saruwaged, A-mieng, on Yaneng R. (a tributary of



the Buso R.), above the mouth of Tosapik Creek, 1525—1830 m, fl. 19-6-1941, *Clemens 12322* (A, type).

### 36. RHODODENDRON PRAINIANUM Koord.

*Rhododendron prainianum* Koorders in Nova Guinea 8 (1): 187. 1909.

NEW GUINEA. Southwestern part: Noord R., on top of 'Resi' ridge, 900 m, *Versteeg 1661* (BO, type; K, L, U).

### 37. RHODODENDRON NERIIFOLIUM Schltr

*Rhododendron neriifolium* Schlechter in Bot. Jahrb. 55: 149. 1918.

NEW GUINEA. Northern part: 'Mt Schrader', Sepik R. region, c. 2070 m, *Ledermann 11777* (B, type, †), *12011* (B, †).

### 38. RHODODENDRON RARUM Schltr

*Rhododendron rarum* Schlechter in Bot. Jahrb. 55: 150. 1918.

NEW GUINEA. Central part: Bismarck Mts, c. 2500 m, Schlechter 18719 (B, type, †; P). Nondugl, *N.G.F. 4383, 4413 A, 4814 Womersley*. N slopes of Mt Giluwe, 2745 m, *Shaw Mayer s.n.* Mt Hagen, 2285—3050 m, *Gilliard s.n.*; *Stonor 11*. Behind Nondugl, Wahgi Valley watershed, and Bismarck Mts, 1585—3350 m, *Gilliard s.n.* Leahey's logging area above Goroka, 2530 m, *N.G.F. 6113 Womersley & Floyd*. Chimbu Divide, 2560 m, *N.G.F. 6397 McKee & Floyd (= McKee 1408)*; Wahgi-Sepik Divide, 2135—2590 m, *N.G.F. 6987 Womersley & Millar*. Eastern Highlands, near Daulo Camp, Asaro-Mairi Divide, Goroka Subdistr., 2400 m, *Hoogland & Pullen 5441*.

### 39. *Rhododendron delicatulum* Sleum., *nov. spec.*

Frutex epiphyticus 30—50 cm altus. Ramuli gracillimi, 1—2 mm diam., teretes, laxe foliati, apicibus dense stellato-lepidoti, inferne cito glabrati, internodiis 3—6 cm longis. Folia ad nodos in pseudoverticillis 3—4 meris disposita, lineari-lanceolata, apice subcurvata et sensim acuminata, subacuta, basi late in petiolum attenuata usque subrotundata, subcoriacea, in sicco supra saturate, subtus dilutius rufo-brunnea, ± opaca, novella utrinque subdense lepidota (lepidibus profunde stellato-incisis in toris epidermalibus persistentibus sessilibus vel breviter dendroideis), supra cito glabrescentia tactuque rugosula, subtus diutius lepidota, denique manifeste tuberculata, integra, margine paullo revoluta, (3—) 4—6,5 cm longa, 0,4—0,7 cm lata, plerumque infra medium latissima, costa supra impressa, subtus prominente, nervis lateralibus obsoletis; petioli graciles lepidoti c. 2 mm longi, 0,5—0,7 mm crassi. Umbellae c. 3-florae. Perulae exteriores subulatae, interiores ovatae, in acumen 3—10 mm longum subulato-extenuatae, dorso sat dense stellato-lepidotae, intus ± glabrae, usque ad 2 cm longae et 0,6 cm latae, fimbriatae. Bracteolae lineari-subspathulatae, hinc inde pilosae, usque ad 1,5 cm longae et 1 mm latae. Pedicelli graciles, dense rufo-stellato-lepidoti, ± 1,2 cm longi. Calyx parvus, obliquus, annularis, membranaceus, obscure lobulatus, dorso stellato-lepidotus, breviter fimbriatus, c. 2 mm diam. Corolla inferne tubulosa, ad limbum aperta,



aliquot zygomorpha, rosea,  $\pm$  2,7 cm longa, tubo 1,5—1,8 cm longo, basi c. 3, infra lobos c. 6 mm diam., extus aequaliter subdense breviter albido-piloso haud lepidoto, intus  $\pm$  late pilosulo, lobis 5 suberecto-patentibus late obovato-spathulatis vel suborbicularibus 5—7 mm longis, 5—6 mm latis. Stamina 10, longitudine corollam fere aequantia; filamenta filiformia inferne laxissime pilosa, superne glabra; antherae in vivo castaneae, late oblongae, 1,3 mm longae, c. 0,8 mm latae. Discus in margine superiore brevissime flavido-pilosus, inferne glaber. Ovarium conico-cylindricum, dense saturate rufo-stellato-lepidotum, haud pilosum, 5 mm longum, 1,8 mm diam., sensim in stylum sat gracilem tubum corollae aequantem usque ad apicem  $\pm$  patenter breviter flavescenti-pilosum abiens; stigma subcapitatum. Capsula deest.

NEW GUINEA. Northern part: 15 km SW of Bernhard Camp, Idenburg R., mossy forest, 1800 m, fl. 1-1939, *Brass 11876* (A, type).

#### 40. *Rhododendron bryophilum* Sleum., *nov. spec.*

Frutex, ut videtur, epiphyticus. Ramuli graciles, 1—2 mm diam., teretes, laxe foliati, apicibus brunneis dense caduce stellato-lepidoti resp. denique verruculosi, internodiis 2—6 (—8) cm longis. Folia ad nodos 3 vel 4 summos opposita vel in pseudoverticillis 3—4-meris disposita, oblonga, apice breviter sensim attenuata, subobtusa, basi late attenuata vel plerumque subtruncato-rotundata, tenuiter subcoriacea, in siccio supra olivacea, subtus brunnescentia, subopaca, initio utrinque subdense lepidota (lepidibus minutis, in zona marginali profunde stellato-incisis brevissime dendroideis, cito caducis, in apice tuberculorum epidermalium permanentium positis), cito glabrescentia utrinque sat dense tuberculata et scabridula, integra, margine vix revoluta, 4—5,5 cm longa, (1—) 1,3—2,2 cm lata, medio latissima, costa diutius lepidota supra levissime impressa, subtus prominente, nervis lateralibus 4—5 (—6) arcuato-conjunctis supra minutissime elevatis vel subinconspicuis, subtus plerumque vix visibilibus, reticulatione nulla; petioli appianati 2 (—3) mm longi, c. 1 mm crassi, lepidoti. Umbellae c. 3-florae. Perulae ovatae usque obovato-spathulatae, brevissime apiculatae vel obtusae, membranaceae, glabrae, minutissime fimbriatae, usque ad 8 mm longae et 6 mm latae. Bracteolae filiformes subglabrae, usque ad 10 mm longae. Pedicelli gracillimi, dense minute stellato-lepidoti, pilosi, 10—12 mm longi, c. 0,4 mm crassi. Calyx parum obliquus, minutus, obscure 5-lobus, extus stellato-lepidotus, c. 2 mm diam. Corolla tubulosa, sat distincte zygomorpha, pallide salmonea, tenera, 3,5—3,8 cm longa, extus glabra, intus ad tubum laxissime pilosula, tubo cylindrico curvato (1,8—) 2—2,8 cm longo, basi c. 3,5 mm diam., infra lobos usque ad 7 mm ampliatus, lobis 5 spathulatis, 10—12 mm longis,  $\pm$  7 mm latis. Stamina 10, longitudine corollam fere aequantia; filamenta anguste linearia, supra basin glabra, superne laxe pilosa, apice iterum glabra; antherae oblongae, 1,8—2 mm longae, 1 mm latae, exappendiculatae. Discus in margine superiore pilis brevissimis laxe indutus, ceterum omnino glaber. Ovarium elongato-ovoideum, dense stellato-lepidotum, c. 4 mm longum, 1,5 mm diam., sensim in stylum abiens. Stylus satis crassus,



fere usque ad apicem pilis laxe brevibus subpatentibus instructus, c. 1,8 cm longus, stigmatate breviter claviformi. Capsula ignota.

NEW GUINEA. Northern part: Mt Cyclops, 1065—1830 m, fl. 3-1936, *L. E. Cheesman 51* (BM, type).

#### 41. RHODODENDRON TUBERCULIFERUM J.J.S.

*Rhododendron tuberculiferum* J. J. Smith in *Med. Rijksherb.* 25: 4. 1915; *Nova Guinea* 12 (5): 504. 1917, t. 199 a, 203 b—f. 1918.

NEW GUINEA. Southwestern part: top of Wichmann Mts, 3000 m, *Pulle 1045* (BO, lectotype; K, L, U). Hubrecht Mts, 3100 m, *Pulle (Versteeg) 2423*.

#### 42. RHODODENDRON DIELSIANUM Schltr

*Rhododendron dielsianum* Schlechter in *Bot. Jahrb.* 55: 150. 1918.—*R. laureola* Schltr. l.c. 151.

##### 42a. var. DIELSIANUM

NEW GUINEA. Northern part: 'Felsspitze', Sepik R. region (c. 141° 31' E, 4° 10' S), 1400—1500 m, *Ledermann 13004* (B, †). Northeastern part: Kani Mts, above Bolobo, c. 1400 m, *Schlechter 16542, 17770* (B, type of *R. dielsianum*, †; P). Finisterre Mts, c. 1200 m, *Schlechter 18199* (B, type of *R. laureola*, †; P). Morobe Distr., Yunzaing, 1370 m, *Clemens 6465* (A). Central Highlands: Tagan R., Kuno area (144° 10' E, 5° 30' S), 1310 m, *N.G.F. 7679 A Womersley & Millar* Southeastern part: Central Distr., Ueli, 1220 m, *H. A. Brown 295*.

The type material of *R. laureola* has ± elliptic leaves, rounded at the base, and the outer perulae ovate, with a shortly subulate acumen, whereas the one of *R. dielsianum* has lanceolate-elliptic leaves, ± attenuate at the base, and the outer perulae short-ovate, long-subulate. There are practically no differences in the flowers and I would have maintained *R. laureola* and *R. dielsianum* as proper species was it not that the specimen *Brown 259* (with identical flowers) combines the type of the leaves of *R. dielsianum* with the form of the perulae of *R. laureola*. *Clemens 6465* and *N.G.F. 7679A Womersley & Millar* match exactly the type material of *R. dielsianum*.

##### 42b. var. stylotrichum Sleum., nov. var.

Stylo in inferiore media parte laxe patenter pilosulo a typo diversum.

NEW GUINEA. Central part: Near Sosomepari village, Upper Dunantina Valley, Goroka Subdistr., c. 1700 m, *Hoogland & Pullen 5367* (B, BRI, CANB, K; L, type; LAE).

#### 43. RHODODENDRON STOLLEANUM Schltr

*Rhododendron stolleanum* Schlechter in *Bot. Jahrb.* 55: 143. 1917.

NEW GUINEA. Northeastern part: Camp 'Felsspitze' (c. 141° 30' E, 4° 10' S), Upper Sepik R., 1400—1500 m, *Ledermann 12626* (B, type, †).



As the holotype specimen is lost, no isotypes are preserved, and the original description rather incomplete, the position of *R. stolleanum* both in and within the subsect. *Phaeovireya* remains somewhat uncertain, although most of the characters mentioned are those of *R. dielsianum*.

#### 44. *Rhododendron psilanthum* Sleum., *nov. spec.*

Frutex, ut videtur. Ramuli graciles, c. 2 mm diam., teretes, apicibus dense rufo-stellato-lepidoti, inferne cito glabrati, laeves, internodiis  $\pm$  6,5 cm longis. Folia opposita vel in pseudoverticillis 3-meris disposita, elliptica vel oblongo-elliptica, apice breviter subacute acuminata, apiculata, basi late in petiolum attenuata, subcoriacea, supra sordide olivaceo-brunnea, subtus castanea, initio utrinque stellato-lepidota (lepidibus minutis, dendroideis, in zona marginali profunde incisus, tuberculis epidermalibus minutis insidentibus), supra mox glabrata, subtus diu lepidota, denique etiam hic glabrescentia et rugosula, integra, margine brevissime revoluta, 3,5—4,5 cm longa, 1,3—2 (—2,2) cm lata, costa supra leviter immersa, subtus prominente, nervis lateralibus inconspicuis; petioli sat graciles, dense lepidoti, 5—6 mm longi, fere 1 mm diam. Umbellae 3-florae. Perulae et bracteolae haud visae. Pedicelli graciles, perdense stellato-lepidoti, 1,2—1,5 cm longi, c. 0,5 mm diam. Calyx minutus, obliquus, brevissime cupulatus, margine subinteger, c. 2 mm diametro. Corolla inferne tubulosa, superne dilatata, parum zygomorpha, rubra, extus intusque omnino glabra, 3,5—3,8 cm longa, tubo c. 2,5 cm longo, basi 5-gibbo et 4—5 mm diam., infra lobos usque ad 8 mm diametro ampliato, lobis 5 expansis late obovato-spathulatis 1—1,2 cm longis, 0,8—1 cm latis. Stamina 10, c. 3 cm longa, paullo inaequilonga; filamenta anguste linearia, glabra; antherae obovato-oblongae, c. 2,2 mm longae et 1 mm latae, basi brevissime biappendiculatae. Discus prominens, glaber. Ovarium subovoideo-cylindricum, c. 4 mm longum et 2 mm diam., densissime stellato-lepidotus, sat abrupte in stylum abiens. Stylus c. 2,5 cm longus, basi infima tantum stellato-lepidotus, ceterum glaberrimus, stigmatibus subcapitato. Capsula deest.

CELEBES. Central part: Enrekang, Pintealón, spur of Mt Pokapindjang, ridge, 2400—2600 m, fl. 15-6-1937, *Eyma 516* (BO, type).

#### 45. RHODODENDRON BEYERINCKIANUM Koord.

*Rhododendron beyerinckianum* Koorders in Nova Guinea 8(4): 876, t. 150. 1912; J.J.S., l.c. 12(2) 137. 1914; l.c. 12(5): 504. 1917, incl. var. *longipetiolatum* J.J.S., l.c.; l.c. 18: 94. 1936.—*R. schultzei* Schltr in Bot. Jahrb. 55: 154. 1918.—*R. dasylepis* Schltr, l.c. 153, f. 4; Stonor, Rhodod. Year Book. 6: 50, f. 53. 1951.—*R. saavedranum* Diels in Bot. Jahrb. 62: 486. 1929.—*R. chrysoeplon* Sleum., l.c. 74: 540. 1949.

This species shows a rather great variability in the shape and size of the leaves, which are apparently larger in the lower moss forest (1500—2800 m), and smaller, thicker and often more obtuse in open country



above 2800—4000 m. The forms at low elevations have a capsule between 3 and 4 cm long at full maturity, whereas the specimens of higher places apparently have smaller capsules, from 2 to 2.5 cm long, as far as can be derived from the material at hand. The latter form is more or less what has been described as *R. saavedranum* by Diels from Mt Saruwaged, now also known from Mt Hagen, the Wahgi-Jimmi Divide, the Rawlinson and Wharton Range and Mt Victoria, all from localities above 2450 m. Of the other synonyms mentioned above, *R. schultzei* and *R. dasylepis* are very near to *R. beyerinckianum* in its original circumscription, differing only by laxly pubescent filaments; the colour of the corolla varies here from bright red to rose. *Rhododendron chrysopeplon*, considered to be a distinct species by its white flowers, cannot be maintained; abundant material from Habbema Lake shows pale yellow and white-greenish corollas together with the normal pink or red ones in the same locality.

The species recently has been introduced from Mt Hagen (*Stonor 4*) into horticulture. I have seen it with scarlet corollas, closely covered outside with golden brown stellate scales, in the Edinburgh Botanical Garden.

NEW GUINEA. Western part: Wissel Lake region, *Eyma 4976*. Noord-west R., *Coenen 37*. Nassau Mts, 2500 m, *Docters van Leeuwen 10924*. Hellwig Mts, Mt Agathodaemon, c. 2000 m, *von Römer 1199* (BO, type of *R. beyerinckianum*; L, fragm.), *1201*; Mt Hellwig, top, 2450—2600 m, *Pulle 591, 879, 948*; *van Nouhuys 12*. Mt Hubrecht, 3100 m, *Pulle (Versteeg) 2419* (BO, type of *R. beyerinckianum* var. *longipetiolatum*; L). Mt Goliath, 2500—3250 m, *de Kock 117*. Oranje Mts, Lake Habbema region, 2700—3225 m, *Brass 9200, 9280, 9281, 9570, 10563, 10563 A, 10566, 10633, 10872*; Bele R., 2200—2300 m, *Brass 11068, 11069*; Bernhard Camp, Idenburg R., 2100 m, *Brass 12179*. Central part: Upper Sepik R., top of Mt Peripatus, c. 1500 m, *Schultze Jena 280* (B, type of *R. schultzei*, †). Wahgi-Sepik Divide, 2135—2650 m, *N.G.F. 6985, 6986 Womersley & Millar*. Jimmi Valley, 1725—1770 m, *N.G.F. 7638, 7764 Womersley & Millar*. Wahgi-Jimmy Divide, 3170 m, *N.G.F. 5200, 5317 Womersley*. Mt Hagen, W and S slopes, 3350 m, *Robins 306*; *Shaw Mayer s.n.*; *Stonor 4*. Mt Kerigomna, Goroka Subdistr., 3400 m, *Hoogland & Pullen 5629*. Mt Kuni, near Mt Hagen, 1980 m, *N.G.F. 9483 Womersley*; Wankl village, 5 km SE of Mt Hagen station, 2150 m, *Hoogland & Pullen 5844*. Mt Oga, 2590 m, *Pullen 127*. Upper Minj R. Valley, 3410 m, *Pullen 230*. Mt Wilhelm, 3050—3350 m, *Stonor 13*; Lake Piunde, Mt Wilhelm, c. 3615 m, *N.G.F. 8833 Womersley*. Bismarck Mts, 2100 m, *Schlechter 18808* (B, type of *R. dasylepis*, †; P). Northeastern part: Morobe Distr., Mt Saruwaged, 3600—4000 m, *Keysser s.n.* (B, type of *R. saavedranum*, †); *ibid.*, Upper Camp, 2745—3050 m, *Clemens 9924 bis*; *ibid.*, Bog-meadow Camp, 2440—2745 m, *Clemens 5880* (A; B, type of *R. chrysopeplon*; L), *5881*. A-mieng, on Yaneng R. (tributary of the Busu R.), 1525—1830 m, *Clemens 12321*. Rawlinson Range, *Clemens 41412*. Southeastern part: Central Distr., Wharton Range, Murray Pass, 2840, *Brass 4189, 4530*. Ascent to Mt Victoria, NW of the 'Gap', c. 2440 m, *Carr 15238*. Morobe Distr., Edie Creek road, above Wau, 1675 m, *N.G.F. 9541 White*.



## 46. RHODODENDRON LEPTANTHUM F. v. M.

*Rhododendron leptanthum* F. von Mueller in Trans. R. Soc. Vict. N.S. 1(2): 24. 1889, in observ.

NEW GUINEA. Northeastern part: Morobe Distr., Edie Creek, above Wau, 2000 m, *Lam 7748*; *van Royen 4371*; *N.G.F. 5959 Womersley & van Royen*. Mt Missim, 1740 m, *Stevens s.n.* Southeastern part: Central Distr., summits of Owen Stanley Range, *McGregor anno 1889* (MEL, type); Akaifu-Kunimaipa Divide, 1370 m, *H. A. Brown 151*; top of Mt Yule, *Belford anno 1890* (MEL); Alola, c. 1830 m, *Carr 15034*. Milne Bay Distr., above Bonenao, 1465 m, *Cruttwell 493*; Mt Brandawap, 1645 m, *Cruttwell 369, 370*; N slopes of Mt Dayman, 1550 m, *Brass 23268*; *ibid.*, Mt Maneao, 1220 m, *Cruttwell 716*. Mt Garatun, 1550 m, *Cruttwell 816*.

## 47. RHODODENDRON WARIANUM Schltr

*Rhododendron warianum* Schlechter in Bot. Jahrb. 55: 151. 1918; Lane-Poole, For. Res. 130. 1925; White & Francis in Proc. R. Soc. Queensl. 39: 68. 1928.

NEW GUINEA. Northeastern part: Morobe Distr., Mt Saruwaged region, Wantoat, 1065—1830 m, *Clemens 11004*; Abe, 1220—1525 m, *Clemens 8350 a*; Nomi R., 2135 m, *Lane-Poole 532*; Sambanga, 1525—1830 m, *Clemens 7102 a*; Mt Saruwaged, 1830—2440 m, *Clemens 5883*. Rawlinson Range, *Clemens 12330*. Waria R. region, Govidjoa, c. 1200 m, *Schlechter 19803* (B, †); Dschichu(n)gari, c. 1200 m, *Schlechter 19579* (cit. '19979', B, lectotype, †; P). Southeastern part: Central Distr., Mt Tafa, 2350 m, *Brass 4074* (L). Milne Bay Distr., N slopes of Mt Dayman, Maneau Range, 2000 m, *Brass 22767*.

## 48. RHODODENDRON PHAEOCHITUM F. v. M.

*Rhododendron phaeochitum* F. von Mueller in Trans. R. Soc. Vict. N.S. 1(2): 23. 1889.

NEW GUINEA. Central part: Chimbu Divide, Goroka Subdistr., 2255 m, *N.G.F. 6265 Floyd, Womersley & McKee (=McKee 1234)*; *ibid.*, Daulo, 2440—2560 m, *N.G.F. 6375 Mc Kee & Floyd (=McKee 1380)*; *N.G.F. 9051 Womersley*. Nondugl, *Gilliard s.n.*; *N.G.F. 4395 A Womersley*; *ibid.*, Al R., 2135 m, *N.G.F. 1888 Womersley*; *N.G.F. 9029 Womersley & Good*. Western Highlands, S slope of Hagen Range, near Tomba village, 2650 m, *Hoogland & Pullen 6105*. Southeastern part: Centr. Distr., Mt Musgrave, *McGregor anno 1889* (MEL, type).

*R. phaeochitum* comes near *R. beyerinckianum*, but differs from that species by three apparently constantly united characters: the filaments are densely pubescent, the disk bears a 'crown' of very short white simple hairs at the upper margin, and the corollas are generally longer (3.5—4.5) (—5) cm). Leaves measured up to 14 by 7 cm.

## 49. RHODODENDRON GARDENIA Schltr

*Rhododendron gardenia* Schlechter in Bot. Jahrb. 55: 158. 1918.

NEW GUINEA. Northeastern part: Sepik R. region, 'Schrader Mts', c. 2070 m, *Ledermann 12024* (B, type, †), *11669* (B, †); 'Felsspitze' (c. 141° 30' E,



4° 10' S), 1400—1500 m, *Ledermann 12419* (B, †), *13442* (B, †). Bele R. Valley, 25 km NE of Lake Habbema, 2300 m, *Brass 10832* (A, neotype; L), *11250*.

50. *Rhododendron magnificentum* Sleum., *nov. spec.*

Frutex, prob. epiphyticus. Ramuli ad internodia ultima c. 10 cm longa applanati, dense fugaciter rufo-stellato-lepidoti denique in sicco pruinosi. Folia in superiore dimidio internodii ultimi (tantum visi) laxè alterna, summa 2 opposita vel 3 pseudoverticillata, elliptica vel subobovato-elliptica, crasse coriacea et rigida, apice subrotundata, basi subtruncato-rotundata, in sicco utrinque olivacea, opaca, novella utrinque lepidota (lepidibus parvis stellato-laceratis dendroideis apicibus tuberculorum epidermalium insidentibus), supra cito, subtus tardius glabrata, tuberculis persistentibus densissimis sat altis quam lamina pallidioribus notata utrinque valde rugosa vel scabrida, integra, margine ± distincte revoluta, 8—13 cm longa, (4—) 5—7 cm lata, costa inferne crassitudine petioli, superne cito gradatim diminuta, supra leviter impressa, subtus elevata, nervis lateralibus c. 8 inferne subrectis supra vix visibilibus, subtus inferne prominulis, marginem versus ± evanescentibus, reticulatione nulla; petioli valde crassi, paulo applanati, supra leviter sulcati, 2—2,5 cm longi, 3—4 mm diam., dense lepidoti resp. denique verruculosi Umbellae 3—5-florae. Perulae exteriores ovatae, obtusae, utrinque pilis basi inflatis brevissimis scabridis ± dense obsitae, c. 2 cm longae, 1—1,5 cm latae, mediocres obovatae 2,5—4 cm longae, 2—4 cm latae indumento eodem vestitae, interiores spathulatae, inferne pilis rigidis longioribus ± appressis aspersae, superne minutissime tuberculatae, 4—7 cm longae, 2,5—3 cm latae. Bracteolae lineari-spathulatae, c. 5 cm longae, apice ± 2 mm latae, subdense hispidulae. Pedicelli dense rufo-stellato-lepidoti, etiam infra calycem haud pilosi, (6—) 10—15 mm longi, 2—2,5 mm crassi. Calyx annularis, membranaceus, brevissimus, undulatus, extus lepidotus, intus glaber, c. 5 mm diam., lobis brevissimis pilis solitariis albidis ciliatis. Corolla infundibuliformis, carnea (albida vel rosacea?), extus ad tubum laxè stellato-lepidota, intus in inferiore tubi dimidio sat dense pilis retrorsis induta, ceterum glabra, ± 9 cm longa, tubo subrecto ± 4 cm longo, basi c. 0,8 cm, infra lobos c. 1,5 cm diam., lobis 7 obovato-spathulatis ± 4 cm longis et 2—2,5 cm latis. Stamina 14, 7—8 cm longa; filamenta inferne linearia denseque ± patenter subvillosopilosa, superne laxius pilosa, infra antheras omnino glabra; antherae lineari-oblongae, 10—11 mm longae, c. 1,5 mm latae, basi obtusae. Discus dense albido-pilosus. Ovarium inferne cylindricum denseque pilosum et lepidotum, superne forma ampullae constrictum et stellato-lepidotum, haud pilosum, c. 2 cm longum, inferne 5, superne 2,5 mm diam. Stylus tomento lepidoto abruptus esse videtur, re vera gradatim ovarium continuat, glaberimus, in sicco nigricans, ± 6,5 cm longus, stigmatè crasse capitato 7-lobulato. Capsula nondum visa.

NEW GUINEA. Western part: Wissel Lake region, Bivouac on Voortug-Steenlijst, helling voortop, 31-7-1939, *Eyma 4984* (BO; L, type).

Similar to *R. konori* Becc., but style completely glabrous.



## 51. RHODODENDRON KONORI Becc.

*Rhododendron konori* Beccari, Malesia 1: 200. 1878.—*R. devrieseanum* Koord. in Nova Guinea 8(1): 185. 1909; l.c. 8(4): 876, t. 151, 1912; J. J. S., l.c. 12(2): 141. 1914. (*devriesianum*); Gibbs, Arfak 170. 1917; Kanehira & Hatusima in Bot. Mag. Tokyo 56: 478. 1942.—*R. devrieseanum* Koord. ssp. *astrapiæ* Foerster in Fedde, Rep. 13: 224. 1914.—*R. astrapiæ* Foerst. ex Schltr in Bot. Jahrb. 55: 160. 1918.

NEW GUINEA. Northwestern part: Mt Arfak, 2000 m, *Beccari* (*Herb. Beccari* 5809 A & B, FI, type of *R. konori*); Angi Gita Lakes, 1800—2135 m, *Kostermans* 2079, 2248, 2249; *Pratt* s.n. (K); *Gibbs* 5541; *B.W.* 273 *Versteegh*; *Kanehira & Hatusima* 13758; *Gjellerup* 1079. Mt Koebré, 2300 m, *Kanehira & Hatusima* 13694 (cit. '13706'). Kebar valley, 1700 m, *B.W.* 6892 *Koster*. Mt Genofa, 750—1000 m, *Salverda* 580. Western part: Wissel Lake region, *Eyma* 4593, 5402; *Enarotali*, 1900 m, *B.W.* 3007 *Versteegh*; Uglida, 1800 m, *B.W.* 3253 *Rosendahl*. Noord R., 'Resi' ridge, 970 m, *Versteegh* 1638 (BO, type of *R. devrieseanum*; K, L, U). Hellwig Mts, 750 m, *von Römer* 853. Northeastern part: Upper Sepik R. region, Hunstein Mts, 'Etappenberg', c. 850 m, *Ledermann* 8878 (SING). Wahgi R., Nondugl, *Gyldenstolpe* s.n. (S). Morobe Distr., Mt Saruwaged region, Abe, 1220—1525 m, *Clemens* 8324; Sambanga, 1525—1830 m, *Clemens* 7138 a, 7731 a; A-mieng, on Yaneng R. (tributary of the Busu R.), 1525—1830 m, *Clemens* 41914. 'In montibus montem Sattelberg superantibus', c. 1200 m, *Keysser* s.n. (B, type of *R. astrapiæ*, †; BM). Partep, Lae-Bulolo road, c. 1220 m, *N.G.F.* 3017, *N.S.P.* 17; Edie Creek near Bulolo, 2590 m, *N.G.F.* 9530, 9652 *White*. Southeastern part: Central Distr., Mafulu, 1250 m, *Brass* 5307 (BO, L). Milne Bay Distr., Fergusson Isl., 950 m, *Brass* 27058.

52. *Rhododendron opulentum* Sleum., *nov. spec.*

Frutex epiphyticus c. 1 m altus. Ramuli subteretes, apicibus dense rufo-stellato-lepidoti, inferne glabrescentes tuberculisque minutis scabridi, internodiis 10—20 cm longis. Folia in superiore dimidio internodii ultimi laxè alternatim disposita, oblongo-elliptica vel late oblonga, coriacea, apice breviter acuminata, subacuta vel obtusiuscula, basi latissime attenuata usque rotundata, in sicco utrinque viridi-olivacea, opaca, novella utrinque ± dense rufo-lepidota (lepidibus minutis profunde stellato-incisis, breviter dendroideis, tuberculis epidermalibus minutis pallidioribus insidentibus, cito caducis), matura utrinque costa lepidota excepta glabrescentia densissime minuteque tuberculata, tactu asperrima, integra, margine in sicco undulata vix revoluta, 6—10 cm longa, 3—4 cm lata, costa supra subcrassa appanata minute elevata, basin laminae versus parum sulcata, subtus bene prominente, nervis lateralibus c. 10-jugis sat densis irregularibus inferne subrectis prope marginem anastomosantibus utrinque prominulis, venis laxè reticulatis utrinque parum elevatis, reticulatione venularum quasi nulla; petioli paullo appanati, ± 1 cm longi, ± 2,5 mm crassi, dense lepidoti vel denique asperuli. Umbellae 7—8-florae. Perulae exteriores haud visae, mediocres et interiores spathulatae utrinque dense albido-subsericeo-hirsutae, usque ad 4,5 cm longae et 2 cm latae. Bracteolae lineares, densissime subadpresse albido-pilosae, usque ad 3 cm longae et 2 mm latae. Pedicelli dense appresse pilosi laxèque fugaciter stellato-lepidoti, 8—10



mm longi, c. 1,5 mm diam. Calyx valde obliquus, brevissime annularis, obscure 5—6-lobulatus vel -dentatus, extus dense pilosus et lepidotus, c. 4 mm diam. Corolla longe tubulosa, ad lobos expansa, fragrans, in tubo rosacea, ad lobos albescens, 9—10 cm longa, limbo 4—5 cm diam., extus glabra, intus sat dense fere usque ad faucem pilis longiusculis retrorsis induta, tubo cylindrico superne parum ampliato 6—7 cm longo, basi 4—5, sub fauce c. 8 mm diam., lobis 5 late obovatis usque suborbicularibus 2,5—3 cm longis, 1,8—2,5 cm latis, utrinque glabris. Stamina 10, tubum corollae circiter 1 cm superantia; filamenta inferne linearia denseque pilis retrorsis vestita, supra laxius pilosa, in quarto summo filiformia et glabra; antherae elongato-oblongae, basi obtusae, c. 6 mm longae, 1,2 mm latae. Discus albohirsutus. Ovarium elongato-cylindricum, densissime stellato-lepidotum laxiusque breviter pilosum (pilis lepidibus  $\pm$  obtectis), c. 10—12 mm longum,  $\pm$  2,5 mm diam., sensim in stylum 5—6 cm longum inferne valde crassum et ad 3—4 cm densissime stellato-lepidotum epilosum, ceterum superne graciliorem et omnino glabrum abiens, stigmatibus magno capitato bene 5-gibbo. Capsula deest.

NEW GUINEA. Northern part: 15 km SW of Bernhard Camp, Idenburg R., in mossy forest at 1800 m, fl. 1-1939, *Brass 12061* (A, type; L).

### 53. RHODODENDRON SPONDYLOPHYLLUM F. v. M.

*Rhododendron spondylophyllum* F. von Mueller in Trans. R. Soc. Vict. N.S. 1(2): 23. 1889.

NEW GUINEA. Southeastern part: Owen Stanley Range, Mt Knutsford, *McGregor anno 1889* (MEL, type).

### 54. RHODODENDRON MELANTHERUM Schltr

*Rhododendron melantherum* Schlechter in Bot. Jahrb. 55: 152. 1918.

NEW GUINEA. Northeastern part: Schrader Mts, 2070 m, *Ledermann 12161* (B, type, †).

As no type material is preserved, the position of *R. melantherum* is based tentatively on the inadequate description.

### 55. *Rhododendron cyatheicolum* Sleum., *nov. spec.*

Frutex epiphyticus 30—40 cm altus, ramis rigidis. Ramuli teretes, 2—5 mm diam., apicibus stellato-lepidoti, cito glabrescentes denseque verruculosi, internodiis 3—8 cm longis. Folia ad nodos ultimos et penultimos in pseudoverticillis 3—5-meris disposita, ovata, subsessilia, apice late attenuata, obtusa, basi rotundata vel subcordata, coriacea, rigida, novella utrinque densissime rufo-stellato-lepidota, matura citissime glabrescentia, supra in sicco dilute griseo-olivacea, subtus brunnescentia, in vivo subtus lutescentia  $\pm$  opaca, supra parum vel vix, subtus manifeste tuberculis albescentibus numerosissimis scabrida, integra, margine in sicco revoluta, 3—4,2 cm longa, 2—2,5 cm lata, costa supra leviter impressa, subtus imprimis basi crasse prominente, nervis lateralibus c. 6-jugis supra subinconspicuis, subtus paullo prominulis, reticulatione nulla; petioli 1—2 mm longi,  $\pm$  2 mm crassi. Umbellae 4—5-florae. Perulae membrana-



ceae, exteriores ovatae, apiculatae, costa dorsali prominente carinatae, dorso apice lepidotae ceterum glabrae, fimbriatae, interiores ovato-oblongae usque obovatae vel truncato-spathulatae, glabrae, usque ad 1,5 cm longae et c. 8 mm latae. Bracteolae inferne anguste lineares, apice subspathulatae, usque ad 1,5 cm longae et c. 1 mm latae, laxe pilosae. Pedicelli dense stellato-lepidoti, epilosi, 1,5—2 cm longi, 0,8 mm diam. Calyx patellaris, rectus, brevissime obtuse 5-lobus, undulatus, dorso lepidotus et laxe pilosus, ciliatus, 4—5 mm diam. Corolla late tubulosa, parum zygomorpha, rosea, 4—4,5 cm longa, extus minute stellato-lepidota hinc inde pilo ornata, ad loborum marginem glabra, intus ad tubum laxe subpatenter pilosa, ceterum glabra, tubo leviter curvato  $\pm$  3 cm longo, basi 5—6, faucem versus usque ad 10 mm diam., lobis 5 obovatis erecto-patentibus, 1—1,2 (—1,3) cm longis, 0,8—1 cm latis. Stamina 10, corollam longitudine  $\pm$  aequantia; filamenta inferne linearia et in tertio inferiore sat dense pilosa, superne glabrescentia et filiformia; antherae subobovato-oblongae, 3 mm longae, 1 mm latae, basi brevissime biappendiculatae. Discus glaber. Ovarium ovoideo-conicum, dense flavido-pilosum (pilis  $\pm$  strigosis, porrectis, lepides  $\pm$  obtegentibus), 5—6 mm longum, 3—4 mm diam., sat abrupte in stylum abiens. Stylus crassiusculus, inferne dense pilosus et laxe lepidotus, superne fere usque ad apicem laxius pilosus et lepidotus, ad 6—8 mm ultima glaber, corollam longitudine aequans vel paullo superans, stigmatate capitato. Capsula haud visa.

NEW GUINEA. Southeastern part: Central Distr., Murray Pass, Whar-ton Range, 2840 m, epiphytic on grassland tree ferns, 6-9-1933, *Brass 4536* (L, type).

#### 56. RHODODENDRON ASPERUM J. J. S.

*Rhododendron asperum* J. J. Smith in *Nova Guinea* 12(2): 137, t. 34. 1914; Kaneh. & Hatus. in *Bot. Mag. Tokyo* 56: 478. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lakes, 2300—2500 m, *Gjellerup 1195* (BO), *1203* (BO, lectotype; L); *Kanehira & Hatusima 13660, 13988*; ibid., Mt Tombrok, 2200 m, *S. Bergman s.n.* (S).

#### 57. *Rhododendron rhodochroum* Sleum., *nov. spec.*

Frutex. Ramuli 5—7 mm diam., ad internodia ultima obtusanguli, ceterum teretes, verrucis minutis densissimis asperi, prob. ad innovationes (haud visas) lepidoti, citissime glabrati, internodiis 4—13 cm longis. Folia seu in summo tertio internodiorum approximata et alterna, seu ad pseudo-verticillos 3—5-meros collecta, oblongo-elliptica, apicè late attenuata et obtusa, interdum apiculata, basi leviter cordata, coriacea, rigida, in sicco supra dilute olivaceo- vel viridi-cinerascentia, subtus dilute brunnescentia, opaca, cito glabrata, subtus diu stellato-lepidota (lepidibus rufis minutis tuberculis permanentibus pallidioribus insidentibus), demum etiam subtus glabrescentia tactuque asperrima, integra, margine in sicco  $\pm$  revoluta, (3—) 4—7,5 cm longa, 1,6—3,5 cm lata, costa supra inferne paullo insculpta, superne  $\pm$  plana, subtus inferne petiolum continuante, valida, apicem laminae versus sensim diminuta, nervis lateralibus patentibus 8—10-jugis supra minute elevatis marginem versus  $\pm$  evanescentibus,



subtus parum prominentibus vel fere inconspicuis, venis subobscuris; petioli 2—4 mm longi, 1,5—2,5 mm crassi. Umbellae 3—8-florae. Perulae membranaceae, ovato-oblongae usque obovatae,  $\pm$  obtusae, exteriores dorso  $\pm$  lepidotae, interiores glabrae, usque ad 1,5 cm longae et c. 0,8 cm latae. Bracteolae lineares, glabrae, usque ad 1,5 cm longae. Pedicelli dense rufo-stellato-lepidoti,  $\pm$  2 cm longi, fere 1 mm crassi. Calyx patellaris,  $\pm$  reflexus, dorso dense lepidotus, breviter (1—1,5 mm) subobtusae 5-dentatus, haud ciliatus. Corolla tubulosa, paullo curvata et zygomorpha, rosea, extus in tubo et loborum inferiore parte subdense stellato-lepidota, intus ad tubum laxe pilosa, (4,5—) 5—5,5 cm longa, tubo 3,3—4 cm longo, basi 5—6, infra lobos 9—10 mm diam., lobis 5 erecto-patentibus late obovatis 1—1,5 cm longis, 1—1,3 cm latis. Stamina 10, inaequilonga,  $\pm$  1 cm e tubo exserta; filamenta inferne linearia, basi subdense, in medio laxe pilosa, superne filiformia et glabra; antherae obovato-oblongae, basi obtusae, 3—3,5 mm longae, 1,3 mm latae. Discus inferne glaber, superne in margine pilosus. Ovarium ovoideo-conicum, dense pilosum et stellato-lepidotum, 6—8 mm longum,  $\pm$  3 mm diam., sat abrupte in stylum abiens. Stylus in media parte inferiore dense patenti-pilosus laxiusque lepidotus, superne glaber, stamina aequans vel paullo superans, stigmatibus crasse oblique capitato bene 5-gibbo. Capsula haud visa.

NEW GUINEA. Northern part: Lake Habbema, 3225 m camp, common in more open mossy thickets on peat ridges, associated with *Brass* 9151 and 9571 (*R. haematophthalmum* Sleum.), 8-1938, *Brass* 9572 (A, type), 9152 (A).

### 58. *Rhododendron gilliardii* Sleum., *nov. spec.*

Frutex, epiphyticus vel terrestris? Ramuli teretes, graciles, 2 mm diam., nodosi, apicibus dense rufo-stellato-lepidoti, ceterum citissime glabrati resp. griseo-corticati, internodiis 1,5—2,5 cm longis. Folia opposita vel in pseudoveriticillis 3-meris ad apices ramulorum, vel interdum etiam ad nodos penultimos digesta, late elliptica, apice subrotundata, apice extremo apiculata, basi latissime attenuata vel rotundata, subcoriacea, in sicco olivacea vel castanea, subtus pallidiora, novella utrinque dense rufo-lepidota (lepidibus  $\pm$  profunde et irregulariter stellato-laceratis, in apice tuberculorum epidermalium sessilibus, haud dendroideis), supra mox glabrescentia, sublaevia et nitentia, subtus diutius denseque lepidota, denique tuberculis persistentibus rugosula, integra, margine parum revoluta, 3—5 cm longa, 2—3,3 cm lata, costa supra leviter immersa, subtus imprimis inferne prominente, nervis lateralibus c. 8-jugis angulo subrecto a costa patentibus inferne rectis interque sese parallelis, ante marginem curvato-anastomosantibus, supra minute impressis, subtus prominulis, venis utrinque subinconspicuis, subtus in partibus iam glabratis distinctioribus; petioli sat graciles, lepidoti, 5—6 mm longi, c. 1 mm diam. Umbellae 4—6-florae. Perulae et bracteolae haud adsunt. Pedicelli graciles, densissime stellato-lepidoti, sub anthesi 2—2,8 cm longi, c. 0,5 mm diam. Calyx minutus, patellaris, obtuse brevissime 5-lobatus, c. 2,5 mm diam. Corolla (albida vel flavescens?) in inferiore media parte tubulosa, superne profunde 5-lobata et valde expansa, lobis inclusis 2—2,3 cm longa, extus



ad tubum et basin lorum dense rufo-stellato-lepidota, intus in tubo laxe retrorse pilosa ceterum glabra, tubo  $\pm$  1 cm longo, basi paullo 5-saccato c. 5 mm diam., superne paullo contracto, sed infra lobos iterum 5—6 mm diametro, lobis obovato-spathulatis interdum leviter retusis, 1—1,3 cm longis, 7—8 mm latis. Stamina 10, corollam longitudine fere aequantia; filamenta inferne linearia denseque  $\pm$  patenter albido-pilosa, superne graciliora et glabra; antherae obovato-oblongae vix 2 mm longae. Discus margine superiore brevissime pilosus, ceterum omnino glaber. Ovarium elongato-conicum, c. 4 mm longum et 2 mm diam., dense subappresse pilosum et lepidotum (lepidibus inter pila bene visibilibus), sensim in stylum abiens. Stylus sat gracilis, in  $\frac{2}{3}$  parte inferiore dense usque subdense patenti-pilosus, subdense usque laxe lepidotus, infra stigma late capitatum glaber. Capsula deest.

NEW GUINEA. Central Highlands: Mt Hagen, 2285—3655 m, 7-1950, E. T. Gilliard s.n. (A, type).

59. *Rhododendron haematophthalmum* Sleum., *nov. spec.*

Frutex erectus rigidus, 1,5—2,5 m altus. Ramuli teretes, internodiis ultimis 2—8 cm longis et 2—3 mm diam., inferioribus crassioribus 3—7 mm diam., ad innovationes tantum stellato-lepidoti, ceterum citissime glabrescentes, denique tuberculis minutis densissimis valde rugosi. Folia saepius in superiore internodii ultimi parte alterna, rarius per tota internodia distributa vel ad nodos in pseudoverticillis 3—5-meris disposita, oblonga, apice breviter acuminata, apiculata vel obtusa, basi truncato-rotundata haud raro levissime cordata, valde coriacea, rigida, erecto-patentia, juventute utrinque dense lepidibus minutis stellatis breviter dendroideis tuberculis pallidis persistentibus insidentibus oblecta, cito glabrescentia, utrinque densissime tuberculato-scabrida, in sicco olivacea,  $\pm$  opaca, integra, margine  $\pm$  revoluta, 5—9 cm longa, 2—3,5 cm lata, costa inferne petioli crassitudine, valida, apicem laminae versus sensim tenuiore, supra inferne  $\pm$  applanata et parum prominente, superne  $\pm$  insculpta, nervis lateralibus utroque latere 7—10 patentibus irregularibus, subrectis, sat indistincte anastomosantibus, supra subinconspicuis, subtus parum elevatis vel  $\pm$  evanescentibus, reticulatione nulla; petioli subteretes, rugosi, 7—15 mm longi, 2—3 mm crassi. Umbellae 4—8 (—10) florum. Perulae ovatae usque obovatae vel spathulatae, obtusae, membranaceae, utrinque glabrae, usque ad 2 cm longae et 1 cm latae. Bracteolae lineares, apice subspathulatae,  $\pm$  cm longae, apice usque ad 1 mm latae, glabrae. Pedicelli sat robusti, densissime rufo-stellato-lepidoti, epilosi, sub anthesi (1,5—) 2—3,5 cm longi, 1 mm crassi. Calyx obliquus, patellaris, irregulariter 5-dentatus, dorso dense lepidotus, epilosus, intus glaber, c. 4 mm diam., lobis brevibus haud ciliatis obtusis vel interdum dente uno alterove deltoideo acuto usque ad 3 mm elongato. Corolla manifeste zygomorpha, inferne tubulosa, superne ad limbum dilatata, rubra, extus lorum margine glabro excepto dense rufo-stellato-lepidota, intus ad tubum brevissime pilosula, (4—) 4,5—5,5 cm longa, tubo  $\pm$  curvato 2,5—3,5 cm longo, basi 5—6 mm diam., orem versus paullo dilatato, infra lobos



c. 1 cm diam., lobis 5 irregularibus late obovatis vel suborbicularibus 1,5—2 cm longis, 0,9—1,5 cm latis. Stamina 10, inaequilonga, corollam longitudine fere aequantia; filamenta linearia, inferne laxe ± patenter pilosula, superne glabra; antherae in vivo purpureae, late oblongae usque obovato-oblongae, 3,5—4 mm longae, 1,3—1,5 mm latae. Discus glaber. Ovarium cylindricum, superne sat breviter in stylum attenuatum, dense breviter patenti-pilosum et lepidotum (lepidibus inter pila bene visibilibus), 5—6 mm longum, ± 3 mm crassum. Stylus sat crassus stamina subaequans, in media inferiore parte subdense usque laxe patenter hispidulo-pilosus, lepidibus paucis intermixtis, superne glaber, stigmatate crasso capitato, bene 5-gibbo. Capsula incognita.

NEW GUINEA. Northern part: Lake Habbema, 3225 m camp, Aug.-Oct. 1938, *Brass* 9023, 9094, 9151, 9571 (A, type; L), 10852; *ibid.*, 6 km NE of Lake Habbema, 3000 m, 10-1938, *Brass* 10674.

### 60. *Rhododendron phaeops* Sleum., *nov. spec.*

Frutex epiphyticus, 1 m altus. Ramuli teretes, 2—3 mm crassi, apicibus stellato-lepidoti, ceterum dense minuteque verruculosi tactuque rugosuli, cito corticati, internodiis 3—6 cm longis. Folia ad nodos summos 2 vel 3 in pseudoverticillis 3—4-meris disposita, late elliptica vel ovato-elliptica, apice breviter attenuata, obtusa, basi valde late attenuata usque subrotundata, coriacea, rigida, in sicco supra olivaceo-brunnea interdum pruinosa, subtus brunnescentia, novella utrinque caduce stellato-lepidota (lepidibus parvis dendroideis apicibus punctorum epidermalium elevatorum persistentium insidentibus), cito glabrata, utrinque, imprimis subtus, verruculoso-scabrida, integra, margine breviter revoluta, 5—8 cm longa, 3—5 cm lata, costa petioli crassitudine supra inferne paullo elevata et sulcata, in superiore  $\frac{2}{3}$  parte leviter impressa, subtus inferne valida et prominente, superne minus crassa, nervis lateralibus 6—8-jugis irregularibus inferne subrectis, ante marginem obscure inter sese curvato-conjunctis, supra levissime immersis, subtus prominentibus, venis laxis supra subimpressis, subtus prominulis usque obsoletis, reticulatione nulla; petioli supra sulcati, dense lepidoti, 1—1,5 cm longi, c. 2 mm crassi. Umbellae 2—3-florae. Perulae bracteolaeque haud visae. Pedicelli dense rufo-stellato-lepidoti, 1,5—2 cm longi, c. 1 mm crassi. Calyx patellaris, dense lepidotus, epilosus, 5—6 mm diam., bene irregulariter 5-dentatus, lobis elongato-triangularibus subacutis albido-ciliatis 2—4 mm longis patentibus. Corolla zygomorpha, inferne tubulosa, superne sensim ampliata, rubra, 5,5—6 cm longa, extus lorum marginibus glabris exceptis dense rufo-stellato-lepidota, intus usque ad tubi orem subdense pilis tenuibus albidis sat longis retrorsis induta, tubo curvato, basi c. 0,6, infra lobos c. 1,5 cm diam., lobis 5 late spathulatis usque subrotundatis 1,5—2 cm longis et latis, intus glabris. Stamina 10, inaequilonga; filamenta linearia, inferne latiora et ± dense patenti-pilosa, superne angustiora et glabrescentia vel glabra, 4,5—5,5 cm longa; antherae in vivo castaneae, late oblongae, 5—5,5 mm longae, fere 2 mm latae. Discus glaber. Ovarium obconico-cylindricum, densissime pilis subappressis flavidis hirtis lepidos occultan-



tibus obtectum, c. 7 mm longum, 3 mm diam., apice  $\pm$  abrupte in stylum attenuatum. Stylus c. 3,5 cm longus, sat crassus, inferne dense pilosus laxequ lepidotus, superne laxius patenter pilosus densiusque lepidotus, ad mm 5 ultima glaber, stigmatibus capitato. Capsula non adest.

NEW GUINEA. Northern part: 18 km SW of Bernhard Camp, Idenburg R. (c. 139° E, 3° 30' S), 2150 m, mossy forest, 2-1939, *Brass 12658* (A, type; L).

### 61. *Rhododendron truncicolum* Sleum., *nov. spec.*

Frutex parvus epiphyticus, truncicolus. Ramuli graciles, 1,5—2,5 mm diam., apicibus lepidibus caducis induti, cito glabrati minutissimeque verruculosi, inferne cinerascens-corticati, internodiis 2—4 cm longis. Folia 3—4 ad nodos superiores pseudoverticillatim disposita, elliptica, apice late attenuata, subapiculata, basi late attenuata usque rotundata, subcoriacea, in sicco opaca, supra saturate olivaceo-viridia, subtus pallidiora, novella haud visa, probabiliter utrinque lepidota, matura supra glabrescentia vel hic inde lepidibus relictis, ceterum punctis minutis elevatis instructa, subtus secus costam diutius lepidota (lepidibus stellatis, subsessilibus, punctis paullo elevatis pallidioribus persistentibus insidentibus), ceterum glabrescentia tactuque rugosula, integra, margine plana, (2,5—) 3—4 cm longa, 1,4—2,4 cm lata, costa supra plana vel parum impressa, subtus imprimis inferne prominente, petiolo multo graciliore, nervis lateralibus utroque latere c. 6 irregularibus inferne subrectis ante marginem inter sese et cum venis anastomosantibus, cum venis laxe reticulatis utrinque aequaliter prominulis, reticulatione venularum subinconspicua; petioli paullo applanati, supra sulcati, dense lepidoti, 4—6 mm longi, 1—1,3 mm crassi. Perulae membranaceae, ovatae usque obovatae, apiculatae, dorso papillosae vel glabrae, usque ad 1,5 cm longae et 0,6 cm latae. Bracteolae filiformes laxissime pilosulae vel glabrae, usque ad 1,5 cm longae. Pedicelli sat graciles, dense rufo-stellato-lepidotae, epilosae, 1—1,3 cm longae, c. 0,6 mm diam. Calyx patellaris, vix lobatus,  $\pm$  2,5 mm diam., dorso dense lepidotus et sparse pilosus, vix ciliatus. Corolla rosacea, zygomorpha, tubulosa, (3—) 3,5—4 cm longa, extus ad tubum et basin loborum laxe stellato-lepidota, intus ad tubum laxe pilosa, ceterum glabra, tubo parum curvato 2—2,5 cm longo, basi 4—5, infra lobos 8—10 mm diam., lobis 5 late obovato-spathulatis 1—1,5 cm longis, 0,8—1 cm latis, margine irregulariter undulato-crenulatis. Stamina 10, inaequilonga,  $\pm$  dimidium loborum corollae aequantia; filamenta linearia, inferne laxe patenter pilosa, in tertio summo glabra; antherae late oblongae, 2,5 mm longae, 1 mm latae, thecis basi brevissime apiculatis. Discus inferne glaber, in margine superiore pilosus. Ovarium cylindricum, dense lepidotum laxiusque pilosum, c. 4 mm longum, 1,8 mm crassum, sat abrupte in stylum abiens. Stylus gracilis, longitudine tubum paullo superans, in tertio inferiore laxe patenter hispidulus denseque lepidotus, sursum glaber, stigmatibus crasse turbinato-capitato. Capsula haud visa.

NEW GUINEA. Southeastern part: Mt Dayman (Maneao), c. 2135 m, fl. 11-6-1954, in alpine forest, *Cruttwell 540* (K, type).



62. *Rhododendron phaeoepulum* Sleum., *nov. spec.*

Frutex, ut videtur terrestris. Ramuli teretes 3—5 mm diam., ad internodia ultima dense rufo-brunneo-stellato-lepidoti, in partibus vetustioribus cito glabrati denseque papillato-verruculosi, tactu sat laeves, saepius pruinosi, internodiis 3—10 cm longis. Folia ad nodos ultimos et penultimos in pseudoverticillis 3—5-meris disposita, elliptica vel ovato-elliptica, apice late attenuata, obtusa usque subrotundata, apice extremo apiculata, basi rotundata vel plerumque leviter cordata, crasse coriacea, rigida, erecto-patentia, novella utrinque dense rufo-brunneo-lepidota (lepidibus irregulariter stellato-laceratis, laciniis quasi in pilum extenuatis, in tuberculis epidermalibus (in facie inferiore manifestioribus et persistentibus) subsessilibus fere squamulosis), matura supra olivacea, opaca, ± glabrescentia saepiusque tactu sat laevia, subtus rufo-brunnea et diutius lepidota quasi tomentosa, denique et hic glabrescentia, densissime tuberculata et scabrida, integra, in sicco margine bene revoluta, 4—7 cm longa, (2—) 2,5—4,5 cm lata, costa supra ± plana, inferne dilatata paulloque elevata, in medio ipso impressiuscula, superne ± evanescente, subtus valde crassa petiolum continuante, apicem laminae versus paullo decrescente, nervis lateralibus 8—10-jugis, inferioribus irregularibus, superioribus subrectis, supra ± prominulis, subtus in foliis omnino glabris subinconspicuis, reticulatione nulla; petioli supra paullo applanati, lepidoti, 5—8 mm longi, 1,5—3 mm crassi. Umbellae 4—6-florae. Perulae rigide membranaceae, exteriores ovatae, ± obtusae, dorso laxe lepidotae et inferne puberulae, c. 2 cm longae et latae, interiores oblongo-spathulatae, utrinque ± dense breviter subsericeo-hirsutulatae, ciliatae, usque ad 3,5 cm longae et 1,5 cm latae. Bracteolae lineares usque lineari-spathulatae, laxissime pilosae, usque ad 3,5 cm longae, 1—3 mm latae. Pedicelli robusti densissime rufo-stellato-lepidoti, infra calycem pilis paucis obsiti, sub anthesi 1,2—2,3 cm longi, c. 1,5 mm diam. Calyx parvus, obliquus, patelliformis, c. 4 mm diametro, margine undulatus et breviter obtuse 5—6-lobus, ciliatus. Corolla anguste infundibuliformis, colore haud cognito, probabiliter albo vel roseo, 6—7 cm longa, extus ad tubum laxissime stellato-lepidota vel omnino glabra, intus ad  $\frac{3}{4}$  tubi longit. dense pilis hirsutis sat longis flavescens retrorsis induta, tubo ± recto orem versus sensim ampliato ± 4 cm longo, basi ± 0,5, infra lobos ± 1,5 cm diam., lobis 6 vel 7 patentibus, late obovato-spathulatis, 2—3 cm longis, 1,8—2,3 cm latis. Stamina 12—14, inaequilonga, tubum corollae ± aequantia; filamenta inferne linearia densissime flavido-patenti-pilosa, superne laxius pilosa et filiformia, infra antheras glabra; antherae oblongae c. 6 mm longae, 1 mm latae, basi obtusae. Discus humilis, laxe pubescens. Ovarium subfusiforme, sensim in stylum abiens, c. 10 mm longum, 3,5 mm crassum, densissime pilis flavescens prorsus versis hirsutulis lepidibusque inter pila dispositis pilisque ± obtectis ornatum. Stylus stamina subaequans, inferne crassus et per 1,5 cm sicut ovarium longitudinaliter 12—14-sulcatus ibique dense flavescens-pilosus et lepidotus (lepidibus hic bene visibilibus), superne in zona brevi colore saturatiore c. 2 mm longa dense rufo-brunneo-lepidotus et haud vel



sparsissime pilosus, ad mm c. 10 ultima gracilentus et glaberrimus, stigmatate crasse capitato, paullo applanato, 6—7-gibbo. Capsula deest.

NEW GUINEA. Western part: Wissel Lake region, Enarotali-Kugapa-Egogitoagapa-Enarotali, heath vegetation, fl. 29-3-1939, *Eyma 4818* (A, BO, K; L, type).

### 63. *Rhododendron rappardii* Sleum., *nov. spec.*

Frutex terrestris, 1,2—2 m altus. Ramuli teretes, ad internodia ultima 4—10 cm longa et c. 2 mm diam. initio subdense caduce rufo-stellato-lepidoti, demum glabrati pustulisque minutissimis scabriusculi, ad partes inferiores pruinosi, laeves, cito cortice cinerascete obtecti, 3—5 mm diam. Folia ad nodos 3—4 ultimos in pseudoverticillis 3—5-meris disposita, late elliptica, rarius oblongo-vel subrotundato-elliptica, apice late attenuata et obtusata vel rotundata, basi latissime attenuata vel plerumque rotundata, sat tenuiter coriacea, firma, in sicco supra plerumque plumbea vel griseo-olivacea, saepius pruinosa, subtus saturate usque dilute castanea, initio utrinque fugaciter rufo-brunneo-lepidota (lepidibus sat parvis irregulariter stellato-laceratis  $\pm$  dendroideis, tuberculis epidermalibus minutis insidentibus), supra citissime glabrescentia tactuque saepius  $\pm$  laevia, subtus denique glabrata minuteque tuberculata, permanentemente rugosula, integra, margine haud vel parum revoluta, (3,5—) 4—7 (—7,5) cm longa, (2,5—) 3—5 cm lata, costa supra in parte basali dilatata et sulcata, superne angustissima et aliquot impressa, subtus obtuse crasseque prominente, nervis lateralibus 5—6 (—8)-jugis angulo c. 45° a costa abeuntibus, inferne subrectis, marginem versus minus conspicuis, supra in foliis maturis minute impressis, subtus haud vel parce prominulis, venis  $\pm$  indistinctis; petioli subteretes, lepidoti, 6—12 (—15) mm longi,  $\pm$  2 mm crassi. Umbellae 5—8-florae. Perulae exteriores ovatae, obtusae, dorso medio lepidotae ceterum papilloso-puberulae, 1—1,5 cm longae, 0,7—1 cm latae, interiores oblongae usque spatulatae, utrinque dense et longius subsericeo-pubescentes, usque ad 3 cm longae et 1,5 cm latae. Bracteolae lineares,  $\pm$  laxae pilosae, usque ad 2,5 cm longae,  $\pm$  1 mm latae. Pedicelli crassiusculi, dense rufo-stellato-lepidoti, subdense vel laxae (certe infra calycem) pilosi, sub anthesi (5—) 8—12 mm longi, fere 1 mm diam. Calyx obliquus, patellaris, sat parvus, dorso lepidotus et pilosus, ciliatus, brevissime obtuse 5-lobus, 2—3 mm diametro. Corolla anguste infundibuliformis, in vivo alba vel rosea, extus sparsissime stellato-lepidota vel plerumque glabra, intus ad totum tubum pilis sat longis retrorsis  $\pm$  dense vestita, 4—5 (raro usque ad 5,5) cm longa, tubo  $\pm$  recto orem versus sensim ampliato, basi 3—4, infra lobos 6—8 mm diam., lobis 5 irregulariter obovato-spatulatis 1,2—1,5 (—1,8) cm longis, (0,6—) 0,8—1,2 cm latis. Stamina 10,  $\pm$  dimidium lorum aequantia; filamenta inferne linearia et densissime subvillosa-pilosa, superne cito glabrescentia, denique filiformia et glabra; antherae elongato-oblongae, 3,5—4 mm longae, 1 mm latae, basi minute biappendiculatae. Discus humilis,  $\pm$  pubescens. Ovarium cylindricum, apice sensim in stylum extenuatum, 6—8 mm longum, 2,5—3 mm diam., dense flavide appresse hirsutum (pilis lepidides obtegentibus).



Stylus stamina subaequans, inferne sat crassum et in  $\frac{3}{4}$  inferiore parte inferne  $\pm$  dense, sursum laxius patenti-pilosum et  $\pm$  laxe lepidotum, ad  $\frac{1}{4}$  summam partem gracilis et glaber, stylo capitato. Capsula nondum cognita.

NEW GUINEA. Western part: Enarotali, Wissel Lake, 1750 m, on steep slopes on chalky ground, fl. 27-10-1955, *B.W.* 897, 898 *F.W. Rappard* (L, type); *ibid.*, 1850 m, *B.W.* 3114 *Versteegh*. Wissel Lake region, Enarotali, Ennaro Valley, etc., 1750 m, *Eyma* 4324, p.p., 4560, 4855, 5054, 5056; *ibid.*, Lake Tigi, 1750 m, *B.W.* 3277 *Johannes*.

#### 64. *Rhododendron rubellum* Sleum., *nov. spec.*

*Rhododendron phaeochitum* (non F.v.M.) Wright in *Kew Bull.* 104. 1899.—*R. phaeodicton* F.v.M. ex *Koord.*, Nova Guinea 8 (4): 876. 1912, in *texto*.

Arbor erecto-ramosa, usque ad 5 m alta. Ramuli teretes 2—3 mm diam., ad internodia 1—2 ultima dense rufo-stellato-lepidoti, ceterum glabrati et cinereo-corticati, internodiis 3—8 cm longis. Folia ad nodos 1—2 ultimos in pseudovercillis 4—5-meris disposita, elliptico-oblonga vel oblonga, apice breviter acuminata, apiculata, basi late cuneata rarius rotundata, coriacea, novella utrinque dense rufo-brunneo-lepidota (lepidibus sat magnis anguste stellato-incisis pilis stellatis similibus, dendroideis, tuberculis epidermalibus insidentibus), supra citissime glabrescentia, persistenter minute tuberculata, rugulosa, subtus diutius laniformi-lepidota, denique glabrata, manifeste tuberculata et scabrida, in vivo supra saturate viridia et opaca, in sicco supra griseo-olivacea vel brunnea, haud raro pruinosa, subtus dilute brunnea, integra, margine haud vel leviter revoluta, 4—8,5 (—9,5) cm longa, 2,5—3,5 (—4,5) cm lata, costa supra plana vel minute impressa, subtus inferne petioli crassitudine, superne minus valida resp. prominente, nervis lateralibus 6—8-jugis angulo acuto a costa abeuntibus, inferne subrectis, ante marginem curvatis et anastomosantibus, cum venis rete laxum formantibus, nervis supra leviter impressis, subtus prominentibus, venis supra vix immersis, subtus prominulis, reticulatione venularum nulla; petioli supra sulcati, dense lepidoti, 1—1,7 cm longi, 1,5—2 mm crassi. Umbellae 6—8-florae. Perulae exteriores ovatae, subobtusae, interiores spathulatae, utrinque dense subsericeo-hirtae, usque ad 1,8 cm longae et 1 cm latae. Bracteolae lineares usque angustissime spathulatae,  $\pm$  dense hirsutulae, usque ad 3 cm longae et 3 mm latae. Pedicelli dense rufo-stellato-lepidoti, ceterum haud vel superne tantum pilosi, 0,8—1,5 cm longi, 1 mm crassi. Calyx  $\pm$  profunde 5-dentatus, dorso sat dense pilosus et lepidotus, 4—5 mm diam., dentibus irregulariter deltoideis subacutis longe fimbriatis, 1,5—2 mm longis. Corolla tubulosa, zygomorpha, laete rubra, sub plena anthesi (4,5—) 5—6 cm longa, extus ad tubum laxissime lepidota vel glabra, intus in tubo laxo pilis retrorsis induta, tubo inferne subrecto, infra lobos sensim ampliato et leviter curvato,  $\pm$  4 cm longo, basi c. 4, infra lobos c. 8 mm diametro, lobis 5 erecto-patentibus irregularibus obovato-spathulatis, interdum suborbicularibus, 1,2—1,6 (—2) cm longis, 1—1,5 (—1,7) cm latis. Stamina



10, corolla paullo breviora, inaequilonga; filamenta inferne linearia et  $\pm$  dense patenti-pilosa, superne gradatim laxius pilosa, ad mm 6—10 ultima omnino glabra; antherae elongato-oblongae, basi obtusae,  $\pm$  4,5 mm longae, 1 mm latae. Discus certe inferne glaber. Ovarium elongato-cylindricum, superne sensim in stylum abiens, basi (vel in disci margine superiore) zona 1 mm alta densissime pilosa instructum, ceterum dense rufo-lepidotum et pilosum (lepidibus numero pila aequantibus et bene visibilibus), 8—10 mm longum, 2,5—3 mm diam. Stylus tubum corollae aequans vel paullo superans, ad  $\frac{1}{3}$ — $\frac{2}{3}$  inferiorem partem laxe pilosus vix lepidotus, ceterum glaber, stigmatate crasse turbinato-subcapitato. Capsula matura 3—3,5 cm longa, c. 6 mm diam., dense rufo-hirsuta et lepidota. Semina filiformia angustissime biappendiculata, 3—4 mm longa.

NEW GUINEA. Southeastern part: Central Distr., Murray Pass, Wharton Range, 2840 m, common in forests, 6-9-1933, *Brass 4517* (A, BM, BO; L, type), 4567 (L). Mt Scratchley, *Giulianetti anno 1896* (K, not quite typical: Corolla 7—8 cm long, calyx lobes more obtuse). Owen Stanley Range? (no locality given), *Giulianetti & English anno 1897* (K, as *R. phaeochitum* resp. '*R. phaeodicton*').

#### Subsection MALAYOVIREYA

*Rhododendron* subsect. *Malayovireya* Sleumer in *Blumea* Suppl. 4: 48. 1958.

TYPE SPECIES—*R. malayanum* Jack.

Hybrids between *R. malayanum* and various spp. of the subsect. *Euvireya* have been obtained by artificial and multifold crossing in European greenhouses in the second half of the 19th century (Henslow, J. R. Hort. Soc. 13: 240. 1891), but have disappointed the breeders; they apparently have completely disappeared from cultivation. In these crossings *R. malayanum* has shown a marked dominance over the other species involved, especially in the colour of the corolla and in the type of the scales. There is a strong evidence, that natural hybrids of species of the subsect. *Malayovireya* with those of the subsect. *Pseudovireya*, *Solenovireya*, and *Euvireya* occur in W. Malaysia. The influence of the *Malayovireya* parent, with the scales unique within the genus by shape, size, colour, and density, can be recognized rather easily in such hybrids by the dark chestnut or russet-brown colour of the scales, especially of their centre. The influence of the other parent, which usually has smaller, paler, differently stellate (or entire) and distant scales, results in a minor, distant type of *Malayovireya* scales, still rather near to the proper *Malayovireya* type. Species with such scales are therefore included in the subsect. *Malayovireya*. Three other species, *R. pyrrhophorum*, *R. ripleyi* var. *cryptogonium*, and *R. impressipunctatum*, show the *Malayovireya* influence to a lesser degree, and remain in the subsect. *Euvireya*. See also the note under subsect. *Albovireya*.



## KEY TO THE SPECIES OF SUBSECTION MALAYOVIREYA

1. Scales very dense, all or mostly touching respectively partly covering each other, very different in size, i.e. many smaller ones mixed with few other of nearly double their size.
2. Leaves linear to lanceolate-linear, up to 10 cm by 4 mm.
3. Inflorescences 4—6-flowered. Corolla  $\pm$  campanulate, 1.2—1.4 cm, deeply lobed, lobes 8—10 by 7—9 mm.
4. Leaves 5—9(—10) cm by 2—4 mm. Borneo. 65a. *R. himantodes* var. *himantodes*
4. Leaves 3—4.5 cm by 2 mm. Borneo. 65b. *R. himantodes* var. *lavandulifolium*
3. Inflorescences 1—3 (very rarely —4) -flowered. Corolla  $\pm$  tubular, 2—2.4 cm, shortly lobed, lobes 5—6(—7) by 3—4(—5) mm. Sumatra. . . 66. *R. vinicolor*
2. Leaves of various shape, at least 6 mm wide.
5. Leaves sessile or nearly so (petiole up to 4 by 3 mm), rounded to subcordate-auriculate at the base. (Filaments pubescent at the base).
6. Corolla glabrous, or rarely very sparsely lepidote in the lower part of the tube outside, 2.4—2.7(—3.2) cm. Pedicels shorter than the corolla. Borneo. . . 67. *R. durionifolium*
6. Corolla  $\pm$  densely lepidote outside at least at the tube, c. 2 cm Pedicels as long as or mostly longer than the corolla. Borneo. . . . . 68. *R. fallacinum*
5. Leaves manifestly petiolate, mostly cuneate to rounded, very rarely subcordate-auriculate at the base.
7. Inflorescences exclusively terminal.
8. Filaments glabrous.
9. Style rather thick and short, as long as or shorter than the proper ovary, barely attaining half the length of the corolla. Mindanao. 69. *R. apoanum*
9. Style slender,  $\pm$  double the length of the proper ovary,  $\pm$  as long as the corolla. S. Siam, Sumatra, Malay Peninsula, Java, Borneo, Celebes. . . . 70a. *R. malayanum* var. *malayanum*
8. Filaments  $\pm$  densely short-pubescent in the lower 1/2 to 1/3 part.
10. Corolla besides some scales laxly short-pubescent outside. Ceram. . . . . 70a. *R. malayanum* var. *pubens*
10. Corolla besides some scales not hairy outside.
11. Corolla 4—4.5 cm. Philippines. . . . . 71. *R. nortoniae*
11. Corolla up to 3.2 cm.
12. Leaves  $\pm$  distinctly bullate. Pedicels lepidote, not hairy at all.
13. Leaves ovate or elliptic-ovate, sometimes ovate-lanceolate, base mostly rounded, or rarely attenuate. Corolla all over short-pubescent inside in the lower half of the tube. Borneo. . . . . 72. *R. acuminatum*
13. Leaves elliptic-lanceolate, base acute or rarely obtuse. Corolla at the inside glabrous on the spots where the filaments are inserted, pubescent otherwise in the lower half of the tube. Borneo. . . . 73. *R. fortunans*
12. Leaves not bullate. Pedicels finely patent-hairy under and between the scales. Ceram, Buru. . . . . 70c. *R. malayanum* var. *pilosifilum*
7. Inflorescences both terminal and axillary.
14. Filaments glabrous.
15. Leaves oblong-lanceolate ( $\pm$  acute at the apex and base). Borneo. . . . . 70e. *R. malayanum* var. *axillare* f. *axillare*
15. Leaves elliptic or ovate.



16. Leaves (broadly) elliptic, apex shortly obtusely attenuate, base  $\pm$  truncate. Borneo. . . . . 70f. *R. malayanum* var. *axillare* f. *latifolium*
16. Leaves ovate, apex shortly obtusely acuminate, base rounded. Borneo. . . . . 70g. *R. malayanum* var. *axillare* f. *ovatum*
14. Filaments  $\pm$  densely short-pubescent in the lower 1/3—1/2 part. Borneo. . . . . 70d. *R. malayanum* var. *infrapilosum*
1. Scales all or for their greater number distant from each other, much less different in size. Presumably hybrids with species of other subsections.
17. Leaves linear-lanceolate, (2.8—)3—4(—5) cm by (3—)4—5(very rarely up to 8) mm Borneo. . . . . 74. *R. lineare*
17. Leaves of other form, (4.5—)6—12(—16) by (2—)2.5—4(—5.5) cm.
18. Filaments glabrous.
19. Leaves oblong-obovate, apex rounded or mostly slightly retuse. Malay Peninsula. . . . . 75. *R. obscurum*
19. Leaves lanceolate to elliptic-lanceolate, rarely elliptic, gradually attenuate towards the subacute apex. Borneo . . . . . 76a. *R. variolosum* var. *variolosum*
18. Filaments rather densely patent-pubescent at least in the lower third.
20. Ovary and base of the style exclusively lepidote; style glabrous for the rest. (Corolla very laxly lepidote or glabrous outside.) Borneo. . . . . 76b. *R. variolosum* var. *andersonii*
20. Ovary densely lepidote and whether or not laxly patent-pubescent; style patent-pubescent to various length.
21. Ovary lepidote and laxly pubescent; style manifestly patent-pubescent to its lowest 2 mm, glabrous for the rest. Corolla practically glabrous outside. Leaves acutely attenuate at both ends. (*R. javanicum* (Bl.) Benn. var. *teysmannii* (Miq.) K. & G. x *R. malayanum* Jack) Java. . . . . 77. *R. wilhelminae*
21. Ovary lepidote, epilose or nearly so; style subdensely lepidote and laxly patent-pubescent in the lower 2/3, glabrous for the rest. Corolla laxly lepidote and patent-pubescent outside. Leaves shorter or longer acuminate at the apex, rounded or subcordate at the base. (*R. jasminiflorum* Hook. var. *punctatum* Ridl. x *R. malayanum* Jack) Malay Peninsula . . . . . 78. *R. hybridogenum*

## 65. RHODODENDRON HIMANTODES Sleum.

*Rhododendron himantodes* Sleumer in Bot. Jahrb. 71: 145. 1940.

### 65a. var. HIMANTODES

BORNEO. North Borneo: Mt Kinabalu, 1525—2135 m, *Clemens 31401, 31818* (A; BM, type; BO, E, K, L, NY), *34193, 35160; SF 27677 Carr.*

### 65b. var. *lavandulifolium* Sleum., nov. var.

Foliis 3—4.5 cm longis et c. 2 mm latis a typo recedit. Flores bene evoluti haud vidi.

BORNEO. East Borneo: W. Kutei, Mt Kemul, 1800 m, *Endert 4257* (A, BO; L, type; SING).



66. *Rhododendron vinicolor* Sleum., *nov. spec.*

Frutex epiphyticus. Ramuli elongati, teretes, graciles, omnino sicut in foliis inflorescentiisque lepidibus modo *R. malayani* rubiginoso-fuliginosis denique argenteo-marginatis obtecti. Folia alterna sat laxe secus ramulos disposita, ad apices ramulorum densiora  $\pm$  approximata, linearia vel anguste lanceolata, apicem versus gradatim attenuata, apice ipso subobtusata, basi in petiolum angustata, subcoriacea vel coriacea, in sicco supra saturate olivaceo-viridia, subtus rubiginosa, maturitate supra densissime  $\pm$  pallide, subtus intense rubiginoso-fuliginoso-lepidota, integra, valde revoluta, 3—6 (—7) cm longa, in statu revoluta 2—3 mm, explanata c. 4 mm lata, costa supra per totam longitudinem immersa, subtus valde prominente, nervis obsoletis; petiolus dense lepidotus, 2—3 mm longus, 0,5 mm crassus. Umbellae 1—3 (rarissime —4)-florae. Perulae ovatae, subapiculatae, dorso medio dense lepidotae, dense sat longe albido-ciliatae, usque ad 5 mm longae et 3 mm latae. Bracteolae anguste subulatae glabrae usque ad 1 cm longae, basi vix 1 mm latae. Pedicelli gracillimi dense lepidoti, 6—8 (—12) mm longi. Calyx disciformis minutissimus, haud vel vix lobatus,  $\pm$  undulatus, dense lepidotus. Corolla vinosa vel rubescenti-purpurea, tubulosa, cum lobis 2—2,4 cm longa, tubo cylindrico  $\pm$  curvato basin versus paullo gradatim attenuato basi que ipsa leviter 5-saccato, basi 2—2,5, infra lobos 3—4 mm diam., extus  $\pm$  caduce laxe lepidoto, intus glabro, lobis subpatentibus obovatis extus in linea mediana laxe lepidotis ceterum glabris, 5—6 (—7) mm longis, 3—4 (—5) mm latis. Stamina 10, 1,7—1,9 cm longa; filamenta anguste linearia, superne filiformia, glabra, paullo inaequilonga; antherae late obovato-truncatae, c. 1,5 mm longae. Ovarium obconico-cylindricum, dense lepidotum, c. 4 mm longum, 1,5 mm diam., sensim in stylum abiens; stylus gracilis, (8—) 10—12 mm longus, in inferiore tertio vel basi infima tantum lepidotus, ceterum glaber, stigmatibus sensim breviter clavato obscureque lobato. Discus glaber. Capsula haud visa.

SUMATRA. A t j e h: Gajo Lands, from Bivouac 3 on the confluence of River Kapi and River Aoenan to Bivouac Paja, flat forest ridges, with cold solfatara fields, fl. wine-red, 21-3-1937, 1100—1250 m, *van Steenis 9928* (A, BO, K; L, type; SING); *ibid.*, Goh Lembuh, from Bivouac Aer Putih-Waterfall to Camp 'Halfweg', narrow ericoid ridge, fl. wine-red, 18-2-1937, c. 1500 m, *van Steenis 8937*. T a p a n u l i: between Sidikalang and Pong Kolan, 1200 m, *Alston 14788*.

67. *RHODODENDRON DURIONIFOLIUM* Becc.

*Rhododendron durionifolium* Beccari, Malesia 1: 202. 1878; Ridl. in J. Str. Br. R. As. Soc. 63: 61. 1912; Merr., En. Born. 461. 1921.—*R. mjöbergii* Merr. in Sarawak Mus. J. 3: 542. 1928.

BORNEO. Western Borneo: Mt Hjjang, 400 m, *Langlassé 21, 23*. Sarawak: Batang Lupar, Mt Tiang Laju, *Beccari 3230* (FI, type of *R. durionifolium*; P); Mt Mulu, *Shackleton 2698*. Batu Lawi, Ulu Limbang, *Moulton s.n.* Baram, 915—1525 m, *Hose s.n.*; *Synge 438*. Upper Baram, G. Lemakok, 915—1220 m, *SF 6759, 6800 Moulton*. Mt Murud, 1900—2400 m, *Mjöberg 105* (BM, isotype of *R. mjöbergii*). B.



Tanggoi, 820 m, on bare sandstone rocks, *BRUN 756 Ashton* (Corolla tube sparsely lepidote in the lower part outside). Central Borneo: Müller Mts, Amai Ambit, *Hallier 3294*. Southeastern Borneo: W. Kutei, Long Petak, 800 m, *Endert 3208*; Mt Kemul, c. 1100 m, *Endert 3794*.

### 68. *Rhododendron fallacinum* Sleum., *nov. spec.*

*Rhododendron durionifolium* (non Becc.) Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 197. 1894.—*R. polyanthum* Hook. f. *msc. ex* Stapf, *l.c.*

Arbuscula vel frutex elatus, epiphyticus vel terrestris, usque ad 6 m altus. Ramuli teretes, validi, dense grosseque modo lepidum *R. malayani* fusco-fuliginoso-lepidoti. Internodia 2—9 cm longa. Folia ad apices internodiorum summorum 3—4 (—6) pseudoverticillata, sessilia vel subsessilia, ovato-oblonga usque subovato-lanceolata, apice breviter usque sat longe acuminata vel subcaudata, subacuta, basi plerumque leviter cordato-auriculata, iis *R. durionifolii* forma, magnitudine et indumento simillima, ut exemplaria sterilia vix distinguenda sint, (7—) 10—16 cm longa, (2—) 2,5—6 cm lata; petiolus usque ad 3 mm longus et crassus. Inflorescentiae 10—30-florae. Perulae exteriores ovatae, interiores obovato-spathulatae, apice resp. in medio dorso caduce lepidotae ceterum papillato-puberulae, dense albido-ciliatae, usque ad 2 cm longae et 1 cm latae. Bracteolae inferne filiformes et papillatae, superne spathulatae et subvillosa-ciliatae, usque ad 1,5 cm longae. Pedicelli quam in *R. durionifolio* saepius paullo tenuiores, iam sub anthesi plerumque 2—3 (—4) cm longi, raro paullo breviores, dense lepidoti. Calyx disciformis, vix lobatus, minutus, c. 2 mm diam. Corolla infundibuliformis, rosaceo-purpurascens vel aurantiaca, c. lobis c. 2 cm longa, extus ad tubum et lorum basin et/vel medianam subdense lepidota, ceterum extus et omnino intus glabra, tubo recto 7—10 mm longo et c. 3 mm diam., basi leviter 5-saccato, lobis obovato-spathulatis usque subrotundatis subemarginatis 1—1,6 cm longis et 0,8—1,1 (—1,3) cm latis. Stamina 10, paullo inaequilonga, c. 1,8 cm longa; filamenta linearia, basin versus parum dilatata et sat dense ± patenter pilosula, superne filiformia et glabrescentia; antherae elongato-oblongae, c. 3 mm longae, 0,6 mm latae. Ovarium elongate-conicum, densissime lepidotum, 6—7 mm longum, 1,5 mm diam., sensim in stylum glabrum c. 10 mm longum abiens, stigmatate breviter turbiniformi-subcapitato initio breviter 5-lobo, deinde 5-clavato. Discus glaber. Capsula cylindrica, haud raro aliquot curvata, 2,5—3 cm longa, c. 3 mm diam., pedicellis fructiferis 2,5—3,5 (—4) cm longis.

BORNEO. North Borneo: Mt Kinabalu, 1220—2285 m, *Low s.n.* (*R. polyanthum*); *Burbidge s.n.*; *Haviland 1163, 1298* (*R. durionifolium*); *Clemens 27106, 27800, 30078, 32714* (A, BM, BO, E; L, type; NY), *35067, 40977, 50718*; *Darnton 585, 593*; *Griswold 60, 122*; *Nat. Coll. 89*; *SF 18161 Enriquez*; *SF 27033, 27670 Carr*; *KEP 71632 Sow*; *KEP 80387 Wyatt-Smith*; *Sinclair c.s. 9022*; *Jacobs 5775*.

### 69. RHODODENDRON APOANUM Stein

*Rhododendron apoanum* Stein in Verh. schles. Gesellsch. vaterl. Cultur Breslau 1883 (non vidi); *Gartenflora 34: 194, t. 1196. 1885*; *Vidal, Rev. Pl. Vasc. Filip. 172.*



1886; Merr. in Govt. Lab. Publ. (Philip.) 29: 43. 1905; Philip. J. Sc. 3: Bot. 380. 1908; Elm., Leaf. Philip. Bot. 3: 1107. 1911; Millais, Rhodod. 115. 1917; *l.c.* 2nd ser. 83. 1924; Merr., En. Philip. 3: 243. 1923; Copel. f. in Philip. J. Sc. 40: 146, *pl. 1, f. 30-32, pl. 2, f. 1.* 1929.—*Rhododendron sp.* (aff. *R. retus.*), Vidal, Sinopsis Atl. 30, t. 60 f. E. 1883.—*R. jasminiflorum* (non Hook.) F.-Vill., Novis. App. 353. 1883.

PHILIPPINES. Mindanao: Davao, Mt Apo, 1470—2930 m, *Schadenberg anno 1882* (B, type, †); *De Vore & Hoover 239, 375* (PNH, †, cit. Copel.); *Copeland 1045, 1440* (cit. '1140'); *Mearns s.n.* (US, cit. Copel.); *Williams 2559* (PNH, †, cit. Copel.); *Elmer 10630, 11386* (A, BM, E, K; L, neotype; NY); *Clemens 15653, 15667; Montana 179; P.N.H. 1421, 1473 Edaño.* Mt McKinley, *Kanehira 2696; P.N.H. 1066, 1081 Edaño.* Bukidnon, Mt Lipa, *B.S. 38497 Ramos & Edaño; Katanglad Mts, 1380 m, Britton 440.* Agusan, Mt Urdaneta, *Elmer 13754.*

## 70. RHODODENDRON MALAYANUM Jack

*Rhododendron malayanum* Jack, Mal. Misc. 2(7): 17. 1822, reimpr. Hook., Bot. Misc. 1: 369. 1834; DC., Prodr. 7(2): 725. 1839; Planch., Fl. Serres 5: 477—480 h. 1849; Miq., Fl. Ind. Bat. 2: 1059. 1859; Suppl. 1: 251. 1860; Hook., Bot. Mag. t. 6045. 1873; Becc., Malesia 1: 205. 1878; Clarke in Hook., Fl. Br. Ind. 3: 462. 1882; Henslow in J. R. Hort. Soc. 13: 262, f. 42 (fol.), 43 g (fl.). 1891; Ridl. in J. Str. Br. R. As. Soc. 23: 145. 1891; *l.c.* 39: 15. 1903; K. & G. in J. As. Soc. Beng. 74, ii: 78. 1905; Ridl. in J. Linn. Soc. Bot. 38: 313. 1908, reimpr. J. Fed. Mal. St. Mus. 2: 120. 1908; *l.c.* 4: 44. 1909; Koord.-Schum., Syst. Verz. fam. 233, p. 106. 1912; Koord., Exk. Fl. Java 3: 6. 1912; Back. in Bull. Jard. Bot. Btzg II, 12: 28. 1913; Ridl. in J. Fed. Mal. St. Mus. 5: 39. 1914; J. J. S. in K. & V., Bijdr. Booms. 13: 103. 1914; Ridl. in J. Fed. Mal. St. Mus. 6: 49, 157. 1915; Millais, Rhodod. 206. 1917; Merr., En. Born. 462. 1921; Burk. & Holtt. in Gard. Bull. S. S. 3: 57. 1923; Ridl., Fl. Mal. Pen. 2: 219. 1923; in J. Mal. Br. R. As. Soc. 87: 75. 1923; Burk. & Henders. in Gard. Bull. S. S. 3: 390. 1925; Sp. Moore in J. Bot. 63: Suppl. 57. 1925; Hochr. in Candollea 2: 492. 1925; Henders. in J. Mal. Br. R. As. Soc. 5: 256. 1927; J. Fed. Mal. St. Mus. 13: 5. 1927; J. J. S. in Merr. in Contr. Arn. Arb. 8: 122. 1934; Burk., Dict. 1903. 1935; Symington in J. Mal. Br. R. As. Soc. 14: 355. 1936; J. J. S. in Bot. Jahrb. 68: 201. 1937; Hutch. in Craib, Fl. Siam. En. 2(4): 317. 1938; Steen. in Bull. Jard. Bot. Btzg III, 17: 387. 1948; Amshoff in Back., Bekn. Fl. Java (em. ed.) 7B, fam. 162, p. 3. 1948; Henders. in Mal. Nat. J. 6(1): 262. 1950; Merr. in J. Arn. Arb. 33: 243. 1952.—*Vireya tubiflora* Bl., Bijdr. 855. 1826; Don, Gen. Syst. 3: 848. 1834.—*R. tubiflorum* R(einwardt) in Bl., Cat. Gew. Pl. Btzg 72. 1823, *nom. nud.*; DC., Prodr. 7(2): 725. 1839; Hassk., Cat. Hort. Bog. 162. 1844; Moritzi, Syst. Verz. Zoll. 42. 1846; Planch., Fl. Serres 5: 477—480 h. 1849; Zoll., Syst. Verz. 2: 137. 1854; Miq., Fl. Ind. Bat. 2: 1059. 1859; Ann. Mus. Bot. Lugd.-Bat. 1: 44, t. II A. 1863; Bl. & Fisch., Fl. Javae, Pl. inéd. t. 5. 1863—83.—*R. fuscum* Bl., Fl. Javae, Pl. inéd. t. 7C f. 1. 1863—83, cf. Steen. in Bull. Jard. Bot. Btzg III, 17: 388. 1948.—*Azalea tubiflora* Bl. ex DC., Prodr. 7(2): 725. 1839, in *syn.*—*Azalea malayana* (Jack) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.

### 70a. var. MALAYANUM

SIAM. Pattani: G. Ina, Betong, 1200—1615 m, *Kerr 7549; Yapp 489.*

MALAY PENINSULA. Perak: Taiping Hill, 1220 m, *SF 2319 Haniff & Nur; Wray s.n.* Cottage Hill, 1370 m, *For. Dep. F.M.S. 1372 Yeob.* Bujang Melaka, 1220 m,



*Curtis s.n.* Maxwells Hill, 1340 m, *Wray s.n.*; *Fox 125*; Caulfield's Hill, 610 m, *Wray 614*; *Scortechini 385*. G. Kerbau, 1370—1675 m, *Robinson s.n.*; *Haniff 3904*; *For. Dep. F.M.S. 31440, 31442 Symington*; *Morgan s.n.* G. Riam, *Morgan s.n.* G. Hijau, 1450—1830 m, *Curtis 2028, 2029*; *Ridley s.n.*; *Anderson 39*; *SF 38723 Sinclair & Kiah*; G. Bubu, c. 1650 m, *Strouts s.n.*; *For. Dep. F.M.S. 30828, 30841 Symington*; *For. Dep. F.M.S. 45157 Landon*. G. Batu Puteh, 920—1220 m, *Kunstler 8076*. Larut, 1370—1465 m, *Kunstler 2336, 3227*. G. Raja, c. 1740 m, *For. Dep. F.M.S. 45877 Strugnell & Tachun*; *For. Dep. F.M.S. 47184 Sow*. Kelantan: G. Stong, 1325 m, summit, *For. Dep. F.M.S. 37735 Symington*; G. Sitong, 915 m, *SF 12215 Nur*. Trengganu: G. Padang, *Hislop s.n.* Pahang: G. Tapis, Kuantan, 1400 m, *SF 28905 Symington & Kiah*. G. Tahan, 1000—1680 m, *SF 8129 Haniff & Nur*; *Wray & Robinson 5323*; *Seimund 215*; *Corner s.n.*; *Ridley 16230*; *SF 20604 Holttum*. G. Benom, 1525 m, *F.M. St. Mus. Coll. s.n.*; G. Kluang Terbang, *Barnes 10892*. Cameron Highlands, 1220—1900 m, *SF 8545 Burkill & Holttum*; *Hancock s.n.*; *For. Dep. F.M.S. 25944 Jadmat*; *For. Dep. F.M.S. 29344, 29345 Sow*; *For. Dep. F.M.S. 20838 Symington*; Lubok Tamang, 1220 m, *Robinson 10970*; Mt Penelope, c. 1830 m, *SF 23926 Kiah & Strugnell*; Poster's Hill, 1465 m, *SF 17836 Henderson*; Telom Ridge, *Ridley s.n.*; G. B(e)rumbun, *Ridley 13579*; *Rhododendron Hill, 1585 m, For. Dep. F.M.S. 14641 Mead*; *For. Dep. F.M.S. 20929 Symington*; *SF 11065 Henderson*; *F. M. St. Mus. 11627, 11629 Henderson*; B. Gangan, *For. Dep. F.M.S. 11539 Watson*; Taman Sedia, *For. Dep. F.M.S. 21012 Symington*; *For. Dep. F.M.S. 27669 Jadmat*; G. Batu Brinchang, 2010 m, *For. Dep. F.M.S. 25944, 36512, Jadmat*; *Burkill 794*; *Lancaster s.n.*; *Sinclair 9946*; G. Perdah, *For. Dep. F.M.S. 27948 Mead*; G. Irau, *For. Dep. F.M.S. 36574 Symington*; G. Padang, *For. Dep. F.M.S. 42859 Sow*; Castle Rock; *KEP 63691 Wyatt-Smith*; G. Jasan, 1525 m, *KEP 66568 Wyatt-Smith*. Frazer Hill region, 1220—1465 m, *F.M.S. Mus. 11283 Henderson*; *SF 8436 Burkill & Holttum*; *For. Dep. F.M.S. 16956 Mead*; Pine Tree Hill, summit, c. 1465 m, *Purseglove 4220*; *SF 8545 Burkill & Holttum*; *Melville & Landon 4824*; G. Tinggi, Ulu Liang, Raup, 1220 m, *For. Dep. F.M.S. 20435 Strugnell*. G. Gedong, B. Kloss 147. G. Terbakar, 1370 m, *F. M. St. Mu4. 10987 Henderson*. Selangor: B. Etam, *Kelsall s.n.* Ulu Semangko, *Ridley s.n.* G. Mengkuang (Lebah), 1525—1700 m, *Robinson s.n.* G. Ulu Kali, 1770 m, *For. Dep. F.M.S. 341 Burn Murdoch (Hoshim)*. B. Kutu, *Ridley 7557*. Malacca: *Cuming 2374*. G. Ledang, *Ridley s.n.*; *Fielding s.n.* Johore: Mt Ophir, c. 1220 m, *Derry 625*; *Lobb 171*; *Hullett 781*; *Moxon s.n.*; *Griffith K.D. 3503*; *Maingay K.D. 702*; *Wray s.n.*; *Kurz s.n.* Singapore: Holland Road, *Hullett s.n.* (cult.?).

SUMATRA. Atjeh: Redelong Volcano, 1100—1830 m, *Bangham 916*. Gajo Luas, G. Singamerta, *Pringo Atmodjo 158*. G. Lembuh, Camp 'Halfweg', 1850—3000 m, *van Steenis 8999, 9094, 9156*. Putjuk Angasan, 1800—2700 m, *van Steenis 8284*. Karo-Batak Highlands, Sibalik Gomosong, 1700 m, *Kerling s.n.* Tapanuli: Dolok Sopo Raso, Toba, *Rahmat Si Boeea 11272*; Lae Pandom, *Surbeck 550*. West Coast: Danau di Atas, near Alahan Pandjang, 1500 m, *Meijer 6048*. Mt. Singalang, 1700—2800 m, *Beccari P.S. 219, 220*. G. Malintang, 1800 m, *Bunnemeijer 4092*. Mt Tandikat, N of Kandang Empat, 1700—2200 m, *Meijer 3925*. B. Gombak, Laras Talang, 2330 m, *Bunnemeijer 5723*. G. Sago, 1700 m, *Bunnemeijer 4006*. G. Talang, Laras Talang, 2350 m, *Bunnemeijer 5266*. G. Kerintji, 1800 m, *Bunnemeijer 9713*. East Coast: Asahan, Dolok Si Manuk-manuk, 2121 m, *Rahmat Si Boeea 11342*. Aeknauli Distr., Simelungan, E of Toba Lake, 1220—1830 m, *Bangham 1280*; Panghulubahu, 2000—2120 m, *Lorzing 17125*. G. Sibajak, 1800—1900 m, *SF 7350 Nur*; *Lorzing 5994, 7307, 13516*.

G. Pinto, 1950—2210 m, *Lb'zing* 8244; *Frey-Wyssling* 4; *Hamel & Toroës* 606. Pengu-lubao, 1900—2155 m, *Heusser* 3. Benkulen: Belirang, 1500 m, *Rappard* 65. Lebong, *de Voogd* 1279. G. Pesagi, SE of Lake Ranau, c. 2000 m, *van Steenis* 3714.; *ibid.*, c. 2135 m, *Forbes* 2042. G. Bunko, c. 915 m, *Jack s.n.* (type of *R. malayanum*, f). Lam-pong: G. Tanggamus, 1920 m, *Forbes* 1876.

JAVA. D j a k a r t a / P r e a n g e r : G. Salak, 800—2200 m, *Zoilinger* 1684.x (vel 1684a, olim 1684); *Koorders* 36699; *van Steenis* 228, 3031, 12377; *Raap* 240; *de Voogd & Bloembergen s.n.*; *Backer* 9247; *Docters van Leeuwen* 11936; *Bakhuizen van den Brink* 597, 4151; *Lam* 2232; *Hochreutiner* 1750, 1983. G. Gede, 800—1000 m, *Backer* 10307. Pasir Guntur, 1000 m, *de Voogd & Bloembergen s.n.* Pangientjongan, 1700 m, *Koorders* 26541. Megamendung, *Zippelius s.n.* G. Limo, 1700 m, *van Steenis* 6838. Puntjak, 1550 m, *van Steenis* 11240. G. Patuha, 1880 m, *van Steenis* 6976. Tji-beureum, 1700 m, *van Steenis* 12935. Telaga Bodas, *Reinwardt s.n.* Nirmala, 1000—1500 m, *de Voogd s.n.*; *Backer* 10666, 10785, 10896. G. Beser, 1350 m, *Bakhuizen van den Brink* 1928; *Backer* 22553. G. Halimun, 1500—1800 m, *Hasskarl s.n.*; *van Steenis* 12U3. G. Sunda, 1300 m, *van der Pijl* 1164. G. Burangrang, 2040 m, *van der Fiji* 532. G. Bintang, 1500—2000 m, *van Steenis* 11690. G. Masigit, 2050 m, *Backer* 12389. Loco haud indicate: *Blume s.n.* (L, type of *Vireya tubiflora*); *Zollinger* 1685, p.p., 1685 x, p.p.

BORNEO. Sarawak: Mt Mattang (Serapi), 855 m, *Haviland* 2163 (SAR). Mt Santubong, *Brooks* 1029; *Hewitt s.n.* Mt Bongo, 610 m, *Haviland* 2163 (CAL, SAR); *Brooks & Hewitt s.n.* Mt Murud, summit, *Moulton* 191. B. Sagan, Limbang, 550 m, *Smythies* 5916. North Borneo: Mt Kinabalu, 2135—2500 m, *Clemens s.n.* (BM); *Jacobs* 5786. Central Borneo: Bukit Mili, *Amdjah (Exp. Nieuwenhuis)* 84.

CELEBES. Palu: E of Lake Lindu, on top of Mt Ngilalaki, 2355 m, *Bloembergen* 3982. P o s o : Lake Poso, c. 2000 m, *Steup* 17. Bivouac Puna, 1800 m, *Steup* 18. P a l o p o : Takalekadjjo Mts, watershed, 1725 m, *Sarasin* 856. E n r e k a n g : Rantepao-Makale, c. 800 m, *Kjellberg* 1721 (p.p.: BO). Ridge Batubollong-Madjadja, 2900 m, *Eyma* 956. B. Pokapindjang and vicinity, 2000—2600 m, *Eyma* 519; *Kjellberg* 1491 p.p., 3920. Rante Mario-Rante Kambola, 3000 m, *Eyma* 900. M a m a s a : Mambuliling, 2700 m, *Monod de Froideville* 174.

70b. var. **pubens** Sleum., *nov. var.*

*Rhododendron malayanum*, (non Jack) J. J. Smith in Pedde, Rep. 30: 164. 1932, p.p.

Corolla extus intusque manifeste breviter pubescens, 3 cm longa. Filamenta inferne pubescentia. Folia 8—12 cm longa, 2,—5 cm lata. Inflorescentiae terminales.

MOLUCCAS. West Ceram: Ora Mts, 1000 m, rare, 5-1911, *Stresemann* (2nd *Freiburger Molukken-Exp.*) 14 (A, fragm.; L, type).

70c. var. **pilosifilum** Sleum., *nov. var.*

*Rhododendron malayanum* (non Jack) J. J. Smith in Fedde, Rep. 30: 164. 1932, p.p.

Corolla glabra. Filamenta inferne ad  $\frac{1}{2}$  long, laxe usque subdense pilosula. Inflorescentiae terminales.

MOLUCCAS. Central Ceram: G. Wolu, 1700 m, *Rutten (Kornasi)* 711 (BO). Hatu Sosokutai, 1400 m, *Rutten* 2216 (BO, L). Buru: Kunturun, 1075 m, *Toxopeus Aa* (BO; L, type). Fakal, Fak'Koton, 1475 m, *Toxopeus Bj* (BO).



**70d. var. *infrapilosum* Sleum., nov. var.**

Folia subovato- vel subelliptico-lanceolata, haud raro basi obtusa usque subcordata, 9—17 cm longa, 3—4,5 cm lata. Filamenta inferne ad c. 14 long, manifeste laxe usque subdense pilosula. Inflorescentiae axillares et terminates.

BORNEO. Sarawak: G. Lemakok, Upper Baram River, 1830 m, *SF 6796 Moulton* (foliis paullo maioribus differt). Central Borneo: on top of Bukit Batu Tiban (Mt Tibang, near Longnawan, on the Sarawak border), c. 1700 m, *Mjb'berg 11, U, 50* (BO; L, type), *51, 56, 57*.

var. AXILLARE J. J. S.

*Rhododendron malayanum* Jack var. *axillare* J. J. Smith, Ic. Bog. 4: 74. 1919, in nota sub *R. zollingeri*.

70e. f. AXILLARE

Inflorescentiae infructescentiaequae terminales et axillares. Folia oblongo-lanceolata, 12—20 cm longa, 4—6 cm lata.

BORNEO. Sarawak: Summit of Benkaian, *Brooks s.n.* Mt Santubong, *Bec-cari P.B. 2138; Nat. Coll. 148*. Mt Peneijn, *Teysmann 7969*. Mattang road, *Ridley s.n.* Mt Bongo, 610 m, *Haviland 2163 p.p.* (K, SING). Between R. Biak and Sut, c. 720 m, *Pickles 2997*. Sine loco, *B.S. 1163 Nat. Coll.* Western Borneo: G. Semedum, *Hallier 672*. Landak, waterfall Ambar Djawa, *Teysmann 11640*. Central Borneo: G. Kenepai, *Hallier 1689* (A, BO; L, type; SING).

**70f. f. *latifolium* Sleum., nov. forma**

Folia (late) elliptica, apice breviter obtuse attenuata, basi ± truncato-obtusa, 9—14 cm longa, (4—) 5—7,5 cm lata. Inflorescentiae terminales et axillares.

BORNEO. Sarawak: Sine loco, *Curtis s.n.* (K). Southeastern Borneo: W. Kutei, top Mt Kemul, 1800—1850 m, *Endert 3978* (A, BO; L, type), 4283.

**70g. f. *ovatum* Sleum., nov. forma**

Folia ovata, basi rotundata, 9—15 cm longa, 5—8 cm lata.

BORNEO. Sarawak: Batang Lupar, Mt Tiang Laju, *Beccari P.B. 3233* (PI, type; L, fragm.). Central Borneo: S. Lelebulan Teputsey, *Jaheri (Exp. Nieuwenhuis) 750* (BO).

**71. RHODODENDRON NORTONIAE Merr.**

*Rhododendron nortoniae* Merrill in Philip. J. Sc. 1: Suppl. 220. 1906; *I.e.* 3: Bot. 380. 1908; Elm., Leaf. Philip. Bot. 3: 1107. 1911; Millais, *Rhodod.* 218. 1917; *I.e.* 2nd ser. 195. 1924; Merr., En Philip. 3: 244. 1923; Copel f. in Philip. J. Sc. 40: 149, pi. 2 f. 2—4. 1929.—*R. catanduanense* Merr. in Copel. f. *I.e.* 149, pi. 2 f. 5—6.

PHILIPPINES. Mindanao: Lanao, Lake Lanao, Camp Keithley, *Clemens 500* (E, fragra., sterile; PNH, type of *R. nortoniae*, ♀). Negros: Negros Oriental, Dumaguete (Cuernos Mts), *Elmer 9778* (E). Catanduanes: Mt Mariguison, *B.S. 30346 Ramos* (E, fragm., sterile; PNH, type of *J.B. catanduanense*, f).

There are slight differences between the three mentioned specimens in the size of the leaves, anthers, and capsules, which however do not allow to segregate them specifically, as far as can be seen from the rather poor material known.

## 72. RHODODENDRON ACUMINATUM Hook. f.

*Rhododendron acuminatum* Hooker f., Ic. PL t. 886. 1852; Walp., Ann. 5: 446. 1858; Becc, Malesia 1: 207. 1878, p.p.; Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 197. 1894; Gibbs in J. Linn. Soc. Bot. 42: 104. 1914; Merr... En Born. 460. 1921.—*R. angustifolium* Hook. f. ex Sleum., Bot. Jahrb. 71: 139. 1940, in texto (*sphalm. pro R. acuminat.*).

BORNEO. North Borneo: Mt Kinabalu, 1830—3350 m, *Low s.n.* (CGE; K, type); *Gibbs U21U*; *Clemens 28947, 29079, 50863*; *SF 27497, 27628, 27658 Carr*; *Nat. Coll. 36*; *KEP 80386 Wyatt-Smith*; *Sinclair c.s. 9087*.

## 73. RHODODENDRON FORTUNANS J. J. S.

*Rhododendron fortunans* J. J. Smith in Bull. Jard. Bot. Btzig III, 1: 401, t. 49. 1920.

BORNEO. Central Borneo: Schwaner Mts, B. Radja, 2000 m, *Molengraaf 3436 B* (BO, type; L, fragm.).

## 74. RHODODENDRON LINEARE Merr.

*Rhododendron lineare* Merrill in J. Str. Br. R. As. Soc. 76: 108. 1917; En. Born. 462. 1921.

BORNEO. Sarawak: Mt Dulit, 1230 m, *Richards 1982*; *ibid.*, near Long Kapa, 500 m, *Richard 1441*. Batan Lupar, Mt Tiang Laju, *Hewitt 150*. Bt Sagan, Limbang, 550 m, *Smythies 5917*. Without locality, *B.S. 1161 Nat. Coll.* (PNH, type, f; K). Brunei: B. Bedawan, c. 530 m, *For. Dep. F.M.S. 37177 Flemmich*.

## 75. *Rhododendron obscurum* Sleum., *nov. spec.*

Frutex c. 3 m altus. Ramuli sat dense minute ruf o-lepidoti; internodia ultima c. 3 cm longa, c. 2 mm diam. Folia in pseudovorticillis 3—4-meris ad nodos 2 vel 3 ultimos disposita, oblongo-obovata, apice rotundata vel plerumque leviter retusa, basi ± late cuneata, in superiore media parte latissima, coriacea, in sicco supra saturate plumbeo-brunnea, subtus rubescenti-brunnea, pallidiora, initio utrinque lepidota, aetate supra ± glabrescentia, subtus persistenter subdense lepidota (lepidibus minutis, zona marginali tenuiore varieque dentata, centro paullo insculpto sat magno modo lepidum *R. malayani* brunneo-russato), integra, haud revoluta,



4,5—7,5 cm longa, (2—) 2,3—3 cm lata, costa supra anguste immersa, subtus inferne crassitudine petioli valdeque prominente, apicem laminae versus diminuta et fere plana, nervis lateralibus utroque latere 7—9 inferne subrectis, marginem versus arcuato-conjunctis, supra minute impressis, subtus parum elevatis interdum vix visibilibus, reticulatione nulla; petioli paullo applanati, supra sulcati, dense lepidoti, 6—8 mm longi,  $\pm$  2 mm crassi. Umbellae c. 3-florae. Bractea unica ovato-acuminata tantum visa, utrinque subsericeo-puberula, albociliata, c. 7 mm longa, 4 mm lata. Bracteolae haud visae. Pedicelli sat graciles, laxe lepidoti, epilosi, 1,4—1,8 cm longi, c. 0,5 mm diam. Calyx obliquus, discoideus, brevissime vel haud lobatus, dorso lepidotus, c. 2,5 mm diam. Corolla tubulosa, paullo curvata, apicem versus gradatim dilatata, ex coll. rosacea, tota 2,6—3 cm longa, extus laxe lepidota, epilosa, intus glabra, tubo c. 2 cm longo, basi 3—4, apice c. 6 mm diam., lobis obovatis suberectis 0,7—1 cm longis, 0,4—0,5 cm latis. Stamina 10, inaequilonga, longiora corollam longitudine fere aequantia; filamenta linearia, glabra; antherae oblongo-obovatae, c. 1,5 mm longae, 0,7 mm latae. Discus glaber. Ovarium elongato-conicum, dense lepidotum, epilosum, c. 4 mm longum, 1,5 mm diam., sensim in stylum gracilem glabrum paullo exsertum abiens; stigma subcapitatum. Capsula (in reliquiis tantum visa) c. 1 cm longa.

MALAY PENINSULA. P a h a n g : top of G. Benom, c. 2105 m, fl. 23-5-1930, *For. Dep. F.M.S. 223U Strugnell* (KEP, type; L, phot.).

Apparently a natural hybrid of *R. malayanum* Jack and a species with retuse leaves, tubular corollas and exclusively lepidote ovary, as found in the Malay Peninsula within the subsect. *Pseudovireya* (*R. perakense* K. & G., *R. scortechinii* K. & G., *R. spathulatum* Ridl.).

#### 76. RHODODENDRON VARIOLOSUM Becc.

*Rhododendron variolosum* Beccari, Malesia 1: 206. 1878; Merr., En. Born. 463. 1921; Sarawak Mus. J. 3: 543. 1928.

76a. var. VARIOLOSUM

BORNEO. Sarawak: Mt Poi, c. 1500 m, *Beccari P.B. 2J30* (FI, type); *Hewitt 6*.

76b. var. *andersonii* (Ridl.) Sleum., *comb. nov.*

*Rhododendron andersonii* Ridley in Kew Bull. 209. 1914; Merr., En Born, 460. 1921.

BORNEO. Sarawak: Mt Kalulong, upper slopes, moss forest, c. 1520 m, *Pickles 3750*. G. Rumpit *Anderson 179* (K, type; SING), 221. Central Borneo: Liang-gagang, *Hallier 2697*. Bukit Batu Ajoh, *Jaheri (Exp. Nieuwenhuis) 1660*.

Sterile, probably conspecific:

BORNEO. North Borneo: Mt Kinabalu, Upper Kinitaki River, 2440 m, *Clemens 31837* (BM, BO). Central Borneo: Amai Ambit, *Hallier 3435*.

## 77. RHODODENDRON WILHBLMINAE Hochr.

*Rhododendron wilhelminae* Hochreutiner in *Candollea* 2: 493. 1925.

JAVA. Djakarta/Preanger: G. Salak, W slope towards G. Bunder, one specimen in the thicket near the crater, c. 1350 m, *Hochreutiner 1966* (G, unicum).

Apparently a natural hybrid of *R. javanicum* (Bl.) Benn. var. *teysmannii* (Miq.) K. & G. and *R. malayanum* Jack.

78. *Rhododendron hybridogenum* Sleum., *nov. spec.*

Frutex. Ramuli sat graciles, dense lepidoti; internodia 4—7,5 cm longa,  $\pm$  2 mm crassa. Folia in pseudovorticillis c. 4-meris ad nodos 2 ultimos disposita, subovato-elliptica, apice brevius vel longius subacute acuminata, basi rotundata vel plerumque leviter cordata, coriacea, in sicco supra griseo-olivacea usque brunnescentia, subtus intense rubiginosa, supra maturitate lepidis parvis vel earum reliquiis subdense induta, subtus densissime et persistenter lepidota (lepidibus haud raro contiguus, sat parvis, in zona marginali sat angusta varie dentatis vel lobatis, centro parum impresso rel. magno modo lepidum *R. mcdayani* colore saturate fuliginoso), integra, inferne parum revoluta, 4,5—6 cm longa, (2—) 2,5—2,9 cm lata, costa supra inferne valde dilatata, sursum cito angustata et paullo impressa, subtus inferne crassitudine petioli, superne sensim diminuta, arete obtuse prominente, nervis lateralibus utroque latere (6—) 8—10 irregularibus parum curvatis praeter marginem inter sese conjunctis supra levissime immersis, subtus parum elevatis, reticulatione nulla; petioli dense lepidoti, paullo appanati, 4—6 mm longi,  $\pm$  2 mm crassi. Umbellae c. 8-florae. Perulae ovato-acuminatae, apiculatae, dorso subsericeae, apicem versus lepidotae, obscure ciliolatae, usque ad 8 mm longae et 6 mm latae. Bracteolae lineares, subglabrae, c. 5 mm longae. Pedicelli graciles, subdense lepidoti, laxius breviter patenti-pilosuli, sub anthesi 1—2 cm longi, c. 0,5 mm diam. Calyx oblique discoideus, indistincte lobatus, c. 3 mm diam. Corolla tubulosa, ex coll. flavescens, c. 3 cm longa, extus laxe lepidota et imprimis in inferiore dimidio laxe patenti-pilosa, intus pilosiuscula, tubo superne vix dilatato c. 2 cm longo,  $\pm$  3 mm diam., lobis obovato-spathulatis  $\pm$  expansis c. 1 cm longis, 0,5—0,6 cm latis. Stamina 10, inaequalia,  $\pm$  2,5 cm longa; filamenta linearia, inferne densius, medium versus laxius patenti-pilosula, superne angustiora et glabra; antherae obovato-oblongae, c. 1,5 mm longae, 0,7 mm latae. Discus in margine superiore pilosulus, ceterum glaber, parum prominens. Ovarium elongato-ovoideum, cum stylo continuum, densissime lepidotum, hinc inde pilo brevi ornatum, c. 5 mm longum, 2 mm diam.; stylus gracilis, c. 2,8 cm longus, id est paullo exsertus, ad  $\frac{1}{2}$  infer, subdense lepidotus laxiusque patenti-pilosulus, superne glaber; stigma subcapitatum, distincte 5-lobum. Capsula ignota.

MALAY PENINSULA. Pahang: Cameron Highlands, exact locality not given, fl. 16-10-1932, *For. Dep. F.M.S. 29345 Sow* (KEP, type; L, phot.).



*R. hybridogenum* is precisely intermediate between *R. malayanum* Jack and *R. jasminiflorum* Hook. var. *punctatum* Ridl., and certainly a natural hybrid between these species which are not infrequent in the Cameron Highlands.

Subsection *Albovireya* Sleum., *nov. subsect.*

*Rhododendron* sect. *Zygomorphanthe* Schlechter in Bot. Jahrb. 55: 145. 1918, p.p.

Lepides plerumque sat magnae, densissimae, etiam in foliis (sub) maturis sese marginibus tangentes vel paullo obtegentes, stratum  $\pm$  cohaerens tenue diutius persistens formantes. Corolla forma varia.

TYPE SPECIES.—*R. album* Bl.

I am not too certain whether the subsect. *Albovireya*, as circumscribed here, is really a natural unit and deserves the rank of a subsection, or should better be merged with subsect. *Euvireya*, as the density of the scales is sometimes of a questionable separating character as i.e. between *R. yelliottii* and *R. inconspicuum*. Hybrids of *R. malayanum* Jack with species of the subsect. *Euvireya* can show a similar dark brown to copper-red layer of dense or very dense scales on the undersurface of the leaves, which is typical for the subsect. *Albovireya*. Possibly such apparently rare species as *R. lampongum* and *R. cernuum* are of such a hybrid origin, less probably *R. album* and *R. aequabile*, although these four species repeat to a certain degree the shape and size of the *R. malayanum* leaf.

As *R. malayanum* does not go farther than Ceram and Buru in the East, the New Guinean species of subsect. *Albovireya* cannot be influenced by that species. Together with those of Celebes, they form a coherent group within the subsection.

KEY TO THE SPECIES OF SUBSECTION ALBOVIREYA

1. Ovary densely lepidote, but not hairy at all.
2. Petioles 0.9—3.5 cm long. (Leaves 4.5—12.5 by 1.3—5 cm.) Corolla  $\pm$  campanulate.
3. Leaves lanceolate to narrow-elliptic; nerves and veins distinctly raised above. Filaments rather longish and patently pilose in the lower third. W. Java (Central Java?) . . . . . 79. *R. album*
3. Leaves elliptic; nerves and veins slightly impressed above. Filaments glabrous. Sumatra . . . . . 80. *R. aequabile*
2. Petioles 0—6 (rarely up to 8) mm long. Corolla  $\pm$  tubular.
4. Leaves subcoriaceous to coriaceous (the nerves mostly visible on both faces or at least on the upper- or undersurface). Style  $\pm$  as long or shorter than the ovary.
5. Leaves  $\pm$  long cuneate-attenuate into the petiole, the latter distinct. Central and East Java, Bali, Lombok, Celebes, Philippines (Luzon). . . . . 81. *R. zollingeri*
5. Leaves broadly attenuate or mostly subtruncate or obtuse, sometimes rounded or subcordate at the base, the petiole (very) short to none.

6. Corolla (1.3—)1.5—1.6 cm long, but slightly oblique, the lobes equal. Ovary obovoid-obconical. Capsule  $\pm$  6 mm diam. Central Celebes . . . . . 82. *R. lagunclicarpum*
6. Corolla 1—1.2 (rarely up to 1.3) cm long, more distinctly oblique, the lobes inequal. Ovary ovoid-conical. Capsule 4—5 mm diam.
7. Perulae lepidote and shortly subsericeous-pubescent dorsally, manifestly ciliate. New Guinea . . . . . 8&7. *R. yelliottii*
7. Perulae caducously lepidote along the dorsal middle line, or quite glabrous and  $\pm$  lustrous dorsally, fimbriate, no proper hairs present at all. New Guinea: more densely lepidote forms of *R. inconspicuum* (subsect. *Euvireya*, ser. *Buxifolia*, cf. nr. 166).
4. Leaves  $\pm$  rigidly coriaceous (the nerves  $\pm$  obscure). Style longer than the ovary.
8. Leaves elliptic or mostly subobovate- or oblong-, rarely ovate-elliptic, (1.5—) 1.8—2.7(—3.7) by (0.6—)0.8—1.4(—1.6) cm, base  $\pm$  subtruncate-rounded, the petiole distinct, subterete, (2—)3—6(—8) toy 1.5—2 mm. New Guinea . . . . . 8Jf. *R. correoides*
8. Leaves oblong to narrowly obovate-oblong, 1.8—2.4(rarely up to 3) by (0.4—) 0.6—0.8(—1) cm, base cuneate into the very short, much flattened petiole (up to 2 by 1—1.5 mm), or almost sessile, New Guinea 85a. *R. comptum* var. *comptum*
1. Ovary lepidote and  $\pm$  densely and patently hairly.
9. Corolla campanulate or funnel-shaped-campanulate, yellow, the lobes  $\pm$  equalling the tube in length.
10. Leaves ovate-lanceolate to oblong-elliptic, 2—4(—4.5) cm wide. Corolla funnel-shaped-campanulate, 1.8—2 cm long. Sumatra . . . . . 86. *R. lampongum*
10. Leaves lanceolate, 1—1.5(rarely up to 1.7) cm wide. Corolla broad-campanulate, 1—1.2 cm long. Sumatra . . . . . 87. *R. cernuum*
9. Corolla tubular or funnel-shaped-tubular, pink to scarlet, the lobes (mostly much) shorter than the tube.
11. Leaves coriaceous with well visible, either prominent or impressed lateral nerves.
12. Leaves (4.5—) 6—9 by (3—)3.5—5(—5.5) cm. (Corolla 3.3—3.8 cm long in all.) Celebes . . . . . 88. *R. pudorinum*
12. Leaves 1.5—4 by 1—2.6 cm.
13. Corolla 2.3—2.5(—2.6) cm long in all, laxly to subdensely lepidote outside. Celebes . . . . . 89. *R. arenicolum*
13. Corolla (2.8—)3—3.2 cm long in all, glabrous outside. New Guinea . . . . . 90. *R. giulianettii*
11. Leaves thicker and more rigid, the nerves faintly or not visible at all.
14. Leaves oblong to obovate-oblong. New Guinea. 85b. *R. comptum*, var. *trichodes*
14. Leaves elliptic or more rarely oblong- or subovate-elliptic. New Guinea. . . . . 91. *R. versteegii*

## 79. RHODODENDRON ALBUM BL.

*Rhododendron album* Blume, Cat. Hort. Buitenz. 72. 1823; DC, Prodr. 7: 721. 1839; Planch., Fl. Serres 5: 477—480 h. 1849; Hook., Bot. Mag. t. 4972. 1857; Planch., Belg. Hort. 8: 70, / 20. 1858; Miq., Fl. Ind. Bat. 2: 1058. 1859; Ann. Mus. Bot. Lugd.-Bat. 1: 43. 1863; Bl. & Pisch., Fl. Java, PL inéd. t. 3. 1863—83; Koord., Exk. Fl. Java 3: 4. 1912; J.J.S. in K. & V., Bijdr. 13: 101. 1914; Koord., PI. Tjib., fam. 233, p. 3. 1918; Steen. in Bull. Jard. Bot. Btzg III, 17: 387. 1948; Amshoff in Back., Fl.



Java (em. ed.) 7, *jam.* 162, p. 4. 1948, *non* Hoffmannsegg, Verz. Pfl. 192. 1824, *non* Buch.-Hamilt. ex D. Don, Prodr. Fl. Nepal 154. 1825.—*Vireya alba* (Bl.) Bl., Bijdr. 855. 1826; G. Don, Gen. Syst. 3: 848. 1834.

JAVA. D j a k a r t a / P r e a n g e r : G. Salak, *Reinwardt* s.n. Megame(n)dong, *Zippelius* s.n. (A; L, type). Mt Halimun, W of Nirmala, *van Steenis* 12400. Warungloa to top of G. Salak II, c. 1700 m, *van Steenis* 3039. G. Perbakti (Salak), 1200—1500 m, *Bakhuizen van den Brink* 56501, 566b; *van Steenis* 246. Tjissalak, Pameungpeuk, *Arsin H.B.* 1950S. G. Telaga above Puntjak and Telaga Warna, 1600 m, *van Steenis* 11696. G. Tugu (Abjar), *Lanjouw* 98. No locality given: *Lobb* 420. K e d u : 'In monte Djieng', *Junghuhn* 76 (L), not collected there again and probably from W. Java, but erroneously localized.

#### 80. RHODODENDRON AEQUABILE J. J. S.

*Rhododendron aequabile* J. J. Smith in Bull. Jard. Bot. Btzg III, 13: 451. 1935.—*R. album* (*non* Bl.) Ridl. in J. Fed. Mai. St. Mus. 8: 58. 1917.

SUMATRA. West Coast: Mt Singalang, summit, 2800—2870 m, *Biinne-meijer* 28bb; *Docters van Leeuwen* 3985 (A; BO, type; L, SING); *Beccari P.S.* 202, 329; *Meijer* 3838, 584.5, 5846, 5851. G. Kerintji, 1900 m, *Biinnemeijer* 9355; *ibid.*, Barong Baru, W side of Barisan Range, 1220 m, *B. Kloss & Robinson* s.n. (*R. album*'). B e n - k u l e n : Mt Pesagi, summit, 2300 m, *Forbes* 2041, 2056.

#### 81. RHODODENDRON ZOLLINGERI J. J. S.

*Rhododendron zollingeri* J. J. Smith, Ic. Bog. 4: 73, t. 322. 1910; Koord., Exk. Fl. Java 3: 6. 1912; Back in Bull. Jard. Bot. Btzg II, 12: 28. 1913 (*zollingerianum*); J.J.S. in K. & V., Bijdr. 13: 108. 1914; Millais, Rhodod. 265. 1917; Hochr. in Candollea 2: 492. 1925; Malm in Fedde, Rep. 34: 284. 1934; Lam in Blumea 5: 577. 1945; Amshoff in Back., Fl. Java (em. ed.) 7, *jam.* 162, p. 3. 1948.—*R. zollingeri* J.J.S. var. *latifolium* J.J.S. in Bull. Jard. Bot. Btzg III, 4: 240. 1922; Bot. Jahrb., 68: 200. 1937; Lam in Blumea 5: 577. 1945.—*R. tubiflorum* (*non* DC.) Mor., Syst. Verz. Zoll. 42. 1846.—*R. album* (*non* Bl.) Zoll., Syst. Verz. 2: 137. 1854.—*R. brachyantherum* Warb. in Sarasin, Reis. Celebes 2: 329. 1905 (*brachyanthera*), *nom. nud.*—*R. malayanum* (*non* Jack) Koord., Junghuhn Gedenkb. 185. 1910.

JAVA. K e d u : G. Sumbing, 1800 m, *Loogen* s.n.; *Docters van Leeuwen* 8732. Djieng plateau, 1900—2000 m, *Rant* s.n.; *von Grdvenitz & Stem* s.n.; *Brinkman* 652; *van Steenis* 4597. G. Prahū, 2000—2300 m, *Lbrzing* 482; *Hochreutiner* 397. M a d i u n : G. Lawu, *Rant* s.n. B e s u k i : Hijang (Jang) plateau, Argopuro, 2800—3090 m, *Zollinger* 1684. sub '*R. album*' (BM; BO, lectotype of *R. zollingeri*; Fl, P), 1684 bis; *Koorders* 43526, 43582; *Ja*, 2997; *ibid.*, *Weliran*, 2590—3050 m, *Backer* 9725; *van Steenis* 10968; *Wurth* s.n.

BALI. G. Batu Kau, 1360 m, *Maier (Sarip)* 397. G. Agung, 2000—3150 m, *de Voogd* 1941; *van Steenis* 7921.

LOMBOK. G. Rindjani, 2000—3000(—3600) m, *Elbert (Grundler)* 109b, 1362, 2241; *de Voogd* 2624; *van der Veen* 43; *Tengwall* 37; *Rensch* 187.

CELEBES. Enrekang, G. Sinadji, *Rachmat (Exp. van Vuuren)* 883 (BO, type of *R. zollingeri* var. *latifolium*; L); Pokapindjang-Tinabang, 2800—3000 m, *Eyma* 648,

650; near Pintealon, spur of Pokapindjang, 2400—2600 m, *Eyma* 515; B. Rante Mario, c. 2500 m, *Kjellberg* 3925. Makale, Palopo-Rantepao, c. 1200 m, *Monod de Froideville* 271. Masamba, Kanandède-Kõmba, 600 m, *Eyma* 1145. Mamasa, Urubua, c. 1600 m, *Steup* 188. Gowa, Peak of Bonthain, top of G. Lompobatang, 2700—2850 m, *van Zijl de Jong* 6; *ibid.*, Bawakaraeng, 2500—2800 m, *van Zijl de Jong* 23, 28; *Heinrich* 13i (E); *van der Vlies* 21; *Sarasin* 1258 (K, *R. brachyantherum*); Lembaja, c. 1750 m, *Juta* 1.

**PHILIPPINES.** Benguet, Loõ, Mt Bandschan, *Loher* 3762 (K).

#### 82. RHODODENDRON LAGUNCULICARPUM J. J. S.

*Rhododendron lagunculicarpum* J. J. Smith in *Bot. Jahrb.* 68: 200. 1937.

CELEBES. Enrekang, B. Pokapindjang, 2700—3000 m, *Kjellberg* 3922 (S, type); between Pokapindjang and Tinabang, 2800—3000 m, *Eyma* 61,9.

#### 83. RHODODENDRON YELLIOTII Warb.

*Rhododendron yelliottii* Warburg in *Bot. Jahrb.* 16: 15, 25 (*descr.*). 1892 (*yelliottii*); K. Sch. & Laut., *Fl. Schutzgeb.* 487. 1901; Schltr in *Bot. Jahrb.* 55: 147, / 3. 1918 (*yelliotti*).

NEW GUINEA. Northeastern part: Madang Distr., Finisterre Mts, 1700—2100 m, *Hellwig* 312 (B, type, f); *ibid.*, c. 1300 m, *Schlechter* 19153 (P, neotype). Eastern Highlands, Mt Wilhelm, near Lake Aunde, 3500 m, *Hoogland & Pullen* 5715; *N.G.F.* 8948 A *Womersley*. Upper Chimbu R., 2680 m, *Pullen* 321. Morobe Distr., Mt Saruwaged and vicinity, 1830—3050 m, *Clemens* 5873, 7295 a, 7474 a, 7549 a, 9563 A; Rawlinson Range, 2135—3655 m, *Clemens* 12319 b, *p.p.*, 41411; A-mieng, on Yaneng R. (a tributary of Buso R.), 1525—1830 m, *Clemens* 12290. Southeastern part: Central Distr., Mt Albert Edward, 3680 m, *Brass* 4369; Wharton Range, Murray Pass, 2840 m, *Brass* 4716.

Very similar in most characters to 166. *R. inconspicuum* J. J. S. (subject. *Euvireya*, ser. *Buxifolia*), cf. the note under that species.

#### 84. RHODODENDRON CORREOIDES J. J. S.

*Rhododendron correoides* J. J. Smith in *Med. Rijksherb.* 25: 2. 1915; Nova Guinea **12(5): 500.** 1917; *I.e. t.* 195. 1918.—*R. conifemm* Wernh. in *Trans. Linn. Soc.* ser. 2 *Bot.* 9: 97. 1916.

NEW GUINEA. Southwestern part: Mt Carstensz., c. 3800 m, *B. Kloss s.n.* (BM, type of *R. coniferwm*); *ibid.*, Meerendal, 4000—4100 m, *Wissel (Exp. Colijn)* U2; *ibid.*, II A Dajakweide, 3700—4000 m, *Wissel (Exp. Colijn)* 107; *ibid.*, XA and XII A, Dajakweide, 3800—4300 m, *Wissel (Exp. Colijn)* HO, 151; *ibid.*, Carstenszweide, XVIII a, c. 3700 m, *Wissel (Exp. Colijn)* 170. Hubrecht Mts, 3100 m, *Pulle (Versteeg)* 2435 (BO, K; L, lectotype of *R. correoides*; U). Oranje Mts, Quarles Valley, 3800 m, *Pulte (Versteeg)* 2517. Northwestern part: NE Wilhelminatop, 3560 m, *Brass & Meijer Drees* 9833, 9835; 3 miles E of Wilhelminatop, 3650 m, *Brass* 9416, 9417; 5 miles NE of Wilhelminatop, 3440 m, *Brass* 9400, 9402; 2 km E of Wilhelminatop,



3800 m, *Brass & Meyer Drees 9800*; 11 km NE of Wilhelminatop, 3400 m, *Brass & Meijer Drees 96U, 9652*. Lake Habbema, 3345 m, *Brass & Meijer Drees 9277*; *ibid.*, 3225 m camp, *Brass 9093, 9095, 9276*.

### 85. RHODODENDRON COMPTUM C. H. Wright

*Rhododendron comptum* C. H. Wright in *Kew Bull.* 103. 1899.

#### 85a. var. COMPTUM

NEW GUINEA. Southeastern part: Owen Stanley Range, Mt Scratchley, 3050—3960 m, *Giulianetti anno 1896* (K, type; MEL); Mt Victoria, *MacGregor anno 1889* (MEL).

#### 85b. var. trichodes Sleum., *nov. var.*

Ovario lepidoto simulque ± dense patenter piloso a typo diversum.

NEW GUINEA. Southeastern part: Central Distr., Mt Albert Edward, open grasslands, 3680 m, *Brass 4292* (L), *U3U6* (A, BO; L, type).

### 86. RHODODENDRON LAMPONGUM Miq.

*Rhododendron lampongum* Miquel, *PI. Ind. Bat. Suppl.* 1: 251, 585 (*descr.*). 1861. —*Azalea lamponga* (Miq.) O. Ktze, *Rev. Gen. PL* 2: 387. 1891.

SUMATRA. West Coast: Bt. Gombak, Laras Talang, Padang Highlands, 2330 m, *Binnemeijer 5737* Lampong: G. Radja Bas(s)a, 1370 m, *Teysmann H.B. U79* (BO; U, type).

### 87. *Rhododendron cernuum* Sleum., *nov. spec.*

Frutex 1 m altus. Ramuli divaricati, nodosi, ad apices tantum rufescenti-lepidoti, ceterum griseo-corticati; internodia 1,5—8 cm longa. Folia in pseudoverticillis c. 4-meris ad nodos ultimos et penultimos disposita, lanceolata, apice basique sat breviter usque longius acuminata, acuta, coriacea, in sicco supra sordide olivaceo-brunnea, subtus laete rubiginosa, matura supra glabrescentia (lepidibus relictis planis, haud impressis), subtus aequaliter denseque modo *R. albi* lepidota (lepidibus centro bene immersis), integra, margine in sicco paullo revoluta, (4—) 5—9 cm longa, 1—1,5 (raro usque ad 1,7) cm lata, costa supra immersa, subtus sat crasse prominente, nervis lateralibus utroque latere 6—8 strictis ± patentibus, supra minute impressis, subtus vel utrinque obscuris; petioli teretiusculi, lepidoti, (6—) 10—15 mm longi, c. 1,5 mm diametro. Umbellae c. 5-florae. Ferulae exteriores ovatae vel subrotundatae, apice abrupte subulato-attenuatae, dorso dense lepidotae, interiores ovatae usque spatulatae, obtusae, usque ad 8 mm longae et 5 mm latae. Bracteolae filiformes, laxae lepidotae, usque ad 6 mm longae. Pedicelli graciles, cernui, dense lepidoti, 1—1,5 cm longi. Calyx sat obliquus, c. 2,5 mm diam., fere cupularis, in parte marginali patens vel retroflexus, dorso lepidotus, irregulariter 5-dentatus vel -lobatus, lobis c. 0,7 mm longis, subobtusis. Corolla late campanulata, lutea, cum lobis 1—1,2 cm longa, basi ipsa c. 2,

limbo 1—1,3 cm diam., extus parte marginali loborum excepta subdense lepidota, intus glabra, lobis late obovatis 5—6 mm longis, 4—5 mm latis, apice breviter retusis et irregulariter crenatis. Stamina 10, corollam longitudine subaequantia; filamenta linearia, in tertio inferiore longe patenter albido-pilosa, superne glabra; antherae 1,7 mm longae. Discus prominens, in margine superiore brevissime pilosus, inferne glaber. Ovarium ovoideo-conicum, dense patenter pilosum et lepidotum, c. 2,5 mm altum, 1,7 mm diam.; stylus satis abruptus, ima basi lepidotus, ceterum glaber, 4—5 mm longus, stigmatate sat magno subcapitato 5-lobulato. Capsula ignota.

SUMATRA. Benkulen: Mt Belirang, 1500 m, barren slope of volcanic rock, fl. yellow, 12-8-1936, *Rappard* 63 (BO, type; L, fragm.). Suban Ajam Estate, at the foot of G. Kaba, *Jacobson (Ajoeb)* 297 (BO).

#### 88. *Rhododendron pudorinum* Sleum., *nov. spec.*

Arbuscula, 4 m alta. Ramuli crassi, 5—7 mm diam., ad innovationes obtusanguli denseque rufo-lepidoti, cito glabri, in sicco cinerascetes; internodia 12 cm longa vel longiora. Folia alterna, per internodia ultima vel penultima laxè disposita, late elliptica, interdum fere rotundata vel obovato-elliptica, apice breviter (0,5 cm) acuminata vel apiculata, interdum obtusa, basi late in petiolum cuneata, rarius subtruncato-rotundata, coriacea, rigida, initio utrinque densissime rufo-lepidota, matura in sicco supra pallide usque saturate viridescens-olivacea, opaca, glabra, sed impresso-punctulata, subtus aequaliter cupreo (-rubiginoso)-lepidota (lepidibus sat parvis, marginibus sese tegentibus vel attingentibus, modo lepidum *R. albi* formatis et instructis), integra vel obscure crenulata, margine paullo revoluta, (4,5—) 6—9 cm longa, (3—) 3,5—5 (—5,5) cm lata, costa supra in sicco inferne incrassato-prominula, apicem versus evanescente, sulcata, subtus parum elevata, applanata, nervis lateralibus utroque latere ± 8 satis praerupte ascendentibus, supra leviter elevatis] (sed secus lineam medianam insculptis), subtus prominulis, venis **laxe**] reticulatis, supra ± obscuris, subtus distinctioribus; petioli crassi, a florsu] applanati et sulcati, initio lepidoti, (0,8—) 1,5 (—2) cm longi, 2—3 (—4) mm lati. Umbellae 8—15-florae; gemmae floriferae terminales late ovoideae, c. 2 cm longae, 1,5 cm latae, laterales in axillis foliorum superiorum I valde reductae. Perulae exteriores suborbiculatae, interiores late spathulatae, obtusae, utrinque margine excepto sericeae, ultro extus lepidotae, usque ad 1,3 cm longae et latae. Bracteolae lineari-spathulatae, c. 1 cm longae et usque ad 2 mm latae, dense longepilosae. Pedicelli in vivo rosacei; subgraciles, dense lepidoti, epilosi, 2—2,5 cm longi, c. 0,8 mm diam. Calyx] disciformis, crasse membranaceus, c. 4 mm diam., margine undulatus et indistincte lobulatus, dorso dense lepidotus, secus marginem lepidibus prorumpentibus quasi fimbriatus. Corolla elongato-infundibuliformis, rosacea, tota 3,3—3,8 cm longa, extus ad tubum et in parte mediana loborum laxè vel laxissime lepidota, intus glabra, tubo 2,2—2,5 cm longo, stricto, basi c. 4, infra lobos 6—7 mm diam., lobis late obovatis usque subrotundatis 1,1—1,4 cm longis, 1—1,2 cm latis, haud raro leviter emarginatis. Stamina I



10, corollae tubum paullo superantia, inaequilonga, 2,3—2,7 cm longa; filamenta inferne linearia, superne filiformia, omnino glabra; antherae late subobovato-oblongae,  $\pm$  2,5 mm longae. Discus crassus, glaberrimus, in sicco nigrescens. Ovarium obconicum, c. 5 mm longum, superne 3, inferne 2,5 mm diam., densissime subpatenter flavido-brevipilosum, ultro lepidotum (lepidibus pilis  $\pm$  obtectis), apice breviter in stylum contractum, stylo ima basi piloso et lepidoto, ceterum glabro, crassiusculo, sub anthesi  $\approx$  2 cm longo, apice breviter turbinato-capitato, lobis stigmatum parum conspicuis. Capsula {*Kjellberg* 3916} subcylindrica, in tertio superiore paullo crassior, apice acuminata, basi paullo attenuata, dense pilosa et lepidota, matura 2,5—3 cm longa, in medio  $\pm$  6 mm diametro, stylo c. 2,5 cm longo superata, pedicellis fructiferis 2,5—4 cm longis,  $\pm$  glabrescentibus.

CELEBES. Enrekang, between Pokapindjang and Tinabang, 2800—3000 m, fl. pink, 16-6-1937, *Eyma* 6<sup>6</sup> (BO, K; L, type); *ibid.*, B. Pokapindjang, 2500 m, *Kjellberg* 3916 (S).

#### 89. *Rhododendron arenicolum* Sleum., *nov. spec.*

Frutex, ut videtur. Ramuli teretes; internodia ultima gracilia, apicibus tantum densius lepidota, basin versus cito glabrescentia, 3—8 cm longa. Folia alterna, in superiore media parte internodiorum ultimorum et penultimorum distanter disposita, elliptica, rarius subovato-elliptica, apice brevissime acuminata, fere apiculata, glandula obtusiuscula terminata, basi subtruncata usque rotundata, coriacea, in sicco supra griseo-olivacea, subtus  $\pm$  intense brunnea, utrinque opaca, matura supra glabra, rugosula, subtus certe initio per totam faciem lepidibus rufo-brunneis sat parvis densissimis seseque marginibus tegentibus vel  $\pm$  contingentibus obtecta {lepidibus more lepidum *R. albi* formatis, in zona marginali membranacea sat lata irregulariter et  $\pm$  profunde substellato-incisis vel lobatis, centro intensius brunneo sat parvo parum impresso), subtus tarde glabrescentia, minutissime crenulata, margine vix revoluta, (2—) 2,5—4 cm longa, 1,5—2,6 cm lata, costa supra plana, subtus leviter prominente, nervis lateralibus utroque latere 5—7, inferioribus 2—3 e basi vel supra basin laminae, ceteris a costa altius orientibus, omnibus inferne strictis superne curvatis obscureque anastomosantibus, supra levissime impressis, subtus parum distincte elevatis, venis subobscuris; petioli crassi, lepidoti, 3—4 mm longi, c. 1,5 mm diam., supra applanati. Umbellae 7—9-florae; gemmae floriferae late ovoideae, c. 1,5 cm longae et 1 cm diam. Perulae exteriores ovatae, interiores subspathulatae, obtusae, dorso mediano albedo-sericeae et lepidotae, usque ad 1,5 cm longae et 1 cm latae. Bracteolae inferne filiformes, superne anguste (usque ad 2 mm) spathulatae, pubescentes, usque ad 1 cm longae. Pedicelli subgraciles, dense rufo-ferrugineo-lepidoti, epilosi, 1,5—2,7 cm longi, 0,5 mm diam. Calyx disciformis,  $\pm$  3,5 mm diametro, margine patens, undulatus, indistincte obtuseque 5-lobatus, dorso dense lepidotus. Corolla inferne tubulosa, limbum versus dilatata, rosacea, tota 2,3—2,5 (—2,6) cm longa, extus ad tubum et partem medianam lorum laxae usque subdense lepidota, tubo 1,2—1,5 cm

longo, basi paullo saccata 3—4, infra lobos 6—7 mm diam., lobis late obovatis vel subrotundatis, apice bene retusis seu irregulariter crenulatis, patentibus, 8—11 mm longis et latis. Stamina 10, corollae tubum paullo superantia; filamenta filiformia, basi haud dilatata, glabra vel pilis singulis instructa; antherae oblongae, 1,2 mm longae 0,8 mm latae. Discus glaberrimus. Ovarium crasse conicum, 4—5 mm longum, 2—2,5 mm diam., densissime lepidotum denseque breviter patentipilosum, stylo abrupto glaberrimo sat crasso 5—6 mm longo; stigma valde subturbinato-in-crassatum et manifeste 5-lobum. Capsula nondum cognita.

CELEBES. Enrekang, ridge Batubollong-Madjadja, sandy dry ridge NNW of Madjadja, open country, 2900 m, fl. 24-6-1937, *Eyma* 955 (BO; L, type). Pintelon-Pokapindjang-Tinabang, 2600—3000 m, *Eyma* 599.

#### 90. RHODODENDRON GIULIANETTII Laut.

*Rhododendron giulianettii* Lauterbach in K. Sen. & Laut., Nachtr., 338. 1905.—*R. papuanum* (non Becc.) C. H. Wright in Kew Bull. 104. 1899.

NEW GUINEA. Southeastern part: Central/Northern Distr., Owen Stanley Range, Mt Scratchley, 3050—3960 m, *Giulianetti* anno 1896 (B, type, f; K, MEL).

#### 91. RHODODENDRON VERSTEEGII J. J. S.

*Rhododendron versteegii* J. J. Smith in Med. Rijksh. 25: 2. 1915; Nova Guinea 12(5): 501. 1917; *I. e. t.* 196. 1918.

NEW GUINEA. Southwestern part: Oranje Mts, S ridge of the Quarles Valley, c. 4000 m, *Pulle* (*Versteeg*) 2513 (BO, K; L, type; U). Northwestern part: Lake Habberna, 3225 m camp, *Brass* 9014, 9014 A, 9284, 9316. 2 km E of Wilhelminatop, 3800—3850 m, *Brass & Meyer Drees* 10236, 10833; 7 km NE of Wilhelminatop, 3650—3720 m, *Brass & Meijer Drees* 9916; N slope of Wilhelminatop, 3950 m, *Brass & Meijer Drees* 10059; *ibid.*, Wamena R., 3200 m, *Brass & Meijer Drees* 10233.

*Rhododendron versteegii* (ovary lepidote and hairy) is similar in the general appearance of foliage and flowers to *R. correoides* (with exclusively lepidote ovary) in the same way as *R. comptum* var. *comptum* (ovary exclusively lepidote) to its var. *trichodes* (ovary lepidote and hairy). I have restrained to reduce *R. versteegii* to a variety of *R. correoides*, because, apart from the ovary, there are some minor and apparently constant differences between these species in the petioles, the length of the stamens and the corolla, and in the indumentum of the style.

#### Subsection SOLENOVIREYA

*Rhododendron* subsect. *Solenovireya* Copeland f. in Philip. J. Sc. 40: 136, 1929. Sleum. in Bot. Jahrb. 74: 537. 1949, *p.p.*—*R.* ser. I subser. 7 *apud* Hook, f. in Benth. & Hook, f., Gen. Pl. 2: 600. 1876.—*R.* sect. *Hadranthe* Schltr in Bot. Jahrb. 55: 157. 1918, *p.p.*

TYPE SPECIES.—*R. jasminiflorum* Hook.



## KEY TO THE SPECIES OF SUBSECTION SOLENOVIREYA

1. Ovary densely and exclusively lepidote.
2. Style glabrous. Leaves 3,5—6 cm wide.
  3. Leaves  $\pm$  broadly elliptic or obovate-elliptic, rarely oblong-elliptic; nerves in 10—12(—14) pairs, rather close to each other. Perulae lepidote in the upper part outside, not hairy at all. New Guinea . . . . . 92. *R. multinervium*
  3. Leaves oblong-elliptic; nerves in 6—8  $\pm$  distant pairs. Perulae densely sericeous on both faces, otherwise not or but very laxly lepidote. New Guinea.
    93. *R. natalieitum*
2. Style lepidote to the top. Leaves 1,8—2,7(—3) cm wide. Ceram. . . . . 94. *R. rutenii*
1. Ovary manifestly (mostly patently, sometimes very shortly) hairy (hairs, if covered by the scales on the proper ovary initially, at least visible at the very base of the style), or ovary both hairy *and*, lepidote.
4. Leaves  $\pm$  persistently soft-pubescent beneath., or very tardily glabrescent. Borneo.
  95. *R. stapfianum*
4. Leaves mostly epilose from the beginning or initially with some scattered hairs at the base and soon glabrescent.
  5. Leaves linear, 3—5 cm by 3—5 mm. Borneo. . . . . 96. *R. charnaepitys*
  5. Leaves of other form, much wider.
    6. Anthers at least 1 cm long, mostly longer.
      7. Flowers 7-merous. Anthers 1,1—1,3 cm. New Guinea .. . . . 97. *R. toverenae*
      7. Flowers 5-merous. Anthers 1,6—1,7 cm. New Guinea . . . . . 98. *R. schlechteri*
    6. Anthers up to 6 mm long.
      8. Leaves manifestly, i.e.  $\pm$  densely and prominently or depressedly reticulate on both surfaces or at least underneath (well visible both in the younger and older leaves).
      9. Anthers 5—6 mm long, each theca ending at the base in a marked spur-like acute appendix. (Style hairy and lepidote to nearly the top.) New Guinea.
        99. *R. carringtoniae*
      9. Anthers 2—3 mm long; thecae obtuse or very shortly obtusely apiculate at the base.
        10. Corolla tube (7—) 8—8,8 cm (Leaves cuneate to obtuse at the base, manifestly petioled.) New Guinea . . . . . 100. *R. mains*
        - It\*. Corolla tube generally up to 6,5 cm (or, if attaining 7 cm, the leaves then cordate at the base and subsessile or very shortly petioled).
        11. Leaves  $\pm$  acutely attenuate or cuneate at the base. (Style hairy at the base, glabrous for the rest.) New Guinea . . . . . 101. *R. criUtwellii*
        11. Leaves broadly attenuate, obtuse or truncate-rounded, or (sub)cordate at the base.
          12. Style hairy and lepidote to nearly the top. (Leaves ovate or elliptic-ovate, apex acuminate. Umbels 8—13(—15)-flowered. Anthers 3,5—4 mm.) New Guinea . . . . . 102. *R. archboldiamim*
          12. Style hairy up to the middle or less.
            13. Umbels 15—20-flowered. (Style hairy in the lower 1/5—1/6. Leaves elliptic or obovate-elliptic, the apex  $\pm$  obtuse.) New Guinea.
              103. *R. pleianthum*
            13. Umbels up to 7-flowered.

14. Flowers solitary or in twos. (Style hairy to the middle. Leaves subovate-elliptic, subsessile.) New Guinea . . . . . 10U. *R. oliganthum*
14. Umbels 3—7-flowered.
15. Style hairy for c. 5 mm above the base only. Leaves ovate or subovate-rounded, sessile or nearly so. New Guinea . . . . . 105. *R. carrii*
15. Style hairy up to the middle. Leaves broadly elliptic to subobovate-elliptic.
16. Leaves 7—9(—10) by 4—5(—6) cm; petiole (6—)8—12 mm. New Guinea . . . . . 106. *R. armitii*
16. Leaves 4—7 by 2,5—3,5(—5, rarely up to 6) cm; petiole (0—)2—4 mm. New Guinea . . . . . 107. *R. tuba*
8. Leaves but indistinctly and laxly (prominently or impressedly) reticulate in the younger, even less so in the older leaves, or no trace of reticulation present at all.
17. Corolla tube (laxly to densely) short-hairy, otherwise whether or not lepidote outside.
18. Corolla tube (5—)5,5—6,5 cm. Celebes. . . . . 108. *R. pubitubum*
18. Corolla tube 3—4,5 cm.
19. Leaves 8—12 by 3—5 cm. Borneo. . . . . 109. *R. trichanthum*
19. Leaves 2,5—6(rarely up to 7,5) by (1—)1,5—3 cm.
20. Corolla lobes ciliate. Disk glabrous. Celebes. . . . . 110. *R. amabile*
20. Corolla lobes not ciliate. Disk pubescent.
21. Leaves rather narrow-oblong to ovate-oblong, the base cuneate to subcordate. Branchlets puberulous. Sumatra.
- 111c. *R. jasminiflorwm* var. *heusseri*
21. Leaves wider, elliptic to broadly subovate-elliptic, the base rounded to cordate. Branchlets not puberulous. Malay Peninsula.
- 111b. *R. jasminiflorum* var. *punctatwn*
17. Corolla epilose outside (except some scattered hairs which may occur at the very base), otherwise whether or not lepidote.
22. Corolla tube at least 4,5 cm long, mostly long-er. Outer perulae (mostly) dorsally finely short-pubescent to sericeous, or (sometimes) glabrous.
23. Leaves sessile or nearly so (petiole 0—2, rarely up to 4 mm), in general ± obtuse, rounded or subcordate at the base.
24. Anthers c. 1,8 mm long.
25. Style hairy to nearly the top, very laxly lepidote in its lower part. Celebes.
- 112a. *R. radians* var. *radians*
25. Style booth hairy and lepidotei to nearly the top. Celebes.
- 112b. *R. radians* var. *minahasae*
24. Anthers 4,5—5 mm long. New Guinea. . . . . 103. *R. pleianthum*
23. Leaves manifestly petiolate, generally attenuate to cuneate at the base.
26. Leaves shortly obtusely acuminate, or obtuse to rounded at the apex. Flowers pedicellate.
27. Anthers obtuse or very shortly bigibbous at the base.
28. Leaves 4—5,5 by 1,2—2,3 cm. Pedicels rather slender, 0,9—2 cm. Anthers 2,5 mm. New Guinea. . . . . 113. *R. cinerascens*
28. Leaves 7—11 by 4—6 cm. Pedicels stoutish, 3—7 mm. Anthers 5—6 mm. New Guinea . . . . . 11U. *R. goodenoughii*



27. Anthers (6 mm) longish caudate-biappendiculate at the base. New Guinea.  
115. *R. carstensense*
26. Leaves (lanceolate) acutely attenuate at both ends. Flowers subsessile.  
New Guinea . . . . . 116. *R. oreadum*
22. Corolla tube 2,5—4 (rarely up to 4,5) cm. Outer perulae dorsally  $\pm$  densely  
lepidote or glabrous.
29. Corolla tube manifestly ventricose below, gradually contracted towards the  
mouth.
30. Pedicels all over densely lepidote and laxly short-pilose. Corolla  $\pm$  densely  
(but finely caducously) lepidote outside. Leaves elliptic-oblong or -obovate.  
Borneo. . . . . 117. *R. pneumonanthum*
30. Pedicels lepidote at the top only, otherwise densely pilose. Corolla glabrous  
outside from the beginning. Leaves broad-elliptic to subrotundate-elliptic.  
Borneo. . . . . 118. *R. suaveolens*
29. Corolla tube equally cylindric all the length or at least for the lower 2/3,  
i.e. not or but slightly dilate below.
31. Corolla tube densely lepidote outside.
32. Anthers 3 mm long. Palawan. . . . . 119. *R. edanoi*
32. Anthers 2 mm long. Bougainville. . . . . 120. *R. loranthiflorum*
31. Corolla tube laxly lepidote or glabrous outside.
33. Corolla pilose inside in the lower half only. Mindanao.  
*Hid.* *R. jasminiflorum* var. *copelandii*
33. Corolla pilose inside the entire length.
34. Leaves obovate-elliptic to broadly elliptic, sometimes suborbicular, base  
 $\pm$  rounded to cordate. Malay Peninsula.  
*Ilia.* *R. jasminiflorum* var. *jasminiflorum*
34. Leaves oblong, base broadly cuneate. Malay Peninsula, Borneo.  
*Ille.* *R. jasminiflorum* var. *oblong if oliiim*

## 92. *Rhododendron multinervium* Sleum., *nov. spec.*

Frutex vel arbor parva, c. 3 m alta, ramulis divaricatis, internodiis 4—6 cm longis, ultimis initio subdense vel laxe lepidotis, inferioribus glabrescentibus. Folia 3 in quoque pseudoverticillo disposita, obovato-elliptica vel  $\pm$  late elliptica, raro oblongo-elliptica, apice brevissime et  $\pm$  abrupte obtuse acuminata, basi late in petiolum attenuata, in vivo viridia, in sicco opaca, supra griseo-olivacea, subtus dilute castanea, supra initio lepidota, maturitate fere omnino glabrescentia, subtus sat dense lepidibus minutis leviter impressis, in zona marginali substellato-dentatis, etiam in vivo demum nigrescentibus instructa, integra, margine basin laminae versus paullo revoluta, (5—) 6—8 cm longa, 3,5—6 cm lata, costa supra levissime immersa, subtus inferne valida valdeque prominente, superne  $\pm$  evanescente, nervis lateralibus utroque latere 10—12 (—14) jugis parum inter sese distantibus et  $\pm$  parallelis, inferne subrectis, ante marginem  $\pm$  obscure anastomosantibus, nervis aliquis minus distinctis intercalaribus intermixtis, omnibus utrinque prominulis, rete venarum laxo subtus tantum parum elevato; petiolus supra sulcatus, parum applanatus, lepidotus, 6—8 mm longus, c. 1,5 mm crassus. Umbellae

c. 5-florae. Perulae exteriores late ovatae, interiores spathulatae, omnes in superiore parte  $\pm$  dense lepidotae, epilosae, lepidoto-ciliatae, 1—2 cm longae, 0,8—1,4 cm latae. Bracteolae filiformes. Pedicelli subgraciles, dense lepidoti, 6—8 mm longi. Calyx obliquus, patellaris, margine brevissime lobatus et undulatus, c. 2,5 mm diam. Corolla hypocrateriformis, alba, fragrans, tubo stricto extus glabro vel laxe, ad sinus loborum  $\pm$  densius lepidoto, intus in inferiore dimidio 'subdense pilosulo, superne sensim glabrescente, 3,5—4 cm longo, basi c. 2, in medio 2,5—3 mm lato, ad orem vix dilatato, lobis patentibus obovato-ellipticis 8—12 mm longis, 6—8 mm latis, extus ad basin lepidibus nonnullis obsitis, ceterum glabris. Stamina 10, exserta; filamenta inferne linearia et ad  $\frac{1}{2}$  long, sat dense patenter pilosula, superne filiformia et glabra, inaequilonga, 3,7—4,2 cm longa; antherae 2,5 mm longae, c. 0,9 mm latae. Discus c. 0,5 mm altus, sat dense breviter albo-pilosulus. Ovarium elongato-columnare, leviter 5-sulcatum, densissime lepidibus subrotundis obtectum, 5—6 mm longum, 1,5 mm diam.,  $\pm$  sensim in stylum gracilem omnino glabrum c. 3 cm longum abiens, stigmatate breviter obconico, crenulato. Capsula haud visa.

NEW GUINEA. Sepik Distr.: Telefomin, 1370 m, *N.G.F. 988U Womersley*. Western Highlands: Aiyura, 1830 m, fl. 10-44, *N.G.F. 1021 L. S. Smith* (L, type; LAE). Near Wankl village, c. 5 km SE of Mt Hagen Station, c. 2050 m, *Hoogland & Pullen 5863*.

93. **Rhododendron natalicum** Sleum., *nov. spec.*

Frutex epiphyticus? Ramuli appanati, internodiis 7—15 cm longis, ultimis tantum subdense substellato-lepidotis. Folia ad pseudoverticillos c. 4-meros disposita, oblongo-elliptica, apice breviter sensim acuminata, subacuta, basi late in petiolum attenuata, subcoriacea vel coriacea, in sicco opaca, supra saturate cinereo-iridia, subtus brunnescenti-iridescencia multoquoque pallidiora, integra, margine vix revoluta, supra maturitate fere omnino glabrescentia, subtus laxe lepidibus minutis fuscis in zona marginali irregulariter stellato-incisis parum impressis vestita, 7—10 cm longa, 3,5—4,5 (—5) cm lata, costa supra parum sed distincte sulcata, subtus inferne ad  $\frac{1}{2}$  longitudinis valde, apicem laminae versus minus distincte prominente, subtus quam laminae facies densius lepidota, nervis lateralibus 6—8-jugis inter sese satis distantibus, costae angulo acuto insidentibus, inferne subrectis, prope marginem sat obscure curvato-conjunctis, supra parum elevatis, sed linea media immersis, subtus prominulis vel subinconspicuis, reticulatione obscura; petioli subdense lepidoti, supra sulcati, 1—1,5 cm longi, 1—1,5 mm diam. Umbellae c. 8-florae. Perulae exteriores ovatae, interiores spathulatae, utrinque dense sericeae, ceterum haud vel laxissime lepidotae, longe ciliatae, usque ad 2,5 cm longae, 6—8 mm latae. Bracteolae inferne filiformes et glabrae, superne anguste spathulatae et pilosulae, usque ad 2 cm longae. Pedicelli crassiusculi, sat dense substellato-lepidoti, 10—12 mm longi. Calyx valde obliquus, minutus, irregulariter breviter obtuse 5-lobus, lepidotus, c. 2,5 mm diam. Corolla hypocrateriformis, nivea, tubo recto vel leviter curvato, c. 4,5 cm longo,



3—4 mm diam., apicem versus vix dilatato, extus subdense substellato-lepidoto, intus in tertio inferiore sat dense, superne laxe usque laxissime breviter patenti-pilosulo, ad orem glabro, lobis elliptico-obovatis usque obovato-spathulatis patentibus, extus laxe lepidotis, intus glabris 1—1.2 cm longis, 0.8—1 cm latis. Stamina 10, inaequilonga, exserta,  $\pm$  5.5 cm longa; filamenta linearia et inferne dense patenter pilosula, superne gradatim glabrescentia; antherae oblongae, basi obtusae, c. 3 mm longae, 0.8 mm latae; discus sat dense breviter pilosus. Qvarium elongato-conicum, dense subrotundato-lepidotum, c. 8 mm longum, 1.5 mm diam., apice sensim in stylum gracilem basi lepidota excepta omnino glabrum et tubum long, subaequante extenuatum; stigma anguste breviterque obconicum. Capsula elongato-cylindrica, curvata, utrinque breviter attenuata, laxe lepidota, 4—4.5 cm longa, c. 0.4 cm diam.

NEW GUINEA. Northeastern part: Morobe Distr., Ogeramng (Sattelberg region), forest hills, 1770—1830 m, fl. 3-1-1937, *Clemens* 4852 (A, type).—"Gift from nr. 1 for my 64th birthday". Mt Sarawaket, 2135—2440 m, fr. 5-1937, *Clemens* 6290 (A).

#### 94. RHODODENDRON BUTTENII J. J. S.

*Rhododendron rutenii* J. J. Smith in Pedde, Rep. 30: 170. 1932.

CERAM. Central part: G. Murkele, 1900—2500 m, *Rutten (Komasi)* 1471, 1472 (BO, type; K, L).

#### 95. RHODODENDRON STAPFIANUM Hems. ex Prain

*Rhododendron stapfianum* Hemsley ex Prain, Bot. Mag. sub t. 8372. 1911; Millais, Rhodod. 247. 1917.—*R. lacteum* Stapf in Trans. Linn. Soc. Bot. 2nd ser. 4: 197, t. 15 f. A 1—2. 1894; Merr., En. Born. 461. 1921, non Franch. 1886.

BORNEO. North Borneo: Mt Kinabalu, 1065—1525 m, *Haviland* 1295 (BM, CAL; K, type; SAR, SING); *Clemens* 28159, 31090, 31946, 40U7, 40554; *SF* 26355 Carr.

#### 96. RHODODENDRON CHAMAEPITYS Sleum.

*Rhododendron chamaepitys* Sleumer in Bot. Jahrb. 71: 144. 1940.

BORNEO. Sarawak: Mt Lambia, 305 m, *Haviland & Hose* 2015 (BM, type).

#### 97. RHODODENDRON TOVERENAE F. V. M.

*Rhododendron toverenae* F. von Mueller in Viet. Nat. 1: 101.1884, reimpr. Gard. Chron. 22: 712, /, 127. 1884; Descr. Not. 6: 12. 1885.

NEW GUINEA. Southeastern part: Central Distr., Horseshoe Mts, near Meroke (E of Astrolabe Range), *Hunstein s.n.* (MEL, type).

## 98. RHODODENDRON SCHLECHTERI Laut.

*Rhododendron schlechteri* Lauterbach in K. Sch. & Laut., Nachtr. 338. 1905; Schltr. in Bot. Jahrb. 55: 158, f. 5. 1918.

NEW GUINEA. Northeastern part: Bismarck Mts, 1700 m, *Schlechter 14045* (B, type, j). Kani Mts, 1000—1100 m, *Schlechter 17845* (E; K, neotype; P).

## 99. RHODODENDRON CARRINGTONIAE F. V. M.

*Rhododendron carringtoniae* F. von Mueller in Viet. Nat. 4: 110. 1887, reimpr. Bot. Centralbl. 33: 55. 1888; Deer. Not. 9: 63. 1890.

NEW GUINEA. Southeastern part: Central Distr., Mt Obree, 1830—2135 m, *Cidhbertson & Sayer s.n.* (K; MEL, type). Ascent to Mt Victoria, main range NW of the "Gap", c. 2440 m, *Carr 15266* (BM only, mixed with *R. carrii*). Alola, c. 1830 m, fl. white, *Carr s.n.* (SING). Milne Bay Distr., N slopes of Mt Dayman, Gorge of Upper Gwariu River, 2030 m, Brass 22927.

100. *Rhododendron maius* (J. J. S.) Sleum., *nov. comb.*

*Rhododendron carringtoniae* F.v.M. var. *maius* J. J. Smith in Nova Guinea 12 (5): 511. 1917.; *I.e. t.* 205. 1918.

NEW GUINEA. Western part: Hubrecht Mts, 3200 m, *Pulle (Versteeg) 2422* (L, type). 9 km NE of Habbema Lake, 2800 m, Brass 10796.

101. *Rhododendron cruttwellii* Sleum., *nov. spec.*

Arbor parva, 4,5—6 m alta. Ramuli subteretes, internodiis (2,5—) 4.—14 cm longis, summis tantum laxe lepidotis, inferioribus griseo-corticatis. Folia ad pseudoverticiuos 5—7-meros disposita, pro parte minora reducta, normalia obovato-elliptica vel -lanceolata, interdum elliptico-lanceolata, apice breviter ± sensim acuminata, subacuta, glandula parva terminata, basi in petiolum ± acute attenuata vel cuneata, subcoriacea vel coriacea, in sicco supra saturate viridia, lucida, subtus dilute virescenti. brunnescentia, subopaca, supra glabra, subtus laxe usque subdense lepidota (lepidibus in zona marginali sat lata tenuissimis, varie breviter dentatis vel laceratis, centro parvo diutius persistente parumque immerso), integra, subrevoluta, (5,5—) 6—12,5 cm longa, 3—6 cm lata, costa supra parum immersa, subtus per totam longitudinem manifeste elevata, nervis lateralibus utroque latere 8—10, inferioribus irregularibus, superioribus rectiusculis, distanter a margine inter sese curvato-anastomosantibus utrinque prominulis, venis cum rete venularum sat denso utrinque parum, sed bene visibiliter elevatis; petioli paullo appianati, supra sulcati, lepidoti, sat crassi, 6—12 mm longi. Umbellae 4—7-florae. Ferulae ovato-acuminatae, extus dorso medio laxe lepidotae, ceterum in toto dorso minute sericeae, intus in medio et in parte apicali tantum pilosulae, margine glanduloso-ciliatae, usque ad 1,5 cm longae et 1 cm latae. Bracteolae anguste lineares, glabrae, usque ad 1,5 cm longae. Pedicelli crassiusculi, laxe patenter pilosuli, laxe imprimis in superiore tertio lepidoti, 1—1,5 (raro



usque ad 2) cm longi, infra calycem oblique incrassati. Calyx parvus, margine membranaceo indistincte 5-lobus vel denticulatus, haud vel laxissime ciliatus, utrinque glabrescens, c. 2,5 mm diametro. Corolla hypocrateriformis, nivea, tubo cylindrico leviter curvato, basi aliquot 5-saccato, (5—) 5,5—6 cm longo, basi 3—4, in medio  $\pm$  5 mm diam., infra lobos vix ampliato, extus sparse lepidoto, intus in inferiore media parte  $\pm$  dense pilosulo, superne glabro, lobis patentibus late obovatis vel suborbicularibus, 1—1,3 cm longis, 0,9—1,3 cm latis, utrinque glabris. Stamina 10, bene exserta; filamenta linearia, in inferiore media parte pilosula, superne glabra, 6—7 cm longa; antherae oblongae, 2—2,3 mm longae, 1 mm latae, basi obtusae. Discus brevissimus, glaber. Ovarium cylindricum, apice in stylum sensim attenuatum, dense subpatenter albido-griseo-pilosum, haud lepidotum, 6—7 mm longum, 1,5 mm diam.; stylus exsertus,  $\pm$  6 cm longus, basi c. 6 mm longe laxe pilosus, ceterum omnino glaber, stigmate turbiniformi-capitato, crenulato. Capsula non adest.

NEW GUINEA. Southeastern part: Northeastern Distr., Mt Maneao, 2590 m, fl. 11-6-1954, *N.E.G. Cruttwell* 525 (E; K, type). Mt Simpson, 2590 m, fl. 27-10-1947, *Cruttwell* 37 (A, K).

102. ***Rhododendron archboldianum*** Sleum., *nov. spec.*

Frutex magnus, epiphyticus vel rarius terrestris. Ramuli teretes, validi, internodiis 6—16 cm longis, ultimis subdense, inferioribus laxe lepidotis. Folia 5—7 in quoque pseudoverticillo disposita, normalia 3—4, cetera multo minora (reducta), alia citissime caduca, quorum vestigia distanter secus internodia adsunt, haud visa, probabiliter minutissima, normalia ovata usque elliptica-ovata, saepius paullo inaequilatera, apice breviter acuminata, subacuta, basi late attenuata vel plerumque subtruncato-rotundata, interdum brevissime cordata, coriacea, in sicco saturate olivaceo-brunnea usque castanea, subtus paullo pallidiora,  $\pm$  opaca, utrinque subdense lepidota (lepidibus supra tarde evanescentibus, subtus diutius persistentibus, planis, minutis, in zona marginali irregulariter  $\pm$  profunde dentatis vel laceratis, centro minuto haud immerso), integra, margine inferne subrevoluta, (4—) 5—11,5 cm longa, (2—) 3—6 cm lata, costa supra leviter immersa, subtus inferne crasse prominente, apicem laminae versus tenuiore, nervis lateralibus 8—10 (—12) leviter curvatis,  $\pm$  irregularibus, ante marginem inter sese et cum venis anastomosantibus, supra levissime impressis vel prominulis, subtus prominentibus, venis rete laxum supra parum, subtus magis conspicuum fœmantibus, venulis supra plerumque  $\pm$  indistinctis, subtus semper  $\pm$  dense reticulato-elevatis; petioli paullo applanati, supra sulcati, subdense lepidoti, (4—) 6—9 (interdum usque ad 13) mm longi, 1,5—2 mm diam. Umbellae 8—13 (—15)-florae. Perulae ovatae usque late obovatae, dorso laxe lepidotae et sericeae, usque ad 1 cm longae et 0,7 cm latae visae. Bracteolae anguste lineares, glabrae vel laxe lepidotae, usque ad 1,5 cm longae. Pedicelli crassiusculi, sat dense lepidoti, apice infra calycem oblique incrassati, 8—11 mm longi. Calyx minutissimus, undulatus, indistincte 5-lobatus. Corolla hypocrateriformis, rosea, tubo cylindrico leviter curvato, a basi usque ad orem

sensim ampliatio, 4,5—5 cm longo, basi c. 2,5, superne 3,5—4,5 mm diam., interdum in superiore parte paullo inflato sed sub ore leviter constricto, extus laxe usque subdense lepidoto, epiloso, intus fere usque ad faucem ± dense pilosulo, lobis late spathulatis vel subrotundis, 1—1,2 cm longis, 0,8—1,2 cm latis, extus ad basin et medianam laxe lepidotis, intus glabris. Stamina 10, in vivo albida, exserta; filamenta inferne linearia, superne filiformia, fere usque ad apicem pilosula; antherae oblongae, basi obtusae, 3,5—4 mm longae, 1 mm latae. Discus in parte basali glaber, superne dense pilosulus. Ovarium cylindricum, apice sensim in stylum diminutum, 7—8 mm longum, fere 2 mm diam., dense adpresse pilosum et lepidotum, lepidibus pilis obtectis itaque haud bene visibilibus; stylus rubescens, vix exsertus, fere usque ad apicem subpatenti-pilosulus et lepidotus, stigmatibus breviter obconico viridi crasso. Capsula incognita.

NEW GUINEA. Southeastern part: Central Distr., Mt Tafa, 2400 m, fl. May-Sept. 1933, Brass A855 (A, BO; L, type).

### 103. *Rhododendron pleianthum* Sleum., *nov. spec.*

Arbor parva vel frutex, 3—4 m. Ramuli valde robusti, teretes, apicibus laxe stellato-lepidoti, 5—7 mm crassi; internodia 9—10 cm longa. Folia ad nodos ultimos et penultimos in pseudoverticillis 5—7-meris disposita, elliptica vel obovato-elliptica, apice rotundata vel valde late attenuata et obtusa, basi parum sed manifeste cordata, coriacea, ± rigida, adulta supra glabra, subtus laxe lepidota (lepidibus in zona marginali cito dissoluta stellato-inciisis, centro minuto parum iropresso), aetate subtus parum distincte impresso-punctulata, integra, plana, (6,5—) 7—10 cm longa, (4—) 4,5—6,5 cm lata, costa supra inferne dilatata, superne gradatim angustiore et per totam longitudinem impressa, subtus inferne 2—3 mm lata crasseque obtuse prominente, superne sensim angustiore, nervis lateralibus utroque latere c. 8, irregularibus, ± patentibus, ante marginem divisus et anastomosantibus, supra impressis, subtus prominentibus, venis venulisque supra reticulato-impressis, subtus parum distincte prominulis vel ± obscuris; petioli valde crassi, applanati, glabri, 2—3 (—4) mm longi, 2—3 mm lati. Umbellae 15—20-florae. Perulae exteriores ovatae, interiores oblongo-spathulatae, obtusae, dorso dense, intus laxius breviter substrigoso-pilosae fere subsericeae, usque ad 2 cm longae et 1 cm latae. Bracteolae lineari-subspathulatae, ad lineam dorsalem densius breviter pilosae, c. 2 cm longae, usque ad 2 mm latae. Pedicelli sat validi, dense lepidoti brevissimeque pubescentes, sub anthesi c. 2 cm longi, c. 1 mm diametro. Calyx discoideus, parum obliquus, c. 4 mm diam., dorso subglaber, breviter subacute 5-lobus, vel (*Robbins 362*) in dentes vel lacinias irregulares 2—9 mm longas, basi c. 1 mm latas glabras vel brevissime pubescentes productus. Corolla inferne longe tubulosa, ad lobos ± expansa, tota 8—9 cm longa, extus initio laxissime caduce lepidota, intus ad tubum laxe pilosa, albido-cremea, ad tubum roseo-suffusa, tubo recto 6—7 cm longo, basi 0,4—0,5 cm diam., lobos versus sensim usque ad 0,7—0,9 cm diam. dilatato, lobis obovato-spathulatis ± 2 cm longis et latis.



Stamina 10, tubo paullo longiora, inaequilonga; filamenta linearia, ad  $\frac{3}{4}$  infer, subdense vel apicem versus laxius pilosa, superne glabra; antherae elongato-oblongae, basi obtusae, 4,5—5 mm longae, 1—1,2 mm latae, paullo curvatae. Discus prominens, glaber. Ovarium elongato-subcylindricum, apice sensim in stylum abiens, densissime flavescenti-pilosum vel -tomentosum, laxius minute lepidotum (lepidibus pilis  $\pm$  tectis), c. 8 mm longum, inferne 2—2,5 mm diam., stylo corollae tubum subaequante, inferne per c. 10 mm subdense vel laxius piloso et lepidoto (lepidibus inter pila bene visibilibus), ceterum glabro, stigmatibus turbinato-capitato. Capsula ignota.

NEW GUINEA. Central part: Western Highlands, Mt Hagen, c. 3050 m, in montane cloud forest, fl. 9-7-1957, *Robbins* 362 (CANB, type; L, LAE). Eastern Highlands, near Kerigomna Camp, common on edge mossy forest-grassland, c. 2850 m, fl. 12-7-1956, *Hooglund & Pullen* 5621 (CANB).

104. *Rhododendron oliganthum* Sleum., *nov. spec.*

Frutex, c. 1,2 m altus. Ramuli teretes, graciles, internodiis 4—5 ultimis 1,5—3 cm longis, inferioribus paullo longioribus, summis dense rufo-lepidotis. Folia subopposita vel terna in pseudovercillo ad nodos ultimos tantum disposita, sessilia, subovato-elliptica, apice breviter acuminata, obtusa, basi truncata usque rotundata vel paullo cordata, coriacea, in sicco supra  $\pm$  olivacea, subtus brunnescentia, utrinque nitidula, supra maturitate glabra, subtus laxe lepidota (lepidibus tenuibus centro leviter impressis, margine irregulariter dentatis vel incisus), integra, margine paullo recurvata, (3—) 3,5—5 cm longa (1,5—) 2—3 cm lata, medio latissima, costa supra fere plana vel levissime immersa, subtus inferne crasse, superne parum prominente, nervis lateralibus utroque latere c. 8 inferne subrectis, marginem versus curvato-conjunctis, utrinque prominulis, venis laxe reticulatis, supra subobscuris, subtus prominulis, venulis subtus tantum visibilibus plerumque parum conspicuis; petioli 1—2 mm longi, 1—1,5 mm crassi. Flores terminales singuli vel plerumque bini. Perulae bracteolaeque haud visae. Pedicelli crassiusculi, sub anthesi 2,8—3 cm longi, sat dense lepidoti brevissimeque albido-pilosi, apice oblique incrassati. Calyx minutus, breviter-5-lobatus et undulatus, c. 2,5 mm diam. Corolla late hypocrateriformis, in vivo intense rosacea, tubo cylindrico stricto 3,5—3,7 cm longo, basi c. 4 mm diam., faucem versus paullo dilatato, sub ore 5—6 mm diam., extus laxe lepidoto laxissime brevissimeque piloso, intus in parte basali subdense, superne laxius usque laxissime pilosulo, infra orem glabro, lobis  $\pm$  patentibus late obovatis usque subrotundatis, 1—1,2 cm diam., extus ad basin laxe lepidotis, ceterum et intus glabris. Stamina 10, parum exserta; filamenta linearia, ad  $\frac{2}{3}$  infer-subdense usque laxe pilosula, superne glabra, c. 3,8—4,2 cm longa; antherae oblongae, basi obtusae, c. 2,6 mm longae, 1 mm latae. Discus imprimis margine superiore pilosus. Ovarium elongato-conicum, dense fusso-pilosum et lepidotum, c. 7 mm longum, 2 mm diam., 5-sulcatum, sensim in stylum abiens; stylus parum exsertus, c. 3,5 cm longus, usque ad medium laxe pilosus laxissimeque lepidotus, superne glaber; stigma crasse turbinato-capitatum. Capsula ignota.

NEW GUINEA. Southeastern part: Central Distr., ascent to Mt Victoria, crest of Main Range NW of the "Gap", forest, c. 2895 m, fl. 15-1-1936, *Carr s.n.* (BM, type; SING).

105. *Rhododendron carrii* Sleum., *nov. spec.*

Frutex epiphyticus. Ramuli teretes, glabri vel apicibus tantum laxissime lepidoti, internodiis (2,5—) 4—9 cm longis. Folia ad pseudoverticillos 3—4-meros disposita, ovata vel subovato-rotundata, apice late brevissime acuminata, obtusiuscula, basi manifere subauriculato-cordata, sessilia vel subsessilia, rigide coriacea, in sicco ± saturate brunnescentia et opaca, glabra, sed sub lente subtus laxè minutissime lepidota (lepidibus tenuibus margine irregulariter dentatis cito caducis, centro tantum diutius persistente leviterque impresso), integra, haud revoluta, (4—) 4,5—5,5 (—6) cm longa, (2,5—) 3—5 (—5,5) cm lata, costa supra plana vel leviter impressa, subtus in parte inferiore valde crasse, in parte superiore distincte prominente, nervis lateralibus utroque latere c. 10, infimis 2—3 e laminae basi ortis, ceteris a costa abeuntibus, omnibus leviter curvatis, ante marginem inter sese et cum rete venarum anastomosantibus, utrinque prominentibus, venis venulisque sat dense laeteque reticulatis utrinque imprimis subtus manifeste elevatis; petioli vix 1 mm longi, c. 1,5 mm lati. Umbellae 4—5-florae. Perulae haud visae. Bracteolae lineares. Pedicelli crassiusculi subdense usque laxè tenuiter lepidoti, (1,3—) 1,5—2,5 cm longi, apice sub calyce incrassati. Calyx parvus, obliquus, membranaceus, breviter (1 mm) obtuse 5-lobus, margine breviter fimbriatus, c. 2 mm diam. Corolla hypocrateriformis, albida, tubo parum curvato, apicem versus tantum sensim ampliato, sub plena anthesi 5,5—6 cm longo, basi c. 3,5, in medio c. 5,5, infra lobos c. 7 mm diam., extus laxè substellato lepidoto, intus in inferiore 1/3—1/2 dense pilis retrorsis, superne laxius pilis ± patentibus induto, ad orem glabrescente, lobis ± patentibus rotundato-obovatis 1,2—1,5 cm longis, 1—1,5 cm latis, utrinque glabris. Stamina 10, parum exserta; filamenta anguste linearia, basi dense, in medio laxius patenti-pilosula, in parte apicali glabra, 6—6,5 cm longa; antherae oblongae, basi obtusae, 2,8—3 mm longae, 1 mm latae. Discus imprimis superne dense breviter pilosus. Ovarium elongato-conicum, dense adpressè flavido-pilosum laxè lepidotum (lepidibus pilis ± obtectis vel occultis), 1 cm longum, c. 2 mm diam., sensim in stylum extenuatum; stylus exsertus, (5,5—) 6—6,5 cm longus, ad basin tantum per c. 5 mm laxè pilosus et lepidotus, ceterum glaber; stigma crasse turbiniforme, crenulatum. Capsula ignota.

NEW GUINEA. Southeastern part: Central Distr., ascent to Mt Victoria, Main Range NW of the "Gap", open hill side, 2440 m, fl. 27-1-1936, *Carr 15266* (A; BM, type (mixed with *R. carringtoniae* on the same sheet); K, SING).

106. RHODODENDRON ARMITII F. M. Bailey

*Rhododendron armitii* F. M. Bailey in Bot. Bull. Queensl. Dep. Agr. 10: 39. 1895.

NEW GUINEA. Southeastern part: Milne Bay Distr., Mt Dayman, 2710 m, *Armit* anno 1894 (BRI, type; MEL).



Similar in leaf, but petioles much flattened and shorter (2—3 by 2,5 mm), anthers 3—3,5 mm long, in some respects  $\pm$  intermediate between *R. armitii* and *R. tuba*:

NEW GUINEA. Southeastern part: Mt Suckling, Central/Northern Distr., *MacGregor* anno 1892 (MEL).

107. ***Rhododendron tuba*** Sleum., *nov. spec.*

Frutex, c. 5 m. Ramuli paullo applanati, laxe lepidoti, pruinosi; inter nodia 3—8 (—10) cm longa, 2—3 mm diam. Folia ad nodos ultimos 1—2 in pseudoverticillis 4—5-meris disposita, elliptica usque oblongo-elliptica, apice late acuminata, subacuta, glandula terminali haud prorumpente, basin versus  $\pm$  late attenuata, ipsa basi subtruncata vel rotundata, interdum leviter cordata, coriacea, utrinque initio subdense lepidota, matura supra glabrescentia, in sicco saturate olivaceo-viridia, subtus diutius lepidota (lepidibus sat parvis, in zona marginali tenera citoque caduca stellato-dentatis, centro minuto impressis), vel aetate certe nigrescenti-impresso-punctulata, integra, (4—) 4,5—7 cm longa, 2,5—3,5 (—5, raro usque ad 6) cm lata, costa supra immersa, subtus imprimis inferne crasse lateque prominente, nervis lateralibus utroque latere 6—8 subirregulariter pinnatis, ante marginem divisis et anastomosantibus, supra leviter impressis, subtus parum sed distincte elevatis, reticulatione supra subnulla, subtus subdensa et bene prominula; petioli crassi, applanati (0—) 2—4 mm longi, 1,5—2 mm lati. Umbellae (4—) 5—7-florae. Perulae exteriores ovatae, interiores obovatae, apice in apiculum vel potius subulam (1—3 mm longam) extenuatae, membranaceae, dorso apice caduce lepidotae, ceterum glabrae, nitidulae, lepidoto-ciliatae, usque ad 1,5 cm longae et c. 1 cm latae. Bracteolae inferne filiformes, superne paullo subspathulato-dilatatae, laxissime lepidotae vel glabrae, usque ad 1,5 cm longae. Pedicelli crassiusculi, laxe stellato-lepidoti, epilosi, 1,2—2 cm longi, c. 1 mm diametro. Calyx valde oblique discoideus, membranaceus, subglaber, c. 4 mm diam., lobis 5 irregularibus nunc dentem vix 1 mm longum, nunc lacinas usque ad 4 mm longas praebentibus. Corolla tubaeformis, extus laxe lepidota, intus ad 4/5 partem infer, tubi laxe pilosa, tota 6,5—7,5 (—8) cm longa, ad tubum salmoneo-rosea, ad lobos albida, tubo plerumque leviter curvato 5,5—6,5 cm longo, basi c. 5 mm diam., apicem versus haud vel paullo dilatato, lobis  $\pm$  patentibus obovatis 1—1,5 cm longis, 0,8—1,2 cm latis. Stamina 10, corollam longitudine fere aequantia, inaequilonga; filamenta linearia, ad 3/4 longitudinis infer, laxe pilosa; antherae subobovato-oblongae, basi in apiculum brevissimum attenuatae,  $\pm$  2,5 mm longae, 0,7 mm latae. Discus parum prominens, superne pilosus, inferne glaber. Ovarium cylindricum, gradatim in stylum abiens, dense albo-pilosum vel -tomentosum, minute lepidotum (lepidibus pilis tectis), c. 8 mm longum, 2,5 mm diam., stylo sat gracili staminia aequante ad 1/2 infer, dimidiam partem laxe longeque albopiloso et  $\pm$  lepidoto; stigma capitatum breviter 5-lobum. Capsula haud visa.

**NEW GUINEA.** Southeastern part: Mt Dayman (Mt Maneao), margin of moss forest nearest summit, c. 2750 m, fl. 23-6-1956, *Cruttwell* 775 (E; K, type; L, LAE). Mt Donana, 2285 m, fl. 10-10-1957, *Cruttwell* 93G (slightly differing by sessile, more deeply cordate leaves, and anthers 3.5 mm).

Apparently much related, only different by the leaves (less reticulate, more obtuse at the apex, more cordate at the base, petiole 0—2 mm) and longer anthers (3—3,5 mm) :

**NEW GUINEA.** Southeastern part: Mt Dayman, Maneao peak, 2750 m, common in edges of stunted mossy forest, defl. 19-5-1953, *Brass* 22276.

108. ***Rhododendron pubitubum*** Sleum., *nov. spec.*

Frutex. Ramuli in sicco saturate brunnei, ± pruinosi, apicibus laxe vel laxissime lepidoti, internodiis 4—11 cm longis. Folia ad pseudoverticillos 3—5-meros disposita, elliptica vel obovato-elliptica, interdum obovata, apice latissime attenuata, obtusa vel subrotundata, interdum brevissime retusa, basin versus late attenuata, basi ipsa rotundata haud raro cordulata, subsessilia, coriacea, in sicco opaca, supra ± saturate olivaceo-brunnea, subtus ± intense rubro-brunnea vel brunnescentia, matura supra glabra, subtus laxe usque subdense lepidota (lepidibus tenuibus margine irregulariter dentatis vel laceratis, centro nigrescenti ± persistensi immer-sis), integra, subrevoluta, 3—6 cm longa, 2,2—3,5 (—4,2) cm lata, costa supra leviter immersa, subtus crasse prominente, sed apicem laminae versus ± evanescente, nervis lateralibus 6—8 jugis rectiusculis, angulo acuto costae impositis, inter sese subparalleis, demum curvato-conjunctis, supra minutissime impressis vel partim obsolete, subtus prominulis, venis supra obscuris, subtus valde laxe reticulatis et prominulis, venulis inconspicuis; petioli 1—2 mm longi et crassi. Umbellae 10—12-florae. Perulae orbiculatae usque obovate, utrinque dense breviter subsericeae, elepidotae, usque ad 1,5 cm longae et 1 cm latae. Bracteolae lineares, dense sat longe patenter pilosae, usque ad 1,5 cm longae, 0,5 mm latae. Pedicelli crassiusculi, 8—12 mm longi, dense patenter griseo-pilosuli, elepidoti. Calyx minutus, margine membranaceo angusto undulatus et brevissime obtuse 5-lobus, extus pilosus, intus glaber. Corolla hypocrateriformis, alba, suaveolens, tubo cylindrico recto aequaliter 2—2,5 mm diametro, basi infima leviter 5-saccato, ad orem vix dilatato, bene evoluto (5—) 5,5—6,5 cm longo, extus per totam longitudinem sat dense, intus per  $V_3$ , infer, subdense usque laxe patenti-pilosulo, lobis ± patentibus spathulato-obovatis extus secus medianam pilosulis, ceterum glabris, 1—1,2 cm longis, 5—9 mm latis. Stamina 10, paullo exserta; filamenta anguste linearia, inferne sat dense, superne laxe pilosa, in superiore  $V_3$  parte glabra, 5,5—6,8 cm longa; antherae late subobovato-oblongae, 1,8 mm longae. Discus inferne glaber, ad marginem superiorem pubescens. Ovarium elongato-conicum, dense subpatenter albido-pilosum subdenseque lepidotum (lepidibus pilis omnino tectis et occultis), c. 5 mm longum, 1,8 mm diam., apice sat abrupte in stylum abiens; stylus orem tubi vix aequans vel paullo brevior, inferne subdense pilosus laxequae lepidotus (lepidibus ita bene visibilibus), in



medio laxius pilosus, superne (c. 1 cm longe) glaber; stigma breviter turbinatum. Capsula ignota.

CELEBES. Central part: Masamba, Tomadu-Singkalong, 2000 m, fl. 30-7-1937, *Eyma UU* (BO; L, type); Limbung-, c. 1700 m, *Steup 20i*.

109. *Rhododendron trichanthum* Sleum., *nov. spec.*

Frutex. Ramuli validi, subteretes, internodiis 3—6 cm longis, ultimis tantum sat dense lepidotis et sparse brevissime pilosis. Folia ad pseudoverticillos 3—4-meros disposita, oblonga vel elliptico-oblonga, subinaequilaterialia, apice latissime attenuata usque rotundata, haud raro minute retusa, basi latissime attenuata usque subrotundata, crasse coriacea et firma, in sicco supra  $\pm$  intense olivacea usque brunnea, subtus pallidiora, supra subnitentia, subtus opaca, supra pilis sparsis ad infimam basin, imprimis in costae basi praesentibus exceptis glabra, subtus aequaliter laxe lepidota (lepidibus parvis  $\pm$  profunde substellato-dentatis, planis, centro fusco minuto parum impressis), integra, margine in sicco parum revoluta, 8—12 cm longa, (3—) 3,5—5 cm lata, costa supra valde immersa, subtus crassa, inferne petioli diam., superne sensim diminuta, nervis lateralibus 6—8-jugis distantibus, inferne subrectis, ante marginem curvato-conjunctis, supra minute impressis, subtus prominulis, venis venisque parum vel vix visibilibus; petioli validi, pilis paucis instructi vel omnino glabri, rugosuli, supra sulcati, 6—13 mm longi, 2—3 mm crassi. Umbellae 7—10-florae. Perulae ovatae, glabrae, margine irregulariter breviterque subserratae, usque ad 1,3 cm longae et 1 cm latae. Bracteolae lineares, pilosiusculae, c. 1 cm longae. Pedicelli initio subgraciles vel demum crassiusculi, dense  $\pm$  patenter cinereo-subvillosi-pilosi, laxissime lepidoti, sub anthesi 2—3 (interdum usque ad 4) cm longi. Calyx annularis, inconspicuus, vix 2 mm diam. Corolla hypocrateriformis, in vivo dilute rubro-violacea, tubo cylindrico  $\pm$  3,5 cm longo, basi paullo inflato et 5-saccato 3—4 mm diam., orem versus vix dilatato, extus sat dense pilis mollibus cinerascentibus induto, intus usque ad medium pilosulo, superne giabro, lobis obovato-rotundatis patentibus 1—1,2 cm longis, 0,5—0,7 cm latis, extus marginibus exceptis sat dense pilosis, intus glabris. Stamina 10, inaequilonga, longiora corollam longitudine subaequantia; filamenta linearia, applanata, inferne ad  $\frac{1}{3}$  dense albido-pilosa, superne glabra; antherae oblongae, basi obtusae, 2,5 mm longae, 0,8 mm latae. Discus subglaber. Ovarium cylindricum, 5-sulcatum, pilis prorsus versis vel subpatentibus densissimis subvillosi-tomentosum, 4—6 mm longum, 1,5—2 mm diam., apice  $\pm$  sensim in stylum gracilem inferne ad  $\frac{1}{2}$  longitudinis laxe longeque patenter pilosum et c.  $\frac{1}{2}$  corollae longitudine aequantem abiens; stigma anguste obconicum. Capsula haud visa.

BORNEO. Central East Borneo: W. Kutei, Mt Kemul, 1800 m, fl. 21-10-1925, *Endert UU* (BO; L, type); *ibid.*, c. 1850 m, fl. 13-10-1925, *Endert 3982*.

110. *Rhododendron amabile* Sleum., *nov. spec.*

Frutex. Ramuli ad internodia ultima subteretes denseque lepidoti, ceterum teretes glabri, internodiis 2,5—9 cm longis. Folia c. 4 in quoque

pseudoverticillo disposita, subsessilia, oblonga vel oblongo-elliptica, interdum elliptica, apice late attenuata, subobtusata, basi subtruncato-rotundata usque leviter cordata, coriacea, in sicco  $\pm$  saturate brunnea vel olivaceo-brunnea, supra subnitentia, subtus opaca, supra fugaciter lepidota maturitate glabra, subtus  $\pm$  persistenter laxe lepidota (lepidibus margine irregulariter dentatis vel incis, toro epidermali minutissimo insidentibus, planis), integra, margine subrevoluta, 2,5—6 cm longa, (1,2—) 1,5—2,3 (—2,8) cm lata, costa supra plana vel minutissime impressa, subtus in inferiore % long, crasse, superne minus alte prominente, nervis lateralibus utroque Jatere 7—8 inferne sat rectis, superne arcuato-conjunctis, supra vix visibilibus, subtus minute elevatis, venis parum conspicuis usque evanescentibus, reticulatione nulla; petioli lepidoti, 2—3 mm longi, c. 1,5 mm crassi. Umbellae 7—9-florae. Perulae ovato-aeminateae, acutae, exteriores minores dorso lepidotae et sat dense sericeae, interiores maiores dorso sericeae, usque ad 1,4 cm longae et 0,9 cm latae. Bracteolae lineares usque subspathulato-lineares, laxe pilosae, usque ad 1 cm longae, 1 mm latae. Pdicelli sat dense lepidoti et breviter subpatenter griseo-pilosi, 7—10 (—12) mm longi, c. 0,5 mm crassi. Calyx minutus, tenuis, margine undulatus et irregulariter fimbriatus, c. 2,5 mm diam. Corolla hypocrateriformis, inferne albida, superne rosacea, tubo cylindrico stricto 3—3,3 cm longo, basi sat distincte 5-gibbo et  $\pm$  2,5 mm diam., superne vix dilatato, extus laxe breviter piloso, in alabastro laxissime, sub anthesi haud lepidoto, intus infra medium breviter pilosulo, superne glabro, lobis parum patentibus obovato-spathulatis 1—1,2 cm longis, 0,7—0,8 cm latis, extus ad basin pilosulis, ceterum et intus glabris, margine manifeste ciliolatis. Stamina 10, parum exserta; filamenta linearia, in inferiore tertio pilosula, superne glabra, 3,2—3,5 cm longa; antherae oblongae, 1,8—2 mm longae, 0,7 mm latae. Discus manifeste 10-gibbus, glaber. Ovarium subcylindricum, dense pilosum et lepidotum sat abrupte in stylum attenuatum, c. 6—7 mm longum, 1,6 mm crassum; stylus orem corollae tubi vix aequans, fere usque ad apicem pilosulus et lepidotus; stigma crasse turbinato-capitatum. Fructus haud visus.

CELEBES. Central part: Masamba, Limbung-Porio, 1700 m, fl. 19-8-1937, Steup 206 (BO; L, type).

### 111. RHODODENDRON JASMINIFLORUM Hook.

*Rhododendron jasminiflorum* Hooker in Bot. Mag. t. 4-525. 1850; Floric. Cab. 18: 291. 1850; Paxt., Fl. Gard. 1: 96. 1850—51; Lemaire, Jard. Fleur. 1: t. 41. 1851; Ill. Hort. 6: t. 263. 1859; Miq., Fl. Ind. Bat. 2: 1059. 1859; Clarke in Hook, f., Fl. Br. Ind. 3: 463. 1882; Henslow in 3. R. Hort. Soc. 13: 252, 262, / 38, 42 (JoL), 43 c (fl). 1891; Ridl. in J. Str. Br. As. Soc. 23: 145. 1891; K. & G. in 3. As. Soc. Beng. 74, ii: 77. 1905; Ridl. in 3. Fed. Mai. St. Mus. 7: 45. 1916; Millais., Rhodod. 195. 1917; Ridl., Fl. Mai. Pen. 2: 218. 1923; Burk. & Holtt. in Gard. Bull. S.S. 3: 57. 1923; Henders. in 3. Mai. Br. R. As. Soc. 5: 256. 1927; Mai. Nat. J. 6: 261, / 244. 1950.—*R. elongatum* Bl. & Fisch., Fl. Javae, Pl. ined. t. 7 B f. 1. 1863-83; Steen. in Bull. Jard. Bot. Btzg III, 17: 388. 1948.—*Azalea jasminiflora* (Hook.) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.



## IIia. var. JASMINIFLORUM

MALAY PENINSULA. Johore: Mt Ophir, 1160—1525 m, *Lobb s.n.* (K, type, a plant cultivated from seeds collected by Lobb); *Griffith K. D. 3504*; *Maingay K.D. 701*; *Berry 624*; *Kurz s.n.*; *Fielding s.n.*; *Hullett 295*; *ibid.*, G. Ledang, 1160 m, *Ridley s.n.*

## 111b. var. PUNCTATUM Ridl.

*Rhododendron jasminiflorum*. Hook. var. *punctatum* Ridley in J. Fed. Mai. St. Mus. 4: 42. 1909 (*punctata*).—*R. jasminiflorum* Hook. var. *maculatum* Ridl., Fl. Mai. Pen. 2: 218. 1923 (*maculata*); Burk. & Holtt. in Gard. Bull. S. S. 3: 390 1925.—*R. jasminiflorum* (*non* Hook, s, sir.) Ridl. in J. Fed. Mai. St. Mus. 6: 157. 1915; *I.e.* 7: 45. 1916.

MALAY PENINSULA. Kedah: Kedah Peak (G. Jerai), 855—1220 m, *Robinson & B. Kloss 6030, 6033, 6057*; *Evans & Gordon 13*; *SF 623 Haniff*; *For. Dep. F.M.S. i6846 Symington*. Pahang: G. Tahan, 1220—1525 m, *Ridley 16087*; *SF 20660 Holtum*; *ibid.*, Skeats Hill, *Corner s.n.*; *ibid.*, Telom Ridge, *Ridley anno 1908* (K, type of var. *punctatum* and var. *maculatum*; SING); *ibid.*, Observation Hill, *B. Kloss 12182*. Cameron Highlands, c. 1500 m, *For. Dep. F.M.S. 11554 Elles*; *For. Dep. F.M.S. 29346 Sow*; *Burkill 833*; *ibid.*, Rhododendron Hill, *For. Dep. F.M.S. 20931 Symington*; *Batten Pooll s.n.*; *Fosters Hill, 1465 m, SF 17838 Henderson*; *Taman Sedia, Ulu Telom, For. Dep. F.M.S. 14644 Mead*; *For. Dep. F.M.S. 36009 Symington*; *For. Dep. F.M.S. 20937, 21013, 27662, Jadmat*; *Castle Rock, KEP 60847 Wyatt-Smith*; *Lubok Tamang, 1220 m, Robinson 10975*; *Tana Rata, 39th mile, Sinclair 9969*. Frazer Hill, 1220—1340 m, *For. Dep. F.M.S. 45044 Symington*; *For. Dep. F.M.S. 6518 Cubbitt*; *SF 8^27 Burkill & Holtum*; *ibid.*, Pine Tree Hill, 1370 m, *SF 37378 Addison*; *For. Dep. F.M.S. 29496 Symington*. Perak: *Scortechini 308*. Caulfields Hill, *Wray 613*. Larut, 855—1400 m, *Kunstler 3586, 3645, 6909*. Maxwell's Hill, *Curtis s.n.*; *ibid.*, Cottage, 1370 m, *Fox 124*. Thaiping Hills, 1250—1280 m, *Derry s.n.*; *Henderson 11806*; *ibid.*, Birch's Hill, 1280 m, *SF 12621 Burkill & Haniff*. G. Batu Puteh, 1830 m, *Wray 1635*. Selangor: G. Moyang, 1220—1400 m, *KEP 56680 Symington*.

111c. var. heusseri (J. J. S.) Sleum., *nov. stat.*

*Rhododendron longiflorum* Lindl. var. *heusseri* J. J. Smith in Bull. Jard. Bot. Btzg III, 13: 447. 1935.—*R. retusum* [*non* (Bl.) Benn.] Steen. in Arch. Hydrobiol. Suppl. 11: 318, / 21, 22 (phot. veg.). 1932.

SUMATRA. Atjeh: Gajo Lands, confl. of R. Kapi and R. Aunan, solfataras, 1100—1250 m, *van Steenis 9997*. East Coast: NE Sibayak, Bandarbaru, 900 m, *Lorzing 14042*. Sibolangit, c. 750 m, *Lb'zing 4389*; Aik-na-uli, 1300 m, near Permantang Siantar, *Alston 15278*; *Saubert s.n.* Tapanuli: Lake Toba, Samosir Peninsula, solfataras, 950—1200 m, *Heusser 9a* (BM; BO, type; BRI, L, PNH), *9b—9p*; *Saubert (Herb. Lorzing 17470)*; *Rutten 48 ('R. retusum')*; *van der Meer Mohr s.n.*; *Marpatalok, Batten Pooll s.n.* Simalungan, ruin of crater, 1430—1525 m, *Bangham 1293*.

Possibly a hybrid between *R. jasminiflorum* Hook, and *R. longiflorum* Lindl., but certainly much nearer to the first, the influence of the latter mainly visible in the red colour of the corolla which breaks through to various degree.

**Hid. var. copelandii** (Merr.) Sleum., *nov. stat.*

*Rhododendron copelandii* Merrill in Govt. Lab. Publ. (Philip.) 29: 42. 1905; Philip. J. Sc. 3: Bot. 381. 1908; Elm., Leaflet. Philip. Bot. 3: 1105. 1911; Millais, Rhodod. 148. 1917; *I.e.* 2nd ser. 117. 1924; Merr., En. Philip. 3: 243. 1923; Copel. f. in Philip. J. Sc. 40: 158, pi. 7 f. 1—5. 1929.

PHILIPPINES. Mindanao: Davao, Mt Apo, 2350—3100 m, *Copeland 1034* (cit. Copel.), 1439 (A, K, P; PNH, type, f; US, not seen); *De Vore & Hoover 292* (cit. Copel.), 382 (cit. Copel.); *Williams 2681*; *Elmer 11395*; *P.N.H. H61 Edaño*.

**Hie. var. oblongifolium** Sleum., *nov. var.*

*Rhododendron jasminiflorum* (non Hook. s. str.) Merrill, En. Born. 461. 1921.—*R. vertieillatum* (non Low ex Lindl.) Becc, Malesia 1: 204. 1878.

Folia oblonga, apice obtusa, basi obtusa vel truncato-rotundata, 4—7,5 cm longa, 1—2,8 cm lata, petiolo 4—6, raro usque ad 7 mm longo. Corolla extus laxe lepidota, epilosa, intus per totam longitudinem pilosula. Perulae glabrae vel laxe lepidotae, ± nitidulae.

MALAY PENINSULA. Pahang: P. Tioman, G. Rokam, 855 m, *SF 18810 Nur. Johore*: G. B(e)lumut, 1005 m, *SF 10771 Holttum*.

BORNEO. Sarawak: Summit of Mt Santubong, 760 m, *Anderson 8353*; *SF 38353 Sinclair* (BO, K; SING, type); *Beccari P.B. 2139* ('*R. vertieillatum*', PI) *White 172*; *Hewitt s.n.*; *Campbell s.n.* Mt Bongo, *Brooks & Hewitt s.n.* Delta of Sarawak River, *Parnell s.n.* Without locality, *Curtis s.n.*; *B.S. 2214 Nat. Coll.*

## 112. RHODODENDRON RADIANS J. J. S.

*Rhododendron radians* J. J. Smith in Bull. Jard. Bot. Btzg III, 1: 403, t. 51. 1920.

**112a. var. RADIANS**

CELEBES. Central part: G. Sinadji, *Rachmat (Exp. van Vunren) 885* (BO, type; K, L).

**112b. var. minahasae** Sleum., *nov. var.*

*Rhododendron vertieillatum* (non Low) Koorders, Minah. 514. 1898; Koord.-Schum., Syst. Verz. 3: 100. 1914.—*R. jasminiflorum* (non Hook.) Sarasin, Reisen in Celebes 1: 63. 1905.

Stylus usque fere ad apicem pilosus et lepidotus.

CELEBES. Menado: Tondano, Soputan Volcano, 1500—1700 m, fl. white, *Boesveld 6* (BO, type; L, fragm.); *Koorders 17163* ('*R. vertieillatum*', fl. dark red); *Sonder, Warburg 15083*; Mahawu, crater of Rumengan Volcano near Tomohon, *Sarasin 628* (K); path to Ranosui, Kalelonde, *Alston 15800*.

113. **Rhododendron cinerascens** Sleum., *nov. spec.*

Frutex. Ramuli teretes subgraciles, in sicco cinerascens, ad apices tantum sat disperse lepidoti, internodiis 2,5—10 cm longis. Folia 4—6 in



quoque pseudoverticillo, lanceolato-oblonga usque obovato-oblonga, apice breviter obtusiuscule acuminata, rarius subrotundata, basi in petiolum cuneato-angustata, coriacea, in sicco opaca, supra griseo-olivacea vel sordide brunnescentia, subtus brunnescentia, initio utrinque subdense lepidota (lepidibus tenuibus planis margine irregulariter incisis, centro minute impresso), demum supra glabrescentia, subtus  $\pm$  persistenter lepidota, integra, haud revoluta, 4—5,5 cm longa, (1,2—) 1,5—2 (—2,3) cm lata, costa supra leviter impressa, subtus in sicco cinerascens et imprimis inferne crasse elevata, nervis lateralibus 6—8-jugis utrinque vix visibilibus; petioli paullo applanati, supra sulcati, initio lepidoti, 6—10 mm longi, c. 1,3 mm crassi. Umbellae 5—6 (—7)-florae. Perulae ovatae usque obovato-spathulatae, dorso laxe lepidotae superneque sericeae, intus glabrae, margine ciliatae et lepidulis ornatae, usque ad 1,5 cm longae et 0,7 cm latae. Bracteolae filiformes usque subspathulato-lineares, 1—1,5 cm longae et  $\pm$  1 mm latae. Pedicelli subgraciles, dense lepidoti, laxe brevissime pilosi, 9—20 mm longi. Calyx parvulus, valde obliquus, anulum tenuem undulatum irregulariter 5-dentatum praebens, dente uno alterove usque ad 2—4 mm elongate. Corolla hypocrateriformis, tubo cylindrico stricto vel paullo curvato, apicem versus sensim leviter dilatato, (3,7—) 4—5 cm longo, basi c. 2,5, infra lobos 3—3,5 mm diam., extus sat dense lepidoto, epiloso, intus in inferiore tertio tantum laxe pilosulo ceterum glabro, lobis spathulato-obovatis patentibus c. 1 cm longis, 6—7 mm latis, extus  $\pm$  laxe lepidotis, intus glabris. Stamina 10, bene exserta; filamenta filiformia, in inferiore dimidia parte pilosula, superne glabra, 4,5—5,5 cm longa; antherae oblongae, basi obtusae,  $\pm$  2,5 mm longae. Discus apice tantum brevissime pilosus. Ovarium elongato-cylindricum, c. 5 mm longum, 1,2 mm diam., subdense lepidotum et subadpresse pilosulum, sensim in stylum extenuatum; stylus demum 1 cm exsertus, basi ad c. 3 cm lepidotus et subpatenter pilosulus, superne fere usque ad apicem lepidotus; stigma breviter turbinato-capitatum. Fructus deest.

NEW GUINEA. Western part: Wissel Lake region, Upper Ennaro Valley and Puraida ridge, 1755 m, fl. 11-4-1939, *Eyma* 4854 (A, BO, K; L, type; SING).

#### 114. *Rhododendron goodenoughii* Sleum., *nov. spec.*

Frutex. Ramuli validi (3—6 mm diam.), teretes, in partibus vetustioribus pruinosi, glabri, ad apices tantum sparse lepidoti, internodiis 4—10 cm longis. Folia ad pseudoverticillos 4—6-meros disposita, elliptica usque obovato-elliptica, apice brevissime obtuse acuminata, interdum subrotundata, basi in petiolum subalato-attenuata, coriacea, firma, in sicco supra olivaceo- usque saturate brunnea, subtus paullo dilutiora, utrinque opaca, matura supra glabra, subtus laxe aequaliter lepidota (lepidibus parvis, margine irregulariter dentatis vel incisis, centro minuto impressis), integra, basin laminae versus vix revoluta, 7—11 cm longa, 4—6 cm lata, costa supra parum impressa, subtus inferne valde, superne minus crassa, nervis lateralibus 7—9-jugis infimis 2 e basi laminae enascentibus, omnibus costae angulo acuto insidentibus alteque ascendentibus, inferne subrec-

tis, ante marginem curvatis et obscure anastomasantibus, supra leviter impressis, subtus parum elevatis interdum ante marginem  $\pm$  obscuris, reticulatione nulla; petioli appianati, validi, supra sulcati, initio lepidoti, rugosuli, 7—15 longi, 2—3 mm crassi. Umbellae c. 10-florae. Perulae ovatae, subobtusae, exteriores dorso sat dense lepidotae brevissimeque pilosae, intus dense longius adpresse pilosae, apice tantum lepidotae, usque ad 2,5 cm longae et 1,8 cm latae. Bracteolae anguste lineares, subglabrae, usque ad 1,5 cm longae et  $\pm$  0,5 mm latae. Pedicelli subdense lepidoti, epilosi, 3—5 (—7) mm longi,  $\pm$  1 mm crassi. Calyx parvulus, valde obliquus, vix 2,5 mm diam., indistincte lobatus. Corolla hypocrateriformis, in vivo probabiliter albida, tubo cylindrico paullo curvato 4,5—5 (—5,5) cm longo, basi c. 4 mm diam. et bene 5-saccato, orem versus sensim dilatato, infra lobos c. 6 mm diametro, extus inferne subglabro, in superiore parte laxissime lepidoto, intus inferne subdense pilosulo, superne glabrescente, lobis patentibus obovato-subrotundatis, 1,2—1,5 cm longis, 1—1,3 cm latis, extus ad basin laxissime lepidotis ceterum glabris. Stamina 10, corollam longitudine subaequantia; filamenta linearia, in % longitudine inferiore subdense pilosula, superne fere filiformia et glabra; antherae oblongae, 5—6 mm longae, 1 mm latae, thecis basi brevissime apiculato-appendiculatis. Discus subglaber. Ovarium elongato-cylindricum, dense appresse flavido-pilosum, lepidotum (lepidibus in ovario ipso pilis omnino obtectis), 7—8 mm longum, c. 2 mm diam., sensim in stylum sat crassum abiens; stylus  $\pm$  5 cm longus, ad % inferiorem partem dense pilis prorsus versis et lepidibus instructus, ad 1—1,5 cm superiora glaber; stigma crasse obconicum. Capsula deest.

NEW GUINEA. Southeastern part: Mt Goodenough, W.E. Armit anno 1895 (MEL, type).

#### 115 RHODODENDRON CARSTENSENSE Wernh.

*Rhododendron carstense* Wernham in Trans. Linn. Soc. ser. 2 Bot. 9: 96. 1916.

NEW GUINEA. Western part: Ascent to Mt Carstenz, 1675—2040 m, B. Kloss s.n. (BM, type).

#### 116. RHODODENDRON OREADUM Wernh.

*Rhododendron oreadum* Wernham in Trans. Linn. Soc. ser. 2 Bot. 9: 98. 1916.—*R. filamentosum* Wernh., l.e. 97.

NEW GUINEA. Western part: Ascent to Mt Carstenz, 1095—1495 m, B. Kloss s.n. (BM, type of *R. oreadum*); ibid., 1190 m, B. Kloss s.n. (BM, type of *R. filamentosum*).

#### 117. *Rhododendron pneumanthum* Sleum., nov. spec.

*Rhododendron jasminiflorum* (non Hook.) Ridley in J. Str. Br. R. As. Soc. 63: 60. 1912; Merr. in Sarawak Mus. J. 3: 541. 1928.



Frutex epiphyticus Ramuli teretes, ad internodia ultima 2—3 densissime saturate rufo-stellato-lepidoti, in partibus vetustioribus glabrati et rugosuli, internodiis ipsis 2,5—6 (raro usque ad 10) cm long-is. Folia 4—6 in quoque pseudovericillo disposita, elliptico-oblonga vel -obovata, apice subrotundato-obtusa, interdum brevissime emarginata, basi rotundata vel plerumque leviter cordata, subsessilia, coriacea, in sicco rubescenti-brunnea, utrinque sublucida, novella utrinque satis dense stellato-lepidota (lepidibus imprimis subtus toro epidermali minutissimo impositis, paullo cupulato-elevatis, profunde, saepius usque ad centrum minutum incisus, centro ipso haud vel levissime immerso, ± caducis), matura supra glabra, punctis epidermalibus cito evanescentibus, laevia, nitidula, subtus diutius lepidota tactuque rugosula, demum sublaevia, integra, margine paullo revoluta, (4,5—). 5—7,5 (—9) cm longa, (2—) 2,5—4 (—5) cm lata, costa supra bene immersa, subtus inferne valde, superne minus crasse prominente, nervis lateralibus 6—8-jugis utrinque parum visibilibus, reticulatione nulla; petioli dense lepidoti, denique rugosuli, 1—2 (raro usque ad 3) mm longi, 1,5—2 mm crassi. Umbellae (6—) 8—15-florae. Perulae ovatae usque obovato-spathulae, obtusae, dorso laxe lepidotae, usque ad 1 cm longae et 0,7 cm latae. Bracteolae lineares, glabrae, usque ad 1,5 cm longae. Pedicelli subcrassi, dense stellato-lepidoti, ulro laxe pilis brevissimis induti, 1,5—2 cm longi. Calyx minutus, obscure undulatus vel lobulatus, vix 2,5 mm diam. Corolla hypocrateriformis, alba vel rosaceo-lilacino-suffusa, parum odorata, tubo cylindrico recto 3—3,5 cm longo, basi brevissime 5-gibbo et c. 3,5 mm diam., in dimidio inferiore paullo infiato et c. 4,5 mm diam., sub limbo angustato et c. 2,5 mm diam., extus ± dense lepidoto, epiloso, intus in inferiore tertio laxe pilosulo ceterum glabro, lobis patentibus late obovatis 1—1,4 cm longis, 0,6—0,9 cm latis, extus ad basin et medianam disperse lepidotis, intus glabris. Stamina 10, breviter exserta; filamenta linearia, supra basin laxe pilosula, ceterum glabra, c. 3,2—3,7 cm longa; antherae oblongae, truncatae, 2,2—2,5 mm longae. Discus basi glaber, margine superiore breviter pubescens. Ovarium elongato-cylindricum, dense lepidotum et sat dense brevissime patentipilosum, c. 6 mm longum et 1,8 mm diam., gradatim in stylum abiens; stylus in dimidio inferiore sat dense usque laxe lepidotus et pilosulus, ceterum glaber, paullo exsertus, ± 3 cm longus; stigma capitatum. Capsula haud visa.

BORNEO. Sarawak: Upper Baram River, G. Lemakok, c. 35 m (?), *SF* 6868 *Moulton*. B. Lawai, Ulu Limbang, *Moulton* anno 1911 (SAR). Mt Murud, 1900—2400 m, *Mjöberg* 103, 10U. South-East Borneo: W. Kutei, Mt Kemul, c. 1700 m, *Endert* 4522 (A, BO; L, type; SING). B. Batu Mili (c. 114°E, 1°20'N), *Amdjah* 137. B. Batu Ajoh (Ajau), *Jaheri* (*Exp. Nienwenhuis*) 1657.

#### 118. RHODODENDRON SUAVBOLENS Sleum.

*Rhododendron suaveolens* Sleumer in *Bot. Jahrb.* 71: 147. 1940.

BORNEO. North Borneo: Mt Kinabalu, 1220—2135 m, *Clemens* 28037, 31383, 32303, 33673, 33964 bis, 50576 (A; BM, type; E, K).

## 119. RHODODENDRON EDANOI Merr. &amp; Quisumb.

*Rhododendron edanoi* Merrill & Quisumbing in Philip. J. Sc. 83: 333. 1953.

PHILIPPINES. Palawan: Mt Mantalingahan, Brooke's Point, c. 1725 m, P.N.H. 153 Edano (A, type; BM, K, L, PNH).

## 120. RHODODENDRON LORANTHIFLORUM Sleum.

*Rhododendron loranthiflorum* Sleumer in Notizbl. Berl.-Dahl. 12: 485. 1935.

SOLOMON ISL. Bougainville: Koniguru, Buin, 1000 m, Kajewski 2045 (BRI, type; E, fragm.).

## Subsection EUVIREYA Copel. f. (emend.)

*Rhododendron* subsect. *Euvireya* Copeland f. in Philip. J. Sc. 40(2): 137. 1929; Sleum. in Bot. Jahrb. 74: 541. 1949.

TYPE SPECIES.—*R. javanicwm* (Bl.) Benn. (*Vireya javanica* Bl.)

## KEY TO THE SERIES OP SUBSECTION EUVIREYA

1. Leaves very small in general, 0,3—1 (rarely in the same specimen partly up to 1,6) cm long, 0,2—0,6 (rarely up to 0,8) cm wide. New Guinea.
  - Ser. 1. *Linnaeoidea* (spp. 121—131)
1. Leaves all or at least for their greater number (in the same specimen ) exceeding 1,6 cm in length.
  2. Compact dwarf shrub, forming tussocks or mats. (Leaves linear-lanceolate to oblanceolate. Flowers solitary (rarely in twos), the stout pedicel erect, much standing out from the foliage, the flower nodding.) New Guinea.
    - Ser. 2. *Saxifragoidea* (sp. 132)
  2. Erect shrub or treelet.
    3. Leaves linear to narrow-lanceolate, in general (at least partly) not exceeding 7 mm in width.
      4. Leaves 20 or more in each pseudowhorl, 1—1,5 mm wide. Philippines (Luzon).
        - Ser. 3. *Taxifolia* (sp. 133)
      4. Leaves opposite or 3—8 (sometimes up to 15) in each pseudowhorl, 3—7 (rarely up to 11) mm wide. Borneo, New Guinea . . . Ser. 4. *Stenophylla* (spp. 13U—137)
    3. Leaves not linear or narrow-lanceolate, generally much wider.
      5. Stamens 5. Sumatra, Java, Bali . . . . . Ser. 5. *Citrina* (sp. 138)
      5. Stamens (7—)10(—14).
        6. Leaves medium-sized, i.e. 1—4 (sometimes partly in the same specimen up to 6) cm long. Malaysia . . . . . Ser. 6. *Buxifolia* (spp. 139—177)
        6. Leaves larger in general, i.e. all or at least for their greater number in the same specimen longer than 4 cm. Malaysia. Ser. 7. *Javanica* (spp. 178—255)

Series 1. *Linnaeoidea* Sleum., nov. ser.

*Rhododendron* sect. *Linnaeopsis* Schltr in Bot. Jahrb. 55: 144, / 2. 1917 (type] species: *R. linnaeoides* Schltr).—*R.* subsect. *Linnaeopsis* (Schltr) Sleum., I.e. 74: 541. 1949.



Folia minuta, 3—10 (raro pro parte in eodem specimine usque ad 16) mm longa, 2—6 (raro usque ad 8) mm lata. Frutices haud raro enani.

TYPE SPECIES.—*R. anagalliflorum* Wernh. (= *R. linnaeiodes* Schltr).

KEY TO THE SPECIES OP SERIES LINNAEOIDEA

1. Ovary all over densely (predominantly) hairy and less densely lepidote.
2. Style relatively short in anthesis, i.e.  $\pm$  as long as the ovary, glabrous or hairy at the base. Corolla campanulate to broadly funnel-shaped-campanulate, deeply 5-lobed, exclusively lepidote outside. Very slender creeping or decumbent scrublet. New Guinea . . . . . 121. *R. anagalliflorum*
2. Style at least two times as long as the ovary in anthesis, hairy in the lower 2/3 to 3/4 part, glabrous for the rest. Corolla  $\pm$  tubular, laxly lepidote and laxly to subdensely pilose outside. Erect, (sometimes scandent) shrub up to 2 m. New Guinea . . . . . 122. *R. womersleyi*
1. Ovary exclusively and densely lepidote.
3. Style shortly  $\pm$  patently hairy nearly to the top. New Guinea. 123. *R. gracilentmn*
3. Style glabrous or with scales or some subpatent hairs the base.
4. Style in anthesis as long as or shorter than the ovary,  $\pm$  stoutish.
5. Compact dwarf cushion-like shrublet with short, densely foliated branchlets. Corolla 1—1.2 cm long. New Guinea . . . . . 120. *R. caespitosum*
5. Slender erect or creeping shrublets, divaricate, with slender elongate branchlets. Corolla (1.5—) 1.8—2.3 cm long.
6. Leaves opposite or in 3—5(—7)-merous pseudowhorls at the upper 1—3 nodes, entire or nearly so, elliptic or subovate-elliptic,  $\pm$  apiculate. New Guinea. . . . . 125. *R. microphylluni*
6. Leaves alternate, scattered along the upper part of the branchlets, conspicuously crenate or crenulate, ovate to ovate-lanceolate or -elliptic, subacuminate. New Guinea . . . . . 126. *R. pusillum*
4. Style about twice as long as or longer than the ovary,  $\pm$  slender.
7. Leaves opposite or in 3—5(—7)-merous pseudowhorls at the upper 1—3 nodes. Corolla up to 1.8 cm long.
8. Corolla 1.5—1.8 cm long. Leaves narrow-elliptic or elliptic, 5—8 by 4—6 mm, the apex generally subacute. New Guinea . . . . . 127. *R. muscicola*
8. Corolla 1—1.2 cm long. Leaves broad-elliptic or subobovate-elliptic, 6—10(—12) by (3—)4—7(—8) mm, the apex obtuse-rounded. New Guinea. 128. *R. parvulum*
7. Leaves alternate, scattered along the upper part of the branchlets. Corolla 2.2—3 cm long.
9. Leaves 3—6(—7) by 2.5—4 mm, very slightly or not recurved at the margin. New Guinea . . . . . 129. *R. oxycoccoides*
9. Leaves 6—10 by 4—7 mm,  $\pm$  distinctly recurved at the somewhat thickened or cartilagineous margin.
10. Leaves ovate, the apex acuminate, subacute. New Guinea. . . . . ISO. *R. disterigmoides*
10. Leaves ovate-elliptic to ovate-oblong, the apex  $\pm$  obtuse in general, but not rarely shortly apiculate. New Guinea . . . . . 131. *R. coelorum*

## 121. RHODODENDRON ANAGALLIFLORUM Wernh.

*Rhododendron anagalliflorum* Wernham in Trans. Linn. Soc. ser. 2 Bot. 9: 94. 1916.—*R. linnaeoides* Schltr in Bot. Jahrb. 55: 144, / 2. 1917.

NEW GUINEA. Southwestern part: Ascent to Mt Carstensz, Camp V1b, 1190 m, *B. Kloss s.n.* (BM, type of *R. anagalliflorum*). Northeastern part: Upper Sepik R. region, Bivouac 48, *Skultze-Jena 289* (B, f). Schrader Mts, c. 2070 m, *Ledermann 11704* (B, f). Bismarck Mts, c. 2400 m, *Sehlechter 18716* (B, type of *R. linnaeoides*, f; P). Morobe Distr., Mt Saruwaged, 2135—2440 m, *Clemens 5322*. Central part: Wahgi-Sepik Divide, 2440 m, *N.G.F. 7645 Womersley & Millar*. Karap, Jimmi Valley, 1725 m, *N.G.F. 7636 Womersley & Millar*. W. Highlands, Upper Minj R. Valley, Minj-Nona Divide, c. 3410 m, *Pullen 227*; Mt Hagen, S slopes, 3050 m, *Robbins 303*. Southeastern part: Central Distr., ascent to Mt Victoria, main range NW of the "Gap", c. 2440 m, *Carr 15273*; *ibid.*, c. 2745 m, *Carr s.n.*

122. *Rhododendron womersleyi* Sleum., *nov. spec.*

*Rhododendron* aff. *inconspicuum*, Stonor, *Rhodod. Yearb.* 6: 51, f. 52. 1951.

Frutex terrestris parvus usque ad 2 m altus, interdum scandens, ramis erectis sat validis, praecipue apicibus divaricato-ramosis, ramulis gracilioribus c. 1—2 mm diam., teretibus, apicibus ± dense lepidibus brunneis stellatis brevissime stipitatis obtectis, inferne glabrescentibus minutissimeque verrucosis, cito cinerascenti-corticatis. Folia alterna, regulariter apices ramulorum versus sat dense conferta, ovata usque ovato-elliptica, interdum subovato-elliptico-oblonga, apice breviter acuminata, subacuta, basi late attenuata usque rotundata, coriacea, in sicco supra saturate olivacea vel viridia, rugulosa, subtus pallidiora, initio utrinque subdense lepidota, matura supra glabrescentia saepiusque subnitida, subtus persistenter subdense vel laxius lepidota (lepidibus sat magnis, planis, margine irregulariter obtuse stellato-incisis, centro vix impressis), margine lepidibus impresses distincte crenulata, parum vel vix revoluta, 5—8(—10, rarissime usque ad 15 mm longa, 4—6(—7, rarissime usque ad 10) mm lata, plerumque infra medium latissima, costa supra ± distincte impressa, subtus parum prominente, nervis subobscuris; petioli crassiusculi, 1—1.5(—2) mm longi. Flores solitarii vel gemini, rarius terni. Perulae exteriores ovato-acuminatae, breviter subulatae vel apiculatae, interiores angustiores ceterum simillimae, dorso glabrae, margine dense breviter subglanduloso-fimbriatae lepidibusque caducis obsitae, 6—14 mm longae, 3—6(—8) mm latae. Bracteolae filiformes, c. 5 mm longae. Pedicelli crassiusculi, sat dense substipitato-stellato-lepidoti et laxius brevissime papilloso-pilosiusculi, sub anthesi 0.8—1.2(—1.5) cm longi, sub fructu paullo elongati. Calyx parvus, patellaris, patens vel reflexus, c. 2.5 mm diametro, lobis late obtuse deltoideis vix 1 mm longis dorso lepidotis et pilosiusculis. Corolla tubulosa, ad limbum paullo ampliata, saturate rubra vel scarlatina, 2—2.3(—2.6) cm longa, extus ad tubum et loborum basin laxe stellato-lepidota et sparse vel plerumque subdense (certe in inferiore corollae parte) pilosula, intus glabra, tubo subcylindrico 1.3—1.7 cm longo, basi c. 3, infra lobos c. 5 mm diam., lobis 5 erecto-patentibus obovato-subrotundatis 4—5(—6) mm longis



et latis. Stamina 10, tubum corollae paullo superantia, subinaequilonga; filamenta filiformia, glabra; antherae oblongae, c. 1.5 mm longae. Discus prominens, pilosulus. Ovarium subcylindricum, dense patenter breviter albido-pilosum subdenseque lepidotum, c. 4 mm longum, 1.5 mm crassum, sensim in stylum gracilem corollam longitudine aequantem fere ad  $\frac{2}{3}$ — $\frac{3}{4}$  partem inferiorem patenter pilosulum superne glabrum abiens; stigma clavato-subcapitatum, breviter 5-gibbum. Capsula nondum plane matura fusiformis, pilosula, 1.5—2 cm longa, 2—3 mm diam., matura deest.

NEW GUINEA. Eastern part: Central Highlands: Mt Wilhelm, vicinity of Lake Piunde, 3615 m, fl. scarlet, 1-8-1956, *N.G.F. 8871 Womersley* (BRI, K; L, fragm.; LAE, type); *ibid.*, Lake Aunde, 3505 m, fl. crimson, *N.G.F. 8918 Womersley; Hoogland & Pullen 5634*; Mt Wilhelm, 3655—3960 m, *Robbing 1181; Stonor 14*-Hagen Range, 3350—3655 m, *Stonor 6; Robins 337*. Behind Nondugl, Wahgi Valley watershed, *Gilliard s.n.* Goroka Subdistr., Mt Kerigomna, 3550 m, *Hoogland & Pullen 5626*. Morobe Distr., Rawlinson Range, *Clemens 4,1386*; Ulap Trail, *Clemens 41129*.

123. RHODODENDRON GRACILENTUM F. V. M.

*Rhododendron gracilentum* F. von Mueller in *Trans. R. Soc. Viet. N.S.* 1(2) : 22. 1889.

NEW GUINEA. Eastern part: Central Distr., Mt Musgrave, Upper Vanapa Valley, 2240—2745 m, *MacGregor s.n.* (MEL, type). Western Highlands, near Wankl village, c. 5 km SE of Mt Hagen Station, 2150 m, *Hoogland & Pullen 5845*. Morobe Distr., Edie Creek above Wau, 2000 m, *Lam 7747*; *ibid.*, c. 2100 m, *van Roy en 4380; Womersley s.n.; N.G.F. 9529 White*.

124. *Rhododendron caespitosum* Sleum., *nov. spec.*

Fruticulus epiphyticus nanus, vix 10 cm altus, compactus, ramosissimus, pulvinaris, ramis brevibus validis radicantibus, ramulis brevissimis gracilibus in partibus junioribus dense foliatis et substipitato-stellato-lepidotis, ceterum glabrescentibus minuteque verrucosis. Folia alterna vel subopposita, elliptica, apice breviter acuminata, subacuta vel obtusiuscula, basi in petiolum attenuata, coriacea, in sicco supra olivacea, subtus brunnescentia, initio utrinque laxe usque subdense lepidota (lepidibus rufescentibus margine irregulariter stellato-incisis, centro paullo impressis), demum supra glabrescentia, laevia et nitidula, subtus opaca et persistenter lepidota, integra vel margine parum cartilagineo lepidibus impressis subcrenulata, 3—6 mm longa, 2—3 mm lata, costa nervisque obscuris; petioli sat graciles, c. 1 mm longi. Flores solitarii. Perulae ovato-acuminatae, apiculatae dorso glabrae, margine subglanduloso-fimbriatae lepidibusque cito caducis obsitae, usque ad 6 mm longae et 3 mm latae. Bracteolae filiformes, c. 4 mm longae. Pedicelli crassiusculi, dense rufo-substipitato-stellato-lepidoti, epilosi, 5—6 mm longi. Calyx breviter cupulatus, obscure 5-lobatus, densissime lepidotus, c. 2 mm diam. Corolla tubulosa, rosea, 1—1.2 cm longa, extus loborum parte superiore excepta subdense stellato-lepidota, intus glabra, tubo 8—9 mm longo, basi c. 2.5 mm diam., apicem versus parum dilatato, lobis 5 erecto-patentibus

obovato-orbicularibus, 3—4 mm diam. Stamina 10, corollae faucem subaequantia; filamenta filiformia, glabra; antherae late oblongae, 0,5 mm longae. Discus glaber. Ovarium crasse obovoideo-cylindricum, densissime stellato-lepidotum et papillis minutis inter lepidota sitis instructum, c. 3 mm longum, 1,5 mm crassum; stylus abruptus, graciliter columnaris, glaber, c. 2 mm longus; stigma crasse capitatum. Capsula obovoideo-cylindrica, dense stellato-lepidota, matura 8—10 mm longa,  $\pm$  3,5 mm crassa, valvis 5 sat tenuibus haud tortis aperta. Semina utrinque sat breviter caudata, c. 2 mm longa, 0,3 mm lata,

NEW GUINEA. Northern part: Mt Wilhelmina, Habbema Lake, 3225 m camp, forming cushions on trunk of tree-ferns, fls a delicate pink, 8-1938, *Brass* 9039 (A, type; L); *ibid.*, 11 km NE of Wilhelmina top, 3400 m, epiphyte in tree-fern, *Brass* 6 Meijer Drees 9672.

#### 125. RHODODENDRON MICROPHYLLUM J. J. S.

*Rhododendron microphyllum* J. J. Smith in Bull. Jard. Bot. Btzg II, 8: 51. 1912. Nova Guinea 12(2): 131, t. 29c. 1914.—*R. minimifolium* Wernh. in Trans. Linn. Soc. ser. 2 Bot. 9: 98. 1916, p.p.

NEW GUINEA. Southern part: Mt Goliath, 3200 m, *de Kock* 89 (BO, lectotype of *R. microphyllum* in coll. alcohol.; L, fragm.), 135 (BO, no flowers). Mt Carstensz, 2530—3350 m, *B. Kloss s.n.* (BM, the right specimen on the type sheet of *R. minimifolium*). Northern part: Mt Wilhelmina, Lake Habbema, 3225 m, camp, common epiphyte in subalpine forest, fl. pale red, *Brass* 9<sup>86</sup> (A, L).

#### 126. RHODODENDRON PUSILLUM J. J. S.

*Rhododendron pusillum* J. J. Smith in Med. R\jks herb. 25: 1. 1915; Nova Guinea 12(5): 498, t. 193. 1918.—*R. candidapiculatum* Wernh. in Trans. Linn. Soc. ser. 2 Bot. 9: 96. 1916.

NEW GUINEA. Southern part: Mt Carstensz, 3200—3810 m, *B. Kloss s.n.* (BM, type of *R. candidapiculatum*); *ibid.*, c. 3650 m, *Wissel* 171. Oranje Mts, "Meerbivak", 3600 m, *Versteeg (Pulle)* 2499 (BO, type of *R. pusillum*; K, L, U). Northern part: Mt Wilhelmina, N slopes, 3850—3900 m, common on sparsely vegetated faces of sandstone or shallow sandy soil, *Brass & Meijer Drees* 10091, 10093; 2 km E of Wilhelminatop, 3800 m, common dwarfed shrub on exposed sandstone or in shrubby border of subalpine forest, *Brass & Meijer Drees* 10120, 10121; 7 km NE of Wilhelminatop, 3850 m, *Brass & Meijer Drees* 9917.

#### 127. RHODODENDRON MUSCICOLA J. J. S.

*Rhododendron muscicola* J. J. Smith in Nova Guinea 18: 93, t. 19, 1. 1936.

NEW GUINEA. Northern part: Nassau Mts, W side, 2600 m, *Docters van Leeuwen* 10907 (BO, type; L).



128. ***Rhododendron parvulum*** Sleum., *nov. spec.*

Fruticulus debilis, parvus, ramulis tantum cognitis, gracilibus, 0,6—1 mm diam., in partibus superioribus saturate rufo-substipitato-stellato-lepidotis, inferne glabrescentibus, minute tuberculatis tactuque asperis; internodia 1,2—4 cm longa. Folia ad nodos 2—3 ultimos in pseudoverticillis 3—4-meris digesta vel opposita, late elliptica usque subobovato-elliptica, apice rotundato-obtusa, basi latissime attenuata vel rotundata, coriacea, in sicco supra rugulosa et saturate olivaceo-viridia, subtus brunnea, novella utrinque laxe vel subdense lepidota (lepidibus irregulariter stellato-laceratis, planis, subtus tantum paullo impressis), supra cito glabrescentia, subtus diutius lepidota, utrinque opaca, margine dilutiore paullo incrassata vel cartilaginea, integra vel lepidibus impressis subcrenulata, 6—10(—12) mm longa, (3—)4—7(—8) mm lata, evenia; petioli sat graciles, lepidoti, c. 1 mm longi. Flores singuli vel bini. Perulae anguste ovato-acuminatae, dorso manifeste apresse subdense pilosulae, margine glanduloso-fimbriatae initioque lepidibus (cito caducis) obsitae, usque ad 6 mm longae et 2,5 mm latae. Bracteolae haud visae. Pedicelli gracillimi, dense lepidis substipitatis profunde stellatis pilisque gracillimis brevissimis subpatentibus ornati, sub anthesi 7—10 mm longi. Calyx patellaris, c. 2 mm diametro, profunde obtuse 5-lobus, dorso lepidotus. Corolla tubulosa, colore haud cognita, tota 1—1,2 cm longa, extus loborum parte superiore excepta subdense stellato-lepidota, intus glabra, tubo c. 8 mm longo, basi 2,5, infra lobos usque ad 3,5 mm diam., lobis subpatentibus suborbicularibus c. 4 mm diam. Stamina 10, inaequilonga, longissima circa dimidium corollae loborum aequantia; filamenta filiformia, glabra; antherae obovatae, vix 1 mm longae. Discus glaber. Ovarium obconico-cylindricum, densissime stellato-lepidotum, c. 2 mm longum, 1,2 mm diam., sensim in stylum subgracilem c. 3,5 mm longum abiens, stigmatate clavato-subcapitato. Cetera ignota.

NEW GUINEA. Western part: Wissel Lake region, slope and summit of Moetaro, 9-1939, *Eyma 5203* (BO, type; L, fragm.).

129. ***Rhododendron oxycoccoides*** Sleum., *nov. spec.*

Fruticulus epiphyticus, ramulis valde divaricatis gracillimis 0,5—1 mm diam., innovationibus dense rufo-stellato-lepidotis, partibus vetustioribus cito glabratis laevibus. Folia alterna, ad ramulos ultimos laxe disposita, ovata, apice breviter acuminata, subacuta vel obtusiuscula, basi late rotundata, coriacea vel subcoriacea, supra in sicco olivacea, nitidula, subtus brunnescentia, initio utrinque lepidota, supra cito glabrescentia, subtus diutius laxe lepidota (lepidibus irregulariter stellato-incisis planis, haud vel vix immersis), integra, margine subincrassata haud vel paullo recurva, 3—6(—7) mm longa, 2,5—4 lata, evenia; petioli sat graciles, 0,5—1 mm longi. Flores singuli. Perulae membranaceae, ovato-lanceolatae, interiores longe subulato-acuminatae, omnino glabrae et lucidae, usque ad 1,5 cm longae et 5 mm latae. Bracteolae haud visae, Pedicelli

subgraciles, 4—6 mm longi, dense stellato-lepidoti. Calyx patellaris, limbo brevissimo undulato, extus lepidoto, c. 2,5 mm diam. Corolla tubulosa, paullo zygomorpha, rosacea, tenera, tota 2,5—2,7 cm longa, extus intusque glabra, tubo 1,8—2 cm longo, basi c. 3, infra lobos c. 5 mm diam., lobis 5 suborbicularibus erecto-patentibus 5—7 mm diametro. Stamina 10, inaequilonga, longissima medium loborum corollae longitudine attingentia; filamenta linearia, glabra; antherae subquadratae, 1—1,2 mm diam. Discus prominens, glaber. Ovarium subcylindricum, dense lepidotum, 3,5 mm longum, 2 mm diam., sensim in stylum subgracilem c. 1,4 cm longum glabrum abiens; stigma capitatum. Capsula ignota.

NEW GUINEA. Northern part: 18 km of Bernhard Camp, Idenburg R., 2100 m, in stunted mossy forest on an exposed summit, fl. pink, 1-1939, Brass 1218k (A, type).

### 130. *Rhododendron disterigmoides* Sleum., *nov. spec.*

Frutex terrestris 30—80 cm altus, ramis erectis crassis, ramulis subcrassis rigidis 1,5—2 mm diam., apicibus tantum lepidibus substipitatis stellatis rufidulis indutis, ceterum glabris, vix rugosulis, cito griseo-corticatis. Folia alterna, subdense secus ramulos ultimos congregata, ovata, apice acuminata, obtusiuscule apiculata, basi rotundata, crasse rigida, in sicco supra olivaceo-viridia, opaca, laevia, maturitate glabra, subtus dilute castanea et persistenter laxe lepidota (lepidulis sat parvis, irregulariter stellato-incisis, planis, vix impressis), margine incrassato dilutiore bene revoluta lepidibusque impressis levissime crenulata, 6—10 mm longa, 4—6 mm lata, costa subtus obtuse prominente, supra sicut nervi obsoleta; petioli crassiusculi,  $\pm$  1 mm longi. Umbellae 2—4-florae. Perulae et bracteolae haud visae. Pedicelli sat graciles, dense substipitato-stellato-lepidoti, epilosi, 8—12 mm longi. Calyx brevissime cupularis, breviter obtuse 5-lobus, dorso dense lepidotus, c. 2,5 mm diam. Corolla tubulosa, saturate rubra, tota 2,2—2,3 cm longa, extus in tubo laxe usque subdense stellato-lepidota, intus glabra, tubo  $\pm$  1,7 cm longo, basi c. 4, infra lobos 6—7 mm diam. Stamina 10, inaequilonga, corollam subaequantia usque paullo exserta; filamenta linearia, glabra; antherae late obovato-oblongae, c. 1,8 mm longae, 1 mm latae. Discus glaber. Ovarium subconico-cylindricum, densissime lepidotum, 4—5 mm longum, 2 mm crassum, sensim in stylum subcrassum columnarem glabrum 8—9 mm longum abiens; stigma subclavato-capitatum. Capsula deest.

NEW GUINEA. Northern part: Mt Wilhelmina, Lake Habbema, 3225 m camp, common in shrubberies on peaty ridges, fls deep red, 8-1938, Brass 9022 (A, type).

### 131. *RHODODENDRON COELORUM* Wernh.

*Rhododendron coelorum* Wernham in Trans. Linn. Soc. ser. 2 Bot. 9: 96. 1916.

NEW GUINEA. Southern part: Mt Carstensz, 3200—3810 m, *B. Kioss s.n.* (BM, type).



Series 2. Saxifragoidea Sleum., *nov. ser.*

Frutex compactus, pulvinaris, densissime foliatus. Folia lineari-lanceolata vel oblanceolata. Flores solitarii (rarius bini), ab apice pedicelli validi erecti elongati nutantes.

TYPE SPECIES.—*R. saxifragoides* J. J. S.

## 132. RHODODENDRON SAXIFRAGOIDES J. J. S.

*Rhododendron saxifragoides* J. J. Smith in Med. Rijksherb. 25: 3. 1915; in Nova Guinea 12(5) : 503. 1917; *I.e. t.* 198. 1918.—*R. fuchsoides* aff., Stonor in Rhodod. Yearb. 6: 51, / . 51. 1951.

NEW GUINEA. Southwestern part: Oranje Mts, Watervalbivak, 3400—3500 m, *Pulle (Versteeg)* 2475 (BO, K; L, type; U). Mt Carstenz, Dajakweide, 3700—4000 m, *Wisse!* 89. Northwestern part: 2 km E of Wilhelminatop, 3800 m, *Brass & Meijer Drees* 10184; 11 km NE of Wilhelminatop, 3400 m, *Cross & Meyer Drees* 9748; Lake Habbema, 3225 m camp, *Brass* 9565, 9566, 21106. Northeastern part: Mt Hagen, 3655 m, *Stonor* 1; Mt Giluwe, Central Highlands, c. 23 miles SW of Mt Hagen, 3350—3960 m, *Semple & Rayner s.n.*; *Shaw Mayer s.n.*

Series 3. Taxifolia Sleum., *nov. ser.*

Folia linearia, 1—1.5 mm lata, in pseudoverticillis densis c. 20-meris digesta. (Stylus columnaris, c. 5 mm longus).

TYPE SPECIES.—*R. taxifolium* Merr.

## 133. RHODODENDRON TAXIFOLIUM Merr.

*Rhododendron taxifolium* Merrill in Philip. J. Sc. 30: 419. 1926; Copel. f., *I.e.* 40: 156, pi. 6. 1929.

PHILIPPINES. Luzon: Benguet, Mt Pulog, c. 2700 m, *B.S. U880 Ramos & Edaño* (A, BM; E, type fragm.; K, P; PNH, type, f); *Clemens* 15763.

Series 4. Stenophylla Sleum., *nov. ser.*

*Rhododendron* sect. *Zygomorphanthe* Schltr in Bot. Jahrb. 5<sup>1</sup>): 145. 1918, *p.p.*

Folia linearia vel anguste lanceolata, opposita vel in pseudoverticillis 3—8 (interdum usque ad 15)-meris digesta, 3—7 (raro usque ad 11) mm lata, (certe 1.3 cm longa, plerumque multo longiora).

TYPE SPECIES.—*R. stenophyllum* Hook. f.

## KEY TO THE SPECIES OF SERIES STENOPHYLLA

1. Ovary densely whitish-tomentellous, the hairs covering the small scales. Borneo.
  134. *R. stenophyllum*
1. Ovary densely and exclusively lepidote.
  2. Leaves (1.3—)1.6—2 cm long. New Guinea . . . . . 135. *R. myrsinites*
  2. Leaves exceeding 2.7 cm in length.
    3. Leaves 1.5—3 mm wide. New Guinea . . . . . 136. *R. subulosum*
    3. Leaves 4—7(—11) mm wide. New Guinea . . . . . 137. *R. purpureiflorum*

## 134. RHODODENDRON STENOPHYLLUM Hook. f.

*Rhododendron stenophyllum* Hooker f. ex Beccari, *Malesia* 1: 203 in obs., *nom. nud.* 1878; Burbidge, *The Gardens of the Sun*. 274, fig. 1880, *descr. abbrev.* (fig. repr.: *The Garden* 18: 546. 1880); Stapf in *Trans. Linn. Soc. Bot. ser. 2*, 4: 196. 1894; Gibbs in *J. Linn. Soc. Bot.* 42: 104. 1914; Millais, *Rhodod.* 248. 1917; Merr., *En. Born.* 463. 1921; J.J.S. in *Bull. Jard. Bot. Btzg III*, 13: 452. 1935, *inch* var. *angustifolium* J.J.S., *I.e.*, *nee* *R. stenophyllum* Makino 1910.

BORNEO. North Borneo: Mt Kinabalu, 1525—2440(—3350) m, *Low s.n.* (K, type of *R. stenophyllum*); *Burbidge s.n.*; *Haviland 1104*; *fGibbs 4148, 4235*; *Haslam s.n.*; *Clemens 1052b, 11000* (cit. Merrill, not seen), 27099, 27881, 28911, 32868, 35068, 50000, 50945; *SF 18160 Enriquez*; *Griswold 121*; *SF 27456 Carr*; *Holtum s.n.*; *KEP 71636, 80378 Wyatt Smith*; *Sinclair 9049, 9072*; *Jacobs 5785*. Central part: B. Batu Tiban, 1700 m, *Mjoberg 47*. Central Eastern part: W. Kutei, Mt Kemul, summit, 1850 m, *Endert 3990* (A; BO, lectotype of *R. stenophyllum* var. *angustifolium*; K, L, SING).

135. *Rhododendron myrsinites* Sleum., *nov. spec.*

Frutex epiphyticus c. 0,5 m altus, ramis gracilibus 2—3 mm diam. Ramuli gracillimi, vix 1 mm diam., subdense substellato-lepidoti; internodia 2—4 (—5) cm longa. Folia ad nodos 2 vel 3 ultimos in pseudoverticillis 3—5-meris vel in superiore internodiorum tertio digesta, lanceolata, apice breviter acuminata et plicata, minute apiculata, basi late in petiolum attenuata, coriacea, in sicco supra olivacea et nitentia, subtus brunnescentia et ± opaca, initio utrinque laxe lepidota, maturitate supra glabrata, subtus persistenter lepidota (lepidibus in zona marginali varie incisis vel lobulatis, substellatis, centro minuto subimpressis), in margine lepidibus aliquot impressis subcrenulata, parum revoluta, (1,3—) 1,6—2 cm longa, 3—4 mm lata, costa supra parum impressa, subtus bene elevata, nervis obsoletis; petioli graciles, lepidoti, c. 2 mm longi. Flores solitarii vel lobulatis, substellatis, centro minuto subimpressis), in margin lepidibus aliquot impressis subcrenulata, parum revoluta, (1,3—) 1,6—2 cm longae et 0,6 cm latae. Bracteolae haud visae. Pedicelli graciles, dense rufo-stellato-lepidoti, ± 1,8 cm longi. Calyx valde obliquus, discoideus, obscure lobulatus, c. 2 mm diam. Corolla tubulosa, carnosula, rubra, extus intusque omnino glabra, ± 3,5 cm longa, tubo paullo curvato 2,5 cm longo, basi saccato et c. 4 mm diametro, infra lobos usque ad c. 8 mm diam. dilatato, lobis 5 erecto-patentibus, late obovatis, 8—9 mm longis, 5—6 mm latis. Stamina 10, inaequalia, longissima corollae tubum paullo superantia; filamenta linearia, glabra; antherae obovatae, 1—1,3 mm longae. Discus glaber. Ovarium subcylindrico-fusifforme, densissime lepidotum, epilosum c. 6 mm longum, 2 mm diam., sensim in stylum attenuatum. Stylus subgracilis, basi ipsa lepidotus, ceterum glaber, ± 1,4 cm longus; stigma capitatum. Capsula deest.

NEW GUINEA. Northwestern part: 18 km SW of Bernhard Camp, Idenburg R., on tall trees in mossy forest at 2150 m, fl. 2-1939, *Brass 12630* (A, type).



136. *Rhododendron subulosum* Sleum., *nov. spec.*

*Rhododendron subulosum* J. J. Smith *ex* Lam, *Fragm. Papuan.*, *Nat. Tijd. N.I.* 89: 388. 1929, *worn. nud.*

Fruticulus debilis epiphyticus, 2—30 cm altus, trunco gracillimo c. 3 mm tantum diam., pauce divaricate, radicibus valde incrassatis c. 5 mm diam. Ramuli inferne glabri, superne ad apices vel secus internodium ultimum subdense lepidibus stellatis et breviter stipitatis cito caducis induti resp. verruculosi, tarde glabrescentes, 1—1,5 mm diam.; internodia 1—4 cm longa. Folia in pseudoverticillis 3—5-meris ad nodos ultimos 1 vel 2 disposita, linearia, apice acuta vel subacuta, basi in petiolum angustata, coriacea, in vivo supra saturate viridia et lucidula, subtus pallidiora, in sicco saturate olivaceo-brunnea, ± subopaca, matura supra glabra, subtus laxe lepidota (lepidibus in zona marginali varie angulatis vel obtuse stellato-dentatis, centro multo saturatiore haud vel vix immersis), margine integra et leviter revoluta (3,5—) 4—8 cm longa, 1,5—3 mm lata, costa supra ± distincte impressa, subtus valde prominente, in vivo rubra, nervis lateralibus nullis; petioli sat graciles, subteretes, in vivo rubri, in sicco quam lamina obscuriores, 2—4 mm longi, c. 0,5 mm crassi. Umbellae 1—3-florae. Perulae exteriores subulatae, interiores anguste ovato-subulatae, intimae ovatae, in superiore dimidio abrupte subulato-acuminatae, acutissimae, dorso glabrae, in sicco rubescentes, usque ad 2 cm longae et 5 mm latae. Bracteolae haud visae. Pedicelli graciles, densissime stellato-lepidoti, epilosi, 5—7 mm longi. Calyx oblique discoideus, margine membranaceus et brevissime 5-dentatus, dorso lepidotus, c. 2 mm diam. Corolla tubulosa, colore haud cognita, probabiliter rubra, tota c. 1,5 cm longa, extus intusque glabra, tubo c. 1 cm longo, 2—3 mm diam., apicem versus vix dilatato, lobis late obovato-suborbiculatis ± 4 mm diam. Stamina 10, 1,4—1,6 cm longa; filamenta filiformia, glabra, in vivo rubra; antherae subglobosae, in vivo rubrae, c. 1,5 mm diam. Discus prominens glaber. Ovarium subcylindricum, densissime substellato-lepidotum, c. 3 mm longum, 1,3 mm diam., cum stylo abruptum; stylus subgracilis, glaber, 5—6 mm longus; stigma clavatum. Capsula valde aperta c. 1,5 cm longa, c. 4 cm diam., valvis reflexis et tortis. Semina angustissima utrinque appendiculata, tota 2—3 mm longa. Pedicellus fructiferus c. 1,7 cm longus.

NEW GUINEA. Northwestern part: Doormantop, c. 1450 m, fl. 5-11-1920, *Lam 1906* (BO, type; L).

## 137. RHODODENDRON PURPUREIFLORUM J. J. S.

*Rhododendron purpureiflorum*, J. J. Smith *in* *Med. Rijksherb.* 25: 3. 1915; *in* *Nova Guinea* 12(5): 502. 1917; *I.e. t.* 197. 1918.—*R. podocarpoides* Schltr *in* *Bot. Jahrb.* 55: 149. 1918.

NEW GUINEA. Southwestern part: Perameles Mts, 1100 m, *Pulle 563* (BO, type of *R. purpureiflorum*; L). Northwestern part: 18 km SW of Bernhard Camp, Idenburg R., 2150 m, *Brass 12667* (A). Northeastern part: Schrader Mts, c. 2070 m, *Ledermann 11859* (B, type of *R. podocarpoides*, f).

The position of *R. podocarpoides* as a synonym of *R. purpureiflorum* is somewhat uncertain, as the holotype specimen of *R. podocarpoides* is lost and no isotype seems to exist. Schlechter compared *R. podocarpoides* with *R. nerifolium* Schltr and *R. rarum* Schltr. both of which certainly belong to the subsect. *Phaeovireya*. The combination of characters, however, given in the rather short description of *R. podocarpoides*, is not found in subsect. *Phaeovireya*, but is practically identical with that of *R. purpureiflorum* J. J. S. In the key Schlechter mentions „roundish scales on the corolla" for *R. podocarpoides*, which, although pointing to subsect. *Pseudovireya*, are not in a direct contradiction to subsect. *Euvireya*. The latter is mainly based on the  $\pm$  stellate type of the scales on the under-surface of the leaves, but shows in several species, which certainly belong to it by the scales of their leaves, less stellate or almost roundish scales on the corolla and especially on the ovary. Unfortunately the type of the scales on the leaves of *R. podocarpoides* has not been described.

#### Series 5. Citrina Sleum., nov. ser.

Series monotypica, staminibus constanter 5 ab omnibus seriebus subsect. *Euvireya* distincta.

TYPE SPECIES.—*R. citrinum* (Hassk.) Hassk.

#### 138. RHODODENDRON CITRINUM (Hassk.) Hassk.

*Rhododendron citrinum* (Hassk.) Hasskarl, Cat. Hort. Bog. 161. 1844; Moritzi, Syst. Verz. Zoll. 42. 1846; Walp., Rep. 6: 420. 1847; Hook., Bot. Mag. t. A797. 1854; Zoll., Syst. Verz. 2: 137. 1854; Planch., Fl. Serves 10: 5, t. 97<X. 1854—55; Walp., Ann. 5: 452. 1858; Miq., Fl. Ind. Bat. 2: 1058. 1859; Ann. Mus. Bot. Lugd.-Bat. 1: 43. 1863, incl. var. *jj albiflora* Miq., *I.e.*; Koord. in Teysmannia 10: 450. 1899; Fl. Java 3: 4. 1912; Koord.-Schum., Syst. Verz. 1, 1: *jam.* 233, p. 106. 1914; J.J.S. in K. & V., Bijdr. 13: 94. 1914; Koord., Fl. Tjibod. *jam.* 233, p. 3. 1918; Steen. in Bull. Jard. Bot. Btzg III, 17: 387, 388. 1948; Amshoff in Backer, Bekn. Fl. Java (em. ed.) 7 B: *jam.* 162, p. i. 1948.—*Azalea citrina* Hassk., Flora 25(2): Beibl. p. 30. 1842; O. Ktze, Rev. Gen. 2: 387. 1891.—ft. *zippelii* Bl., Fl. Jav. PL inèd. t. 4- 1863—83.—*R. jasminiflorum* (non Hook.) Koord., Junghuhn Gedenk. 184. 1910, *ef.* Hallier f. in Med. Rijksherb. 1: 35. 1910.

#### KEY TO THE VARIETIES

1. Corolla exclusively lemon to yellowish-white. Ovary lepidote at the base. W. Java, Bali. . . . . 138a. *R. citrinum* var. *citrinum*
1. Corolla in general orange to bright scarlet, very rarely light lemon yellow. Ovary **not** rarely completely and for a long time covered with scales. Sumatra. . . . . 138b. *R. citrinum* var. *discoloratum*



## 138a. var. CITRINUM

Java. Preanger: G. Gedeh, 2135—2300 m, *Sapei* 246; *Hallier* 488, 586; *Zollinger s.n.* (*R. 'album'*); *ibid.*, Tjibureum, 1450—1800 m, *Hasskarl s.n.* (type of *Azalea citrina*, not preserved); *Holten s.n.*; *Dosters van Leeuwen* 8245 (BO, neotype of *R. citrinum*); *van Steenis* 11716, 12238. Tjibodas region, 1900—2400 m, *Koorders* 25978, 25999, 31895; *Sapei* 2807; *Lbrzing* 1969. G. Salak, 1830—2100 m, *Zollinger II* 239; *van Steenis* 1238f). Megamendung, *Zippel s.n.* (*Vireya pentandra* Zipp. in sched., L, type of *R. zippelii*). G. Galunggung, crater, *Pl. Junghuhn*. 81 (*R. 'jasminiflorum'*). G. Patuha, c. 2200 m, *Coert* 599. G. Gadjah (Salak), 1800 m, *Bakhuizen van den Drink* 572, 4163. Between Rarahan and top Gegerbintang, 1500—2000 m, *van Steenis* 2087, 11685. G. Masigit, 2050 m, *Backer* 12390, Tangkuban Prah, *Backer* 34127; *Horsfield s.n.* G. Prut (Gegerbintang-Pangrango), 2200 m, *van Steenis* 5024. G. Pangrango, 2900 m, *Engler* 4999 (cit. Koord., not seen). G. Malabar, 2000 m, *van der Fiji* 905.

BALI. G. Abang, 1600—1800 m, *van Steenis* 8033.

Reported from Central Java by **Backer (1948)** and **van Steenis (1948)**, and possibly found on G. Dieng, but no specimen seen.

138b. var. **discoloratum** Sleum., *nov. var.*

*Rhododendron citrinum* (non Hassk. s. sir.) Miq., Fl. Ind. Bat. Suppl. 1 : 251, 586. 1860; *Ridl. in J. Fed. Mai. St. Mus.* 8: 58. 1917; *Sp. Moore in 3. Bot.* 63: Suppl. 57. 1925.—*R. multicolor* (non Miq.) *Sp. Moore, I.e.*—*R. magniflorum* Forbes, *Wand.* 208. 1885, in text, *nom. nnd.*

Corolla extus laxe usque subdense lepidota, aurantiaco-rubra usque intense scarlatina, rarissime dilute flavida. Ovarium haud raro omnino vel diutius lepidibus obtectum.

SUMATRA. Atjeh: Gajo-Alas country, Pang-Mog, 2200 m, *Fairchild* 115 (flowers bright yellow). West Coast: G. Singalang, 2000—2135 m, *Beccari s.n.*; *Leefmans* 42; *Matthew s.n.* G. Sago near Pajakumbuh, summit region, 1800—2000 m, *Meyer* 4871 (BM; L, type; SING). G. Talang, near Solok, c. 1220 m, *Teysmann H.B.* 783; *ibid.*, Laras Talang, 2500 m, *Bunnemeyer* 5506 a. Mt Tandikat, N of Kandang Empat, 1700—2400 m, *Meijer* 3938. Mt Kerintji, 2000—2225 m, *Meijer* 6187 (flowers light yellow); *Robinson & Kloss* 211. Mt Tudjuh, Kerintji region, 2000—2200 m, crater ridge, *Meijer* 6544- Palembang: G. Dempo, 2255 m, *Forbes* 2375 (*R. multicolor*' resp. *R. magniflorum*'). Lampung: G. Tanggamus, 1800—2100 m, *Lief thick* 17; *Forbes* 1877, 1882b. G. Pesagi, 2135 m, *Forbes* 2043 (*R. multicolor*').

Series 6. **Buxifolia** Sleum., *nov. ser.*

*Rhododendron* subsect. *Malesia* Copel. f. in *Philip. J. Sc.* 40(2) : 136, 151. 1929 (based on *R. bagobonum* Copel. f.).—*R.* subsect. *Linearanthera* Copel. f., *I.e.* 136, 152 (based on *R. vidalii* Rolfe).—*R.* subsect. *Astrovireya* Sleum. in *Bot. Jahrb.* 74: 539. 1949 (based on *R. commonac* Foerst.).—*R.* sect. *Zygomorphanthe* Schltr., *I.e.* 55: 143. 1918, *p.p.*

Folia mediocria, (0,6—) 1—4 (raro p.p. in eodem specimine usque ad 6) cm longa, (0,4—) 1—2 (raro p.p. in eodem specimine usque ad 2,8) cm lata, forma varia, sed haud linearia vel anguste lanceolata.

TYPE SPECIES.—*R. buxifolium* Low ex Hook. f.

KEY TO THE SPECIES OP SERIES BUXIFOLIA

1. Ovary hairy and lepidote to various degree (the scales sometimes sparse or ± covered by or hidden in the Jiairs).
2. Filaments manifestly ± patently hairy at least in the lower third.
3. Corolla broadly tubular-campanulate (the tube straight, ± equally wide), the lobes erect, equalling 1/4—1/5 of the total length of the corolla. (Leaves obovate-lanceolate, (1,6—)2—3,5 by (0,4—)0,5—0,7(—0,8) cm.). Sumatra.
  139. *R. frey-wysslingii*
3. Corolla open-campanulate, funnel-shaped or tubular (the tube often ± curved and widened towards the lobes), the lobes erect or expanded, equalling 1/4—1/2 of the total length of the corolla.
4. Corolla open campanulate. Sumatra . . . . . *HO. R. pubigermen*
4. Corolla ± elongate, funnel-shaped, tubular-funnel-shaped or tubular(-zygomorphous).
5. Umbels 7—9-flowered. New Guinea . . . . . *HI. R. psanvmogenes*
5. Umbels 2(—3, rarely up to 4)-flowered, or reduced to a solitary flower.
6. Style hairy at least in the lower third.
  7. Anthers elongate-oblong (± 3 by 1 mm). Philippines (Luzon). *US. R. vidalii*
  7. Anthers broad-oblong to obovate.
  8. Anthers 2—2,5(—3,5) by c. 1,5 mm, small-leafed form of
    - 2U7-*R. culminicolum*
  8. Anthers 1,5—2 by c. 1 mm.
  9. Leaves obovate-oblong to obovate. Pedicels lepidote and very shortly and sparsely pubescent. Waigeo . . . . . *H3. R. cornu-bovis*
  9. Leaves ovate-elliptic, elliptic or obovate-elliptic. Pedicels lepidote and densely pilose to subvillous. New Guinea . . . . . *HI- R. hatamense*
6. Style pilose at the base only (up to 1/6 of its total length), or mostly entirely glabrous.
10. Style as long as the ovary.
11. Umbels 2—3-flowered. Leaves 3—4,5 by 1—2 cm. Borneo.
  - H.5. *R. plane costalum*
11. Flowers solitary. Leaves 1,5—2,3(—2,7) by 0,5—0,8(—1) cm. Borneo, Philippines (Mindanao). . . . . *H6. R. bagobonum*
10. Style distinctly longer than the ovary.
12. Leaves (ovate-) lanceolate, apex gradually long-acuminate, subcoriaceous (entire, 2,5—5,5(—6) by 0,7—1,8(—2) cm). Flowers yellow. Borneo.
  - \*. *H7. R. nienwenhuisii*
12. Leaves elliptic to obovate, apex broad-attenuate, subacuminate to rounded, coriaceous and rigid. Flowers red.
13. Umbels (2—)3—4-flowered. Anthers glabrous dorsally.
14. Leaves quite entire. Small-leafed form of . . . . . *2A7. R. culminicolum*
14. Leaves crenulate.



- IB. Leaves 1—1,8 by 0,7—1 cm. Celebes . . . 148. *R. pseudobuxifolium*
15. Leaves 2—3,5 by 0,8—1,4 cm. New Guinea . . . . . U9. *R. stonori*
13. Inflorescence 1—2-flowered. Anthers  $\pm$  densely hairy dorsally. Leaves entire.
16. Corolla laxly lepidote, but pilose, or glabrous outside. Malay Peninsula.  
150a. *R. pauciflorum* var. *pauciflorum*
16. Corolla laxly lepidote and pilose outside. Malay Peninsula.  
150b. *R. pauciflorum* var. *calocodon*
2. Filaments glabrous or practically so.
17. Style hairy at least in its lower 1/3, mostly so to or nearly to the top.
18. Corolla (2—)2,5(—2,8) cm long. Branehlets verruculose.
19. Leaves thick-coriaceous, rigid, apex  $\pm$  rounded, a terminal gland not visible, nerves  $\pm$  distinctly prominent beneath in fully mature leaves. Corolla red. New Guinea . . . . . 151. *R. vitis-idaea*
19. Leaves thin-coriaceous, apex mostly acuminate, rarely rounded, the terminal gland mostly forming an outstanding apiculus, nerves subinconspicuous. Corolla white, the mouth pink. New Guinea . . . . . 152. *R. rhodostomum*
18. Corolla 3,5—4 cm long in all (red). Branehlets smooth. New Guinea.  
153. *R. acrocline*
17. Style hairy at the base only (up to 1/6 of its total length), or quite glabrous. .
20. Calyx lobes short, up to 1 mm.
21. Corolla practically glabrous outside.
22. Umbels 3—4-flowered. Leaves 2,5—3,5(—4) by 1,2—1,8(—2) cm. Petiole flattened, thick, 1,5—3 by 1—1,5 mm. Celebes. . . . . 154. *R. alternans*
22. Flowers solitary. Leaves (2—)2,2—3 by (0,7—)0,8—1 cm. Petiole subterete, 3—4(—5) by c. 0,8 mm. Celebes. . . . . 155. *R. leptomorphum*
21. Corolla subdensely lepidote outside. New Guinea . . . . . 156. *R. helodea*
20. Calyx lobes narrow-deltoid to subulate, acute,  $\pm$  2—5 mm. (Corolla laxly to densely lepidote outside).
23. Leaves entire or faintly crenulate, 1,5—2,5(—3) by 0,8—1,5 cm. Corolla 1,5—1,8(—2) cm long in all. New Guinea . . . . . 157. *R. nitena*
23. Leaves manifestly crenulate, 2—3,5(—4,3) by (1—)1,2—2 cm. Corolla  $\pm$  3 cm. New Guinea . . . . . 158. *R. commonae*
1. Ovary exclusively lepidote (but hairs may be present on the style).
24. Style hairy to various degree (not lepidote).
25. Style patent-hairy per c. 2 mm above the base. Leaves obovate, 1,2—1,8 by (0,5—)0,7—1,1(—1,3) cm. Filaments glabrous. New Guinea . . . . . 159. *R. papuanum*
25. Style with a ring of short patent hairs at its very base. Leaves oblong-obovate, 2,3—3,5 by 0,7—1,2 cm. Filaments pubescent at the base. Sumatra.  
162c. *R. ripleyi* var. *basitrichum*
24. Style exclusively lepidote up to the middle, or mostly quite glabrous.
26. Filaments laxly to subdensely and  $\pm$  patently hairy or at least papillose-puberulous below.
27. Corolla (tubular-funnel-shaped) yellowish-white, rather densely whitish-pilose at the tube inside. Philippines (Palawan) . . . . . 160. *R. acrophilum*
27. Corolla rose-red to scarlet, glabrous inside.
28. Corolla up to 3 cm long.

29. Corolla  $\pm$  open campanulate, c. 2 cm. Leaves oblanceolate, slightly notched at the apex, no terminal gland present. (Disk glabrous). Sumatra. . . . . 161. *R. banghamiorum*
29. Corolla funnel-shaped-campanulate, 2,5—3 cm. Leaves oblong-obovate or oblong-elliptic, rarely elliptic or subobovate-elliptic, bluntish at the apex, ending in a terminal gland, or apiculate by that gland, when the latter protrudes beyond the leaf margin.
30. Disk hairy at the upper margin. (Filaments  $\pm$  densely hairy below). Scales of a rather light colour. Sumatra. . . . . 162a. *R. ripleyi* var. *ripleyi*
30. Disk quite glabrous. (Filaments but sparsely hairy below). Scales of a dark chestnut colour. Sumatra. . . . . 162b. *R. ripleyi* var. *cryptoyonium*
28. Corolla 5—5,5 cm long (subfunnel-shaped-tubular). New Guinea, . . . . . 163. *R. alticum*
26. Filaments completely glabrous.
31. Corolla campanulate. Leaves oblanceolate,  $\pm$  distinctly revolute. Sumatra. . . . . 164. *R. pyrrophorum*
31. Corolla tubular or funnel-shaped. Leaves of other form, not or but slightly or very shortly revolute.
32. Style  $\pm$  as long as or shorter than the ovary. Corolla (strictly tubular) 1—1,3 (rarely up to 1,6) cm long.
33. Leaves in general elliptic-oblong, 2,3—3,5(—4) by (0,8—)1—1,5 cm; petiole 3—5 mm. New Guinea . . . . . 165. *R. luteosquamatum*
33. Leaves in general ovate-elliptic or elliptic, (1—)1,2—2,4(—3,5) by 0,6—1,5 (—2) cm; petiole 1—2 (rarely up to 3) mm. New Guinea. 166. *R. mconspicuum*
32. Style much longer than the ovary. Corolla exceeding 2 cm in length.
34. Corolla glabrous outside or practically so.
35. Leaves sessile,  $\pm$  imbricate, i.e. the pseudowhorls very near together; petiole 1—2 by 3—4 mm. New Guinea . . . . . 167. *R. lamii*
35. Leaves manifestly petioled, alternate or in manifestly spaced pseudowhorls; petiole (2—)3—5 by 1—2,5 mm.
36. Leaves thin-coriaceous. (Calyx and pedicels lepidote and short-pubescent). Celebes. . . . . 168. *R. scarlatinum*
36. Leaves thick-coriaceous.
37. Corolla c. 2,5 cm long in all. Branchlets verruculose. (Calyx and pedicels exclusively lepidote). New Guinea . . . . . 169. *R. simulant*
37. Corolla 3,5—5,5 cm long in all. Branchlets smooth.
38. Ferulae large, the inner ones 2—3,5 cm long, the apex short-acuminate to obtuse. Calyx and pedicels exclusively lepidote.
39. Leaves (1,8—)2—2,7 by (1—)1,4—1,9 cm; nerves subinconspicuous. New Guinea . . . . . 170. *R. ultimum*
39. Leaves 3—4(—5) by 1,8—2,7 cm; nerves conspicuous above or mostly on both faces. New Guinea . . . . . 171. *R. brassii*
38. Ferulae small, the inner ones 0,8—1,2 by 0,5—0,6 cm, the apex long subulate-attenuate. Calyx and pedicels lepidote and short-pubescent. New Guinea. . . . . 172. *R. subuliferum*
34. Corolla rather laxly or mostly subdensely lepidote outside.
40. Corolla (3—)4—5 (sometimes up to 5,5) cm long in all.



- .41. Ijeaves broadly elliptic or ovate-elliptic, sometimes subobovate-elliptic, base rounded or mostly slightly cordate. Corolla magenta. New Guinea.  
173. *R. atropurpureum*
41. Leaves obovate or rarely oblong-obovate, base cuneate. Corolla dark red. New Guinea . . . . . 172. *R. subulifemum*
40. Corolla (2—)2,5—3 (rarely up to 3,2) cm long in all.
42. Leaves dense, in much approximate 5—8-merous pseudowhorls (broad-elliptic), ± rounded or subcordate at the base, manifestly crenulate.
43. Leaves 1—2 by 0,7—1,2 cm. Borneo. 17 Aa. *R. buxifolium* var. *buxifolium*
43. Leaves 1,8—3(—3,5) by 1,2—2(—2,5) cm. Borneo.  
17Jb. *R. buxifolium*, var. *robustum*
42. Leaves ± lax, in distinctly spaced pseudowhorls, ± attenuate at the base, subcrenulate to entire.
44. Perulae small (up to 0,8 by 0,4 cm).
45. Perulae outside sericeous and ± lepidote, at least in the upper part.
46. Leaves 1—1,5(—2) by 0,5—0,9 (rarely up to 1,5) cm. Pedicels lepidote, otherwise whether or not papillose. New Guinea.  
175a. *R. wrightianum* var. *wrightianum*
46. Leaves (1,3—)2—3 by 0,7—1,7 cm. Pedicels lepidote and rather densely short-pubescent. New Guinea. . . . . 175b. *R. wrightianum* var. *cyclopense*
45. Perulae outside laxly lepidote, not hairy at all. (Leaves 1—2 by 0,6—1,2(—1,5) cm. Pedicels lepidote, otherwise whether or not very shortly pubescent). New Guinea . . . . . 175c. *R. wrightianum* var. *insulare*
44. Perulae rather large (1—2 by 0,4—0,9 cm, outside laxly lepidote, or mostly quite glabrous).
47. Branchlets verruculose. Leaves elliptic, sometimes subovate- or subobovate-elliptic; petiole 2—3 by 1,5—2 mm. New Guinea.  
176. *R. subcrenulatium*
47. Branchlets smooth. Leaves oblong to elliptic-oblong; petiole 3—5(—7) by .1—1,5 mm. New Guinea . . . . . 177. *R. rubrobraoteatum*

## 139. RHODODENDRON FREY-WYSSLINGII J. J. S.

*Rhododendron frey-wysslingii* J. J. Smith in Merr. in Contr. Arn. Arb. 8: 123. 1934.

SUMATRA. Atjeh: Bur ni Telong, 2000 m, *Frey-Wyssling* 25 (BO, type; L); ibid., 1800 m, *van Steenis* 6329a. Redelong Volcano, 1900 m, *Bangham* 918.

## 140. RHODODENDRON PUBUGERMEN J. J. S.

*Rhododendron pubigermen* J. J. Smith in Merr. in Contr. Arn. Arb. 8: 122. 1984.

SUMATRA. East Coast: Upper Petani Valley, Lau Debuk-debuk marsh, 1250 m, *Docters van Leeuwen* 7747 (BO, type; L). G. Sibayak, 1300 m, *Lbrzing* 15163. Dairi Road, NE of Lake Toba, 1650 m, *Lbrzing* 16286. Sibolangit, above Bandarbaru, 1300 m, *Lbrzing* 7256. Medan-Berastagi Road, near entrance to sulphur spring, 1280 m, *Bangham* 970. Brastagi, 1600 m, *Kuyper* 5066. T a p a n u l i: Parbuluan, S of Sidikalang, *Alston* 14870. Toba, Aek Riman, *Rahmat si Boeea* 11419. West Coast:

B. Gombak, Laras Talang, Padang Highlands, 1800 m, Biinnemeijer 5471, G. Kerintji, 1200—1600 m, *Biinnemeijer* 8491, 8628. Mt Sago, Pajakumbuh, 1200—2000 m, *Meyer* 3255, 5U6U, 5901, 7386.

Small-leaved forms of *R. sumatranum* Merr. may be confused with *R. pubigermen*. The blade of *R. sumatranum*, besides being larger in general, is flat or much less revolute than the blade of *R. pubigermen*. The pedicels of *R. sumatranum*, besides the scales, bear no trace of hairs, whilst those in *R. pubigermen* are lepidote and short-pubescent. The corolla is distinctly larger in *R. sumatranum*.

**141. *Rhododendron psammogenes* Sleum., nov. spec.**

Frutex terrestris erectus, usque ad 1 m altus. Ramuli teretes, ad internodia ultima laxe lepidibus minutis pallidis adpersi, ad partes vestustiores glabrati; internodia 3—8 (—10) cm longa. Folia elliptica, apicem versus late attenuata, subacuminata vel saepius subrotundata, apice extremo brevissime apiculata, basi late attenuata, rarius subrotundata, coriacea, sat rigida, in sicco supra brunnescenti-olivacea, ± nitidula, subtus corollidiora, ± opaca, initio utrinque lepidota, matura supra reliquiis lepidum praedita demum omnino glabrata, subtus subdense lepidibus pallide rufescentibus minutis in zona marginali varie lobatis vel dentatis leviter impressis ornata, margine integra et parum revoluta, 2,5—4 (—5,5) cm longa, 1,4—2,8 cm lata, costa supra inpressa, subtus inferne crasse, superne minus prominente vel gradatim evanescente, nervis lateralibus utroque latere 5—6 irregularibus inferne subrectis, subobscure anastomosantibus, supra leviter vel levissime impressis, subtus parum elevatis vel indistinctis, venis parum visibilibus; petioli subapplanati, crassiusculi, 2—4 mm longi. Umbellae 7—9-florae. Perulae exteriores ovatae, interiores ovato-oblongae usque subspathulatae, membranaceae, dorso superne caduce lepidotae, vel cito glabrae, margine fimbriatae vel brevissime irregulariter laceratae, usque ad c. 1 cm longae et 0,5 cm latae. Bracteolae lineares, laxe lepidotae, c. 1 cm longae. Pedicelli subgraciles, dense lepidibus crassis varie lobulatis instructi, sub anthesi 2,5—3 cm longi. Calyx obliquus, patellaris, c. 3 mm diam., irregulariter 5-dentatus, dentibus normaliter brevibus (1 mm), interdum elongato-triangularibus usque ad 3 mm longis, acutis. Corolla infundibuliformis, paullo obliqua, alba vel dilutissime lutescens, tenera, tota 3—3,3 cm longa, extus loborum margine excepto ± dense lepidibus crassiusculis subrotundatis vel varie leviter dentatis induta, intus in inferiore dimidio tubi subdense pilis albidis ± patentibus obsita, ceterum glabra, tubo cylindrico 1,8—2 cm longo, basi paullo dilatato et 3—4 mm diam., superne vix ampliato, lobis 5 patentibus, obovato-spathulatis, leviter retusis, 1—1,2 cm longis, 0,7—0,8 cm latis. Stamina 10, inaequilonga, ± dimidium loborum corollae aequantia; filamenta inferne linearia et ± dense patentem pilosa, superne multo graciliora et glabra; antherae oblongae, c. 2,5 mm longae. Discus inferne glaber, in margine superiore breviter flavesoerri-pilosus. Ovarium subcylindricum, dense lepidis et pilis albidis prorsus versis indutum, c. 5 mm longum et 2 mm



latum, sensim in stylum abiens. Stylus subgracilis, in V3—V2 infer, parte laxe patenter pilosus et lepidotus, ceterum glaber, stamina aequans vel paullo superans; stigma crasse subturbinato-capitatum. Capsula nondum cognita.

NEW GUINEA. Northwestern part: Balim R., 2100 m, fl. white or palest yellow, 12-1938, *Brass 11759* (A, type), 11760.

Very similar, differing by the high lepidote style, which is hairy to  $\frac{1}{3}$  only:

NEW GUINEA. Northwestern part: 20 km N of Lake Habbema, 2300 m, fl. white, 10-1938, *Brass 10835*.

#### 142. RHODODENDRON VIDALII Rolfe

*Rhododendron vidalii* Rolfe in J. Bot. 24: 348. 1886; Merr. in Publ. Gov. Lab. Philip. 29: 43. 1905; Philip. J. Sc. 1: suppl. 111. 1906; *I.e.* 3: Bot. 381. 1908; Millais, *Rhodod.* 258. 1917; *l.c.* 2nd ser. 257. 1924; Merr., *En. Philip.* 3: 245. 1923; Copel. f. in *Philip. J. Sc.* 40(2): 152, *pi. U f.* 3—*k*, *pi.* 5. 1929; Hutch, in *Spec. Rhodod.* 826. 1930.—J?. *verticillatum* (non Low ex Lindl.) Vid., *Rev. PL Vase. Pilip.* 171. 1886; Ceron, *Cat. Pl. Herb. Manila* 106. 1892.—*R. lussoniense* Rendle in J. Bot. 34: 356. 1896; Merr. in *Publ. Gov. Lab. Philip.* 29: 43. 1905; Millais, *Rhodod.* 204. 1917; *l.c.* 2nd ser. 179. 1924.—*R. whiteheadii* Rendle in J. Bot. 34: 356. 1896; Merr. in *Publ. Gov. Lab. Philip.* 29: 43. 1905; Philip. J. Sc. 3: Bot. 381. 1908; Millais, *Rhodod.* 262. 1917; *l.c.* 2nd ser. 260. 1924; Merr., *En. Philip.* 3: 245. 1923; Copel. f. in *Philip. J. Sc.* 40(2): 154, *pi. U f.* 5—11. 1929.—*R. curranii* Merr. in *Philip. J. Sc.* 3: Bot. 255, 381. 1908; Millais, *Rhodod.* 151. 1917; *l.c.* 2nd ser. 121. 1924; Merr., *En. Philip.* 3: 243. 1923.

PHILIPPINES. Luzon: Mountain Prov., Ifugao, Mt Polis, 1830 m, *Whitehead s.n.* (BM, type of *R. lussoniense*); *ibid.*, exposed banks in rather barren places, 1800 m, *Whitehead s.n.* (BM, type of *R. whiteheadii*); *Sandkuhl* 283; *B.S.* 8<sup>A</sup>587 *Quisumbing*. Bontoc, 1000—1200 m, *Vidal 1529* (F1; K, type of *R. vidalii*; L); *Vanoverbergh 2675*; Mt Caua, *B.S.* 37983 *Ramos & Edaña*; road Bontoc-Banaue, 1370 m, *Britton 19*. Lepanto, Mt Data, *P.N.H.* 1838 *Alcasid*; Bauko, *Vanoverbergh 70*; Sabangan, *F.B.* 10963 ('10693') *Curran*. Benguet, Loö, Bandschan, *Loher 3761*; Tabbak, *B.S.* 8U637 *Quisumbing*; loco haud indie. *F.B.* 15738 *Curran & Merritt*. Isabel, Bayabat, *F.B.* 18559 *Alvarez* (cit. Copel., not seen). Cagayan, Cagua Volcano, *Clark s.n.* (cit. Copel., not seen). Abra, *B.S.* 7229 *Ramos* (cit. Copel., not seen). Bataan, Mt Mariveles, *Merrill 3713*, 3868; *Whitford i.52*; *F.B.* 1591 *Borden*; *Merrill Dec.* 300. Rizal, *Loher 12586*. Laguna, Mt Maquiling, *Elmer 17881*; *McLean s.n.* (cit. Copel., not seen); Lukban Cone, *Elmer 7575* (cit. '7A75'). Batangas, Mt Malarayat, *F.B.* 7839 *Curran & Merritt* (cit. Copel., not seen). Zambales, Mt Tapulao, *F.B.* 8061 *Curran & Merritt* (PNH, lecto-type of *R. curranii*, f; US not seen); *B.S.* A988 *Ramos* (cit. Copel., not seen).

The type specimens of *R. vidalii* and *R. whiteheadii* were both collected by Whitehead on Mt Polis, and the only difference between these specimens is, that the former has smaller leaves and white flowers, and the latter somewhat broader leaves (but of the same general obovate type as the

former) and apparently red flowers. It is possible that the red colour is due to some intercrossing with another red flowering species. There is a variation within the material of *R. vidalii* collected on Mt Polis up to now: *Sandkvhl* 283 shows 'normal' corollas of  $\pm 2,5$  cm length and  $\pm$  densely hairy and laxly lepidote pedicels, same as Vidal's type specimen, whilst *B.S.* 84587 *Quisumbing* has smaller leaves and corollas (c. 2 cm), and the pedicels exclusively lepidote. The red flowered '*R. whiteheadii*' has not yet been recollected on Mt Polis, and a close investigation of its *Rhododendron* flora is needed for further explication.

143. *Rhododendron cornu-bovis* Sleum., *nov. spec.*

Frutex erectus, c. 2 m altus, ramis divaricatis, sat gracilibus. Ramuli subteretes,  $\pm 1$  mm diam., apicibus  $\pm$  applanatis dense rufescenti-substellato-lepidoti; internodia 1,5—4 (—6) cm longa. Folia in pseudoverticillis 4—6-meris ad nodos 2 vel 3 ultimos disposita, obovato-oblonga, rarius nonnulla in eodem specimine breviora et obovata, apice late attenuata, obtusa vel rotundata, basi in petiolum cuneata, coriacea, firma, erecto-patentia, in sicco supra subnigrescenti-brunnea, haud raro nitidula, subtus dilutiora vel cuprea, opaca, novella in utraque facie lepidota, supra cito omnino glabrescentia, subtus persistenter subdense lepidota (lepidibus sat magnis planis, in zona marginali irregulariter substellato-laceratis, centro leviter impressis), margine Integra, in sicco leviter recurva, 2,5—3,5 (—4) cm longa, 0,8—1,4 cm lata, costa supra imprimis inferne sulcata, resp. subtus prominente, nervis lateralibus utroque latere 3—4 subinconspicuis, subtus saepius obsoletis; petioli lepidoti 2—3 (—4) mm longi. Umbellae 2—3-florae. Perulae late ovatae usque ovato-oblongae, subobtusae, dorso glabrae, margine lepidibus caducis ornatae brevissimeque fimbriatae, usque ad 8 mm longae et 5 mm latae. Bracteolae filiformes, laxissime lepidotae, c. 5 mm longae. Pedicelli subgraciles, subdense stellato-lepidoti et brevissime patentipubescentes, 1—1,4 cm longi. Calyx oblique disciformis, dorso lepidotus et breviter pilosus, indistincte 5-dentatus, 2,5 mm diametro. Corolla oblique tubuloso-infundibuliformis, in sicco  $\pm 2,5$  cm longa (in flore in alcohol conservato c. 3 cm longa), rosacea vel rosea, extus subdense vel laxius lepidibus rufescentibus substellatis praedita, intus ad tubum laxe pilosa, tubo leviter curvato 1,2—1,4 cm longo, basi paullo dilatato 4—5, infra lobos 6—8 mm diam., lobis 5 =t patentibus, obovato-spathulatis 9—10 (in vivo —14) longis, 6—7 (—10) mm latis. Stamina 10, paullo inaequilonga, corolla\* lorum medium attingentia, lobis valde expansis exserta; filamenta filiformia, ad  $\frac{1}{2}$  part, infer, laxe patenter pilosa, ceterum glabra; antherae late oblongae, c. 1,6 mm longae. Discus prominens, glaber. Ovarium subcylindricum, dense breviter albo-griseo-pilosum et lepidotum, lepidibus pilis  $\pm$  tectis, c. 5 mm longum et 2 mm diam. Stylus paullo obliquus, sensim ab ovario abiens, in  $\frac{1}{2}$ - infer, laxe patenter pilosus, lepidotus, ceterum glaber, longitudine corollam subaequans; stigma subcapitatum. Capsulae fere matura subfusiformi-cylindrica, paullo curvata, dense pilosa et lepidota, 2,2 cm longa, 0,4 cm crassa.



NEW GUINEA. Waigeo: top of Mt Nok (Buffelhoorn), E shore of Majalibit Bay, mossy forest, c. 860 m, 17-6-1938, *L.E. Chccsmau 1169, 1170', 1192* (BM, type); *ibid.*, rather common, *van Roy en 5170*.

#### 144. RHODODENDRON HATAMENSE Becc.

*Rhododendron hatamense* Beccari, *Malesia* 1: 202. 1878; J.J.S. in *Nova Guinea* 12(2) : 135. 1914.—*R. coenenii* J.J.S. in *Nova Guinea* 12(2) : 132, *t. 80a*. 1914; *I.e.* 12(5) : 506. 1917.—*R. gibbsiae* J.J.S. in *Gibbs, Arfak* 169. 1917.

NEW GUINEA. Western part: Arfak, Hataatn, 1525—2135 m, *Beccari (Herb. Beccari 5810 & 5811, FI, type of R. hatamense)*; Angi Lakes., open marsh by Female Lake, 2135 m, *Gibbs 5535* (BM, type of *R. gibbsiae*). Wissel Lake region, Bivouac Voorrug-Bivouac Voortop, 2900—1800 m, *Eyma 5017*. Southwestern part: Mt Hellwig, 2500—2600 m, *Pulle 892, 931*. Noordwest R., 2500 m, *Coenen'SS* (BO, type of *R. coenenii* in *alcohol.*). Mt Goliath, *de Kock s.n.* (cit. J. J. Smith, not seen<sup>^</sup>).

Similar, but flowers smaller and the pedicels less densely hairy:

NEW GUINEA. Northeastern part: Morobe Distr., A-mieng, on Yaneng R. (tributary of Buso R.), 1525—1830 m, *Clemens 12327*.

#### 145. *Rhododendron planecostatum* Sleum., *nov. spec.*

Frutex epiphyticus, iterum et iterum ramosus. Ramuli teretes, ad internodia ultima laxe appresse lepidoti, in partibus vetustioribus glabri; internodia 2—4 cm longa. Folia in pseudoverticillis 3—5-meris ad nodos ultimos et penultimos digesta, oblongo-elliptica vel subobovato-oblonga, apice breviter acuminata, obtusiuscula, basi in petiolum cuneata, coriacea, in sicco supra olivaceo-brunnea, subtus castanea, ± opaca, adulta supra glabra, subtus subdense lepidota (lepidibus in zona marginali irregulariter substellato-dentatis vel -incisis centro minuto parum impressis), integra, margine in sicco paullo recurva, 3—4 (—4,5) cm longa, 1—2 cm lata, costa supra inferne paullo sulcata, superne ± plana, subtus inferne dilatata, superne sensim angustata coloreque lamina pallidiore praedita, plana vel levissime impressa, nervis lateralibus utroque latere c. 6 irregularibus, supra leviter elevatis, subtus subinconcipuis, reticulatione nulla; petioli sat crassi, valde applanati, 3—4 mm longi, ± 1,5 mm lati. Umbellae 2—3-florae. Gemmae floriferae anguste ovoideae, 1,7—2 cm longae, c. 0,8 cm diam. Perulae ovato-acuminatae, subacutae, membranaceae, dorso glabrae, margine brevissime fimbriatae, usque ad 1,7 cm longae et 0,7 cm latae. Bracteolae lineares, glabrae, c. 1 cm longae. Pedicelli crassiusculi, (7—) 10—15 mm longi, laxe caduce lepidoti densiusque pilis brevibus subpatentibus induti. Calyx disciformis, brevissime 5-dentatus, subglaber, 2,5 mm diam. Corolla tubulosa, ± 2 cm longa, tenera, rubra, extus glabi'a, intus in inferiore dimidio tubi laxe pilosa, tubo 1,3—1,4 cm longo, basi 4—5, infra lobos 6—7 mm diam., lobis 5 erecto-patentibus late obovatis 6—7 mm longis, c. 5 mm latis, valde obtusis. Stamina 10, valde inaequilonga, 1,2—1,5 cm longa; filamenta in tertio inferiore linearia denseque patentipilosa, superne filiformia glabra; antherae obovato-oblongae, 2

mm longae. Discus glaber. Ovarium crasse cylindricum, dense appresse pilosum, ut videtur, lepidotum, c. 4 mm longum et 2 mm diam. Stylus cum ovario satis abruptus, glaber, graciliter columnaris, 4 mm longus; stigma oblique subclavato-capitatum. Fructus adhuc ignotus.

BORNEO. North Borneo: Mt Kinabalu, Masilau Basin, Lewago R., epiphyte over river on great tree, fl. beautiful red, 1830—2135 m, fl. 27-12-1933, *M. S. Clemens 51431* (A, BM; E, type; K; L, fragm.).

#### 146. RHODODENDRON BAGOBONUM Copel. f.

*Rhododendron bagobonum* Copeland f. in Philip. J. Sc. 40(2): 151, pi. 4 f. 1—2 (corolla pessima). 1929.—*R. cuneifolium* Stapf var. *subspathulatum* Ridl. in J. Str. Br. R. As. Soc. 33: 23. 1900; Merr., En. Born. 461. 1921.—*R. galioides* J.J.S. in Bull. Jard. Bot. Btzg III, 13: 445. 1935.

PHILIPPINES. Mindanao: Davao, Mt Apo, *Clemens* s.w. (UC, type of *R. bagobonum*, not seen); *Elmer 11656*, p.p.; *P.N.H. 14-57 Edano* (partly mixed with *R. quadrasianum* Vid. var. *davaoense* (Copel. f.) Sleum.).

BORNEO. Sarawak: Mt Penrissen, *Shelford s.n.* (SAR, type of *R. cuneifolium* var. *subspathulatum*). Mt Dulit, Ulu Koyan, 900—1000 m, heath forest, *Richards 1817, 2484*. North Borneo: Mt Kinabalu, 1220—2135 m, *Clemens 27126, 27811, 29069, S2U1, 40322 A; SF 26889 Carr; Cox 967*. Central Western part: Sintang, Amai Ambit, *Hallier 3315*. Central part: Batu Lesong, *Amdjah 446*. Central Eastern part: W. Kutei, near Mt Kemul, 1500 m, *Endert 3962* (BO, type of *R. galioides*; L).

#### 147. RHODODENDRON NIEUWENHUISII J. J. S.

*Rhododendron nieuwenhuisii* J. J. Smith in Ic. Bog. 4: 75, t. 323. 1910; Merr., En. Born. 462. 1921.—JR. *acutatum* Hook, f., msc.

BORNEO. Sarawak: Mt Baturikan, near the Mandalam R., interior of the Limbang R., *Low s.n.* (CGE; K, '*R. acutatum*'). Salungu, Upper Baram R., *Moulton 85*. Mt Dulit, Ulu Koyan, 800 m, *Richards 2340*. Central Borneo: Sg. Blu-u, *Jaheri 521*. Sg. Buleng, *Amdjah 122* (A; BO, lectotype of *R. nieuwenhuisii*; L, SING). East Borneo: W. Kutei, Bolut, 350 m, *Endert 4028*.

#### 148. *Rhododendron pseudobuxifolium* Sleum., nov. spec.

Frutex humilis, ut videtur, parum ramosus. Ramuli breves, rigidiusculi, 1,5—2 mm diam., laxe ± caduce lepidoti et puberuli; internodia 2—4 cm longa. Folia in superiore parte internodiorum et penultimorum aggregata vel ad pseudoverticillos oligomeros disposita, elliptica, apice late attenuata, obtusa, sed haud raro minute apiculata, basi subrotundata vel late attenuata, coriacea, rigida, in sicco supra dilute olivaceo-cinerascentia, subtus brunnescentia, supra glabra punctisque nigrescentibus immersis obsita, nitidula, subtus opaca laxequē diutius lepidota (lepidibus planis varie angulatis vel substellato-dentatis, centro parvo immersis), demum ± glabrescentia, margine distincte cartilaginea et crenulata, 1—1,8 cm longa, 0,7—1 cm lata, costa supra anguste immersa, subtus crassa,



quam lamina pallidiore, obtuse prominente, nervis lateralibus utroque latere 3—4 arcuato-conjunctis, supra levissime impressis resp. subtus paullo prominulis, saepius vix visibilibus; petioli crassi parum applanati, 2—3 mm longi, c. 1 mm diam. Umbellae 3—4-florae. Perulae ovato-oblongae usque late oblongo-subspathulatae, apiculatae vel mucronolatae, rigide membranaceae, in sicco purpurascens, nitidae, dorso glabrae, margine caduce lepidibus obsitae, 1,3—2 cm longae, 0,6—0,9 cm latae. Bracteolae haud visae. Pedicelli 1,5—2 cm longi, fere 1 mm crassi, dense substellato-lepidoti et brevissime pilosi. Calyx membranaceus, discoideus, margine undulatus et reflexus, brevissime obtuse 5-lobulatus, c. 3 mm diam. Corolla inferne tubulosa, ad lobos expansa, tota c. 3 cm longa, rubro-vinosa, extus omnino glabra, intus ad % tubi partem inferiorem laxe pilosa, tubo recto c. 2 cm longo, basi rotundata c. 5 mm diam., lobos versus paullo ampliato, lobis 5 obovatis, ± patentibus, c. 1 cm longis, ± 8 mm latis. Stamina 10, valde inaequilonga, longissima vix tubum aequantia; filamenta linearia, ad tertium inferius laxe pilosa, ceterum glabra; antherae late oblongo-ellipticae, c. 2 mm longae, 1 mm latae. Discus glaber. Ovarium ovoideo-conicum, dense pilis albidis prorsus versis lepidesque tegentibus instructum, c. 3 mm longum et 2 mm diam., sat abrute in stylum attenuatum. Stylus subgracilis, pilis nonnullis ad basin instructis exceptis glaber, c. 8 mm longus; stigma capitatum valde 5-lobum. Capsula ignota.

CELEBES. Central part: Enrekang, Rante Mario, 3300 m, fl. 20-6-1937, *Eyma* 866 (BO; L, type).

#### 149. *Rhododendron stonori* Sleum., *nov. spec.*

Frutex compactus, c. 1 m altus. Ramuli angulati, pulvinibus numerosis foliorum delapsorum instructi, apicibus brunneis lepidibus sat magnis planis obtecti, epilosi, in partibus vetustioribus glabrati; internodia 3—4,5 cm longa. Folia ad nodos ultimos et penultimos in pseudovorticillis 4—6-meris collecta secusque internodia ultima distanter alternatim distributa, subobovato-oblonga, apice valde late attenuata, brevissime acuminata vel rotundata, glandula apicali minuta haud ultra marginem producta, basi ± late in petiolum cuneata vel attenuata, coriacea, rigidula, in sicco virescenti-brunnescentia, supra subnitida, subtus opaca, initio utrinque laxe lepidota (lepidibus parvulis bene distantibus, in zona marginali hyalina varie stellato-lobulatis vel -incisis, centro minuto multo saturatior valde impressis), maturitate utrinque laxe (subtus manifestius) nigrescenti-punctulata, margine cartilagineo sat regulariter subserrulato-crenulata, 2—3,5 cm longa, 0,8—1,4 cm lata, costa supra impressa, subtus inferne crasse obtuse prominente, apicem laminae versus ± evanescente, nervis lateralibus utroque latere 5—6 irregularibus supra levissime impressis, subtus ± obscuris; petioli applanati, crassi, supra sulcati, 1,5—3 mm longi, 1—1,5 mm diam. Umbellae 3—4-florae. Perulae membranaceae, ovato-acuminatae, dorso glabrae, glanduloso-fimbriatae, usque ad 1,3 cm longae et 0,5 cm latae. Bracteolae ignotae. Pedicelli crassiusculi, laxe lepidoti, epilosi, c. 1,5 cm longi. Calyx obliquus, breviter (1 mm) obtuse 5-lobatus, c. 4 mm diam., dorso verruculosus la-

xeque lepidotus. Corolla tubulosa, c. 2,8 cm longa, parum obliqua, scarlatina, extus ad tubum tantum laxè usque subdense substellato-lepidota, intus glabra vel ad tubum breviter patenti-pilosula, tubo c. 2 cm longo parum curvato, basi c. 6 mm, infra lobos c. 8 diam., lobis 5 suborbicularibus, ± patentibus, 7—8 mm diam. Stamina 10, corollam aequantia vel paullo exserta; filamenta in tertio inferiore linearia et patenti-pilosula, superne filiformia glabra; antherae late oblongae, 2 mm longae, 1 mm latae. Discus prominens, glaber. Ovarium subcylindricum, dense breviter griseo-pilosum et lepidotum (lepidibus inter pila occultis), c. 7 mm longum, 2,8 mm diam., cum stylo sat abruptum. Stylus subgracilis, paullo exsertus, ad 2 mm infima laxè pildsulul, ceterum glaber; stigma oblique subcapitatum. Capsula oblique fusiformi-cylindrica, dense breviter pilosa laxiusque lepidota, matura 2,3 cm longa, 7 mm diam.

NEW GUINEA. Central Highlands: Mt Hagen, 3660 m, fl., fr. 4-8-1949, *Stonor 4* (E, type; L, fragm.). Near Tomba village. S slope of Mt Hagen Range, c. 2700 m, *Hoogland & Pidlen 6044*.

Planta in calidariis Hort. Reg. Edinburg. ex seminibus plantae originalis culta nondum floruit.

#### 150. RHODODENDRON PAUCIFLORUM K. & G.

*Rhododendron pauciflorum* King & Gamble in J. As. Soc. Beng. 74, ii: 75. 1905; **Ridl.**, F. Mai. Pen. 2: 219. 1923.—*R. elegans* Ridl. in J. Linn. Soc. Bot. 38: 314. 1908, repr. in J. Fed. Mai. St. Mus. 2: 120. 1908; *I.e.* 6: 49, 157. 1915; Fl. Mai. Pen. 2: 220. 1923.

##### 150a. var. pauciflorum

MALAY PENINSULA. Perak: G. Kerbau, 1830—2135 m, *For. Dep. F.M.S. 32232 Symington; Robinson s.n.; For. Dep. F.M.S. 45979 Strugnell & Tachun*. G. Batu Puteh, 1370 m, *Wray 231* (CAL, type of *R. pauciflorum*). Pahang: Cameron Highlands, *Batten Pool s.n.; For. Dep. F.M.S. 23889 Symington; ibid.*, G. Batu Brinchang, 1980—2010 m, *For. Dep. F.M.S. 11545 Watson; Sinclair 9945; Henderson s.n.; For. Dep. F.M.S. 20953 Symington; For. Dep. F.M.S. 36511 Jadmat; Castle Rock, KEP 5694.6 Wyatt Smith*. G. Irau, *For. Dep. F.M.S. 36543 Symington*. G. Tahan, 1525—2135 m, *Ridley 16046* (BM; K, type of *R. elegans*; SING); *Wray & Robinson 54'29; SF 7929 Haniff & Nur; SF 20940 Holttum*.

##### 150b. var. calocodon (Ridl.) Sleum., nov. stat.

*Rhododendron calocodon* Ridley in J. Fed. Mai. St. Mus. 5: 38. 1914; Fl. Mai. Pen. 2: 219, fig. p. 220. 1923.

MALAY PENINSULA. Pahang/Selangor: G. Menkuang Lebak, 1465—1770 m, *Robinson s.n.* (BM, K; SING, type). Selangor: G. Nuang, Ulu Langat, 1465 m, *For. Dep. F.M.S. 51825 Symington*.

#### 151. Rhododendron vitis-idaea Sleum., nov. spec.

Frutex gracilis epiphyticus, 0,6—2 m altus. Ramuli sat robusti, 1—2 mm diam., apicibus dense stipitato-stellato-lepidotis, inferne glabrescentibus, dense verruculosis tactu asperulis, epilosis; internodia 2,5—6



cm longa. Folia in pseudoverticillis 3—5-meris ad nodos 2—3 ultimos disposita, obovato-elliptica vel obovata, interdum oblongo-obovata, apice latissime attenuata vel plerumque rotundata, glandula terminali vel apiculo nullo, basi in petiolum cuneata, coriacea, rigida, in sicco supra sordide olivaceo-brunnescentia, rugosula, subtus pallidiora, initio utrinque subdense vel laxe lepidota, matura supra glabra et nitida, subtus diutius lepidota (lepidibus planis, in zona marginali irregulariter stellato-incisis, centro impressis), demum  $\pm$  glabrescentia punctisque nigrescentibus impressis ornata, integra, margine cartilaginea, in sicco paullo recurvata, 1,5—2,5(—3,5) cm longa, (0,8—)1—1,5(—2) cm lata, costa supra minute impressa, subtus obtuse prominente, nervis lateralibus c. 3-paribus supra obsoletis, subtus in foliis plane maturis paullo elevatis, inter sese parum distincte curvato-conjunctis, reticulatione nulla; petioli subteretes, crassiusculi, lepidoti, 2 (—3) mm longi, 0,8—1 mm diam. Flores solitarii. Perulae anguste ovato-acuminatae, acutae, membranaceae, dorso glabrae, margine breviter fimbriatae et lepidibus caducis obsitae, diu persistentes, usque ad 8 mm longae et 4 mm latae. Bracteolae haud visae. Pedicelli graciles, dense rufo-stellato-lepidoti pilisque brevissimis patentibus laxe usque subdense induti, (8—)10—15 mm longi. Calyx valde obliquus, disciformis, brevissime obtuse 5-lobulatus, c. 2,5 mm diam., dorso lepidotus. Corolla tubulosa, rubra, membranacea, tota 2,5 (—2,8) cm longa, extus ad tubum laxe stellato-lepidota, laxe minuteque papilloso-pilosula, intus glabra, tubo parum curvato 1,5—2 cm longo, basi 3—4 mm diam., lobos versus serisim usque ad 5—6 mm diam. ampliato, lobis 5 subpatentibus, late obovatis vel suborbicularibus, 5—7 mm diam. Stamina 10, tubum longitudine paullo superantia; filamenta linearia, glabra; antherae obovato-oblongae, 1,8—2 mm longae, 1 mm latae. Discus prominens, inferne glaber, in margine superiore pilosulus. Ovarium subcylindricum, basi paullo attenuatum, apice sensim in stylum abiens, dense breviter patentipilosum subdenseque lepidotum, c. 4 mm longum, 1,5 mm diam. Stylus gracilis, stamina subaequans, e basi ad medium patenter pilosulus; stigma subcapitatum. Capsula adhuc ignota.

NEW GUINEA. Southeastern part: Owen Stanley Range, NW of the 'Gap', forest, c. 2895 m, fl. bright red, 15-1-1936, *Carr 15098* (A; BM, type; K, NY, SING); the 'Gap', 2195 m, *Carr s.n.*; above the 'Gap', c. 2440 m, *Carr 13801*, p.p.; Mt Ganeve, open hillside, 2590 m, fl. red, *Carr 15294*. Northeastern part: Morobe Distr., Rawlinson Range, *Clemens 12319b*, p.p. (A, together with *R. rhodnostomum* and *R. yelliottii*).

Very similar in habit to *R. lindaueanum* Koord., which however has white-ciliate perulae, an exclusively lepidote ovary, and a glabrous style besides the peculiar entire *Pseudovireya-scales*.

#### 152. *Rhododendron rhodostomum* Sleum., *nov. spec.*

Frutex epiphyticus, 0,3—0,6 m altus, ramis divaricatis. Ramuli teretes, 1—1,5 mm diam., apicibus dense lepidis substellatis breviter peltatis obsiti, inferne glabrescentes manifesteque verruculosi, tactu scabriduli;

internodia 2—4 (—6) cm longa. Folia in pseudoverticillis 4—5 meris ad nodos ultimos 1—2 (rarius 3) disposita, elliptica vel obovato-elliptica, rarius late obovato-oblonga, interdum obovata, apice late attenuata vel rarius subrotundata, apice extremo fere semper glandula brevissima incrassata apiculata vel mucronulata, basi in petiolum cuneata, tenuiter coriacea, in sicco supra olivacea, subtus dilute castanea, novella utrinque lepidota, matura supra glabrescentia, subopaca, subtus diutius subdense lepidota (lepidibus ad zonam marginalem angustam varie dentatis vel angulatis vel obtuse lobatis, centro sat magno et crasso denique nigrescenti parum immersis), integra, margine paullo revoluta, 2—3,5 cm longa, 1—1,8(—2,1) cm lata, costa supra inferne parum impressa, resp. subtus elevata, nervis lateralibus utrinque subinconspicuis; petioli applanati, lepidoti, 1—3 (interdum usque ad 5) mm longi. Flores solitarii. Perulae ovato-acuminatae, ± mucronatae vel subulatae, membranaceae, apice lepidotae ceterum dorso glabrae, margine longe subglanduloso-fimbriatae lepidibusque obsitae usque ad 12 mm longae et 5 mm latae. Bracteolae filiformes, glabrae, 8 mm longae. Pedicelli subgraciles, densissime rufo-stellato-lepidoti, epilosi, c. 1 cm longi. Calyx obliquus, discoideus, dorso lepidotus, brevissime obtuse 5-lobatus, c. 2,5 mm diam. Corolla tubulosa, alba, ore rosea, tota 2,3—2,7 cm longa, extus ad tubum subdense substellato-lepidota, intus glabra, tubo cylindrico parum curvato c. 2 cm longo, basi 6—7 mm diam., superne vix dilatato, lobis 5 late obovatis vel subrotundatis, 6—7 mm diam., glabris, haud ciliatis. Stamina 10, corollam fere aequantia; filamenta applanato-lineararia, glabra; antherae subobovato-oblongae, 2,5 mm longae, 1 mm latae, saepius thecis basi in apiculum vel cornu brevissimum protractis. Discus prominens, in margine superiore puberulus, ceterum glaber. Ovarium subcylindricum, dense brevissime griseopilosum et substellato-lepidotum, c. 5 mm longum, 2 mm diam., gradatim in stylum abiens. Stylus subgracilis, corollam subaequans, ad dimidiam infer, partem patenter pilosulus, superne glaber, stigmatibus clavato. Capsula immatura fusiformis 2 cm longa, 3 mm diam., dense puberula laxequae lepidota.

NEW GUINEA. Northeastern part: Morobe Distr., Mt Saruwaged, Upper Camp, 2745—3050 m, fl. white, mouth pink, 28-2-1939, *Clemens* 9922 (A; L, type); above Sambanga, Mt Saruwaget, 2745—3655 m, *Clemens* 1001k, A, 10082 A; A-mieng, on Yaneng R. (tributary of Buso R.), 1525—1830 m, *Clemens* 12320, p.p. Rawlinson Range, 2135—3655 m, *Clemens* 12319b, p.p.

153. **Rhododendron acrocline** Sleum., *nov. spec.*

Frutex terrestris c. 2 m altus, ramulis sat gracilibus, internodiis ultimis 2,5—6 cm longis, ± 1 mm diam., subdense caduce lepidotis, laevibus. Folia in pseudoverticillis 4—6 meris ad nodos ultimos et penultimos digesta, oblanceolata, rarius oblongo-obovata, apice acuminata, apice extremo subacuto glandulifero et in vivo et in sicco manifeste inflexo, basi in petiolum cuneata, et ± decurrentia, coriacea, in sicco supra sordide olivacea, subtus pallidiora brunnescentia, utrinque subnudentia, initio utrinque lepidota, matura supra glabrescentia punctisque



impressis instructa, subtus laxe diutius lepidota (lepidibus tenuibus, omnino planis, in zona marginali lata variè stellato-lobatis vel -dentatis, centro minuto paullo immersis), integra, margine in sicco parum sed distincte revoluta, 2,5—4 cm longa, 1—1,5(—1,8) cm lata, costa supra imprimis inferne impressa, subtus obtuse prominente, nervis lateralibus utroque latere 4—5 irregularibus, curvato-ascendentibus, indistincte conjunctis, supra levissime immersis, subtus plerumque prominulis, venis quam nervi minus conspicuis laxequè reticulatis; petioli paullo applanati, supra sulcati, lepidoti, 4—7 mm longi, 1 mm crassi. Flores bini rarius singuli. Gemmae floriferae ovatae, usque ad 2 cm longae, 0,6—0,9 cm diam. Perulae exteriores lanceolatae, interiores ovatae, intimae spathulatae, ± longe acuminatae, apicibus reflexae, membranaceae, in dorso medio lepidotae, in margine lepidibus caducis obsitae resp. brevissime fimbriatae, usque ad 1,8 cm longae et 1 cm latae. Bracteolae filifomes c. 1 cm longae. Pedicelli densissime rufescenti-stellato-lepidoti, ultro laxe pilis brevissimis induti, 1,5—1,8 cm longi, c. 1 mm crassi. Calyx patelliformis, dorso lepidotus, 3—4 mm diametro, limbo breviter 5-dentato. Corolla tubulosa, aliquot zygomorpha, rubra, 3,5—4 cm longa, extus ad tubum dense, ad inferiorem partem vel ad medianam loborum laxius stellato-lepidota, intus glabra, tubo parum curvato 2—2,5 cm longo, basi 4—5 mm diam., infra lobos ad c. 7 mm diam. ampliato, lobis 5 ± patentibus, oblongo-obovatis vel spathulatis, 1,5—1,8 cm longis, 0,8—1,1 cm latis. Stamina 10, inaequilonga, c. 1/2 longit. loborum corollae aequantia; filamenta glabra, inferne linearia, superne filiformia; antherae obovatae, truncatae, basi obtusae, fere 2 mm longae et 1,2 mm latae. Discus 1,5 mm altus, glaber. Ovarium elongato-conicum, densissime breviter flavido-pilosum, pilis ± patentibus lepidotes minutas nonnullas tegentibus, 5—6 mm longum, 2,5—3 mm crassum, sensim in stylum abiens. Stylus 2,2—2,8 cm longus, ad dimidiam infer, partem laxè patenter pilosus, superne glaber; stigma subcapitatum, paullo obliquum. Capsula 2—2,5 cm longa, ± 4 mm diam., valvis demum valde reflexis et tortis.

NEW GUINEA. Northwestern part: Lake Habbema, 3225 m camp, abundant in forest undergrowth, fl. brilliant red, 8-1938, *Brass 9141* (A, type; L). Southwestern part: Mt Carstensz, near Ertsberg, 3200—3600 m, *Wissel 182*.

154. ***Rhododendron alternans*** Sleum., *nov. spec.*

Frutex 2—3 m altus, terrestris vel epiphyticus, divaricatus. Ramuli teretes, 2—3 mm diam., apicibus laxè stellato-lepidoti, inferne cito glabrati et laeves; internodia 4—8 cm longa. Folia nonnulla in superiore tertio internodii ultimi (raro etiam penultimi) approximata, id est, summa opposita vel in pseudoverticillis 3(—4)-meris disposita, cetera 2—3 inferiora inter sese distantia, elliptica vel ovato-, rarius subobovato- vel oblongo-elliptica, apice late breviter subacuminata, rarius rotundata, glandula apicali vix prominente, basi late attenuata plerumque subrotundata interdum subtruncata vel subcordata, coriacea, supra in sicco sordide olivacea vel nigrescenti-viridia, subtus saturate brunnea, ± opaca, novella supra subtusque subdense lepidota, matura supra glabrescentia, subtus

diutius lepidota (lepidibus in zona marginali sat lata substellato-dentatis vel obtuse lobatis, centro minuto parum impressis), margine dilutiore cartilaginea, integra vel irregulariter lepidibus impressis subtiliter crenulata, 2,5—3,5(—4) cm longa, 1,2—1,8(—2) cm lata, costa inferne dilatata supra minute impressa, subtus inferne prominente, apicem laminae versus  $\pm$  evanescente, nervis lateralibus utroque latere c. 5, patentibus, supra vix conspicuis, subtus nullis; petioli applanati, 1,5—3 mm longi, 1—1,5 mm crassi. Umbellae 3—4-florae. Perulae exteriores ovatae, subacuminatae vel obtusae, dorso glabrae, interiores ovato-oblongae usque subspathulatae, dorso sericeae, margine lepidibus caducis ornatae demum brevissime fimbriatae, haud ciliatae, usque ad 1,8 cm longae et 0,7 cm latae. Bracteolae lineares, laxissime pilosae, usque ad 1,4 cm longae. Pediceli subgraciles, dense rufo-substellato-lepidoti et brevissime albido-pilosi, 1,5—2 cm longi. Calyx obliquus, disciformis, margine undulato-obscure lobatus, dorso brevissime pilosus et lepidotus, c. 2,5 mm diam. Corolla tubulosa, rubra, extus intusque glabra, tota 3—3,5 cm longa, tubo cylindrico subrecto 2—2,5 cm longo, basi 5-saccata c. 4 mm diam., lobos versus paullo dilatato et 6—7 mm diam., lobis 5  $\pm$  patentibus obovato-spathulatis vel subrotundatis, 7—9 mm diam. Stamina 10, inaequilonga, longissima corollam fere aequantia; filamenta linearia, glabra; antherae oblongae, 2,7 mm longae, 1 mm latae, basi interdum brevissime biappendiculatae. Discus prominens, glaber. Ovarium crasse subovoideo-conicum, dense pilis sat brevibus subpatentibus flavescens lepidibusque inter pila instructis ornatum, 4 mm longum, 2,5 mm diam., cum stylo abruptum. Stylus gracilis, omnino glaber, stamina subaequans; stigma subcapitatum. Capsula matura subcylindrica, utrinque attenuata, 2—2,8 cm longa,  $\pm$  5 mm diam., subdense pilosa laxaque lepidota, pedicello  $\pm$  2 cm longo et 1 mm crasso, valvis tortis et reflexis.

CELEBES. Central part: Masamba, top of Mt Kambuno, 2860 m, common, terrestrial in shrub vegetation, or epiphytic in somewhat lower forest, 28-7-1937, *Eyma 1363* (A, BO, K; L, type).

155. **Rhododendron leptomorphum** Sleum., *nov. spec.*

Frutex terrestris c. 2 m altus. Ramuli graciles, 1,5 mm diam., ad internodia ultima dense stellato-lepidoti, in partibus vetustioribus cito glabrescentes, laeves. Folia in pseudoverticillis c. 4-meris ad nodos ultimos 1—2 disposita, anguste elliptica vel oblongo-elliptica, apice breviter acuminata, subacuta, basi in petiolum attenuata, coriacea, supra atrovi-ventia, maturitate glabra, rugosula, subtus brunnea et subdense lepidota (lepidibus planis in zona marginali irregulariter crenatis vel substellato-lobulatis, centro sat magno impressis), margine cartilagineo dilutiore minute revoluta manifesteque undulato-crenulata, (2—)2,2—3 cm longa, (0,7—)0,8—1 cm lata, costa supra inferne angustissime impressa, subtus inferne prominente coloreque multo saturatiore bene distincta, nervis lateralibus subinconspicuis; petioli subteretes, lepidoti, 3—4(—5) mm longi, c. 0,8 mm crassi. Flores solitarii. Perulae bracteolaeque haud cognitae. Pedicelli dense stellato-lepidoti subdenseque puberuli, 1,5—2 cm longi,



c. 0,6 mm crassi. Calyx disciformis, in limbo annulari membranaceo reflexus obscureque dentatus, c. 4 mm diam. Corolla tubulosa, parum obliqua, c. 3 cm longa, extus glabra vel ad basin ipsam laxissime stellato-lepidota, intus glabra, scarlatina, tubo subrecto 1,9—2,2 cm longo, basi paullo saccato et c. 6 mm diam., infra lobos usque ad 10 mm diam. ampliato, lobis 5 late obovato-spathulatis usque subrotundatis, 8—10 mm longis, 7—9 mm latis. Stamina 10, inaequilonga, longissima % long, lorum corollae aequantia; filamenta inferne linearia, superne filiformia, glabra; antherae late oblongae, c. 2,5 mm longae et 1,2 mm latae. Discus prominens, glaber. Ovarium subcylindricum, dense breviter flavescenti-pilosum, ut videtur, elepidotum, 4 mm longum, 1,8 mm diam., ± sensim in stylum attenuatum. Stylus crassiusculus, omnino glaber, ± 2,3 cm attingens vel stamina paullo superans; stigma turbinato-capitatum. Capsula ignota.

CELEBES. Eastern part: Poso, Mt Lumut, summit ('pilaartop en W bijtop'), c 2280 m, 5-9-1938, *Eyma* 3617 (BO, type; L, fragm.).

### 156. *Rhododendron helodes* Sleum., *no-v. spec.*

Frutex 50 cm altus, terrestris, ramis validis divaricatis. Ramuli teretes, c. 3 mm crassi, apicibus dense appresse substellato-lepidoti, inferne glabrescentes; internodia 3,5—8 cm longa. Folia in pseudoverticillis 4—6(—8)-meris ad nodos 2—3 ultimos disposita (interdum folio uno alterove in summa internodiorum parte solitario), oblonga vel lanceolato-oblonga, rarius in eodem ramulo subobovato-oblonga, apice breviter late acuminata, subacuta vel obtusiuscula, rarius obtusa, glandula ± prorumpente apiculata, basi ± late in petiolum cuneata, rigide coriacea, in sicco olivaceo-brunnescentia, supra subnitida, subtus ± opaca et plerumque paullo pallidiora, maturitate tantum visa, supra laxè impresso-lepidota vel ± glabrescentia, subtus manifestius et diu lepidota (lepidibus in lamina bene inter sese distantibus, sed petiolum versus et in ipso petiolo densissimis seseque marginibus tegentibus, in zona marginali hyalina sat magna cito evanescente varie stellato-dentatis vel -lobulatis, centro sat parvo bene impressis), demum etiam subtus glabrescentia laxèque nigrescenti-impresso-punctulata, margine anguste cartilagineo lepidibus impressis irregulariter minute crenulata fere integra, (2—)2,5—3,5(—4) cm longa, (0,8—)1—1,5 cm lata, costa supra in inferiore % parte impressa, subtus inferne dilatata, obtusque prominente, distaliter gradatim diminuta, nervis lateralibus utroque latere 2 suprabasalibus alteque ascendentibus, ceteris altius a costa abeuntibus 2—3 utrinque parum conspicuis; petioli applanati 3—5 longi, 2—3 mm crassi. Umbellae 2—4-florae, interdum ad florem unicum reductae. Perulae exteriores paucae, breviores, ovato-subulatae, interiores numerosiores, late obovato-spathulatae, breviter acuminatae, subacutae, initio fere in toto dorso margineque densissime rufescenti-lepidotae, cito glabratae, usque ad 1,8 cm longae et 0,7 cm latae. Bracteolae haud visae. Pedicelli densissime rufo- vel cupreo-stellato-lepidoti, epilosi, 2—3 cm longi, c. 1 mm crassi. Calyx disciformis, c. 5 mm diam., dorso lepidotus, margine membranaceo reflexus et irregulariter lobulatus vel laceratus, lobis usque ad 1 mm longis corollae subadpressis. Corolla

tubulosa, rubra vel lutescenti-rubra, 3—3,5 cm longa, extus lorum margine excepto subdense stellato-lepidota, intus glabra, tubo parum curvato 2—2,5 cm longo, in basi saccato-dilatata 6—7 mm diam., superne primo paullo attenuate, sed cito sensim dilatato, infra lobos 10—12 mm diam., lobis 5 erectis vel paullo patentibus, late spathulatis, vel suborbicularibus, levissime retusis, 0,9—1,1 cm longis, 0,7—0,9 cm latis. Stamina 10, inaequalia, longissima tubum subaequantia; filamenta linearia, glabra; antherae obovatae, 2 mm longae. Discus prominens, glaber. Ovarium subcylindricum, sat abrupte in stylum abiens, densissime breviter pilosum, pilis albidis vel flavescentibus ± prorsus versis lepidos numerosas tegentibus, c. 8 mm longum, 3 mm diam. Stylus sat gracilis, ± 2 cm longus, id est, stamina valde superans, inferne per 2 mm pilosulus, ceterum glaber, stigmatibus capitatis Capsula deest.

NEW GUINEA. Northwestern part: Lake Habbema, 3225 m camp, frequent in low shrubberies on long-grass marches, fl. red, 8-1938, *Brass 9316* (A; L, type); *ibid.*, open boggy slopes, fls. yellowish red, *Brass 901b A, 928b*.

157. *Rhododendron nitens* Sleum., *nov. spec.*

Frutex terrestris, erecto vel patienti-ramosus, usque ad 2 m altus. Ramuli divaricati, rigidi, ad internodia ultima angulati, subdense appresse stellato-lepidoti, inferne teretiusculi citoque glabrati; internodia 2—6 cm longa. Folia in superiore tertio vel dimidio internodiorum ultimorum et penultimorum alternata et approximata, summa fere ad pseudovercillos digesta, obovata vel oblongo-obovata, apice latissime obtuseque attenuata vel rotundata, interdum brevissime retusa, basi in petiolum cuneata, coriacea, rigida, in sicco supra brunnescenti-viridia, sub lente minute nigrescenti-punctulata, interdum brunnea, subtus flavescenti-viridia vel certe multo pallidiora, supra nitentia, subtus ± opaca, supra maturitate glabra, in sicco rugosula, subtus laevia diuque subdense lepidota (lepidibus parvis planis in zona marginali varie stellato-incisis, centro minuto demum nigrescente impressis), margine angustissime cartilaginea et revoluta, integra vel lepidibus impressis minute crenulata, 1,5—2,5(—3) cm longa, 0,8—1,5 cm lata, costa supra impressa, subtus inferne tantum crasse obtuse prominente, nervis lateralibus utroque latere c. 6, arcuato-ascendentibus et anastomosantibus, supra in foliis maturis impressis, subtus haud vel parum visibilibus, venis supra laxe reticulatis et ± impressis, subtus indistinctis; petioli applanati, supra sulcati, lepidoti, 2—3 mm longi 1—1,5 mm crassi, pulvinulo foliari crasso insidentes. Umbellae 4—8-florae. Perulae ovato-acuminatae, apice breviter subulatae, membranaceae, dorso medio lepidotae, margine lepidibus mox caducis obsitae resp. brevissime fimbriatae, usque ad 8 mm longae et 4 mm latae. Bracteolae lineares, glabrae, c. 8 mm longae. Pedicelli subgraciles, subdense appresse stellato-lepidoti, sub anthesi 1,5—2 cm longi, 0,6 mm crassi, sub fructu paullo elongati. Calyx obliquus, profunde sat irregulariter 5-lobus, lobis anguste deltoideis, acutis, erectis, i.e. corollae appressis, membranaceis, glabris, (2—)3—4(—5) mm longis. Corolla tubulosa, aliquot obliqua, saturate rubra, 1,5—1,8(—2) cm longa, extus ad tubum ± dense



stellato-lepidota, intus glabra, tubo  $\pm$  1,5 cm longo, in basi paullo dilatata c. 4 mm diam., infra lobos usque ad c. 6 mm diam. dilatato, lobis 5 expansis obliquis suborbicularibus  $\pm$  5 mm diam. Stamina 10, subaequalia, corollae tubum paullo superantia; filamenta linearia glabra; antherae subquadratae 1,5 mm longae. Discus glaber. Ovarium subcylindricum, longitudinaliter profunde 5-sulcatum, dense brevissimeque albido-griseo-pilosum, lepidibus parvulis inter pila additis, c. 4 mm longum et 2 mm crassum. Stylus cum ovario subabruptus, stamina fere aequans, glaber vel basi ipsa pilis nonnullis obsitus; stigma obliquum capitatum, brevissime 5-lobulatum. Capsula crasse fusiformis, basi obliqua, puberula et lepidota, 1,5—1,8 cm longa, 0,6 cm diam. Semina appendiculis inclusis 2,5 mm longa.

NEW GUINEA. Southeastern part: Central Distr., Murray Pass, Wharton Range, abundant in open grasslands, 2840 m, June-Sept. 1933, *Brass* 4553 (A; L, type; MEL, fragm), 4678.

### 158. RHODODENDRON COMMONAE Foerst.

*Rhododendron commonae* Foerster in Fedde, Rep. 13: 223.\* 1914; Schltr in Bot. Jahrb. 55: 154. 1918; Diels, *Le.* 62: 487. 1929; Lane-Poole, For. Res. 130. 1925; White & Francis in Proc. R. Soc. Queensl. 39: 68. 1928.

NEW GUINEA. Northeastern part: Morobe Distr., Mt Saruwaged ('Bolan'), 3400—3800 m, *Keysser s.n.* (B, type, f; BM); *ibid.*, 1830—3050 m, *Clemens* 5252, 5884, 5887, 5888, 7296, 9390, 9443 A, 10076 A; *Lane-Poole* 502; Buso R. vicinity 1830—2440 m, *Clemens* 6271.

### 159. RHODODENDRON PAPUANUM Becc.

*Rhododendron papuanum* Beccari, Malesia 1: 201. 1878.—? *R. wrightianum* Koord. var. *piliferum* J.J.S. in Nova Guinea 12(2): 131. 1914.

NEW GUINEA. Northwestern part: Vogelkop Peninsula, Mt Arfak, Hatam, 1525—2135 m, *Beccari (Herb. Beccari 5793, 5793A, FI, type of R. papuanum)*; Mt Nettoti, top 1980 m, *van Royen* 3879. Southwestern part: Mt Goliath, 1850 m, *de Kock* 26 (BO, type of *R. wrightianum* var. *piliferum*, not seen, possibly lost).

### 160. RHODODENDRON ACROPHILUM Merr. & Quisumb.

*Rhododendron acrophilum* Merrill & Quisumbing in Philip. J. Sc. 82: 333. 1953^

PHILIPPINES. Palawan: Mt Mantalingahan, Brooke's Point, 1725 m, *P.N.H. 34 Edanö* (A, type; BM, K, L; PNH, not seen).

### 161. *Rhododendron banghamiorum* (J.J.S.) Sleum., *nov. stat.*

*Rhododendron pubigermen* J.J.S. var. *banghamiorum*, 3. J. Smith in Merr. in Contr. Arn. Arb. 8: 123. 1934.

SUMATRA. Atjeh: Redelong Volcano, c. 1830 m, *Bangham* 917 (A, type of *R. pubigermen* var. *banghamiorum*; K, SING).

## 162. RHODODENDRON RIPLEYI Merr.

*Rhododendron ripleyi* Merrill in Not. Nat. Ac. Nat. Sc. Philad. 47: 4. 1940.

## 162a. var. RIPLEYI

SUMATRA. Atjeh: Mt Losir, 2500 m, Ripley & Ulmer iO (A, fragm.; PH, type of *R. ripleyi*, not seen).

162b. var. *cryptogonium* Sleum., nov. var.

Disco omnino glabro, filamentis basi sparse vel sparsissime pilosis ceterum glabris, lepidibusque multo saturatoribus a typo differt. Folia usque ad 6 cm longa, 2,3 cm lata. Probabiliter inter *R. ripleyi* Merr. et *R. malayanum* Jack hybrida.

SUMATRA. Atjeh: Gajo and Alas Lands, from summit G. Lembuh to camp 'Halfweg', 3000—1850 m, fl. cerise red, 23-2-1937, van Steenis 9167 (BO, type; L); Putjuk Angasan, common, 2200—2700 m, fl. scarlet, 28-1-1937, van Steenis 84U (BO, K, L, SING).

162c. var. *basitrichum* Sleum., nov. var.

A typo stylo basi corona pilorum brevium ornato differt. Folia oblongo-obovata, 2,3—3,5 cm longa, 0,7—1,2 cm lata, apice ut in typo glandula terminali apiculata.—An inter *R. ripleyi* Merr. et *R. pubigermen* J.J.S. hybrida?

SUMATRA, Atjeh: Gajo Lands, G. Kemiri, E slope, 2800 m, fl. scarlet, 6-3-1937, van Steenis 9570 (BO, type).

163. *Rhododendron alticolum* Sleum., nov. spec.

Arbuscula sparse foliata. Ramuli divergentes, nodosi, ad internodia ultima caduce adpresse lepidoti, in partibus vetustioribus cito cinerascenti-corticati; internodia 1—2,5 cm longa, 1,5—2,5 mm diam. Folia in pseudovercillibus 3—4-meris ad nodos 1—2 ultimos disposita, obovata vel elliptico-obovata, apice latissime attenuata, obtusa, haud raro rotundata, glandula apicali indistincta, basi late in petiolum attenuata, coriacea, matura sat rigida, in vivo supra saturate viridia, subtus flavido-virentia, in sicco subtus pallidiora, utrinque subnitentia, supra aetate ± glabrescentia, subtus sat laxe diutius lepidota (lepidibus parvis, in zona marginali tenerrima cito ± dissoluta irregulariter dentatis vel lobatis, centro minuto intense colorato impresso), margine anguste cartilaginea, integra, (2—)2,5—4 cm longa, (1,2—)1,5—2,3(—2,7) cm lata, costa supra inferne anguste impressa, superne ± plana vel minute elevata, subtus prominente. inferne petioli crassitudine, superne sensim angustiore et minus prominente, nervis lateralibus utroque latere 6—7(—8)± irregulariter curvato-ascendentibus et anastomosantibus, supra in foliis vetustioribus impressiusculis, in foliis submaturis prominulis, subtus semper paulo elevatis rate venarum venularumque laxo subtus tantum visibili; petioli applanati, supra sulcati, 5—7(—9) mm longi, 1—1,5 mm diam. Inflorescentiae (1—)



2—3-flora. Perulae in reliquiis tantum visae, ovato-acuminatae, dorso laxe lepidotae, vel glabrae, epilosae. Bracteolae inferne filiformes, apicem versus dilatatae, glabrae, c. 1 cm longae. Pedicelli subgraciles, laxe lepidoti, epilosi, 1,5—2 cm longi. Calyx oblique patelliformis, irregulariter breviter 5-dentatus, c. 4 mm diam. Corolla subinfundibuliformi-tubulosa, ut videtur rubra, tota 5—5,5 cm longa, extus ad tubum laxe substellato-lepidota, intus glabra, tubo parum curvato c. 4 cm longo, basi c. 5, infra lobos c. 10 mm diam., lobis  $\pm$  expansis pbovato-spathulatis c. 1,5 cm longis, 1—1,3 cm latis. Stamina 10, inaequalia, longiora dimidium corollae loborum aequantia; filamenta inferne linearia laxequae papilloso-puberula, superne fere filiformia et glabra; antherae oblongo-obovatae, c. 2,5 mm longae, 1 mm latae. Discus valde prominens, glaber. Ovarium obovoideo-cylindricum, densissime lepidotum, epilosum, sat abrupte in stylum abiens, c. 6 mm longum, 2 mm diam. Stylus sat gracilis, basi ima lepidotus, ceterum glaber, paullo e corolla exsertus; stigma crasse subcapitatum. Capsula subcylindrica, inferne angustata, subdense lepidota, submatura 2,2 cm longa, 0,5—0,6 cm diam.

NEW GUINEA. Southeastern part: Mt Albert Edward, Central Distr., common at c. 3600 m, fl. May-July 1933, *Brass* 4-332, *p.p.* (BO; L, type).

Very similar in leaves to *R. culminicolum* F.v.M. and collected under the same field number with it, different however in longer corollas and a densely lepidote, quite epilose ovary. Further exploration of the Rhododendrons of Mt Albert Edward must prove if it. *alticolum* is only a variety of *R. culminicolum* or possibly a natural local hybrid.

164. ***Rhododendron pyrrhophorum*** Sleum., *nov. spec.*

Frutex gracilis, valde divaricato-ramosus. Ramuli teretes, tenues, c. 1 mm diam., ad internodia ultima tantum lepidibus planis appressis laxe vel subdense adpersi, epilosi, inferne glabrati et laeves; internodia 2—6 cm longa. Folia in pseudoverticillis 5—7 meris ad nodos ultimos et penultimos digesta, oblanceolata, apice rotundato-obtusa, basi cuneata et paulum in petiolum decurrentia, coriacea, in sicco supra olivaceo-viridia, subtus castanea, novella utrinque subdense sed distanter lepidota, matura supra glabrescentia, nigro-punctulata, minute rugosa et  $\pm$  opaca, subtus subdense persistenter lepidota (lepidibus in zona marginali intense castanea irregulariter crenatis vel lobatis seu breviter incis, centro saturatiore paullo impressis), integra, margine breviter manifeste revoluta, 2,5—4(—4,5 cm longa, 0,5—1(—1,2) cm lata, costa supra bene impressa, subtus crasse prominente et viridescente, nervis lateralibus inconspicuis; petioli applanati, dense lepidoti, 2—4 mm longi  $\pm$  1 mm crassi. Flores solitarii vel bini. Perulae ovato-oblongae, membranaeae, dorso glabrae, nitidae, margine lepidibus cito caducis ornatae, usque ad 8 mm longae et 4 mm latae. Bracteolae lineari-filiformes, glabrae, c. 6 mm longae. Pedicelli subgraciles, dense stellato-lepidoti, epilosi, 1—1,5 cm longi. Calyx patelliformis, valde obliquus, obscure subacute 5-lobus, dorso dense lepidotus, 2,5 mm diam. Corolla campanulata, tenera,

ignea, usque ad medium 5-loba, 1,5—1,8 cm longa, e basi (c. 4 mm diam.) gradatim ad limbum dilatata, limbo 1,5—2 cm diam., extus subdense vel laxius stellato-lepidota, intus glabra, lobis 5 late obovato-spathulatis, 6—8 mm latis, subexpansis. Stamina 10, inaequilonga, c. V2 long, corollae loborum aequantia; filamenta linearia, basi paullo dilatata, superne filiformia, glaberrima; antherae ellipticae, c. 1,8 mm longae et 1 mm latae. Discus prominens, glaber. Ovarium ovoideo-conicum, densissime stellato-lepidotum, 3 mm longum, c. 1,5 mm crassum, cum stylo valde abruptum. Stylus sat gracilis, glaberrimus, c. 8 mm longus; stigma obconicum, valde 5-lobum. Capsula deest.

**SUMATRA.** Atjeh: from summit G. Lembuh to camp 'Halfweg', forest ridge, 1850 m, fl. fire-red, 23-2-1937, *van Steenis 9192* (BO; L, type).

The dark-brown colour of the scales suggests that *R. pyrrophorum* might be a hybrid between a species of subsect. *Malayovireya* and subsect. *Euvireya*, and presumably with a species of the latter which has no hairs on the ovary, because *R. pyrrophorum* also does not have. Its rather narrow and markedly revolute leaves indicate *R. vinicolor* Sleum. as the *Malayovireya* parent. The *Euvireya* parent could be either *R. rarilepidotum* J.J.S. or still more probably *R. multicolor* Miq., which all occur in Atjeh and share the relatively small and ± campanulate corolla with the new species.

#### 165. *Rhododendron luteosquamatum* Sleum., *nov. spec.*

Frutex usque ad 2,4 m altus, ramis rigidis erectis, apicem versus divaricatis. Ramuli graciles, 1—2 mm diam., in partibus ultimis paullo applanatis dense lepidibus subsessilibus flavidis substellatis induti, inferne teretes, glabrati, brunnescentes tactuque scabriduli; internodia (2—)4—7 cm longa. Folia ad nodos 4—6 ultimos in pseudoverticillis 3-meris irregularibus disposita (folio uno alterove paullo infra nodos, raro ± in medio internodii instructo) vel opposita, plurima elliptico-oblonga, pro minore parte in eodem ramulo subovato-vel obovato-elliptica, apicem versus breviter acuminata, apice ipso obtusiuscula, basi in petiolum attenuata, ± coriacea, in sicco supra saturate cinerascenti-olivacea, subtus juniora flavido-brunnescentia, vetustiora matura brunnescentia, novella supra subdense lepidibus flavidis paullo elevatis, subtus lepidibus paullo impressis induta, matura supra glabrescentia, ± laevia, subtus ± persistenter lepidota (lepidibus sat parvis, densis sed sese haud attingentibus, omnino impressis, in zona marginali tenui cito caduca varie substellato-dentatis vel -lobatis, centro minuto), in margine brevissime revoluta lepidibus impressis minute crenulata, (2,3—)2,5—3,5(—4) cm longa, (0,8—)1—1,5 cm lata, costa supra anguste impressa, subtus inferne valde, superne minus vel vix prominente, nervis lateralibus utroque latere 4—5 subtus tantum prominulis usque subinconspicuis; petioli subteretes, lepidoti, 3—5 mm longi, ± 1 mm crassi. Umbellae 3—4-florae. Perulae exteriores ovatae,



interiores ovato-oblongae, dorso apice tantum lepidotae ceterum glabrae, margine lepidibus caducis ornatae et brevissime subgladuloso-fimbriatae, usque ad 7 mm longae et 4 mm latae. Bracteolae filiformes, usque ad 6 mm longae. Pedicelli crassiusculi, sub anthesi c. 10 mm longi, densissime flavo-substellato-lepidoti. Calyx patellaris, obscure lobatus vel undulatus, dorso dense lepidotus, c. 3 mm diam. Corolla tubulosa, parum obliqua, tota c. 10 mm longa, basi 3 mm diametro, sursum paullo dilatata, dilute rosea, extus ad tubum densissime, ad lobos laxe flavo-substellato-lepidota, intus glabra, lobis 5 patento-erectis, suborbicularibus, c. 3,5 mm diam. Stamina 10, c. 8 mm longa; filamenta filiformia, sed basi dilatata, glabra; antherae obovato-truncatae 1 mm longae. Discus glaber. Ovarium subcylindricum, densissime flavo-substellato-lepidotum, in statu evoluto (vel fructu valde immaturo) tantum visum, 10 mm longum, fere 4 mm erasum, stylo abrupto gracili omnino glabro 4 mm tantum longo; stigma subcapitatum, breviter 5-lobulatum. Capsula matura cylindrica, densissime lepidota, 1,3—1,5 cm longa, 0,5 cm diam., valvis demum recurvatis et tortis.

NEW GUINEA. Southeastern part: Morobe Distr., above Wau, on Edie Creek road, 1830 m, fr. 1-7-1954, *N.G.F. 5966 Womersley & van Roy en* (K; L, type; LAE); *N.G.F. 9531 White*.

166. RHODODENDRON INCONSPICUUM J. J. S.

*Rhododendron inconspicuum* J. J. Smith in *Med. Rijksherb.* 25: 1. 1915; *Nova Guinea* 12(5): 499. 1917; *I.e. t.* 194. 1918; *Kaneh. & Hatus. in Bot. Mag. Tokyo* 56: 479. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Angi Gita Lake, 1800—1900 m, *Kanehira & Hatusima 14024*; *Kostermans 2159, 2526*. 18 km SW of Bernhard Camp, Idenburg R., 2150 m, *Brass 12445*. Balim R., 2100 m, *Brass 11751*. Bele R., 18 km NE of Habbema Lake, 2350 m, *Brass 11562*. Southwestern part: Wichmann Mts, c. 3000 m, *Pulle 1000* (BO, type; K, L, U). Southeastern part: Central Distr., Mt Tafa, 2400 m, *Brass 4866*. Milne Bay Distr., Mt Dayman (Maneao), 2250—2745 m, *Brass 22612, 22900*; *Cruttwell 539, 766*; *ibid.*, Mt Donana, 2285 m, *Cruttwell 935*. Mt Simpson, 2135 m, *Cruttwell 38*.

It is questionable, if *R. inconspicuum* should not better be placed in the subsect. *Albovireya* and nearest to *R. yelliottii* Warb. These two species share most of their foliar and floral characters and have a very similar general aspect. The fact, however, that the scales on the undersurface of mature leaves are less dense (i.e. generally somewhat distant from each other) in *R. inconspicuum*, and more dense (i.e. generally touching each other) in *R. yelliottii*, puts these species in different subsections. The perulae allow easily to distinguish them: caducously lepidote along the dorsal middle line, or quite glabrous and shining, fimbriate, with no trace of proper hairs in *R. inconspicuum*, lepidote and shortly subsericeous-pubescent dorsally and manifestly ciliate in *R. yelliottii*.

167. *Rhododendron lamii* J. J. S.

*Rhododendron lamii* J. J. Smith in *Nova Guinea* 18: 96, t. 20, 1. 1936.

NEW GUINEA. Northern part: Doormantop, 3280 m, *Lam 1620* (BO, type; L).

168. *Rhododendron scarlatinum* Sleum., *nov. spec.*

Frutex, ut videtur, parvus et gracilis. Rami cortice griseo pulvinibusque crassis foliorum delapsorum instructi. Ramuli teretes, 1—1,5 mm diam., ad internodia ultima laxe substellato-lepidoti et pruinosi, ad partes vetustiores glabrati et laeves; internodia 2,5—5 cm longa. Folia partim pseudovorticillatim ad nodos 1—2 ultimos congregata, partim secus internodia ultima et penultima alternatim disposita, elliptica, apice ± rotundata, haud raro brevissime apiculata, basi subrotundata vel late attenuata, tenuiter coriacea, firmula, in sicco supra ± saturate olivaceo-brunnea, subtus sordide brunnescentia, opaca, supra initio laxe lepidota, maturitate glabrescentia et rugosula, subtus ± persistenter laxe lepidota (lepidibus suborbicularibus, planis, varie angulatis vel in zona marginali sat lata castanea irregulariter dentatis, centre minuto saturatiore vix impressis), margine ipso dilutiore subcartilagineo undulato-crenulata vel subintegra, 2—3 cm longa, 1—1,8 cm lata, costa supra angustissime immersa, subtus latiore et ± applanata, vix vel haud prominente, apicem laminae versus evanescente, nervis lateralibus utrinque subinconspicuis; petioli dorso applanati, 2—3 mm longi, 1—2 mm lati. Umbellae 3—6-florae. Perulae haud cognitae. Bracteolae filiformes, glabrae, c. 1,3 cm longae. Pedicelli subdense stellato-lepidoti brevissimeque patenter pilosuli, 1,5—2 cm longi, 0,5 mm diam. Calyx disciformis, irregulariter brevissime 5-dentatus (dente uno alterove elongato), dorso lepidotus et pilosulus, c. 3 mm diam. Corolla tubulosa, scarlatina, tota c. 3,5 cm longa, extus intusque glabra, tubo recto cylindrico c. 2,5 cm longo, in basi 5-saccata 5—6 mm diam., lobos versus vix ampliatus, lobis 5 erecto-patentibus, late obovato-spathulatis, c. 1 cm longis et 0,7—0,8 cm latis, levissime retusis. Stamina 10, inaequalia, 2,7—3,5 cm longa; filamenta linearia, glabra; antherae oblong-obovatae vel fere obcordatae, thecis basin versus attenuatis, basi ipsa apiculatis, 3 mm longis, 1,5 mm latis. Discus parum prominens, glaber. Ovarium subovoideo-cylindricum, densissime substellato-lepidotum, epilosum, sum stylo sat abruptum. Stylus gracilis, glaber, 2,8—3,2 cm; stigma obconicum. Capsula immatura subcylindrica, 1,5 cm longa, 0,4 cm diam., matura deest.

CELEBES. Central part: Enrekang, Rante Mario, W slope, 2950 m, fl. scarlet, 19-6-1937, *Eyiiiia* 782 (BO, type; L).

169. *Rhododendron simulans* Sleum., *nov. spec.*

*Rhododendron simulans* J.J.S. ex Lam in *Nat. Tijd. N.I.* 89: 95, 99, 133, 134. 1929, *nom. nud.*—*R. wrightianum* Koord. var. *ovalifolium* J.J.S. in *Nova Guinea* 18: 94. 1936, *p.p.*



Frutex c. 0,7 m altus, ramis sat validis cortice nigrescenti obtectis. Ramuli teretes, apicibus dense stipitato-lepidoti, inferne glabrescentes, sat dense verruculosi tactuque scabridi, 1,5—2,5 mm diam.; internodia 2—6 cm longa. Folia ad nodos 2—3 ultimos  $\pm$  aggregata vel in pseudoverticillis 3—4-meris disposita (folio uno alterove paullo infra nodum inserto), lanceolata vel oblonga vel subobovato-oblonga, apice breviter acuminata, subacuta, glandula terminali vix prorumpente, basin versus in petiolum cuneata et  $\pm$  decurrentia, basi ipsa saepius subtruncata, crasse coriacea, rigida, in vivo supra saturate viridia, subtus pallidiora, in sicco supra sordide flavescenti-olivacea, subtus rugulosa et castanea, utrinque  $\pm$  opaca, novella haud visa, matura supra hinc inde lepide plana instructa plerumque omnino glabrescentia, subtus subdense lepidota (lepidibus varie angulatis vel lobatis, planis, centro parvo in elevationibus epidermalibus minutis impressis), margine cartilaginea, integra, imprimis basin laminae versus bene revoluta, 1,5—2,5 cm longa, 0,6—1 cm lata, costa supra impressa, subtus inferne valida (petioli crassitudine) obtuseque prominente, superne  $\pm$  evanescente, nervis inconspicuis; petioli subteretes, 2—3 mm longi, c. 1 mm crassi. Umbellae 2(—3, rarissime usque ad 4)-florae. Perulae membranaceae, exteriores subulatae, interiores ovato-acuminatae apiceque subulato-extenuatae, omnino glabrae et nitidae, usque ad 2 cm longae et 0,6 cm latae. Bracteolae haud visae. Pedicelli in vivo saturate rubri, crassiusculi, dense rufo-stellato-lepidoti, epilosi,  $\pm$  1,5 cm longi. Calyx oblique disciformis, in vivo ruber, brevissime irregulariter 5-dentatus, dorso lepidotus, c. 3 mm diam. Corolla inferne tubulosa, superne infudibuliformi-dilatata, tota  $\pm$  2,5 cm longa, laete rubra vel ignea, extus hie inde lepide stellulata induta, fere semper glabra, intus glabra, tubo subrecto, 1,6—2 cm longo, basi 5-saccato et c. 5 mm diam., superne infra lobos usque ad 7—8 mm diam. ampliato, lobis 5 subpatentibus, late obovatis vel suborbicularibus 7—10 mm longis et latis. Stamina 10, subaequalia, 2,2—2,4 cm longa; filamenta linearia, basi fere 1 mm lata, in vivo rosea vel rubra, glabra; antherae ellipticae, 2—2,5 mm longae, 1 mm latae. Discus valde prominens, glaber. Ovarium subovoideo-cylindricum, densissime rufo-stellato-lepidotum,  $\pm$  sensim in stylum abiens, c. 5 mm longum et 2,5 mm crassum. Stylus roseus, subcrassus, glaber,  $\pm$  1,7 cm longus; stigma crasse obconicum, manifeste 5-lobulatum. Capsula subcylindrica, 2—2,3 cm longa, c. 0,6 cm diam., valvis tenuibus tortis aperta, pedicello fructifero fere 2 cm longo et 1 mm crasso.

NEW GUINEA. Northern part: Doormantop, 3300 m, fl. 17-10-1920, *Lam* 1622 (BO, type; L); *ibid.*, 3500 m, *Lam* 1639.

#### 170. RHODODENDRON ULTIMUM Wernh.

*Rhododendron ultimum* Wernham in *Trans. Linn. Soc. ser. 2 Bot.* 9: 99. 1916.

NEW GUINEA. Southwestern part: Mt Carstenz, 3200—3810 m, *B. Kloss s.n.* (BM, type); *ibid.*, near Ertsberg, c. 3650 m, *Wissel* 173; *ibid.*, Meerendal, c. 4000—4100 m, *Wissel* b7.

171. *Rhododendron brassii* Sleum., *nov. spec.*

Frutex laxis, suberectus, 1—25 m altus. Rami validi, 6—8 mm diam., griseo-corticeati, cortice longitudinaliter fissis. Ramuli teretiusculi, in sicco rubescentes et pruinosi, laeves, ad apices laxe lepidibus parvis substellatis cito caducis adpersi; internodia 5—16 cm longa. Folia alterna, secus internodia ultima (rarius etiam **penultima**) subaequaliter distantia, elliptica vel elliptico-vel oblongo-obovata, apice late obtuse attenuata vel rotundata, glandula crassa  $\pm$  prorumpente apiculata, basin versus cuneata et aliquot in petiolo deurrentia, coriacea, rigida, in sicco supra viridescenti-cinerascentia saepius pruinosa, subtus dilute brunnea vel flavescenti-brunnescentia, utrinque opaca, ut videtur, initio utrinque lepidota, citissime supra glabrescentia minutissimeque impresso-punctulata, subtus  $\pm$  persistenter subdenseque lepidota (lepidibus parvis, suborbicularibus, in zona marginali varie substellato-angulatis vel dentatis, centro minuto parum impressis), margine cartilaginea et distincte subserrulato-crenulata, 3—4(—5) cm longa, 1,8—2,7 cm lata, costa supra imprimis inferne impressa, subtus inferne crasse obtuseque prominente, apicem laminae versus sensim evanescente, nervis lateralibus utroque latere 6—8 angulo c. 45° ascendentibus, marginem petentibus, supra parum sed distincte impressis, subtus prominulis vel rarius subinconspicuis, venis laxe reticulatis haud raro subtus tantum elevatis; petioli applanati, 3—6 mm longi, 1,5—2 mm crassi. Umbellae 3—5(—6) florum. Gemmae floriferae ovoideo-oblongae, 3,5 cm longae 1,2 cm diam. Perulae membranaceae, glaberrimae, exteriores ovatae, obtusae, breviores, interiores ovato-oblongae, subacuminatae, 2—3,5 cm longae, usque ad 1,5 cm latae. Bracteolae lineares, c. 2 cm longae, 1—1,5 mm latae. Pedicelli inferne laxi, superne dense vel densissime substellato-lepidoti, pilosi, sub anthesi  $\pm$  2 cm longi et c. 1 mm crassi, postea usque ad 3 cm longi et c. 1,5 mm crassi. Calyx valde obliquus disciformis, breviter (1 mm longe) obtuse 5-lobus, dorso lepidotus, 4—5 mm diametro. Corolla infundibuliformi-tubulosa, paullo zygomorpha, carnosula, in tubo aurantiaca, ad lobos lutescens, extus intusque glabra, (4—)4,5—5(—5,5) cm longa, tubo  $\pm$  3 cm longo subrecto, basi parum saccato et 5—6 mm diam., infra lobos usque ad 1—1,5 cm diam. dilatato, lobis 5 erecto-patentibus, late obovato-spathulatis vel subrotundatis, 1,2—1,5 cm longis, 1—1,5 cm latis. Stamina 10, valde inaequilonga, longissima dimidium corollae loborum aequantia; filamenta linearia, glabra; antherae obovato-ellipticae, 2,5—3 mm longae, 1,3—1,5 mm latae, thecis apiculo basali praeditis. Discus prominens, glaber. Ovarium subovoideo-cylindricum, densissime lepidibus rufis suborbicularibus vel varie obtusangulis planis obsitum, c. 5 mm longum et 2,5 mm crassum, sensim in stylum abiens. Stylus subgracilis, basi per c. 1 cm laxe lepidotus, ceterum glaber, sub anthesi breviter exsertus; stigma crasse capitatum. Capsula submatura oblique fusiformi-cylindrica, 1,5 cm longa, 0,6 cm crassa, matura adhuc ignota.

NEW GUINEA. Northwestern part: Lake Habbema, 3225 m camp, very common, 8-1938, *Brass* 9026, 9130, 9139 (A, type; L). Wamena R., N slope of Mt. Wilhelmina, 3200 m, *Brass & Meijer Drees* 10232.



**172. *Rhododendron subuliferum* Sleum., nov. spec.**

Frutex 1—2 m, epiphyticus vel terrestris. Rami teretes, c. 5 mm diam., cortice griseo longitudinaliter rumpente obtecti. Ramuli c. 2 mm diam., ad internodia ultima sat dense lepidibus rufis substellatis brevissime peltatis induti, ad partes inferiores cito glabrescentes, rugosuli et asperuli; internodia summa 1—3, inferiora 3—9 cm longa. Folia in pseudovercillibus 4—6-meris ad nodos ultimos 1—2 disposita, obovata rarius oblongo-obovata, apice ± rotundato-obtusa, interdum minutissime retusa, glandula apicali subnulla, basi in petiolum cuneata, coriacea, rigida, in statu sicco supra plumbeo-olivacea rarius brunnescentia, subtus dilute castanea, supra subnitida, subtus subopaca, matura supra glabra minutissime denseque rugosa, subtus subdense lepidota (lepidibus in zona marginali tenui mox evanescente varie angulatis vel obtuse substellato-dentatis, centro subincrassato rubronigrescenti parvo persistente leviter immersis), margine dilutiore subcartilagineo minute crenulata vel undulata et subintegra, parum vel haud revoluta, 2—3(—3,5, rarissime usque ad 4) cm longa, 1—1,5(—2,2) cm lata, costa supra leviter impressa, subtus inferne obtuse crasseque prominente, apicem laminae versus ± evanescente, nervis lateralibus utroque latere 3—4 subinconspicuis; petioli appianati, lepidoti, 3—4 mm longi, 1—1,5(raro usque ad 2) mm crassi. Flores bini, vel rarius solitarii. Perulae exteriores anguste subulatae, 1—1,5 cm longae, interiores ovatae, apice in subulam laminam perulae longitudine subaequantem extenuatae, cum subula 0,8—1,2 cm longae, 0,5—0,6 cm latae, omnes membranaceae, dorso glabrae, margine lepidibus mox caducis obsitae resp. brevissime fimbriatae, diutius (saepius sub anthesi) persistentes. Bracteolae filiformes, c. 1 cm longae. Pedicelli subgraciles, dense substellato-lepidoti et brevissime pubescentes vel puberuli, 1,2—1,5 cm longae, c. 0,6 mm crassi. Calyx patellaris, obliquus, brevissime irregulariter 5-dentatus et revolutus, dorso lepidotus et pubescens, margine ciliolatus, c. 3 mm diam. Corolla tubulosa, (4—)4,5—5(—5,5) cm longa, extus laxissime caduce lepidota vel omnino glabra, intus glabra, saturate rubra, tubo 3—4 cm longo, recto, basi paullo 5-saccato et 4—5 mm diam., limbum versus sensim dilatato, infra lobos 0,8—1(—1,3) cm diam., lobis 5 erectis, late spathulato-obovatis vel subrotundatis, 1—1,3(—1,5) cm longis, 0,8—1,3 cm latis. Stamina 10, inaequilonga, longissima e corolla paullo exserta; filamenta linearia, basi 1 mm lata, glabra; antherae late oblongae vel obovato-oblongae, c. 3 mm longae, 1 mm latae, thecis basi obtusis vel in apiculum indistinctum contractis. Discus prominens, glaber. Ovarium subcylindricum, dense substellato-lepidotum, 6—8 mm longum, c. 2 mm diam., sensim in stylum attenuatum. Stylus omnino glaber, corollam longitudine aequans vel paullo superans; stigma subcapitatum. Capsula deest.

NEW GUINEA. Northwestern part: Bele Valley, 25 km NE of Lake Habbema, 2300 m, plentiful, fl. 10-1938, *Brass* 10830 (A, type; L). Bele R., 18 km NE of Lake Habbema, 2300 m, *Brass* 11A52.

**173. *Rhododendron atropurpureum* Sleum., nov. spec.**

Frutex. Ramuli sat robusti, c. 2,5 mm diam., ad internodia ultima dense lepidibus substellatis breviter stipitatis rufidulis obsiti, ceterum brevissime papilloso-puberuli, in partibus inferioribus glabrescentes minuteque verruculosi, denique cortice cinereseenti longitudinaliter fissi obtekti; internodia 3,5—9 cm longa. Folia in superiore % parte internodii ultimi et penultimi alterna, summa 2—3 approximata et quasi pseudoverticillum formantia, late elliptica vel ovato-elliptica, apice late attenuata, subacuminata vel plerumque ± rotundato-obtusa, glandula terminali incrassata parum prominente, basi rotundata vel saepius leviter cordata, coriacea, rigida, supra in sicco sordide cinerascens-olivacea, subtus dilute castanea, in vivo supra pallide viridia, matura vestigiis lepidum ornata, in superficie rugosula, denique omnino glabrescentia, subtus subdense lepidota (lepidibus parvis in zona marginali membranacea mox dissoluta irregulariter crenata vel denticulata, centro persistente sat magno, crasso et rubronigrescente bene impressis, ut lepides orbiculares esse videntur), margine indistincte cartilagineo manifeste regulariter crenulata, haud revoluta, 1,7—2,6(—3) cm longa, (1,2—) 1,5—2,2 cm lata, costa supra rubescenti-castanea facieque diutius (vel densius) lepidota leviterque immersa, subtus inferne valida obtuseque prominente, apicem laminae versus sensim diminuta, nervis lateralibus utroque latere 3—4(—5), patentibus, supra levissime impressis, subtus prominulis, saepius subtus vel rarius utrinque subinconspicuis, reticulatione nulla; petioli applanati, crassi, dense lepidoti, 4—5 mm longi, 1—1,5 mm lati. Umbellae 2—3-florae. Perulae exteriores ovatae, obtusae, interiores ± obovatae, dorso glabrae, lepidoto-ciliatae, 1—1,5 longae, 0,8—1,2 cm latae. Bracteolae haud visae. Pedicelli densissime lepidibus saturate ruf o-brunneis breviter stipitatis margine bene stellato-incisis obtekti, epilosi, 1—1,5 cm longi, 1 mm crassi. Calyx patellaris, breviter obtuse 5-lobus, 3—4 mm diam., dorso dense lepidotus. Corolla tubuloso-infundibuliformis, aliquot zygomorpha, atropurpurea, (3,5—) 4—4,5 cm longa, extus margine loborum excepto dense lepidibus purpurascens substellatis induta, intus glabra, tubo subrecto 2,5—3 cm longo, in basi minute 5-saccata 5—6, infra lobos 10—13 mm diam., lobis 5 ± patentibus, late obovatis vel subrotundatis, paullo retusis, 1—1,5 cm longis, 1—1,3 cm latis. Stamina 10, inaequilonga, ± dimidium corollae loborum aequantia; filamenta linearia, basi 1,5 mm lata, glabra; antherae late elliptico-oblongae, fere 4 mm longae, 1,5 mm latae, thecis basi breviter apiculatis. Discus prominens, glaber. Ovarium ovoideo-conicum, sensim in stylum attenuatum, densissime substellato-lepidotum, 5—6 mm longum, basi fere 3 mm diam. Stylus stamina subaequans, in 1/3 infer, parte subdense usque laxe lepidotus, ceterum glaber; stigma subturbinato-capitatum. Capsula fere matura fusiformi-cylindrica, basi breviter, apice longius attenuata, paullo obliqua, 2—2,5 cm longa, 0,6 cm lata, dense lepidota.

NEW GUINEA. Northwestern part: Mt Wilhelm, Lake Piunde vicinity (2°45' S, 145°5' E), montane forest, c. 3620 m, fl. magenta, 1-8-1956, *N.G.F.* 8870 *Womersley* (BM, BRI, CANB, K; L, type; LAE, SING); *ibid.*, 3745 m, *Robbins* 71§.



174. RHODODENDRON BUXIFOLIUM LOW *ex* Hook. f.

*Rhododendron buxifolium* Low *ex* Hooker f. in Hook., Ic. Pl. t. 890. 1852; Walp., Ann. 5: 146. 1858; Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 197. 1894; Millais, Rhodod. 131. 1917; Merr., En. Born. 460. 1921. ;

## 174a. var. BUXIFOLIUM

BORNEO. North Borneo: Mt Kinabalu, (2745—)3500—4096 m (top), Low *s.n.* (CGE; K, type; L, fragm.; W); Haviland 1080; Clemens 10658, 10661 (cit. Merr., not seen), 27107, 27114, 27943, 35069; Topping 1693 (cit. Merr., not seen); KEP 80382 Wyatt Smith; Jacobs 5743.

174b. var. robustum Sleum., *nov. var.*

*Rhododendron verticillatum* (*non* Low *ex* Lindl.) Low *ex* Hooker f. in Hook., Ic. Pl. t. 884. 1852; Walp., Ann. 5: 447. 1858, *p.p.*; Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 197. 1894; Merr., En. Born. 463. 1921, *p.p.*—*R. intermedium* Low *ex* Hook. f. in Hook., Ic. Pl. sub t. 884 in text, *nom. nud.*

This is the plant figured on t. 884- by Hooker f. which differs from the true *R. buxifolium* by its larger leaves, but is not too sharply distinguished as intermediates occur. Var. *robustum* does not reach the very top of Mt Kinabalu, as does var. *buxifolium*.

BORNEO. North Borneo: Mt Kinabalu, (2440—)3350—3800 m, Low *s.n.* (CGE, '*R. intermedium*'; K, type); Haviland 1147; Clemens 28912, 51406; Nat. Coll. 42, 54; SF 27610 Carr; Sinclair *c.s.* 9150.

## 175. RHODODENDRON WRIGHTIANUM Koord.

*Rhododendron wrightianum* Koorders in Nova Guinea 8(4): 880. 1912; J.J.S. *I.e.* 12(2): 130. 1914; *I.e.* 18: 94. 1936.—*R. wrightianum* Koord. var. *ovalifolium* J.J.S. in Nova Guinea 12(2): 131, t. 29 B. 1914.

## 175a. var. WRIGHTIANUM

NEW GUINEA. Southwestern part: Oranje Mts, Erica top, c. 1460 m, *von Rb'mer* 1059 (BO, type of *R. wrightianum*). Mt Hellwig, 1700 m, *Pulle* 694. Mt Goliath, 2500—2800 m, *de Kock* 51, 53 (BO, lectotype of *R. wrightianum* var. *ovalifolium*, in alcohol); *ibid.*, 3250 m, *de Kock* 139 (BO). Northern part: Nassau Mts, W side, 2600 m, *Docters van Leeuwen* 10829. 15 km SW of Bernhard Camp, Idenburg R., 1800 m, *Brass* 11877. 9 km NE of Lake Habbema, 2800 m, *Brass* 10562, 10801, 10893. 18 km NE of Lake Habbema, Bele R., 2600 m, *Brass* 11047.

## 175b. var. CYCLOPENSE J. J. S.

*Rhododendron wrightianum*, Koord. var. *cyclopense* J. J. Smith in Nova Guinea 12(2): 130. 1914.

NEW GUINEA. Northern part: Mt Cyclops, 1560—1800 m, *Gjellerup* 542 (BO, type of *R. wrightianum* var. *cyclopense*; L); *van Royen* 3716.

175c. var. **insulare** Sleum., *nov. var.*

Folia 1—2 cm longa, 0,6—1,2(—1,5) cm lata. Perulae dorso laxe lepidotae omnino epilosae, usque ad 8 mm longae. Pedicelli lepidoti, interdum ultro laxe brevissimeque pilosuli.

NEW GUINEA. Southeastern part: Milne Bay Distr., Normanby Isl., Mt Pabiname, 820 m, Brass 25637 (A; L, type), fl. reddish pink, 5-1-1956, stiff shrub, 30—50 cm, common epiphyte in tall mossy forest (Pedicelli lepidoti). Goodenough Isl., E slopes, 1600 m, Brass 24797, 24886, fl. pink, 10-1953, common high epiphyte on heavy mossed forest trees, erect," slender shrub, 1—1,5 m (Pedicelli lepidoti brevissimeque pilosi).

176. **Rhododendron subcrenulatum** Sleum., *nov. spec.*

Frutex 30—50 cm altus, erectus, ramis teretibus cortice atro-cinerascenti rectangulariter fissis obtectis, 4—5 mm diam. Ramuli divaricati, c. 2 mm diam., ad internodia ultima dense lepidibus substellatis bene stipitatis instructi, ad partes inferiores mox glabrescentes et pro parte iam griseo-corticati minuteque verruculosi, tactu asperuli; internodia 2,5—5 cm longa. Folia in pseudoverticillis 3—5-meris ad nodos 3—5 ultimos disposita, ± anguste elliptica rarius subovato- vel subobovato-elliptica, apicem versus breviter acuminata, apice ipso glandula ± obtusata, basi late attenuata vel subtruncato-obtusa, valde coriacea et rigida, in sicco supra brunneo-olivacea, laevia et subnitida, subtus brunnea, rugosula et subopaca, initio utrinque subdense lepidota, aetate supra cito glabrescentia, subtus ± persistenter lepidota (lepidibus sat parvis, in zona rarginali tenui varie dentatis vel irregulariter crenatis, centro subcrasso bene immersis), margine anguste cartilaginea, parum vel plerumque haud revoluta, subcrenulata vel integra, 2—2,8(—3) cm longa, (0,8—)1—1,4 cm longa, costa supra ± distincte angustequae immersa, subtus inferne crasse obtuse prominente, superne minus distincta, nervis inconspicuis; petioli dense lepidoti, vix applanati, 2—3 mm longi, 1,5—2 mm lati. Umbellae 2—4-florae, interdum ad florem unicum reductae. Perulae exteriores ovatae, 4—5 mm longe subulato-acuminatae, interiores ovato-oblongae, c. 1 cm longe subulatae, intimae subspathulatae obtusae, 1—1,5 cm longae, 0,5—0,8 cm latae, dorso superne lepidotae vel omnino glabrae, haud sericeae, margine initio lepidibus caducis obsitae demum brevissime vel haud fimbriatae. Bracteolae lineares, c. 1 cm longae. Pedicelli densissime rufo-stellato-lepidoti, epilosi, sub anthesi 1,5—2 cm longi, c. 1 mm crassi, postea usque ad 3 cm elongati. Calyx disciformis, parum obliquus, brevissime obtuse 5-lobatus, densissime stellato-lepidotus, 3—4 mm diam. Corolla tubulosa, parum zygomorpha, saturate rubra, 2,5—3 cm longa, extus loborum margine excepto subdense stellato-lepidota, intus glabra, tubo subrecto 2—2,3 cm longo, basi vix saccata c. 4 diam., infra lobos 0,8—1 cm diam., lobis 5 erecto-patentibus, suborbicularibus, 5—7 mm diam. Stamina 10, inaequilonga, longissima corollam fere aequantia; filamenta linearia, glabra; antherae late oblongae, nigrescentes, 2,5 mm longae, 1 mm latae, basi obtusae. Discus glaber (vel in margine superiore pilosulus: Brass 9315) Ovarium subcylindricum, densissime stellato-lepi-



dotum, 6—7 mm longum, 2,5 mm crassum, sensim in stylum abiens. Stylus in infer.  $\frac{1}{5}$ — $\frac{1}{3}$  parte lepidotus, ceterum glaber, stamina  $\pm$  aequans; stigma subcapitatum. Capsula deest.

NEW GUINEA. Northwestern part: Lake Habbema, 3225 m camp and up to 3345 m, fl. 10-1938, *Brass* 9278 (A, type; L), 9315, 9568.

177. *Rhododendron rubrobracteatum* Sleum., *nov. spec.*

Frutex parvus usque ad 60 cm altus, epiphyticus vel terrestris. Ramuli sat graciles, 1,5—2 mm diam., ad internodia ultima et penultima laxe lepidibus substellatis adpersi, inferne glabrescentes et laeves; internodia 2—7 cm longa. Folia in pseudoveriticillis 3—5-meris ad nodos 2—3 ultimos disposita (folio uno alterove paullo infra nodos inserto), oblonga usque elliptico-oblonga, apice breviter acuminata, subacuta vel obtusa, saepius glandula terminali apiculata, basi late attenuata rarius truncato-subrotundata, coriacea, supra in sicco sordide brunneo-olivacea vel -cine-rascentia, subtus aequaliter dilute brunnea, utrinque subopaca, matura supra minute rugulosa, lepidibus relictis instructa vel omnino glabra, subtus satis laxe et diutius lepidota (lepidibus in zona marginali tenui irregulariter substellato-dentatis, centro leviter impressis), margine minute cartilaginea et pallidiora, integra, undulata vel subcrenulata, haud vel vix revoluta, (2—)2,3—3,8(—4, rarissime usque ad 5) cm longa, 1—1,6 cm lata, costa supra  $\pm$  immersa, subtus obtuse prominente, nervis laterali-bus subinconspicuis; petioli parum applanati, lepidoti, 3—5(—7) mm longi, 1—1,5 mm lati. Umbellae (2—)3(—5)-florae. Perulae ovato-acumi-natae, in acumen brevem extenuatae vel subsubulatae, rubrae, membrana-ceae, nitidulae, glabrae, initio in margine lepidibus mox caducis obsitae, demum omnino glabrae, (1—)1,2—2 cm longae, 0,4—0,9 cm latae. Brac-teolae filiformes, c. 0,6 cm longae. Pedicelli subgraciles, densissime rufo-stellato-lepidoti, ceterum  $\pm$  dense papilloso, 1,3—2 cm longi. Calyx oblique disciformis, obscure obtuseque 5-dentatus, dorso lepidotus, c. 3 mm diam. Corolla tubulosa, subobliqua, rubra, rosaceo-rubra vel subaurantiaco-rosacea, tota 2—2,6 cm longa, extus laxe usque subdense stellato-lepidota, intus glabra, tubo subrecto vel paullo curvato 1,6—2 cm longo, ad basin 5-saccatam c. 5 mm diam., infra lobos usque ad 7 vel 8 mm diametro ampliata, lobis 5 erecto-patentibus, late obovatis vel suborbicularibus, leviter retusis, 5—6 mm diam. Stamina 10, inaequalia, longissima fere corollam aequantia vel interdum paullo superantia; filamenta linearia, glabra; antherae late oblongae, c. 2 mm longae, basi obtusae. Discus glaber. Ovarium subcylindricum, densissime stellato-lepidotum, c. 4 mm longum, 1,5 mm diam.,  $\pm$  sensim in stylum attenuatum. Stylus subgracilis, glaber, stamina subaequans; stigma subcapitatum. Capsula immatura fusiformis, c. 2,2 cm longa et 3,5 mm diam.

NEW GUINEA. Northwestern part: Lake Habbema, at 3345 m, 10-1938, *Brass* 9278 (A, type), 9279. 9 km NE of Lake Habbema, 2900 m, *Brass* 10525, 11003, 1100U-

Similar in habit, but with smaller (glabrous!) perulae and leaves and somewhat larger corollas (3 cm), also similar to *R. wrightianum* Koord. (cited by J. J. Smith under var. *ovalifolium* J.J.S. in Nova Guinea 18: 94. 1936), which however has sericeous bracts):

NEW GUINEA. Southwestern part: Mt Hellwig, 1900 m, *Pulle* 827, 828a. Wichmann Mts, 3000 m, *Pulle* 998.

### Series 7. Javanica Sleum., *nov ser.*

*Rhododendron* sect. *Schistanthe* Schlechter in Bot. Jahrb. 55: 140. 1917, *p.p.* (lectotype sp.: *R. hansemanni* Warb.).—*R.* sect. *Hapalanthe* Schltr, *I.e.* 155. 1918 (lectotype sp.: *R. zoelleri* Warb.).—*R.* sect. *Zygornorphanthe* Schltr, *I.e.* 145, *p.p.* (based on *R. keysseri* Foerster).—*R.* subsect. *Euviroya* Copel. f. in Philip. J. Sc. 40(2): 137, 159. 1929, s. sir. (based on *R. javanicum* (Bl.) Benn.).—*R.* subsect. *Leiovireya* Copel. f., *I.e.* 137, 167 (based on *R. crassifolium* Stapf).—*R.* subsect. *Schizovireya* Sleum. in Bot. Jahrb. 74: 538. 1949 (based on *R. macgregoriae* F. v. M.).

Folia inter maiora, omnia vel in eodem specimine certe pro parte maiore quam 4 cm longiora, forma varia.

TYPE SPECIES.—*R. javanicum* (Bl.) Benn.

#### KEY TO ALL SPECIES OF SERIES JAVANICA

1. Corolla outside (sub)densely to very densely short-pubescent, in addition whether or not lepidote.
  2. Leaves very shortly soft-hairy beneath at least when young. Borneo.
 

*178b. R. verticillatum* f. *velutinum*
  2. Leaves not hairy at all.
    3. Style with some patent hairs at the base or up to the lower third, rather abruptly set off against the ovary. Leaves ± bullate, the scales ± deeply stellate and subdendroid. Borneo. . . . . *179. R. rugosum*
    3. Style pubescent to nearly the top, continuous with the ovary. Leaves not bullate, the scales less deeply incised and sessile.
      4. Leaves cordate at the base. New Guinea . . . . . *180. R. christi*
      4. Leaves attenuate to rounded at the base.
        5. Corolla (5—)5,5—6,5(—7) cm long. Leaves 10—13 by (4,7—)5—7 cm. New Guinea. . . . . *181. R. curviflorum*
        5. Corolla 3—4(—5) cm long. Leaves (3—)3,5—8,5 by 2—4,5 cm. New Guinea.
 

*182. R. villosulum*
1. Corolla outside epilose or practically so (some hairs may be present at the base: *178. R. verticillatum*), in addition whether or not lepidote.
  6. Ovary glabrous or lepidote, not hairy at all.
    7. Ovary densely and persistently lepidote.
      8. Filaments glabrous.
        9. Anthers obovate or obcordate, i.e. much narrowed towards the base, the cells each with a distinct basal pointed appendix.
          10. Leaves oblong, entire, apex shortly acuminate, subacute; petiole 0,8—1,2 cm long. New Guinea . . . . . *183. R. glabriflorum*



10. Leaves obovate, subserrulate-crenulate, apex obtuse to rounded; petiole 0,3—0,5 cm long. New Guinea . . . . . 18U. *R. pachycarpon*
9. Anthers broad-oblong, base obtuse. (Leaves elliptic, entire, apex subacuminate to rounded; petiole 0,4—1(—1,2) cm). Celebes. . . . . 185. *R. celebicum*
8. Filaments distinctly pilose at least in the lower part.
11. Style epilose or with some sparse very short hairs at the very base, otherwise whether or not lepidote.
12. Leaves broadly attenuate at the apex,  $\pm$  blunt, manifestly (prominently or impressedly) reticulate on both faces. (Calyx lobes distinct). New Guinea. . . . . 186. *R. sayeri*
12. Leaves acuminate at the apex,  $\pm$  acute or rarely bluntish, not or but faintly reticulate.
13. Leaves ovate-lanceolate. Corolla 5,5—6 cm long. (Anthers narrow-oblong, 5,5—6,5 mm long). New Guinea . . . . . 187- *R. angulatum*
13. Leaves oblong-elliptic or more rarely elliptic. Corolla 2—3,5 cm long.
14. Calyx shortly cup-shaped, distinctly irregularly dentate. Anthers 1—1,5 mm long. Java . . . . . 188. *R. loerzingii*
14. Calyx disk-shaped, obliquely quinquangular. Anthers 3,5—4 mm long.
15. Leaves in 4—5-merous pseudowhorls at or nearly at the upper nodes, 6,2—8,3 by 2,4—3,2 cm. Moluccas (Buru). . . . . 189. *R. impressopunctatum*
15. Leaves scattered along the upper internodes, alternate, 9—12 by 3,5—5 cm. Philippines (Luzon). . . . . 190. *R. xanthopetalum*
11. Style rather densely set with short patent hairs (and some scales) in its lower half. New Guinea . . . . . 191. *R. hirtolepidotum*
7. Ovary initially laxly to subdensely lepidote, but  $\pm$  early glabrescent or glabrous from the begin.
16. Filaments glabrous.
17. Nerves in (15—)17—20 pairs, in an almost right angle to the midrib,  $\pm$ : straight towards the margin, curved before the edge. Style (4—)5—6 mm long. (Leaves alternate). Borneo. . . . . 192. *R. pseudomurudense*
17. Nerves in (6—)8—12(—15) pairs, in an angle of 45—55° to the midrib, mostly much ascending or curved. Style longer than 6 mm.
18. Most or all leaves scattered along the internodes.
19. Corolla 5-lobed to c. 3/5 of its length, orange, salmon, light violet or fiery red. Petiole 0,5—1 (rarely up to 1,5) cm. Pedicels (1,5—)2—3 cm in anthesis, 3—4 cm in fruit. Moluccas. . . . . 193. *R. seranicum*
19. Corolla lobed halfway, yellow. Petiole (1—)1,5—2 cm. Pedicels 1—1,5 cm in anthesis, 1,5—2 cm in fruit. Philippines (Luzon) . . . . . 19U. *R. loboense*
18. Leaves in distinct pseudowhorls, but one leaf mostly up to 1 cm below the others.
20. Corolla white. Philippines (Luzon). . . . . 195. *R. williamsii*
20. Corolla yellow, salmon or red.
21. Leaves  $\pm$  coriaceous. Corolla 3—3,5 cm long in all, yellow to orange or salmon, sometimes light red. Malay Peninsula . . . . . 196. *R. robinsonii*
21. Leaves  $\pm$  thickly coriaceous. Corolla 2—2,5 cm long in all, red to dark red or crimson, rarely orange-red. Sumatra. . . . . 197a. *R. rarilepidotum* var. *rarilepidotum*
16. Filaments  $\pm$  densely hairy at least in the lower part.

22. Style (much) longer than the ovary, at least 7 mm long.
23. Corolla 1,5—2(—2,5) cm long in all. Leaves  $\pm$  subcoriaceous, lanceolate to oblong-lanceolate, (3—)4—7 by (0,7—)1—1,5(—2, very rarely up to 2,5) cm. Capsule 1,8—2,2 by 0,5 cm Sumatra . . . . . 198. *R. multicolor*
23. Corolla longer. Leaves.( $\pm$  stiffly coriaceous), and mostly also the capsules larger.
24. Corolla lobed to 2/3, the tube pubescent inside along 5 vertical distinct stripes. Borneo. . . . . 199. *R. brevityubum*
24. Corolla lobed up to c. 1/2, equally short-pubescent or glabrous inside.
25. Leaves sessile or nearly so (the base  $\pm$  truncate-rounded).
26. Corolla (3—) 3,5—4 cm long in all. Capsule 2,5—3 by 0,6—0,7 cm. Sumatra. . . . . 200'. *R. sessilifolium*
26. Corolla (5—)5,5—6,5 cm long in all. Capsule (4—)4,5—5,5(—6) by 0,6—0,7 cm. Sumatra . . . . . 201. *R. beccarii*
25. Leaves distinctly petiolate (the base cuneate to rounded).
27. Leaves narrow in relation to their length, lanceolate (the apex subacutely acuminate), 14—18 (—23) by (2—)2,5—4(—4,5) cm. Borneo. . . . . 252. *R. retivenium*
27. Leaves wide in relation to their length, the apex subacute to obtuse.
28. Corolla tube narrow (its base 3—4(—5) mm diam.), elongate, c. 3/5 as long as the corolla. Corolla laxly lepidote outside. Borneo. . . . . 202. *R. kemulense*
28. Corolla tube wider (its base 5—8 mm diam.), shorter, mostly c. 1/2 (rarely up to 3/5) as long as the corolla. Corolla glabrous outside.
29. Nerves in (16—)18—20 pairs, narrow to each other,  $\pm$  straight and rectangular from the midrib. (Leaves opposite at and alternately scattered along the internodes). Borneo. . . . . 203. *R. moultonii*
29. Nerves in 7—10(—13) pairs, more distant from each other,  $\pm$  curved-ascending.
30. Corolla relatively small, (3—)3,5—4 cm long. Leaves shortly petiolate. Sumatra . . . . . 200. *R. sessilifolium*
30. Corolla generally (much) longer. Leaves relatively long-petiolate.
31. Leaves predominantly in pseudowhorls at or in part inserted a little below the nodes, occasionally some additional alternate ones in the upper third of the internode,  $\pm$  acuminate. Anthers (2,5—)3—3,5 (rarely up to 4) mm long. Sumatra, Java, Bali. . . . . 204a. *R. javanicum* var. *javanicum*
31. Leaves exclusively alternate along the internodes, apex  $\pm$  obtuse. Anthers 5—6(—7) mm long. Philippines, N. Celebes. . . . . 204fb. *R. javanicum*, var. *schadenbergii*
22. Style short, only  $\pm$  as long as the ovary.
32. Leaves ovate to oblong-ovate; petioles 4—6 by 3 mm. Sumatra. . . . . 205. *R. perplexum*,
32. Leaves elliptic to oblong; petioles 12—18 by 3—4 mm. Borneo. . . . . 206. *R. crassifolium*
6. Ovary hairy to various degree, otherwise whether or not lepidote.
33. Style hairy (or hairy and lepidote) to at least half its length, mostly so to nearly the top.



34. Leaves downy (and minutely lepidote) all over the undersurface at least initially (glabrescent to various degree in later stages). Borneo.  
178b. *R. verticillatum* f. *velutinum*
34. Leaves bearing no proper hairs underneath.
35. Leaves initially covered underneath with a rusty deterrent tomentum of deeply and regularly stellate-incised subdendroid scales, which persists at least at the base and/or along the midrib for a long time, but finally disappears with full age. Celebes. . . . . 207. *R. vanvuurenii*
35. Leaves less densely lepidote underneath, the scales  $\pm$  flat, widely distant from each other and less deeply stellate-incised, forming no proper tomentum, and mostly going rather early. (For a scurfy, somewhat deterrent type of scales see 230. *R. aurigeranum*)
36. Pedicels (6—)7—11 cm at full anthesis. New Guinea . . . 208. *R. englerianum*
36. Pedicels up to 6 cm, mostly much shorter.
37. Leaves  $\pm$  long-attenuate and (sub)acutely (subcaudate-) acuminate at the apex.
38. Corolla tubular, (6,5—7 cm long in all), the tube 4—5 cm long and very slightly expanded upwards. Celebes. . . . . 209. *R. rhodopus*
38. Corolla (broad-)funnel-shaped, i.e. the tube short (up to 1,5 cm long only) or, if longer, manifestly gradually dilated upwards.
39. Corolla 7,5—9(—10) cm long in all. New Guinea . . . 210. *R. baenitzianuvi*
39. Corolla up to 6,5 cm long in all.
40. Corolla deeply (to c. 2/3) lobed, the tube 1—2,1 cm long.
41. Leaves ovate to lanceolate-ovate; petiole rather slender, 1—1,5 mm diam. New Guinea. . . . . 211. *R. wentianum*
41. Leaves lanceolate to subovate- or oblong-lanceolate; petiole stout, 2—3 mm diam. New Guinea . . . . . 212. *R. cuspidellum*
40. Corolla relatively shortly (up to c. %) lobed, the tube 3—4 cm long.
42. Leaves acutely attenuate at the base. Borneo. . . 213. *R. commutatum*
42. Leaves rounded or slightly cordate at the base. Borneo.  
21U. *R. subcordatum*
37. Leaves shortly (acutely or mostly rather bluntly) acuminate or attenuate, or obtuse to rounded at the apex.
43. Leaves lanceolate to (sub)oblong-lanceolate, relation of width to length 1 : 3—4.
44. Corolla 6,5—7 cm long. Celebes. . . . . 209. *R. rhodopus*
44. Corolla 3—3,5(—4) cm long. Celebes. . . . . 215. *R. leptobrachion*
43. Leaves oblong, elliptic or ovate, more rarely subobovate, relation of width to length 1 : 1—2,5.
45. Corolla glabrous (elepidote) outside, or practically so.
46. Corolla tubular-funnel-shaped, 4—5 cm long.
47. Leaves 7—10,5 by 2,8—4,4 cm. Anthers exappendiculate. Celebes.  
216. *R. lomphense*
47. Leaves (7—)12—16 by (4—)5—7,5 cm. Anthers glandular-appendiculate at the base. Moluccas (Buru). . . . . 217. *R. buruense*
46. Corolla tubular, (6,5—)7—7,5 cm long. Celebes . 218. *R. bio ember genii*
45. Corolla laxly to densely lepidote outside.

48. Corolla lobed to  $1/2$ — $2/3$  of its total length, the tube short (up to c. 1 cm long), the lobes much (often horizontally) spreading.
49. Corolla (as the filaments below)  $\pm$  densely hairy at the tube inside. New Guinea . . . . . 219a. *R. macgregoriae* var. *macgregoriae*
49. Corolla glabrous inside.
50. Filaments densely hairy below. New Guinea. . . . . 219b. *R. macgregoriae* var. *mayrii*
50. Filaments very sparsely hairy below, or glabrous at all. New Guinea. . . . . 219c. *R. macgregoriae* var. *glabrifilum*
48. Corolla lobed to  $1/4$ — $1/2$  of its total length, the tube longer than 15 cm, the lobes spreading to various degree.
51. Leaves orbicular or broadly subovate-elliptic, sessile or practically so. Borneo. . . . . 220. *R. orbiculatum*
51. Leaves of other form, subsessile or mostly petiolate.
52. Filaments glabrous or practically so.
53. Leaves ovate to ovate-elliptic, base cordate. New Guinea. . . . . 221. *R. rosendahlia*
53. Leaves elliptic to obovate-oblong, rarely obovate, base broadly attenuate into the petiole. New Guinea. . . . . 2Jf7b. *R. culminicolum* var. *nubicola*
52. Filaments distinctly pubescent below.
54. Leaves smaller, i.e. (2,5—)4—7,5 (rarely in part of the same specimen up to 9) by (1,5—)2—4(—5) cm.
55. Anthers 2—3(—3,5) mm long. (Corolla rather narrow-funnel-shaped to narrow-tubular).
56. Leaves elliptic to broad-elliptic or ovate-elliptic, or sometimes more obovatei-elliptic.
57. Corolla 4—4,5 cm long in all.
58. Corolla lobes 1(—1,2) cm long. New Guinea. . . . . 222. *R. flavoviride*
58. Corolla lobes (1,5—)2(—2,5) cm long.
59. Corolla white. (Ovary tomentose, the hairs covering the scales. Inflorescence (8—)9—13-flowered). New Guinea. . . . . 223. *R. comparabile*
59. Corolla red.
60. Ovary  $\pm$  laxly pubescent, the scales clearly visible. Inflorescence 3—5(rarely up to 7)-flowered. Queensland. (See under sp. 223). . . . . *R. lochae* F.v.M.
60. Ovary tomentose (the hairs covering the scales). Inflorescence 5—10-flowered. Small-leaved forms of . . . . . 225a. *R. longiflorum* var. *longiflorum*
57. Corolla 3—3,5 cm long. Bougainville . . . . . 224. *R. luraluense*
56. Leaves oblong to oblong-elliptic or oblong-obovate.
61. Corolla white (3—3,5 cm long). Leaves short-petiolate (3—4(—5) mm). Bougainville. . . . . 22k. *R. luraluense*
61. Corolla red. Leaves longer (6—10 mm) petiolate.
62. Perulae faintly or not sericeous dorsally. Corolla 4—5(—6) cm long in all. Malay Peninsula, Sumatra, Borneo. . . . . 225a. *R. longiflorum* var. *longiflorum*



62. Perulae manifestly sericeous dorsally. Corolla 2—2.5 cm long in all. Banka . . . . . 225b. *R. longiflorwm* var. *bancanum*
55. Anthers 4—5 mm long.
63. Corolla ± tubular. New Guinea. Small-leaved form of  
231. *R. scabridibracteum*
63. Corolla ± broadly funnel-shaped or widely tubular-campanulate.
64. Corolla widely tubular-subcampanulate. Perulae up to 1.5 by 0.8 cm. Umbels (2—)3—4-flowered. New Guinea. 226. *R. christianeae*
64. Corolla ± broadly funnel-shaped. Perulae up to 5 by 2 cm. New Guinea . . . . . 227. *R. laetum*
54. Leaves larger, i.e. (5—)7—15(—18) by (2.5—)3—8 cm, generally manifestly petiolate (short-petiolate: 227. *R. laetum*, 229. *R. brevipes*, 232. *R. zoelleri*, p.p.)
65. Outer and middle perulae up to 2 cm long, glabrous, or lepidote, or finely sericeous and lepidote outside.
66. Corolla white, tubular. Philippines. . . . . 228. *R. kochii*
66. Corolla yellow, orange, rose-red to red (crimson), funnel-shaped.
67. Leaves sessile or nearly so (petiole 1—2(—3) by 3—4 mm). Corolla 7.5—8 cm long in all. New Guinea . . . . . 229. *R. brevipes*
67. Leaves ± manifestly petiolate. Corolla up to 7 cm long in all.
68. Leaves thick-coriaceous, stiff, base rounded or often slightly cordate. Borneo. . . . . 178a. *R. verticillatum* i. *verticillatum*
68. Leaves subcoriaceous to coriaceous, base usually ± cuneate, sometimes rounded.
69. Perulae ± densely lepidote in the upper part both outside and inside. Scales on the leaves of a scurfy, somewhat deterrent type. New Guinea . . . . . 230. *R. aurigeranum*
69. Perulae lepidote and whether or not laxly sericeous outside (mostly early glabrescent), glabrous inside. Scales on the leaves not scurfy, (very) early caducous.
70. Corolla 4—5(—6) cm long in all. Perulae faintly or not sericeous outside. Malay Peninsula, Sumatra, Borneo.  
225a. *R. longiflorwm* var. *longiflorwm*
70. Corolla 2—2.5 cm long in all. Perulae manifestly sericeous dorsally. Banka . . . . . 225b. *R. longiflorwm* var. *bancanum*
65. Outer and middle perulae distinctly larger, sometimes up to 5 cm long, all over densely covered with a it seabrid ± appressed tomentum of stoutish hairs outside for a long time, glabrescent in later stages, remaining rough to the touch.
71. Corolla ± tubular, densely lepidote outside. Leaves manifestly reticulate at least beneath. New Guinea. . . . 231. *R. scabridibracteum*
71. Corolla ± funnel-shaped, ± laxly lepidote outside. Leaves faintly or not reticulate.
72. Leaves broad-elliptic or subovate-elliptic, subsessile or very shortly (2—5, rarely up to 7 by (1.5)2—3 mm) petiolate. Anthers (4—)5 mm long. New Guinea . . . . . 227. *R. laetum*

72. Leaves elliptic to oblong-elliptic, rarely subovate-elliptic or ovate-oblong, generally manifestly ((3—)10—15 by 1.5—2 mm) petiolate. Anthers (5—)6—8 mm long (sometimes shorter?). New Guinea. 232. *R. zoelleri*
33. Style hairy at the base, or rarely so up the lower 1/3, or quite glabrous.
73. Leaves markedly bullate. Borneo. . . . . 233. *R. maxwellii*
73. Leaves not bullate.
74. Leaves narrow-lanceolate, (0.6—)1—2 cm wide.
75. Leaves (2.7—)5—7.5 cm long, sessile or nearly so., the reticulation distinctly prominent on both faces. Corolla red. Borneo. . . . . 234. *R. nervulosum*
75. Leaves 10—15 cm long, (3—)4—6 mm petiolate, the reticulation, if any, faintly visible on the upper surface only. Corolla yellow or buff orange. Borneo. . . . . 235. *R. salicifolium*
74. Leaves lanceolate or of other form, at least in part in the same specimen wider than 2 cm.
76. Leaves 4—8 (rarely in the same specimen partly up to 10) cm long.
77. Style markedly abrupt with a short-conical or obovoid-cylindrical ovary (glabrous or only with some scattered hairs at the very base).
78. Leaves sessile or nearly so. Borneo. . . . . 236. *R. lanceolatum*
78. Leaves manifestly petiolate.
79. Corolla broadly funnel-shaped, lobed halfway or more.
80. Leaves rounded-obtuse at the apex. Perulae up to 8 by 5 mm, sericeous dorsally. Sumatra. . . . . 237. *R. sumatranum*
80. Leaves acuminate, subobtusate at the very apex. Perulae up to 2 by 1 cm, quite glabrous dorsally. Sumatra. . . . . 197b. *R. rarilepidotum* var. *ootrichum*
79. Corolla tubular or narrow-funnel-shaped, lobed to c. 1/3.
81. Corolla glabrous outside. Leaves in distinct pseudowhorls. New Guinea. . . . . 238. *R. arfukianum*
81. Corolla laxly lepidote, outside. Leaves scattered along the branchlets. Celebes. . . . . 239. *R. impositum*
77. Style continuous or subabrupt with the ovoid to cylindrical ovary, glabrous or pubescent up to the lower 1/3.
82. Corolla lobed to 1/2 or more.
83. Corolla ± densely lepidote outside, the lobes much (often horizontally) spreading. Pedicels slender, generally much longer than the corolla.
84. Corolla (as the filaments below) ± densely hairy at the tube inside. New Guinea. . . . . 219a. *R. macgregoriae* var. *macgregoriae*
84. Corolla glabrous inside.
85. Filaments densely hairy below. New Guinea. . . . . 219b. *R. macgregoriae* var. *mayrii*
85. Filaments very sparsely hairy or glabrous. New Guinea. . . . . 219c. *R. macgregoriae* var. *glabrifilum*
83. Corolla glabrous outside, the lobes suberect or subpatent. Pedicels rather stout, much shorter than the corolla.
86. Corolla 2.5 cm long. Anthers 4 mm long. S. Annam. *R. chevalieri* Dop
86. Corolla 3—4 cm long. Anthers 2.5 mm long.



87. Corolla 3,7—4 cm long. Anthers exappendiculate. Philippines.  
240a. *R. leytense* var. *leytense*
87. Corolla c. 3 cm long. Anthers appendiculate at the base. Philippines.  
240b. *R. leytense* var. *loheri*
82. Corolla lobed to less than half the total length.
88. Leaves very shortly and broadly (2—5 by 2—3 mm) petiolate or subsessile, the base rounded or slightly cordate. New Guinea . . . 241. *R. convexum*
88. Leaves manifestly petiolate, the base attenuate or cuneate, rarely rounded.
89. Style half as long as the stamens. Philippines (Cebu).  
242. *R. brachygynum*
89. Style (nearly) as long as or longer than the stamens.
- 90J Corolla white. Perulae relatively large, up to 3,5 by 1,5 cm. Philippines (Mindanao). . . . . 243. *R. mindanaense*
90. Corolla red, rose or orange. Perulae, as far as known, rather small, up to 2 by 1 cm.
91. Ovary  $\pm$  tomentose, bearing a few very early caducous scales. Capsule hairy, not lepidote. Nerves and/or veins obsolete or not visible at all on the leaves. Plores. . . . . 244. *R. renschianum*
91. Ovary hairy (tomentose) and lepidote to various degree, the scales (which are often covered or hidden by the hairs on the ovary), persistent and well visible on the capsule. Nerves and/or veins  $\pm$  distinct on the undersurface of the leaves.
92. Corolla 2,6—3(—3,5) cm long in all.
93. Leaves elliptic to oblong-elliptic,  $\pm$  acutely attenuate at the apex and base. Pedicels lepidote and whether or not hairy. New Guinea.  
245. *R. anginese*
93. Leaves more obovate-elliptic, often more rounded at the apex. Pedicels exclusively lepidote. New Guinea.  
247a. *R. culmicolum* var. *culmicolum*
92. Corolla 3,5—5(—6) cm long in all.
94. Leaves broad-elliptic to broadly obovate-elliptic. (Corolla 4—4,5 (—5,5) cm long. Anthers 2,5(—3) mm long). New Guinea.  
246. *R. keysseri*
94. Leaves elliptic to oblong, or oblong- or elliptic-obovate, or rarely obovate.
95. Corolla 3,5—4(—4,5) cm long. Leaves (2,5—)3,5—6 by (1,8—)2—3 (—3,5, rarely up to 4) cm. New Guinea.  
247a. *R. culmicolum* var. *culmicolum*
95. Corolla (4,5—)5—5,5(—6) cm long. Leaves (4,5—)5,5—8(—9) by 2,5—4(—5) cm. New Guinea . . . . . 248. *R. gregarium*
76. Leaves at least partly in the same specimen or mostly all longer than 8 cm.
96. Corolla laxly to subdensely lepidote outside.
97. Apex of the leaves  $\pm$  long and acutely (subcaudate-) acuminate.
98. Leaves (lanceolate or oblong-lanceolate) 1,5—3 cm wide. New Guinea.  
249. *R. mollianum*
98. Leaves (2,5—)3,5—6,3 cm wide.
99. Leaves ovate to lanceolate-ovate; petiole slender, 1—1,5 mm diam. New Guinea . . . . . 211. *R. wentianum*

99. Leaves lanceolate, sometimes subovate- or oblong-lanceolate; petiole stout, 2—3 mm diam. New Guinea . . . . . 212. *R. cuspidellum*
97. Apex of the leaves shortly and acutely or mostly obtusely acuminate or attenuate, or obtuse at all.
100. Corolla  $\pm$  4 cm long in all, the tube 2—2,5 cm.
101. Style 3 times as long as the ovary. Celebes . . . . . 250. *R. poremense*
101. Style  $\pm$  as long as the ovary. Philippines (Cebu). 242. *R. brachygynum*
100. Corolla (1,8—)2,8 cm long in all, the tube 0,5—1 cm long.
102. Leaves sessile or nearly so. Borneo. . . . . 236. *R. lanceolatum*
102. Leaves distinctly petiolate. New Guinea.  
219. *R. maegregoriae* sensu lat.
96. Corolla quite glabrous outside from the begin.
103. Style  $\pm$  as long as the ovary. Philippines (Cebu). . 242. *R. brachygynum*
103. Style much longer than the ovary.
104. Leaves manifestly cordate at the base. Moluccas (Ceram).  
251. *R. stresemannii*
104. Leaves rounded (rarely subcordate) or attenuate at the base.
105. Ovary sparsely and shortly hairy besides a few scales (seemingly glabrous without the use of a lens! Leaves lanceolate to lanceolate-oblong, finely but remarkably reticulate on both faces). Borneo.  
252. *R. retivenium*
105. Ovary subdensely to densely and rather longish white-hairy.
106. Leaves large, (12—)14—23 by (5—)6—13 cm (relation length to width 2—2,5: 1), stiffly coriaceous; petiole very stout and flattened, (3—)5—10 (rarely up to 15) by 3—5(—6) mm (inserted on a thick leaf-cushion). Borneo. . . . . 253. *R. lowii*
106. Leaves mostly smaller, only (2—)2,5—5 (partly in the same specimen occasionally up to 9) cm wide (relation length to width 3—5: 1, if wider than 5 cm), less stiff; petiole mostly more slender.
107. Leaves oblong-ovate, the nervation manifestly sunk above. Moluccas (Buru). . . . . 254. *R. toxopei*
107. Leaves lanceolate to oblong, or elliptic-oblong, sometimes subovate- or subobovate-oblong, the nerves but faintly or not sunk above.
108. Leaves broadly oblong to subovate- or subelliptic-oblong. Corolla (3—)4—5(—5,5, rarely up to 6) cm long. Sumatra, Malay Peninsula, Java, Bali. . . . . 204c *R. javanicum* var. *teysmannii*
108. Leaves oblong to lanceolate. Corolla mostly 6—7(—8) cm long, rarely shorter.
109. Leaves oblong or lanceolate-oblong,  $\pm$  shortly acuminate, (3—)3,5—8(—9) cm wide.
110. Petioles 18—25 by c. 3 mm. S. Annam.  
*R. triumphans* Yersin & Cheval.
110. Petioles 2—10 (sometimes up to 15) by (2—)3—4(—5) mm.
111. Leaves bearing no hairs. Borneo.  
255a. *R. brookeanum* var. *brookeanum*
111. Leaves densely short-hairy on the branchlets and on both sides of the midrib. Borneo. 255b. *R. brookeanum* var. *cladotrichum*



109. Leaves lanceolate or oblong-lanceolate, longer and/of more acutish acuminate (mostly more slenderly petioled, 6—15 by 1.5—2, rarely up to 3 mm. Anthers  $\pm$  4 mm long).

112. Leaves lanceolate. Corolla 5(—6) cm. Borneo.

255c. *R. brookeanum* var. *gracile*

112. Leaves oblong-lanceolate. Corolla 4(—5) cm. Sumatra.

255d. *R. brookeanum* var. *extraneum*

### 178. RHODODENDRON VERTICILLATUM LOW *ex* Lindl.

*Rhododendron verticillatum* Low *ex* Lindley in J. Hort. Soc. Lond. 3: 86, c. icon, p. 87. 1848; Planch., Fl. Serres 5: 477—480, fig. 1849; Walp., Ann. 5: 447. 1858, p.p.; Millais, Rhodod. 258. 1917; Merr., En. Born. 463. 1921, p.p., non Low *ex* Hook, f. in Hook. Ic. Pl. t. 884. 1852.

#### 178a. f. VERTICILLATUM

BORNEO. Sarawak: G. Penrissen, c. 1430 m, *Low s.n.* (CGE, type; K). Kuching, *Haviland s.n.* (K). Lundu, top of Mt Gading, *Haviland 980*. Bongo Mts, *Brooks & Hewitt s.n.*

#### 178b. f. *velutinum* (Becc.) Sleum., *nov. stait.*

*Rhododendron velutinum* Beccari, Malesia 1: 204. 1878; Merr., En. Born. 463. 1921.

BORNEO. Sarawak: Mt Linga, Prov. Batang Lupar, c. 700 m, *Beccari P.B. 3956* (PI, type). Mt Santubong, *Sinclair 5603* (SF 38350); *Hewitt s.n.* No locality given: *Moulton s.n.*; *Nat. Coll. 2259*. Western Borneo: G. Kenepai, *Hallier 1688*. 'Borneo', *de Vriese s.n.*

### 179. RHODODENDRON RUGOSUM LOW *ex* Hook. f.

*Rhododendron rugosum* Low *ex* Hooker f., Ic. Pl. t. 885. 1852; Walp., Ann. 5: 446. 1858; Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 197. 1894; Gibbs in J. Linn. Soc. Bot. 42: 104. 1914; Millais, Rhodod. 237. 1917; Merr., En. Born. 463. 1921.—*R. kinabaluense* Merr. in J. Str. Br. R. As. Soc. 76: 108. 1917; En. Born. 461. 1921.

BORNEO. North Borneo: Mt Kinabalu, (1525—) 2135—3350 m, *Low s.n.* (CGE; K, type of *R. rugosum*); *Burbidge s.n.*; *Haviland 1139*; *Gibbs 4419*; *Clemens 10691, 10693* (cit. Merrill, not seen), *10892* (A, type of *R. kinabaluense*), *27874, 28890, 29072, 29081, 31667, 31813, 31907, 35070, 35071, 35072, 50613, 50766, 50913, 50968bis*; *Haslam s.n.*; *Nat. Coll. 100*; *SF 28040 Carr*; *Holtum s.n.*; *SF 18171 Enriquez*; *KEP 80364 Wyatt-Smith*; *Sinclair c.9. 9036*; *Jacobs 5733*.

### 180. RHODODENDRON CHRISTI Foerster

*Rhododendron christi* Foerster in Fedde, Rep. 13: 222. 1914; Schltr in Bot. Jahrb. 55: 155. 1918. incl. var. *loniceroides* Schltr, *I.e.*; Diels, *I.e.* 62: 487. 1929.—fi. allied to *R. wentianum*, Stonor, Rhodod. Yearb. 6: 50, /, 54. 1951.

NEW GUINEA. Northeastern part: Morobe Distr., Mt Saruwaged, 2400—3000 m, *Keysser s.n.* (B, type of *B. christi*, f); *Keysser 176* (A, phot.; BM, neotype); *ibid.*, 3600—4000 m, *Keysser 58* (B, f); Buso R., 1830—2440 m, *Clemens 626b*; Sambanga, 1525—1830 m, *Clemens 6719*; above Boana, Sattelberg region, 1220—1830 m, *Clemens 8444a*>. Rawlinson Range, 2135 m, *Clemens 12319bis, 41404*. Finisterre Mts, 1200 m, *Schlechter 18205* (B, type of *R. christi* var. *lonioeroides*, f; P). Central Highlands: Hagen Range, 2440 m, *Stonor 9* (E, 'R. all. *R. wentianum*'). South-eastern part: Murray Pass, Wharton Range, Central Distr., 2840 m, *Brass 4531*.

### 181. RHODODENDRON CURVIFLORUM J.J.S.

*Rhododendron curviflorum* J. J. Smith in Bull. Jard. Bot. Btzg II, 8: 50. 1912; in Nova Guinea 12(2): 141, t. 36B. 1914.

NEW GUINEA. Southwestern part: Joh. Keyts Mts, c. 1900 m, *Le Cocq d'Armandville 233* (BO, type, cons, alcoh.). Northwestern part: Bele R., c. 18 km NE of Lake Habbema, 2200 m, *Brass 11215, 11536*.

### 182. RHODODENDRON VILLOSULUM J.J.S.

*Rhododendron villosulum* J. J. Smith in Med. Rijksherb. 25: 5. 1915; in Nova Guinea 12(5): 507. 1917, t. 201. 1918; *l.e.* 18: 94. 1936.—*R. franssenianum* J.J.S. in Med. Rijksherb. 25: 5. 1915; in Nova Guinea 12(5): 508. 1917, t. 202. 1918.

NEW GUINEA. Southwestern part: Hellwig Mts, 2500 m, *Pulle 589* (BO, lectotype of *R. villosulum*; L); Treub Mts, 2400 m, *Pulle 1108* (syntype of *R. villosulum*); between the Wichmann and Hubrecht Mts, 2800—3000 m, *Pulle (Versteeg) 2424* (L, type of *R. franssenianum*). Northwestern part: Nassau Mts W, 2500—2600 m, *Docters van Leeuwen 10860, 10909*. Wissel Lake region, 1755—2400 m, *Eyma 4570, 5284*.

### 183. RHODODENDRON GLABRIFLORUM J.J.S.

*Rhododendron glabriflorum* J. J. Smith in Med. Rijksherb. 25: 6. 1915; in Nova Guinea 12(2): 509. 1917, t. 200 b-f, 204 a. 1918.

NEW GUINEA. Southwestern part: top of the Wichmann Mts, 3100 m, *Pulle 1030* (L, type).

### 184. *Rhododendron pachycarpon* Sleum., *nov. spec.*

Frutex 1,2—1,5 m altus. Rami valde robusti, cinereo-corticati, 5—6 mm diam. Ramuli teretes, validi, ± 4 mm diam., ad internodia capsulas gerentes glabri et pruinosi, novelli haud visi, ad partes -vetustiores cinerascens; internodia 3—6 cm longa. Folia per internodia ultima distanter et alternatim digesta, vel in superiore parte densius congregata, vel summa 3 in pseudoverticillo disposita, obovata, apice obtusa vel rotundata, interdum leviter retusa, basi in petiolum cuneata, coriacea et rigida, supra in sicco viridescens vel brunnescentia, pruinosa, subtus dilute usque saturatius brunnea, opaca, supra maturitate glabra, subtus subdense



lepidota (lepidibus parvis rubrobrunneis subrotundis, in zona marginali sat magna varie angulatis vel lobulatis, centro minuto  $\pm$  distincte impressis), in margine angustissime cartilagineo subserrulato-crenulata, 5—6,5 cm longa, (2,5—)3—4,5 cm lata, costa supra anguste impressa, subtus inferne crassa et applanata, obtuse prominente, superne gradatim diminuta, nervis lateralibus utroque latere 6—8, inferioribus c. 2 basalibus vel suprabasalibus, ceteris a costa angulo  $45^\circ$  abeuntibus, omnibus alte ascendentibus et ante marginem curvato-conjunctis, supra leviter impressis, subtus parum elevatis, venis supra vix, subtus parum reticulato-prominulis; petioli valde applanati et crassi, supra sulcati, lepidoti, 3—5 mm longi, 2,5—3,5 mm lati. Umbellae (3—)4—8-florae. Perulae bracteolaeque haud visae. Pedicelli  $\pm$  dense lepidoti, epilosi, sub anthesi 1,5 cm longi, fere 1 mm crassi, sub fructu 2—3 cm longi et c. 1,5 mm crassi. Calyx disciformis, parum obliquus, margine undulatus, brevissime obtuse 5-lobus, dorso lepidotus, c. 4 mm diametro. Corolla (male conservata et separatim collecta) tubulosa, tenera, ex coll. in vivo sulfurea, utrinque glaberrima,  $\approx$  5 cm longa, tubo c. 3 cm longo, recto, inferne c. 7, superne infra lobos c. 10 mm diam., lobis erecto-patentibus obovato-suborbiculatis c. 1,5 cm diam. Stamina 10, corollae tubum subaequantia; filamenta linearia, glabra; antherae obovato-obcordatae, basin versus valde angustatae, c. 3 mm longae, 1,5 mm latae, thecis basi in appendiculum manifestum protractis. Discus prominens, glaber. Ovarium in statu evoluto tantum visum, crasse obovoideo-cylindricum, densissime lepidotum, 6—7 mm longum, c. 3,5 mm crassum, cum stylo abruptum; stylus c. 3 cm longus, basi lepidotus, ceterum glaber; stigma oblique capitatum, breviter lobatum. Capsula oblique obovoideo-cylindrica, basi breviter attenuata, apice sat abrupte angustata, lepidota, 2—2,5 longa, 0,8—0,9 cm diam., styli reliquiis coronata.

NE W GUINEA. Northeastern part: Morobe Distr., Rawlinson Range, 2135—3655 m, *Clemens 12318, 41390* (A, type); Matap, 2135—3655 m, *Clemens 11340*.

#### 185. RHODODENDRON CELEBICUM (Bl.) DC.

*Rhododendron celebicum* (Bl.) De Candolle, Prodr. 7: 725. 1839; Miq., Fl. Ind. Bat. 2: 1058. 1859; Ann. Mus. Lugd.-Bat. 1: 44, t. SB. 1863; Bl. & Fisch., Fl. Javae Pl. ined. t. 6. 1863—83; Sarasin, Reisen in Celebes 1: 235. 1905.—*R. tubulosum* Reinw., Reis I.A. 576. 1858.—*Vireya celebica* BL, Bijdr. 855. 1826; G. Don, Gen. Syst. 3: 848. 1834.—*R. javanicum* (non (Bl.) Benn.) Koord., Minah. 514. 1898; Koord.-Schum. Syst. Verz. 3: 100. 1914.—*R. discolor* Warb. ex Sarasin, Reisen in Celebes 1: 28. 1905, in texto, nom. subnud., non Franch. 1895.

CELEBES. Menado: Minahasa, Mt Klabat, top, 1800—2000 m, *Reinwardt* anno 1821 (L, type of *R. celebicum*; P); *Koorders 19222*; *Sarasin 245* (B, type of *R. discolor*, f; K). Takalekadjo Mts, S of Poso Lake, pass at 1725 m, *Sarasin s.n.* (B, f, cf. Sarasin, Reisen, p. 235). Central part: Enrekang, G. Sinadji, *Rachmat* (*Exp. van Vuureri*) 882; G. Pelali, *Rachmat* (*Exp. van Vuuren*) 881; ridge of Pintaleon, a spur of Mt Pokapindjang, 2400—2600 m, *Eyma 517, 518*.

186. *Rhododendron sayeri* Sleum., *nov. spec.*

Frutex c. 1,8 m altus. Ramuli divaricati, teretes, 1,4—3 mm diam., ad internodia novella densissime rufo-stellato-lepidoti, in partibus vetustioribus rubescentes citissimeque glabrati, laeves; internodia 3—7 cm longa. Folia in pseudoverticillis 3(—5)-meris ad nodos ultimos 1—3 digesta, late elliptica, interdum obovato-elliptica, rarius obovata, apice late vel latissime attenuata, obtusa, interdum rotundata, basin versus late attenuata vel subrotundata, coriacea, in sicco supra castanea, subtus paullo pallidiora, supra nitida, subtus opaca, juniora supra hie inde lepidibus induta, subtus dense rufo-lepidota (lepidibus parvulis in zona marginali ± profunde stellato-dentatis vel -laceratis, centro minuto saturatiore levissime impressis), matura supra omnino glabrescentia, subtus diutius lepidota, postremo et hie glabrescentia sed impresso-punctulata, integra, margine haud vel (imprimis basin laminae versus) parum revoluta, (3,5—) 4,5—6,5 cm longa, (2—)2,5—4 cm lata, costa supra parum impressa, subtus inferne bene prominente, superne diminuta, nervis lateralibus utroque latere 6—8 irregularibus, patentibus, ante -marginem anastomosantibus, cum costa venisque supra aequaliter impressiusculis vel prominulis, subtus prominentibus, venis utrinque reticulum laxum bene visibile formantibus, venulis imprimis subtus minus conspicuis; petioli a dorso appanati et sulcati, lepidoti, 4—7 mm longi, 1—1,5 mm crassi. Umbellae (2—)3—4-florae, interdum ad florem unicum reductae. Perulae ovatae usque obovatae, obtusae, dorso glabrae, brevissime subglanduloso-fimbriatae, usque ad 1 cm longae et 0,8 latae. Bracteolae inferne lineares, apice subspathulato-dilatatae, usque ad 1,2 cm longae, 0,5—1,5 mm latae. Pedicelli subgraciles, densissime rufo-stellato-lepidoti, ultra laxius brevissime papilloso-pubescentes, sub anthesi 1,5—2,3 cm longi, c. 0,6 mm diam. Calyx oblique discoideus, irregulariter 5-dentatus, basi dorso lepidotus, dentibus deltoideis subacutis 0,5—2 (raro —3) mm longis, ± patentibus, subglabris. Corolla inferne tubulosa, ad lobos expansa, paullo obliqua, colore incognita, tota 4—4,5 cm longa, extus ± laxe stellato-lepidota, intus ad tubum laxe longeque patenter pilosula, tubo ± curvato, c. 3 cm longo, basi 5-saccata 4—5 mm diam., superne parum ampliato, infra lobos 7—8 diam., lobis suborbicularibus 0,9—1,3 cm diam. Stamina 10, inaequalia, ± tubum corollae aequantia; filamenta linearia, ad % inf. laxe patenter longepilosa; antherae subobovato-oblongae, 2,5 mm longae, c. 1,2 mm latae, basi obtusae. Discus prominens, in margine superiore parcepilosulus. Ovarium subcylindricum, sat abrupte in stylum attenuatum, densissime stellato-lepidotum, epilosum, 5—6 mm longum, 2—2,5 mm diam. Stylus stamina subaequans, in tertio inferiore laxe stellato-lepidotus, ceterum glaber; stigma crasse capitatum. Fructus ignotus.

NEW GUINEA. Southeastern part: Central Distr. Mt Obree, Howers Lake, c. 2135 m, growing in profusion on brink of precipitous cliffs, anno 1887, *W. Sayer s.n.* (MEL, type).

187. *RHODODENDRON ANGULATUM* J.J.S.

*Rhododendron angulatum* J. J. Smith in Bull. Jard. Bot. Btzg.- II, 8: 50. 1912; in Nova Guinea 12(2): 140, t. 36A. 1914.



NEW GUINEA. Southwestern part: Mt Goliath, Juliana Range, 1500 m, *de Kock 177* (BO, type, cons, in alcohol).

188. RHODODENDRON LOERZINGII J.J.S.

*Rhododendron loerzingii* J. J. Smith in K. & V., *Bijdr.* 13: 105, 107. 1914; *Amshoff in Backer, Bekn. Fl. Java* (em. ed.) 7B, *jam.* 162, p. 3. 1948.

JAVA. Central part: Kedu, G. Tlerep, NE slope, Blintjung ridge, 1800 m, *Loerzing 594* (BO, type; L); G. Sumbing, N slope, 2000 m, *Docters van Leeuwen 8867; Loogen s.n.*

189. RHODODENDRON IMPRESSOPUNCTATUM J.J.S.

*Rhododendron impressopunctatum* J. J. Smith in *Pedde, Rep.* 30: 164. 1932. -

MOLUCCAS. Buru: Kunturun, 1075 m, *Toxopeus Ac* (BO, type; L).

190. RHODODENDRON XANTHOPETALUM Merr.

*Rhododendron xanthopetalum* Merrill in *Publ. Govt. Lab. Philip.* 29: 41. 1905; *Philip. J. Sc.* 1: *Suppl.* 111. 1906; *Ic.* 3: *Bot.* 380. 1908; *Millais, Rhodod.* 263. 1917; *Merr., En. Philip.* 3: 246. 1923; *Millais, Rhodod.* 2nd ser. 261. 1924; *Copel. f. in Philip. J. Sc.* 40(2): 169, *pi.* 16 *f.* 1—2. 1929.

PHILIPPINES. Luzon: Bataan, Mt Mariveles, *Whitford 322* (PNH, type, f); *FB 6279 Curran* (E, one leaf only). Rizal, Montalban, *Loher s.n.* (UC, cit. *Copel. f.*, not seen). Nueva Vizcaya, Carballo Sur Mts, *Loher s.n.* (UC, cit. *Copel. f.*, not seen). Mindoro: Ibolo, *FB 11429 Merritt* (cit. *Copel. f.*, determination said to be uncertain, not seen).

191. RHODODENDRON HIRTOLEPIDOTUM J.J.S.

*Rhododendron hirtolepidotum* J. J. Smith in *Nova Guinea* 12(2): 135, *t.* 32. 1914; *Kaneh. & Hatusiw Bot. Mag. Tokyo* 56: 479. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lake, 1900 m, *Gjellerup 1133* (BO, type; L); *ibid.*, 1800 m, *Gjellerup 1055*; summit of Koebré Mts, 2300 m, *Kanehira & Hatusima 14070*.

192. *Rhododendron pseudomurudense* Sleum., *nov. spec.*

*Rhododendron murudense* (*non* Merr.) J. J. Smith in *Bull. Jard. Bot. Btzig.* III, 13: 449. 1935, *descr. ampl.*

BORNEO. Central Eastern part: W. Kutei, Mt Kemul, 1800 m, *Endert 44Ua*; *ibid.*, summit, 1850 m, *Endert 3981*; near Mt Kemul, 1600 m, *Endert 4323'* (BO, type; L), 4355.

193. RHODODENDRON SERANICUM J.J.S.

*Rhododendron seranicum* J. J. Smith in *Fedde, Rep.* 30: 165. 1932; *Bot. Jahrb.* 68: 202. 1937, in obs. ('*seranense*').

MOLUCCAS. W. Ceram: Ora Mts, 1000 m, *Stresemann* 7. Central Cera m: Hatu Soka Plateau, 1450 m, *Stresemann* 360 (L, type); Hatumete Pass, 1500—1700 m, *Rutten (Kornasi)* 607; Meseleinan Pass, 1000—1200 m, *Rutten* 384. Buru: Fakal, 1200 m, *Toxopeus* 464; Kunturun, 1075 m, *Toxopeus Ad.* Ambon: Hitu, G. Salahutu, near summit, 900—1000 m, *Buwalda* 6205; Mt Tuna, *Teysmann s.n.*

Slightly differing by a salmon red, 3,5 cm long corolla and manifestly biappendiculate anthers:

CELEBES. Central part: Palopo-Rantepao road, dry rocky hillside, 900 m, *Curran* 3472 (A).

A sterile plant, collected by Forsten in "Celebes" and mentioned by Miquel, *Ann. Mus. Bot. Lugd.-Bat.* 1: 42. 1863, under *R. teysmannii* Miq., seems to belong to *R. seranicum*, but was possibly collected in Ambon.

#### 194. RHODODENDRON LOBOENSE Copel. f.

*Rhododendron loboense* Copeland f. in *Philip. J. Sc.* 40(2): 137, 172, *pi.* 15 f. 3, *pi.* 16 f. 5—6. 1929.

PHILIPPINES. Luzon: Batang-as, Lobo Mts, *FB 28045 Mabesa* (A; E, fragtn.; PNH, type, f).

#### 195. RHODODENDRON WILLIAMSII Merr. ex Copel. f.

*Rhododendron williamsii* Merr. ex Copeland f. in *Philip. J. Sc.* 40(2): 137, 163, *pi.* 9, *pi.* 11 f. 2. 1929.—*R. schadenbergii* (non Warb.) Merr. in *Publ. Govt. Lab. Philip.* 29: 40. 1905, *p.p.*; *Philip. J. Sc.* 3: *Bot.* 380, *p.p.* 1908; *En. Philip.* 3: 245. 1923, *p.p.*

PHILIPPINES. Luzon: Mountain Prov., Benguet, Baguio, *Elmer* 6519 (K, NY, P; US, type, not seen); *Merrill* 1750; *Sandkuhl* 132 (cit. Copel. f., not seen); Mt Santo Tomas, *Williams* 990, 1348, 1537; *B.S.* 5392 *Ramos*; Tabio, *Loher* 3763, 3765. Lepanto, *FB 10961 Curran* (in Copel. f. p. 161 sub *R. kochii*); *ibid.*, Mt Data, *B.S.* 40189 *Ramos & Edaño*. Bontoc, Mt Pukis, *B.S.* 37773 *Ramos & Edaño*. Zambales, Mt Pinatubo, *Clemens* 1743.

#### 196. RHODODENDRON ROBINSONII Ridl.

*Rhododendron robinsonii* Ridley in *J. Fed. Mai. St. Mus.* 4: 44. 1909; *I.e.* 5: 39. 1914; *Fl. Mai. Pen.* 2: 216. 1923; *Henders. in Mai. Nat. J.* 6(1): 261. 1950.—*R. javanicum* (non (Bl.) Benn.) Clarke in *Hook, f., Fl. Br. Ind.* 3: 463. 1882; *Ridl. in J. Str. Br. R. As. Soc.* 23: 145. 1891; *K. & G. in J. As. Soc. Beng.* 74, ii: 74. 1905; *Ridl. in J. Fed. Mai. St. Mus.* 5: 38. 1914; *Fl. Mai. Pen.* 2: 216. 1923; *Burk. & Henders. in Gard. Bull. Str. S.* 3: 390. 1925; *Henders. in Mai. Nat. J.* 6(1): 262. 1950.—*fl. teysmannii* (non Miq.) *Henders. in J. Mai. Br. R. As. Soc.* 5: 256. 1927.

MALAY PENINSULA. Perak: Maxwells Hill, *Greig s.n.* Caulfield Hills, *Wray* 623; *SF 12577 Burkill & Haniff.* Larut, 1160—1400 m, *Kunstler* 2335, 3672, 6916, 7008. Taiping Hills, 1370 m, *Berry s.n.*; *For. Dep. F.M.S.* 1373 *Yeob.* G. Hijau, 1370—1830 m, *SF 38726 Sinclair & Kiah; Curtis* 2027; *Anderson* 51; *Fox* 129; *Scor-*



*techini* 1325a. Cameron Highlands, c. 1465 m, *For. Dep. F.M.S. 36116 Symington*; *For. Dep. F.M.S. 29757 Sow*; *For. Dep. F.M.S. 47340 Mead*; *KEP 56936 Wyatt-Smith*; *SF 23290 Henderson*; *Batten Pooll s.n.*; *ibid.*, G. Berumbun, 1035—1525 m, *Ridley 13588* (BM, K; SING, type of *R. robinsonii*); B. Brinchang, 1525 m, *SF 18028 Henderson*; Tana Rata, 1465 m, *SF 17825 Henderson*; *Sinclair 9964*; Taman Sedia, *For. Dep. F.M.S. 21008 Symington*. G. Batu Puteh, *Wray 1023*. Pahang: Frazer's Hill, 1160—1330 m, *Sinclair 8891*; *For. Dep. F.M.S. 6521 Cubitt*; *SF 21622 Holttum*; *Purseglove 4279*; *For. Dep. F.M.S. 7815 Burkill & Holttum*; *For. Dep. F.M.S. 45422 Medan*; *For. Dep. F.M.S. 45025 Symington*. G. Semangko, *Cons. For. 461*. Selangor: G. Mengkuang Lebah, 1525 m, *Robinson s.n.*; *Burn-Murdoch 40'*, N of G. Ulu Kali, 1370 m, *KEP 56661 Symington*. G. Nuang, Ulu Langat, *KEP 51795 Symington*. Bukit Etam, *Kelsall s.n.* No locality given: *Lobb s.n.*

### 197. RHODODENDRON RARILEPIDOTUM J.J.S.

*Rhododendron rarilepidotum* J. J. Smith in *Merr. in Contr. Arn. Arb.* 8: 126. 1934.

197a. var. RARILEPIDOTUM

SUMATRA. Atjeh: Lau Alas R. via Agusan ridge to Blang Kedjeren, 1800—2500 m, *van Steenis 8709, 8735*. Takengon, 975 m, *Bangham 759*; *ibid.*, Paja Hilang, *Frey-Wyssling 22*. Redelong Volcano, 1095—1830 m, *Bangham 923*. Bur ni Telong, 2000 m, *van Steenis 6369, 6370, 6371, p.p.* G. Peuët Sagoeë, 1000 m, *Gall 80, 86a*. East Coast: G. Sinabung, 2000—2470 m, *Lörzing 8161, 8166* (A; BO, type; K, L); *Djadoek 972*; *Bartlett 8646*; *Bangham 1174*. Berastagi, 1800 m, *For. Dep. F.M.S. 24660, 24685 Symington*. Sibayak Volcano, 1800—1900 m, *Lörzing 7331, 8295, 13480, p.p.*; *Spare F 986*; *Ridley s.n.*; *Stomps s.n.*; *van der Meer Mohr 5050a*; *Heusser 4*; *Docters van Leeuwen 12851*. G. Pinto, 2000—2210 m, *Frey-Wyssling 2*; *Lörzing 8240*; *Hamel & R. Si Toroes 596*.

197b. var. *ootrichum* Sleum., *nov. var.*

A typo ovario albido-tomentoso foliisque latioribus breviusque acuminatis, pedicellis et perulis paullo brevioribus differt. Corolla scarlatina, intus laxissime pilosa. Capsula 2—2,5 cm longa, c. 0,6 cm diam. Prob. inter *R. rarilepidotum* et *R. sumatranum* hybridum, cum quibus occurrit.

SUMATRA. East Coast: Mt Sibayak, summit, *Heusser 6* (A, BO; L, type; SING); *ibid.*, 1750—1900 m, *Lörzing 13480 p.p.* G. Pinto, 2100 m, *Frey-Wyssling 1* (BO); *Lörzing 8258*.

### 198. RHODODENDRON MULTICOLOR Miq.

*Rhododendron multicolor* Miquel, *Fl. Ind. Bat. Suppl.* 1: 251, 586. 1860; Hook, f., *Bot. Mag. t. 6769*. 1884; Henslow in *J. R. Hort. Soc.* 13: 263, *l. 42 (fol.)*, *43d (fl.)*. 1891, incl. var. *curtisii*, *I.e.*; *Ridl. in J. Fed. Mai. St. Mus.* 8: 58. 1917; Millais, *Rhodod.* 216. 1917; J.J.S. in *Merr. in Contr. Arn. Arb.* 8: 124. 1934.—*R. multicolor* Miq. var. *curtisii* Hort., *Garden* 26: 433, *c. fig.* 1884.—*R. salicifolium* Bl. & Fisch., *Fl. Jav. PL ined. t. 7 C, f.2.* 1863—83, cf. Steen. in *Bull. Jard. Bot. Botz. III*, 17: 388. 1948.—*R. curtisii* T. Moore, *Florist & Pomologist* 113, *t. 615*. 1884; Anon., *Garten-Zeitg.*

Berlin 3: 469, fig. 1884; Anon., 111. Gartenzeitg. Stuttgart 30: t. 10§. 1886.—*Azalea multicolor* (Miq.) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.—*R. javanicum* (non (Bl.) Benn.) Steen. in Arch. Hydrobiol. Suppl. 11: 318. 1932.

SUMATRA. Atjeh: Takengon, 975 m, *Bangham* 761; *ibid.*, Laut Tawar, *Bangham* 681. Dolok Tolong, Toba Lake, 1000 m, *Ouwehand* 38. Tapanuli: Toba Highland, vicinity of Balige, c. 1300 m, *Huitema* 87; *Yates* 2204; *Heusser* 2. Sidikalang, 1200 m, *Alston* 14798. West Coast: Mt Kerintji, 1700 m, *Bilnemeijer* 8889; *ibid.*, Sg. Kumbang, 1370 m, *B. Kloss & Robinson* 127; Siolak Daras, 915 m, *B. Kloss & Robinson* s.n. Danau di Atas, S of Padang, 1500 m, *Ruttner* 47 (*R. 'javanicum'*). Fort de Kock, Karbouwengat, 900 m, *Teysmann* H.B. 775, 776; *Beccari* s.n.; *Yates* 2410; *Ultée* 125. Bukittinggi, *Teysmann* H.B. 779; *Meijer* 5485. Matur, 1000 m, *Meijer & Vermeulen* 5490. Kloof, Mt Singalang, *Teysmann* H.B. 778 (BO; U, lectotype of *R. multicolor*). Batang baru, *Teysmann* H.B. 72, 780. Lampong: G. Tanggamus, 2000—2100 in, *Lieftinck* 28. Benkulen: Liwa, *de Voogd* 57. Krœe, *Bauman-Houtman* 1. Aer Ketenong, 600 m, *Rappard* 206. Mt Kaba, 1200—1700 m, *de Voogd* 1347, 1384. Hudjung, Blalau, 915 m, *Forbes* 1935. Locality not given: *De Vriese & Teysmann* s.n.; *Horsfield* s.n.; *Curtis* 86, 177.

#### 199. RHODODENDRON BREVITUBUM J.J.S.

*Rhododendron brevitybum* J. J. Smith in Ic. Bog. 4: 253, t. 381. 1914; Merr., En. Born. 460. 1921.

BORNEO. Central part: Mt Liang Gagang, *Hallier* 2803 (BO, type; L); B. Mili, *Amdjah (Exp. Nieuwenhuis)* 100.

#### 200. RHODODENDRON SESSILIFOLIUM J.J.S.

*Rhododendron sessilifolium* J. J. Smith in Merr. in Contr. Arn. Arb. 8: 125. 1934.

SUMATRA. Tapanuli: Between Lumban Lobu and Talun na Uli, Toba, *Rahmat Si Boeea* 11122; Dolok Ri da Bolak, *Rahmat Si Boeea* 11250, S of Sidikalang, *Alston* 15027. Above Balige, Toba Lake, 1150 m, *Lörzing* 16731 (fl. red). Huta Gindjang, 1550—1650 m, *Lörzing* 16745. East Coast: Asahan, Dolok Parhorasan, *Rahmat Si Boeea* 10358, 10555; Aek Garunggang, *Rahmat Si Boeea* 10922; Aek Liang, *Rahmat Si Boeea* 10772; Sibolangit, above Petani Valley, 1350 m, *Lörzing* 8515; Berastagi, *Yates* 2003. Mt Sibayak, 1250—1980 m, *Yates* 1496; *Bangham* 1016 (*R. yatesii* Merr. msc.); *Lörzing* 15152; road to Pangulubao (Pengkulu Bao), near Prapat, 1600 m, *Heusser* 1 (BO, type); *Frey-Wyssling* 42; Simelungun, 1675 m, rim of crater on E side of Toba Lake, *Bangham* 1305; Aik-na-Uli, near Permantang Siantar, *Alston* 15285; Toba, headwaters of Aek Mandosi, *Rahmat Si Boeea* 11052. West Coast: Danau di Atas, near Alahan Pandjang, 1500 mm, *Meijer* 6049 (leaves short-petiolate).

#### 201. *Rhododendron beccarii* Sleum., nov. spec.

Frutex epiphyticus, ut videtur, sat parvus. Ramuli validi, teretes, 4—8 mm diam., ad internodia ultima laxe lepidibus substellatis appressis induti, ceterum glabrati, laeves, saepius pruinosi; internodia (5—)7—17 cm longa. Folia in pseudovorticillis 5—8-meris ad nodos ultimos 2—3



disposita, oblonga vel lanceolato-oblonga, apice sensim 2—3 cm longe acuminata, acuta vel subacuta, basin versus  $\cong$  late attenuata, basi ipsa subtruncata, sessilia rarius subsessilia, coriacea, rigida, in sicco supra olivaceo-brunnea, subtus saepe saturatius brunnea, opaca, maturitate supra omnino glabrescentia, in sicco dense nigro-punctulata, subtus sat laxe subpersister lepidota (lepidibus parvulis, in zona marginali irregulariter substellato-dentatis vel -lobatis, centro minute impressis), denique subtus glabrescentia et punctata, integra, margine in sicco paullo recurvata, 10—16 cm longa, 3—5(—6) cm lata, costa inferne valde crassa, 2—3(—4) mm lata, supra subtusque obtuse prominente, superne sensim crassitudine diminuta, apicem laminae versus supra  $\pm$  evanescente, subtus parum prominente, nervis lateralibus utroque latere 10—12 oblique ascendentibus, ante marginem subinconspicue anastomosantibus, utrinque parum elevatis, interdum vix visibilibus, venis venulisque subobscuris; petioli 0—2 mm longi, 2—4 mm crassi, a dorso compressi. Umbellae 4—6-florae. Gemmae floriferae ovoideo-acuminatae, 3—3,5 cm longae et 1—1,5 cm diam., perulis exterioribus ovatis, acuminatis, interioribus oblongo-ovatis, omnibus subacutis, usque ad 2,5 (raro 3) cm longis et c. 1 cm latis, dorso glabris, margine initio lepidulis obsitis. Bracteolae filiformes, glabrae, usque ad 2,5 cm longae et 0,5 mm latae. Pedicelli crassiusculi, laxe lepidoti, sub anthesi 2—3, sub fructu 3—4 cm longi, 1—1,5 mm crassi, in vivo rubri. Calyx valde obliquus, discoideus, obscure lobatus, subglaber, c. 4 mm diam. Corolla infundibuliformis, rubra vel aurantiaca, tota (5—) 5,5—6,5 cm longa, extus glabra, intus ad dimidiam partem inferiorem tubi  $\pm$  dense breviter albido-pubescentis, tubo 3—3,5 cm longo, basi incrassato et 5-saccato, 5—6 mm diam., inferne subcylindrico, superne gradatim usque ad 1,5—2 cm diam. dilatato, lobis obovato-spathulatis, 2—3 cm longis, 1,5—2 cm latis. Stamina 10, inaequilonga, longissima corollam longitudine fere aequantia; filamenta inferne linearia et densissime subpatenti-albopilosula, superne filiformia glabra; antherae oblongae, c. 4 mm longae, 1 mm latae, basi obtusae. Discus prominens glaber. Ovarium subcylindricum, glabrum vel laxissime lepidotum, sensim in stylum abiens, c. 10 mm longum, 2,5 mm diam., stylo corollae tubum subaequante, glabro, stigmate subcapitato. Capsula fere fusiformis, ruber, paullo curvata, glabra, (4—)4,5—5,5(—6) cm longa, 0,6—0,7 cm crassa.

SUMATRA. West Coast: Mt Singalang, c. 1700 m, *Beccari P.S. 218* (BM; FI, type; K, L, MEL); *ibid.*, 2400—2450 m, *Docters van Leeuwen 3986*; *Bunnemeijer 2619*; *G. Sago, 1400—2000 m, Meijer 4005, 4859, 5295*; *Bunnemeijer 4005*.

## 202. RHODODENDRON KEMULENSE J.J.S.

*Rhododendron kemulense* J. J. Smith in *Bull. Jard. Bot. Btzg* **III**, 13: 448. 1935.

BORNEO. Central Eastern part: W. Kutei, Mt Kemul, 1800 m, *Endert 4255* (BM; BO, type; L, SING); *ibid.*, summit, 1850 m, *Endert 4388*.

## 203. RHODODENDRON MOULTONII Ridl.

*Rhododendron moultonii* Ridley in *J. Str. Br. R. As. Soc.* 63: 61. 1912; Merr., *En. Born.* 462. 1921.

BORNEO. Sarawak: Upper Limbang R., B. Labeng Barian (Mt Derian), 1220—1525 m, *Moulton 3* (SAR, type); Mt Dulit, 1250 m, *Synge 550* (K); Upper Baram R., Mt Muler, *Haviland & Hose Oct. 1894* (K).

204. RHODODENDRON JAVANICUM (Bl.) Benn.

204a. var. JAVANICUM

*Rhododendron javanicum* (Bl.) Bennett in Benn. & R. Br., *Pl. Jav. Rar.* 85. 1838 (*excl. t. 19*, which is var. *teysmannii*); DC, *Prodr.* 7: 721. 1839; Paxton, *Mag. Bot.* 15: n. 217. 1849; Planch., *Fl. Serres* 5: 477—480. 1849; v. Houtte, *Fl. Serres* 6: 135, *t. 576*. 1850—51; Miq., *Fl. Ind. Bat.* 2: 1057. 1859; *Suppl.* 1: 251, 585. 1860; *Ann. Mus. Bot. Lugd.-Bat.* 1: 42. 1863; Bl. & Fisch., *Fl. Javae Pl. ined. t. 1.* 1863—83; Henslow in *J. Hort. Soc.* 13: 262, 281, 282, *l. 42 (fol.), 43 e (fl.)*. 1891; Koord. in *Teysmannia* 10: 450. 1899; *Nat. Tijd. N.I.* 60: 264. 1901; Wigman in *Teysmannia* 20: 112, *pi.* 1909; Koord., *Jungh. Gedenk.* 184. 1910; *Exk. Fl. Java 3: 3, l. 3.* 1912; Koord.-Schum., *Syst. Verz.* 1: *jam.* 233, *p.* 106. 1912; J.J.S. in K. & V., *Bijdr.* 13: 96. 1914; *Ridl. in J. Fed. Mai. St. Mus.* 8: 57. 1917; Millais, *Rhodod.* 196. 1917; Koord., *Fl. Tjib.* 3: *fam.* 233, *p.* 106. 1918; *Sp. Moore in J. Bot.* 63: *Suppl.* 57. 1925; *Hochr. in Candollea* 2: 490. 1925. *incl. var. gymnocarpum* *Hochr., l.e.*; *Steen. in Bull. Jard. Bot. Btzg III, 12: 177.* 1932; *l.e. III, 13: 50.* 1933; *Amshoff in Back., Bekn. Fl. Java (em. ed.) 7B: fam.* 162, *p.* 2. 1948.—*Vireya javanica* BL, *Bijdr.* 854. 1826, *incl. var. ?*, *l.e.* 855; G. Don, *Gen. Syst.* 3: 848. 1834.—*Azalea javanica* (Bl.) O. Ktze, *Rev. Gen.* 2: 386. 1891.—*R. javanicum*, Reinw. in BL, *Cat.* 72. 1823, *nom. nud.*; Hassk., *Cat. Hort. Bog.* 161. 1844, *incl. B. citrinum* Hassk., *l.e.*; *Mor., Syst. Verz.* 42. 1846; *Zoll., Syst. Verz.* 2: 137. 1854.

SUMATRA. Atjeh: Gaju and Alas Lands, *Pringo Atmodjo 160a, 175*. Tapaneli: Lintang Ni Huta, near Dolok Sangul, 1300 m, *Huitema 78*. West Coast: Mt Sago, 1700—1800 m, *Meijer & Vermeulen 5470*; *ibid.*, Bt. Gombak, 1650—2300 m, *B-iinnemeijer 5475, 5727*; *ibid.*, G. Talang, 1500—2350 m, *Bunnemeijer 5396, 5512, 5617*. G. Kerintji, 1800—2400 m, *B. Kloss & Robinson s.n.*; *Bjiinnemeijer 9152, 9698, 9743, 10278, 10413*; *ibid.*, Pintu Rimbo, 1800 m, *Jacobson 2550, 2561*. G. Talakmau, 2050 m, *Bunnemeijer 740*. Alahang Pandjang, *Burck s.n.* Palembang: top G. Pesagi, 2230 m, *van Steenis 3728*. Benkulen: Mt Kaba, 1800 m, *de Voogd 1079*. Lebong Pasir Lebar, c. 1000 m, *de Voogd 1133*. Locality not given: *Korthals s.n.* Natuna Isi.: Bunguran, top G. Ranai, 950—1000 m, *van Steenis 1408*. Lingga Arch.: S. Semarang, *Teysmann s.n.*

JAVA. Djakarta/Preanger: G. Gede, 1300—2135 m, *Ploem s.n.*; *Scheffer s.n.*; *Hallier 377, 453*; *Backer 3308, 14743*; *Arsin H.B. 19590*; *Forbes anno 1879*; *Tjibodas 1400i—2400 m, Scheffer s.n.*; *Sapei 2212*; *Beccari s.n.*; *Hallier 366*; *Koorders 26075, 31958, 31992*; *Telaga Warna, Puntjak, Hallier 39*; *Tjissalak, Arsin H.B'. 19481*; *Lebak Saat, 2100 m, Burck s.n.*; *Rawah Tjangkuwang, Scheffer s.n.*; *Tjikorai, Scheffer s.n.*; *Tangkuban Prahau, 1700 m, Hortfield 803*; *Docters van Leeuwen 2277*; *G. Salak, 800—2215 m, Blume s.n.* (leg. *Zippel ?*; L. type of *Vireya javanica*; U); *Kurz 171*; *Koorders 36707*; *van Steenis 12376*; *Bakhuizen van den Brink 716, 5128, 5129*; *Backer 9252*; *de Voogd & Bloembergen s.n.*; *Pangrango, 1525—2135 m, Kurz 1870*; *Beccari s.n.*; *de Monchy s.n.*; *van Slooten 37*; *Geger Bintang, 1900 m, den Berger 624*; *Mt Malabar, 1220—2135 m, Anderson 148*; *Kandang Badak, Yates 2667*; *Sindanglaya, 1525 m,*



*Hullett* 8.71.; above Tjibeureum, 2100 m, *Beccari s.n.*; *Koorders-Schumacher s.n.*; *van Steenis* 1905; G. Guntur, 1500 m, *Koens* 97 (corolla glabrous inside!); Garut, *Burck s.n.* (corolla glabrous inside!). Sine loco: *Warburg* 3316; *Lobb* 42 p.p. Madiun: G. Lawu, Sarangan, 1600—1800 m, *Dorgelo* S 324, 366. Kedu: Dieng Plateau, G. Panganon, 2200 m, *Backer* 21813; *van Steenis* 4.517. G. Prahū, 2550 m, *Backer* 21799. G. Merbabu, 2000 m, *Warburg* 4259; *Coert* 138; *Docters van Leeuwen* 1191; *Koorders s.n.* G. Telemojo, c. 1890 m, *Docters van Leeuwen* 193; *Koorders* 36017. G. Sindoro, 1850 m, *Lor zing* 443, *UUU*. G. Merapi near Solo, *Hernken* 25; *Jungkuhn s.n.* Surakarta: Bojolali, *Ochse s.n.* Malang: G. Semeru, *Thomson s.n.* G. Lawangan, 1550 m, *Mousset* 501; Probolinggo, G. Kembang (Tengger), 2200—2300 m, *Koorders* 37516. Besuki: Idjen Plateau, 1830 m, *Zollinger* 950 p.p. G. Lamongan, SW slope, 1200 m, *van Steenis* 10654. 'Java', locality not given: *Junghuhn* 87; *Leschnault s.n.*; *Lobb* 254, 408, 553.

BALI. G. Batukan, 1360 m, *Sarip* 396.

204b. var. **schadenbergii** (Warb.) Sleum., *nov. stat.*

*Rhododendron schadenbergii* Warburg in Perk., *Fragm. Fl. Philip.* 3: 172. Febr. 1905; Merr. in *Philip. J. Sc.* 3: Bot. 380, p.p. 1908; Millais, *Rhodod.* 239. 1917; Merr., *En. Philip.* 3: 245. 1923, p.p.; Millais, *Rhodod.* 2nd ed. 230. 1924; Copel. f. in *Philip. J. Sc.* 40(2): 170, pi. 15 f. 2, pi. 16 f. 3—'. 1929.—*R. spectabile* Merr. in *Publ. Gov. Lab. Philip.* 29: 42. Sept. 1905; *Philip. J. Sc.* 3: Bot. 381. 1908; Elm., *Leafl. Philip. Bot.* 3: 1106. 1911; Millais, *Rhodod.* 246. 1917; Merr., *En. Philip.* 3: 245. 1923; Millais, *Rhodod.* 2nd ed. 241. 1924; Copel. f. in *Philip. J. Sc.* 40(2): 168, pi. 15 f. 4—5, pi. *Hit.*—*R. sarasinorum* Warb. in *Sarasin, Reisen in Celebes* 2: 386. (index). 1905, cf. *I.e.* 1: 62 (text). 1905, *nom. nud.*—*R. dementis* Merr. in *Philip. J. Sc.* 3: Bot. 160, 381, 1908; *En. Philip.* 3: 243. 1923; Millais, *Rhodod.* 2nd ed. 113. 1924; Copel. f. in *Philip. J. Sc.* 40(2): 167, pi. 12, 13 f. 1—3. 1929.

CELEBES. Menado: top of G. Masarang near Tomohon, 1275 m, *Sarasin* 304 (K, '*R. sarasinorum*'); Mt Soputan, Pantu Valley, *Alston* 16392; Wagio crater, Mt Mahawu, Tomohon, 1130 m, *Forman* 369.

PHILIPPINES. Luzon: Mountain Prov., Bontoc, Tinglayan, *F.B.* 10989 *Curran*; Ifugao, Mt Polis, *B.S.* 19654 *McGregor* (cit. Copel. f., not seen). Abra Prov., 1300 m, *Schadenberg s.n.* (B, type of *R. schadenbergii*, f). Apayo, Mt Magnas, 550 m, *P.N.H.* 19813 *Edaño*. Palawan: Mt Mantalingajan, *B.S.* 77471 *Edaño*. Camiguin de Misamis: Camiguin Volcano, *B.S.* 14599 *Rairws*. Jolo: *Clemens* 9398 (cit. Copel. f., not seen), 9399. Mindano: Davao, Mt Apo, *Copeland* 1438 (A; E, fragm. ex PNH; K; PNH, lectotype of *R. spectabile*, f); *de Vore & Hoover* 369 p.p. (cit. Copel., not seen); *Mearns s.n.* (cit. Copel., not seen); *Elmer* 10631; Lake Lanao, *Clemens* 732 (PNH, type of *R. dementis*, f; US, cit. Copel., not seen); *ibid.*, *Clemens* *S.J.I.* (BO); *P.N.H.* 1386 *Edaño* p.p.; Camp Vicars, *F.B.* 25221 *Alvarez* (cit. Copel., not seen); Mt Mackinley, *Kanehira* 2729. Bukidnon, Kaatoan, 1245 m, *Cid* 32. Cotabato, Mt Matutun, 2135 m, *B.S.* 85078 *Ramos & Edaño*. Zamboanga, Sax R. Mts, *Merrill* 8136.

204c. var. **TEYSMANNH** (Miq.) K. & G.

*Rhododendron javanicum* (Bl.) Benn. var. *teysmannii* (Miq.) King & Gamble in *J. R. As. Soc. Beng.* 74, ii: 75. 1905; *J.J.S. in K. & V., Bijdr.* 13: 99. 1914; Steen.

in Bull. Jard. Bot. Btzg. III, 13: 50. 1933; *I.e.* III, 17: 388. 1948.—*R. javanicum* (Bl.) Benn. in Bann. & R. Br., Pl. Jav. Rar. t. 19. 1838; Hook., Ic. Pl. t. 4336. 1847; Lemaire, Fl. Serres 3: 293, c. icon. 1847; Bl. & Fisch., Fl. Javae PL ined. t. 2. 1863—83; Hochr. in Candollea 2: 490. 1925 (var. *typicum*).—*R. teysmannii* Miq., Fl. Ind. Bat. Suppl. 1: 251, 585. 1860; Ann. Mus. Bot. Lugd.-Bat. 1: 42, t. 50 A. 1863; Clarke in Hook. f., Fl. Brit. Ind. 3: 463. 1882; Henslow in J. Hort. Soc. 13: 263, t. 42 (fol.), *USF* (fl). 1891; Ridl. in J. Fed. Mai. St. Mus. 4: 42. 1909; *I.e.* 7: 46. 1916; *I.e.* 8: 58. 1977; Millais, Rhodod. 251. 1917; Ridl., Fl. Mai. Pen. 2: 216. 1923; Henders. in Mai. Nat. J. 6(1): 261. 1950.—*Azalea teysmannii* (Miq.) O. Ktze, Rev. Gen. PL 2: 387. 1891.—*R. basirobundatum* J.J.S. in Contr. Arn. Arb. 8: 124. 1934, p.p.

SUMATRA. Atjeh: Bur ni Telong, van Steenis 6371 p.p.; Frey-Wysslgh 20 (BO, type of *R. basirobundatum*), 21; Kabjakan to Tretet, 1000—1500 m, Bar.gham 877, 893; Takengon, 1000—1200 m, Bangham 742, 760; van Steenis 5984; Gaja-Alas country, Fairchild 114; Aer Panas, 500 m, van Steenis 10093'. Redelong Volcano, 1400—1700 m, Bangham 924, 926. Tapanuli: Talun na Uli, Toba, Rahmat S'. Boeea 10953. Habinsaran, 1000 m, Lörzing 7804. Above Balige, Huta Gindjang, 1100 m, Lörzing 16154. East Coast: Huta Bagasan, Rahmat Si Boeea 6625. W of Bandar Baru, N of Mt Sibajak, 850—900 m, Lörzing 6849, 14693. Simelungun, Batak Lands, Keers (Verhoeven) 38. West Coast: Brani, 850—960 m, Binnemeijer 3U1, 3337. G. Talang, Laras Talang, 1700 m, Binnemeijer 5215. Mangani, 1100 m, de Boer 30. B. Batu Banting, 1200 m, Jacobson s.n. Tanangtalu, 1200 m, Jacobson 2446; Binnemeijer 1097. G. Talakmau, Binnemeijer 740a. Pajakumbuh, Burck s.n. Sibolga, Teysmann H.B. 781. Mt Singalang, 'Kloof, Teysmann H.B. 777 (BO, CAL, K; U, type of *R. teysmannii*). Ayer Mantjur, Beccari P.S. 745. G. Kerintji, 2000 m, Robinson & Kloss 167; Binnemeijer 9168. Benkulen: Kiwa, 700 m, de Voogd 53, 1220. Lampung: Radja Bassa, 1200 m, Teysmann H.B. 4489. 'Sumatra', Korthals s.n.

MALAY PENINSULA. Penang: Penang Hill, Ridley 10257. Govt. Hill, Fox s.n.; Maingay 1099. Moniots Road, c. 300 m, Curtis 530. Kedah: Kedah Peak, 855—1220 m, Robinson & B. Kloss 5966. Kelantan: Sg. Ketch, SF 19584 Henderson. Kuala Pertang, SF 10366 Haniff & Nur. Perak: Larut Hill, 610—1220 m, Berry (Curtis 3705). G. Kerbau, c. 600 m, Robinson s.n. Thaiping Hills, 760 m, Ridley s.n.; Derry s.n. Maxwells Hill, Berry (Ridley 10715). G. Arang Para, Wray 601. Pahang: Tahan R., 610 m, Corner s.n. Telom Ridge, Ridley s.n. Kwala Teku, Seimund s.n. 'Malay Peninsula', Curtis 124.

JAVA. Bantam: Pasir Orai, 855 m, Forbes 299. Djakarta/Preanger: Tjibodas-Tjibeureum, 1400—2400 m, Sargent s.n.; Koorders 25900, 26334, 26479, 26520, 40140; Ridley s.n.; Bruggeman 494; Hallier 366a. Tjibeber-Tjidadap, 1000 m, Bakhuizen van den Brink 425, 2320; Winckel 498, 506, 931, 1575; Backer 22648. G. Salak, 800—1800 m, Lam 2238; Backer s.n.; J. J. Smith s.n.; Schiffner 2372; van Steenis 197; Ridley s.n.; Koorders 24462; *ibid.*, Kloof, 400 m, Lam 253'. Kertamana, 1280 m, Forbes 724. Garut, Burck s.n. Kawah Manuk, Holstvoogd 589. Krawang, de Monchy s.n. G. Guntur, Backer 5223. Pengalengan, 1200 m, Junghuhn s.n. G. Gedeh, 700—1600 m, Reinwardt s.n.; Junghuhn s.n.; de Voogd & Bloembergen s.n.; Jacobson s.n.; Backer 10448. Tjiprau, c. 300 m, Zollinger 950 p.p. Nirmala, 1100 m, Backer 10625, 10825, 11163. G. Malabar, 1900 m, van Slooten 276; Anderson 148 p.p. Situ Gunung, 1000 m, van Steenis 5684. Mt Menapa, 500 m, van Steenis 17354. G. Papandajan, 1500 m, Backer 5559. Tjanten Kendeng, 800—1000 m, Backer 25854, 25929, G. Batu, G. Sem-



bung, 1350 m, *Lbrzing 1211*. Megamendung, *Zippel s.n.* Kawah Kamodjan, *Holstvoogd 500*. G. Tjisalak, NW Tjiturug, *Bakhuizen van den Brink 2579*. Sindanglaja, 1065 m, *O. Kuntze 4484*. W of Naringgul, 800 m, *Witkamp s.n.* Tangkuban Prahau, *Rant 6; dibbs 6478*. Telagabodas, 1700 m, *Koorders 62429*. No special locality given: *Junghuhn 76, 85; Horsfield s.n. Lobb 42 p.p.; Blume s.n.; Lecomte & Finet 367*. Semarang: G. Telemojo, c. 1880 m, *Koorders 28072*. G. Muria, 900 m, *Kostermans 6365 A*. Banjumas: G. Slamet, 900 m, *Backer 217*. Kediri: G. Wilis, 1500—1700 m, *Backer 11389, 11495*. Kedu: G. Merapi, *Junghuhn s.n.* Dieng, *Junghuhn 56*. Selo, 1000 m, *den Berger 65*. Malang: G. Dorowati, top, c. 1500 m, *van Steenis 2589*. Probolinggo, Tengger Mts, *Koorders 37515*. Besuki: Idjen Plateau, 1160 m, *Zollinger ad 950*. 'Java', *Zollinger 5H A; Lobb s.n.; Horsfield s.n.*

BALI. G. Patas, 990 m, *Sarip 455*. G. Pala, 640 m, *Sarip 352*.

*R. basirotundatum* J.J.S. has been described from Sumatra (Atjeh) as a near ally of *R. javanicum*; it was said to differ from it by oblong- or lanceolate-ovate leaves, rounded at the base, and larger corollas (7 cm) with a very long tube. As a matter of fact in most of the material cited by J. J. Smith the corollas are 5—6 cm long in the dry state, and only the holotype specimen has corollas between 6 and 6.5 cm in length. This is the extreme length occasionally reached also in true *R. javanicum*, especially in the var. *teysmannii*. I cannot distinguish *R. basirotundatum* from the latter by constant leaf- or flower-characters, but there may be a difference in the fruits. The holotype specimen bears no fruit, and they have not been mentioned in the original description. *Bangham 760* and *893*, however, cited as paratypes (not collected in the type locality), have capsules 5.5—8 cm long, thus distinctly longer than those found in *R. javanicum s. lot.*, where they are (3—)3.5—4.5, rarely up to 5 cm long. The poor material at hand does not allow to decide if *R. basirotundatum* should be kept as a variety of *R. javanicum*. It certainly does not deserve the rank of a species and I prefer to merge it tentatively with *R. javanicum* var. *teysmannii*.

Several specimens mentioned originally under the description of *R. basirotundatum* belong to a different species with a glabrous or certainly not pubescent ovary, viz *R. beccarii*.

## 205. *Rhododendron perplexum* Sleum., *nov. spec.*

Frutex, probabiliter epiphyticus. Ramulus unicus (internodium ultimum) teres, c. 4 mm diam., rubro-brunneus, glaber, 10 cm longus. Folia in pseudoverticillo c. 4-mero ad nodum ultimum disposita, ovata vel oblongo-ovata, apicem versus sensim acuminata, subacuta, basi subrotundata vel levissime auriculato-cordata, interdum inaequilateralia, crasse coriacea, supra in sicco saturate olivaceo-brunnescentia, glabra et lucidula, subtus rubro-brunnea et subdense distanter lepidota (lepidibus

minutis, in zona marginali irregulariter substellato-lobatis vel -incisis, centro multo saturatiore subimpressis), integra, margine in sicco paullo revoluta, 8,5—13,5 cm longa, 4—5,5 cm lata, paullo infra medium latissima, costa valde crassa et longitudinaliter striata, petiolum continuante, basi 3—4 mm lata, supra inferne valde obtuse prominente, apicem laminae versus gradatim diminuta et demum evanescente, subtus  $\pm$  plana et parum vel vix elevata, nervis lateralibus utroque latere 12—15 a costa angulo subrecto abeuntibus interque sese subparallelis, subirregularibus, ante marginem sat obscure curvato-conjunctis, supra levissime immersis, subtus prominulis, reticulatipne venarum sat laxa utrinque subtiliter elevata; petioli crassi, dorso canaliculati, paullo applanati, initio lepidoti, 4—6 mm longi, c. 3 mm diam. Umbellae c. 9-florae. Perulae bracteolaeque haud cognitae. Pedicelli sat crassi, laxe vel laxissime, sed infra calycem paullo densius substellato-lepidoti, epilosi, 2—2,7 cm longi. Calyx discoideus, margine obscure lobatus vel crenatus, crassus, glaber, 4—5 mm diam. Corolla infundibuliformis, tota 2,5—2,7 cm longa, colore ignota (possibilter rubra, albopunctata?), extus glabra, intus ad  $\frac{1}{2}$  infer, tubi dense breviter cinereo-pubescentis, tubo 1—1,3 cm longo, basi c. 5 mm diam., superne infra lobos usque ad 1 cm dilatato, lobis oblongo-obovatis, 1,3—1,5 cm longis, 1—1,3 cm latis. Stamina 10, subaequalia, corollam longitudine fere aequantia; filamenta inferne linearia atque ad  $\frac{1}{2}$  longit. densissime subpatenter albido-pilosa, superne filiformia et glabra; antherae late oblongae, 3,5 mm longae, 1,3 mm latae. Discus prominens glaber. Ovarium subcylindricum, glabrum, 5—6 mm longum, c. 2 mm diam., gradatim in stylum columnarem glabrum c. 6 mm longum abiens; stigma subcapitatum. Capsula ignota.

SUMATRA. West Coast: Kerintji, c. 1000 m, *Ultee 108* (BO, type).

#### 206. RHODODENDRON CRASSIFOLIUM Stapf

*Rhododendron crassifolium* Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 195. 1894; Gibbs in 3. Linn. Soc. Bot. 42: 102. 1914; Merr., En. Born. 460. 1921.—*R. crassinervium* Ridl. in 3. Str. Br. R. As. Soc. 63: 61. 1912; Merr., En. Born. 461. 1921.—*R. murudense* Merr. in Sarawak Mus. J. 3: 542. 1928.

BORNEO. North Borneo: Mt Kinabalu, 1525—2135(—2745) m, *Low s.n.* (K, type of *R. crassifolium*); *Gibbs 4079*; *Clemens 10569, 10997* (cit. Merrill, not seen), 29232, 29687, 29944, 31383 p.p., 31398, 32504, 33656, 35018, 35020, U0998, 50968, 51209; *SF 26896, 26980, 27054 Carr*; *KEP 80337, 80365, 80398 Wyatt-Smith*; *Jacobs 5707*. Sarawak: Mt Dulit, 1220 m, *Syngé 414*; Upper Limbang R., Batu Kaw(a)i, *Moulton s.n.* (K; SAR, lectotype of *R. crassinervium*); *ibid.*, B. Barian (Mt Derian), *Moulton s.n.* (SAR, syntype of *R. crassinervium*). Mt Murud, *Mjberg 106* (BM, type of *R. murudense*).

#### 207. RHODODENDRON VANVUURENII J.J.S.

*Rhododendron vanvuurenii* J. J. Smith in Bull. Jard. Bot. Btzg III, 1: 399, t. 48. 1920; Lam in Blumea 5: 577. 1945.—*R. kjellbergii* J.J.S. in Fedde, Rep. 68: 202. 1937.

CELEBES. Central part: G. Masawa, *Rachmat 444*; Masawa Polewali, *Noerkas 491*. G. Taburone, *Rachmat 474*. G. Balapiu, *Rachmat 526*. G. Pelali, *Rachmat*



878 (BO, lectotype of *R. vanvuurenii*; L). G. Lompoh, *Rachmat* 941. Masamba, Limbung, c. 1700 m, *Steup* 207, 208; Kanandede-Komba, 600—1000 m, *Eyma* 1147. Enrekang, crest Puangari-Sawito, 1200—1600 m, *Eyma* 1071. Rantepao, (fr.), *Rijkebiisch I*. Rante Lemo-Angin, 2nd crest of Pokapindjang, 1200 m, *van Steenis* 10321. Pokapindjang, 2000—2500 m, *Kjellberg* 1491 p.p. Makale-Rantepao, c. 800 m, *Kjellberg* 1721 p.p. (S, type of *R. kjellbergii*). Mamasa, *Monod de Froideville* 398.

## 208. RHODODENDRON ENGLERIANUM Koord.

*Rhododendron englerianum* Koord. in *Nova Guinea* 8(1) : 186. 1909; *I.e.* 8(4) : 877, t. 152. 1912; J.J.S., *I.e.* 12(2) : 140, note sub *R. angulatum*. 1914; Kaneh. & Hatus. in *Bot. Mag. Tokyo* 56: 478. 1942.—*R. lowii* (non Hook, f.) F. v. M. in *Trans. R. Soc. Viet.* 1(2) : 22. 1889.—*R. megalostigma* P. v. M., *I.e.* (nom. event, *haud validum*, Code § 33).

NEW GUINEA. Southwestern part: Noord R., Bivak Alkmaar, *Pulle (Versteeg)* 1362 (BO, type of *R. englerianum*; K, L, U). Northwestern part: near Nabire, *Kanehira & Hatusima* 12037, 12293 (cit. K. & H., not seen), 12774 (cit. K. & H., not seen). Southeastern part: Central Distr., Musgrave Range, 2745 m, *McGregor s.n.* (K; MEL, '*R. lowii*' resp. '*R. megalostigma*'); Mt Yule, between Akaifu and Kunimaipa Valleys, c. 1220 m, *Brown* 72.

## 209. *Rhododendron rhodopus* Sleum., *nov. spec.*

Frutex, ut videtur, terrestris. Ramuli teretes, 4—5 mm diam., ad internodium ultimum laxe substellato-lepidoti, ad partes vetustiores glabri et in sicco manifeste pruinosi; internodia 13—15 cm longa, Folia normalia c. 5 ad et paullo infra nodos ultimos subverticillatim digesta, alia 4—5 probabiliter reducta citissime caduca, vestigiis tantum laxe per internodium distributis recognoscenda, normalia lanceolata, subinaequilateralia, apice sublonge acuminata, acuta, basi late in petiolum cuneata, coriacea, supra in sicco dilute olivacea, subtus intense castanea, utrinque opaca, supra maturitate glabra, subtus laxe lepidota (lepidibus planis parvis in zona marginali varie, plerumque breviter dentatis vel laceratis, centro minuto vix impresso), integra, 9—13(—17) cm longa, 2—3,5(—5) cm lata, costa supra inferne dilatata parumque elevata, superne multo angustiore et impressa, subtus colore in sicco olivaceo bene a lamina discernenda, inferne crassitudine petioli obtuseque prominente, superne gradatim angustata et multo minus vel haud elevata, nervis lateralibus utroque latere c. 8 angulo acuto a costa abeuntibus alteque ascendentibus, indistincte anastomosantibus, supra leviter impressis, subtus paullo elevatis, venis subobscuris; petioli validi, olivacei, laxe lepidoti, subteretes, 1,5—2 cm longi, 2(—3) mm crassi. Umbellae 8—9-florae. Perulae exteriores late ovato-oblongae, dorso dense brevissime substrigoso-hirsutulae, intus glabrae, c. 4 cm longae, 2 cm latae, interiores haud visae. Bracteolae lineares, apicem versus laxe pubescentes, c. 2 cm longae, 1 mm latae. Pedicelli crassiusculi, in vivo rosei, laxe lepidoti, epilosi, sub anthesi 1,5—2 cm longi, c. 1 mm crassi. Calyx disciformis, undulatus, vix lobatus, dorso lepidotus, c. 4 mm diam. Corolla tubulosa, in Vs super, parte lobata, alba,

odorata, tota 6,5—7 cm longa, extus glabra vel hic inde lepide solitaria (caduca) instructa, intus ad tubum breviter subdense pilosa, tubo 4—5 cm longo, recto, ad basin leviter 5-saccatam c. 5 mm diam., sursum paullo dilatato, infra lobos c. 8 mm diam., lobis manifeste patentibus, suborbiculatis, 2—2,5 cm longis, 1,5—2 cm latis. Stamina 10, subaequalia, dimidium corollae loborum aequantia; filamenta ad  $\frac{1}{2}$  infer, partem linearia denseque subvillosa, superne filiformia et glabra; antherae oblongae, 4—5 mm longae, c. 1,3 mm latae. Discus glaber. Ovarium cylindricum, flavo-tomentosum minuteque lepidotum, c. 10 mm longum, 2,5 mm crassum, sensim in stylum abiens; stylus corollae tubum subaequans, ad  $\frac{1}{2}$  infer, partem flavo-tomentosus, elepidotus, infra stigma capitatum glaber. Capsula crasse cylindrica, basi angustata saepius curvata, breviter flavo-villosa minuteque lepidota, submatura 5—7 cm longa, 7—8 mm diam., stylo villosa coronata.

CELEBES. Central part: Enrekang, Pokapindjang-Tinabang, 2800—3000 m, *Eyma 6U3* (BO, type; L); Luwuk, between Pinapuang-G. Loloa-G. Beabis, *Eyma 3863*.

#### 210. RHODODENDRON BAENITZIANUM Laut.

*Rhododendron baenitzianum* Lauterbach in K. Sch. & Laut., Nachtr. Fl. Schutzgeb. 337. 1905; Schltr in Bot. Jahrb. 55: 156. 1918.—*R. maboroense* Scfoltr, *I.e.*

NEW GUINEA. Northeastern part: Torricelli Mts, 1000 m, *Schlechter 11,357* (B, type of *R. baenitzianum*, f; BO, BRSL, K). Maboro Mts, Waria R. region, c. 1200 m, *Schlechter 19880* (B, type of *R. maboroense*, f; P).

#### 211. RHODODENDRON WENTIANUM Koord.

*Rhododendron wentianum* Koorders in Nova Guinea 8(1): 188. 1909; J.J.S. *I.e.* 12(5): 508. 1917; *I.e. t. 199 b—f, 203 a.* 1918; Schltr in Bot. Jahrb. 55: 143. 1917.—*R. callichilioides* Wernh. in Trans. Linn. Soc. ser. 2 Bot. 9: 95. 1916, *incl. var. minor*, *I.e.* 96.—*R. wollastonii* Wernh., *I.e.* 99.—*R. sacculatum* J.J.S., Nova Guinea 12(5): 508. 1917, in text, *nom. nud.*

NEW GUINEA. Southwestern part: Mt Carstensz, 945 m, *B. Kloss s.n.* (BM, type of *R. wollastonii*); *ibid.*, 760—945 m, *B. Kloss s.n.* (BM, type of *R. callichilioides*). Resi Mts, Noord R., c. 600 m, *Pulle (Versteeg) 1629* (BO, type of *R. wentianum*; K, L, U). Oro Valley, Treub Mts, 1400 m, *Pulle 1135* (*R. sacculatum*). Northeastern part: 'Regenberg', Sepik R. region, c. 1500 m, *Ledermann 12223* (B, f, cit. *Schlechter*, not seen).

#### 212. *Rhododendron cuspidellum* Sleum., *nov. spec.*

Frutex terrestris, c. 1,5 m altus. Ramuli subrobusti, teretes vel interdum obtusanguli, ad internodia ultima laxae usque subdense substellato-lepidoti, ceterum glabrati vel cito corticati; internodia 8—17 cm longa. Folia in pseudovercillis 4—5(—7)-meris ad nodos ultimos 2 disposita, lanceolata usque subovato-vel oblongo-lanceolata, apice sublonge (subcaudato-) acuminata, acumine acuto saepius paullo curvato, basin versus  $\pm$  late attenuata, basi ipsa subtruncato-rotundata usque subcordata, cori-



acea, sat rigida, supra in sicco olivaceo-cinerascentia vel nigrescentia, subtus dilute cuprea,  $\pm$  opaca, matura supra minute rugosula, glabra, subtus laxe lepidota (lepidibus parvis, in zona marginali irregulariter substellato-lobatis vel -dentatis, centre saturatiore paullo impressis), integra, haud in margine revoluta, (9—)10—15 cm longa, (2,5—)3—5 cm lata, costa supra inferne per 1—2 cm paullo dilatata, superne angustissima, per totam longitudinem impressa, subtus inferne petioli crassitie, obtusa valdeque prominente, apicem laminae versus sensim diminuta, sed etiam apice bene distincta, nervis lateralibus utroque latere 8—10-paribus, patulis, inferne subrectis, ante marginem subindistincte curvato-conjunctis, utrinque levissime elevatis, haud raro, imprimis subtus, subinconspicuis; petioli parum applanati, supra leviter sulcati, lepidoti, 5—10 mm longi, 2—3 mm crassi. Umbellae 9—12-florae. Gemmae floriferae suborbiculari-ovoideae, 3,5 cm longae, 2,5 cm latae. Perulae exteriores ovatae, apice brevissime subulatae, interiores maiores, ovatae, apice subobtusae, intimae spathulatae, omnes dorso et margine laxe substellato-lepidotae et brevissime pubescentes, usque ad 3,5 cm longae et 2,3 cm latae. Bracteolae lineares usque lineari-subspathulatae, breviter pubescentes, usque ad 3 cm longae, 1—4 mm latae. Pedicelli in vivo rubri, crassiusculi, laxe lepidoti, epilosi, (2,5—)3,5—6 cm longi, c. 1 mm diam. Calyx disciformis, undulatus et obscure lobatus, dorso dense lepidotus, c. 3 mm diam. Corolla infundibuliformis, inferne tubulosa, ad lobos valde expansa, aurantiaca vel aurantiaco-flavida, tota (3,5—)4—4,5 cm longa, extus subdense vel laxius substellato-lepidota, intus in inferiore tubi parte sparse vel sparsissime pilosula, tubo 1,7—2,1 cm longo, recto, 5-angulato basique manifeste 5-saccato, basi c. 5 mm diam., sursum usque ad 1,2—1,5 cm diam., dilatato, lobis late obovato-spathulatis vel subrotundis, 2,3—2,7 cm longis, 1,5—2,2 cm latis. Stamina 10, tubum corollae paullo superantia, subaequilonga,  $\pm$  2,5 cm longa; filamenta in dimidio infer, linearia denseque patentipilosa, superne filiformia et glabra; antherae rubrae, oblongae, c. 4 mm longae, 1 mm latae. Discus totus albosericeus. Ovarium subcylindrico-conicum, alboveletinum et lepidotum, 5—6 mm longum, c. 2,5 mm diam., subabrupte in stylum abiens; stylus robustus, ad  $\frac{1}{2}$ — $\frac{1}{2}$  infer, partem pilosus manifesteque lepidotus, stamina subaequans; stigma crasse capitatum, bene 5-lobum. Capsula ignota.

NEW GUINEA. Western part: Wissel Lakes, Enarotali, 1900 m, B.W. 3008 Versteegh (E; L, type), rather common in secondary forest, fl. 20-3-1955; *ibid.*, Arandora, Mutaro etc., *Eyma U235bis*, 4327, 4614, 4703, 5001, 5052, 5212.

### 213. *Rhododendron commutatum* Sleum., *nov. spec.*

*Rhododendron gradle* (non Low ex Lindl.) Beccari, Malesia 1: 203. 1878.

Frutex epiphyticus vel terrestris, saepius subarborescens, 2—3 m altus. Ramuli subgraciles, teretes, 2—4 mm diam., ad internodia ultima (interdum et penultima) dense substellato-rufo-lepidoti, in partibus vetustioribus cito glabrescentes; internodia (3—)6—12 cm longa. Folia opposita vel in pseudoverticillis 3(—5)-meris ad nodos ultimos  $\frac{1}{2}$ — $\frac{1}{2}$  disposita, lanceolata vel oblongo-lanceolata, apice  $\pm$  longe, interdum subabrupte

acuminata, subacuta, basi late acuteque in petiolum attenuata (nunquam rotundata!), subinaequilateralis, tenuiter coriacea, in sicco flexilis, supra subnigrescentia et nitida, subtus brunnea et opaca, supra maturitate diu lepidota, denique glabra, subtus minute subinflato-rugosula et  $\pm$  persistenter laxe vel subdense lepidota (lepidibus minutis, in zona marginali substellato-lobatis vel -incisis, centro parvo leviter impressis), integra, haud vel in ipso margine brevissime revoluta, (8—)10—15(—17) cm longa, (2—)3—5(—5,5) cm lata, costa supra per totam longitudinem angustissima et bene insculpta, subtus inferne petioli crassitudine, sursum sensim diminuta, obtuse manifesteque prominens, quam lamina saepe densius lepidota, nervis lateralibus utroque latere 10—14 patentibus, a costa angulo subrecto vel magno abeuntibus, inferne rectis, ante marginem curvatis obscureque anastomosantibus, aliis tenuioribus intercalaribus additis, omnibus inter sese  $\pm$  parallelis supra levissime impressis, subtus minute prominentibus vel subinconspicuis, reticulatione subdensa, supra tantum parum visibili; petioli a dorso applanati et sulcati, dense lepidoti, 1—1,5 cm longi, 1,5—2 mm crassi. Umbellae (3—)4—5-florae. Perulae exteriores anguste ovato-acuminatae, apice in subulam extenuatae, in linea dorsali et apicem versus lepidotae, in margine glabrae, interiores multo angustiores, fere lineares, usque ad 2 cm longae et 0,7 latae. Bracteolae filiformes, laxe lepidotae, c. 1,5 cm longae. Pedicelli laxe substellato-lepidoti, epilosi, sub anthesi 1—1,5(—2) cm longi, c. 1 mm diam. Calyx subobliquus, disciformis, brevissime obtuse 5-lobus, dorso dense lepidotus, c. 4 mm diametro. Corolla infundibuliformis, laete rosea vel rubra, tota 5—6(—6,5) cm longa, in c. Vs superiore parte lobata, extus laxe minute substellato-lepidota, intus ad dimidium infer, tubi laxe breviter pilosa, tubo 3—4 cm longo, basi 5-saccato et 4—5 mm diam., sursum gradatim usque ad c. 1,5 cm diam. ampliato, lobis erecto, patentibus, late obovato-spathulatis vel suborbicularibus, 2—2,5(—2,7) cm longis, (1,5—)1,8—2,4 cm latis. Stamina 10, inaequilonga, longissima 1/2 longit. corollae loborum aequantia; filamenta linearia, inferne subdense papilloso-pilosula, superne papillosa, in tertio ultimo glabra; antherae oblongae, 3—3,5 mm longae, 1 mm latae. Discus inferne glaber, in margine superiore breviter pubescens. Ovarium subcylindricum, cinerascenti-velutinum denseque lepidotum (lepidibus a pilis prorsus versis  $\pm$  obtectis), cum stylo subabruptum, 7—8 mm longum, c. 2 mm diam. Stylus crassiusculus, fere usque ad apicem dense subpatenter pilosus, minus dense lepidotus, corollam subaequans; stigma crasse capitatum. Capsula anguste cylindrica, curvata, laxe pilosa denseque lepidota, c. 8 cm longa, 0,4 cm diam.

BORNEO. Sarawak: Lundu, *Beccari P.B.* 2322 (A, fragm.; FI, type; K, P, S); Mattang-, *Beccari P.B.* 655, 1338. Kuching- *Beccari P.B.* 2679; *Hewitt s.n.*; *Haviland* 2210. Upper Baram R., Lio Matu, c. 150 m, *SF* 6720 *Moulton*; G. Lemakok, *SF* 687U *Moulton*. 'Sarawak', *Nat. coll.* 730, 1502.

#### 214. RHODODENDRON SUBCORDATUM Becc.

*Rhododendron subcordatum* Beccari, *Malesia* 1: 203. 1878; Merr., *En. Born.* 463. 1921.



BORNEO. Sarawak: Batang Lupar, Tian Laju, c. 1000 m, *Deccavi P.B. 3231* (errore '3233' publ., FI, type; K); *Hewitt s.n.*

215. ***Rhododendron leptobrachion*** Sleum., *nov. spec.*

Frutex vel arbuscula usque ad 3 m alta. Ramuli graciles, teretes, 1,5—3 mm diam., ad apices internodii ultimi laxe lepidoti, ceterum glabri, in sicco pruinosi; internodia (3,5—)6—12 cm longa. Folia in pseudoveriticillis c. 5-meris ad nodos ultimos vel etiam penultimos disposita (folio uno, rarius foliis duobus c. 1—2 cm infra nodos insertis), lanceolata vel suboblongo-lanceolata, apice breviter subabrupte acuminata, subacuta, basi acute in petiolum attenuata, subcoriacea, supra in sicco nigrescentia vel ± intense pruinosa, subtus sordide brunnea, utrinque opaca, novella utrinque densius lepidota, matura supra minutissime nigro-punctulata, glabra, subtus quam supra diutius laxequae lepidota (lepidibus sat parvis, in zona marginali latiuscula cito dissoluta varie substellato-lobatis vel -dentatis, centro minuto paullo impresso denique nigrescenti), integra, haud- vel vix revoluta, (5,5—) 6,5—9 cm longa, 1,8—2,8 cm lata, costa supra angustissime impressa, subtus inferne petioli crassitudine atque valde obtuse prominente, pruinosa, sursum sensim decrescente, nervis lateralibus utroque latere 6—8(—10) irregularibus, patentibus, obscure anastomosantibus, aliis intercalaribus additis, omnibus supra minutissime impressis vel subobscuris, subtus prominulis, venis venulisque subdense reticulatis, supra haud vel vix, subtus minute vel distinctius elevatis; petioli subgraciles, a dorso compressi et per totam longitudinem canaliculati, (1—)1,2—1,8(—2) cm longi, 1,5—1,8 mm crassi. Umbellae 4—6(—10)-florae. Perulae exteriores ovatae usque ovato-oblongae, interiores spathulatae, omnes dorso densissime sericeo-hirsutulae, intus basi laxe puberula excepta glabrae, usque ad 2 cm longae, et 1 mm latae. Bracteolae lineares, dense hirsutulae, 1,5—2,2 cm longae, 0,6 mm latae. Calyx oblique disciformis, obscure 5-lobus, dorso dense lepidotus, 3—4 mm diam. Corolla tubulosa, scarlatina vel ignea, tota 3—3,5(—4) cm longa, extus imprimis tubi basin versus laxe vel laxissime lepidota, intus ad tubum subdense brevissime pilosa, tubo subcylindrico, recto, c. 2,5 cm longo, basi manifeste 5-saccato, calycem includente et c. 4 mm diam. sursum paullo dilatato, sub ore 5—6 mm diam., lobis late obovatis vel suborbicularibus, sub anthesi erecto-patentibus, 1—1,3 cm longis, 0,7—0,9 (—1) cm latis. Stamina 10, inaequilonga, longissima c. 1/2 corollae lorum attingentia; filamenta linearia, ad 2/3 infer, partem dense subpatenter pilosula, superne glabra; antherae obovato-oblongae, 2 mm longae, 1 mm latae. Discus prominens, glaber. Ovarium subobovoideo-cylindricum, dense subpatenter pilosum et lepidotum, 4—6 mm longum, 2—2,5 mm crassum, sensim in stylum abiens; stylus subgracilis, stamina subaequans, in 1/2 longit. infer, subdense usque laxius pilosus, parum vel haud lepidotus; stigma oblique capitatum. Capsula oblique subfusiformi-cylindrica, parum curvata, subdense pilosa et lepidota, 2,5—3 cm longa, 0,5—0,6 cm diam., pedicello fructifero laxe lepidoto 2,2—3 cm longo, c. 1 mm crasso.

CELEBES. Central part: Enrekang-, Pokapindjang-Tinabang, 2800—3000 m, fl. 16-6-1937, *Eyma 647* (A, BO, K; L, type; SING); Rante Lemo-Angin, 2nd crest

of Mt Pokapindjang, 2000 m, *van Steenis 10311*; B. Rante Mario, 2600 m, *Kjellberg 1100*.

216. RHODODENDRON LOMPOHENSE J.J.S.

*Rhododendron lomphense* J. J. Smith in Bull. Jard. Bot. Btzg. III, 1: 402, t. 50. 1920.

CELEBES. Central part: G. Lompoh, *Bachmat 943* (BO, type; L).

217. RHODODENDRON BURUENSE<sup>1</sup> J.J.S.

*Rhododendron buruense* J. J. Smith in Fedde, Rep. 30: 168. 1932.—*R. lomphense* J. J. S. var. *grandifolium* J. J. S., *l.e.* 169.

MOLUCCAS. Burn: G. Toga, 1900 m, *Stresemann 38* (L, type of *R. buruense*). Ehu road, between Leksula and Mnges Waen, 1290 m, *Toxopeus 153* (BO, type of *R. lomphense* var. *grandifolium*; L).

218. *Rhododendron bloembergenii* Sleum., *nov. spec.*

Arbuscula, c. 3 m alta. Ramuli validi, apicibus subangulati et sparsissime appresse lepidoti, ceterum teretes, glabri, saepius pruinosi, 4—9 mm diam.; internodia 5—20 cm longa. Folia 2—3 ad nodos ultimos 1—2 (—3) pseudoverticillatim digesta, cetera 1—2(—3) in superiore internodiorum quorumque parte alternatim disposita, late oblonga, interdum in eodem specimine pro parte subovato-oblonga, apice breviter et saepius subabrupte acuminata, subacuta, basi late attenuata, subinaequilateralia, firmule coriacea, supra in sicco cinerascens-olivacea, subtus dilute castanea, utrinque opaca, maturitate supra sparse lepidota vel omnino glabrescentia, subtus subpersisterter laxe vel subdense lepidota (lepidibus minutis planis, in zona marginali satis lata (cito dissoluta) varie irregulariter substellatolobatis vel -dentatis, centro minutissimo vix impressis), integra, in sicco brevissime revoluta, (9—)11—19 cm longa, (3—)4—8 cm lata, costa supra in parte basali crassitie petioli, sursum sensim angustata, plana vel leviter impressa, subtus inferne valde crassa obtuseque prominente, apicem laminae versus sensim diminuta, nervis lateralibus utroque latere 9—12 angulo acuto a costa alte ascendentibus et ante marginem inter sese curvato-conjunctis, aliis intercalaribus paucis, omnibus inter se subparallelis, supra levissime insculptis vel prominentibus, subtus distincte elevatis, reticulatione venarum subtus tantum parum conspicua; petioli robusti, applanati, 1—1,5(—2) cm longi, c. 3 mm diam., lepidoti, sicut costa longitudinaliter striato-rugosuli. Umbellae c. 10-florae. Perulae exteriores ovatae, obtusae, 1,5—2 cm longae, c. 1 cm latae, dorso initio, imprimis basi sericeae, cito glabrescentes, manifeste rugosae, interiores oblongae usque oblongo-spathulatae, dorso densissime et ± persistenter subsericeo-hirsutulae, usque ad 6 cm longae et 2,5 cm latae. Bracteolae lineari-subspathulatae, ± dense pilosae, c. 2 cm longae, 1—1,5 mm latae. Pedicelli sub anthesi subdense substellato-lepidoti, 1,2—1,7 cm longi, c. 1,5 mm crassi. Calyx disciformis brevissimus, c. 3 mm diam. Corolla



inferne longe tubulosa, ad lobos expansa, alba fragrans, extus glabra, intus ad tubum dense breviter pilosa, tota (6,5—)7—7,5 cm longa, tubo 4,5—5 cm longo, cylindrico, recto, basi leviter 5-saccato et 5—6 mm diam., orem versus vix ampliato, lobis late obovato-spathulatis vel suborbicularibus 2—2,5 cm longis, 1,5—2 cm latis. Stamina 10, c. % longit. corollae loborum attingentia; filamenta inferne linearia et per % infer, partem dense patenter pilosula, sursum glabra et filiformia; antherae oblongae, 6—7 mm longae, c. 1,5 mm latae, thecis basi in appendiculum brevem protractis. Discus glaber, parum prominens. Ovarium subcylindricum, flavido-tomentosum (lepidibus haud visibilibus), 9—10 mm longum, 3—4 mm diam., sensim in stylum crassum transiens; stylus stamina paullo superans, inferne dense, superne subdense vel laxius subpatenter-pilosus minuteque lepidotus, ad mm 6—8 ultima glaber; stigma crasse capitatum, c. 3 mm diam. Capsula (*Cool s.n.*) crasse subfusiformi-cylindrica, laxe breviter pilosa, rugosula, paullo curvata, 3,5—4 cm longa, 0,7—0,8 cm diam., pedicello fructifero 3—3,5 cm longo, c. 2 mm crasso.

CELEBES. Central part: E of Lake Lindu, towards the top of G. Ngilalaki, 2335 m, *S. Bloembergen* 3972 (A, BO, type; L), fl. 9-7-1939. E side of Lati-modjong Mts, just below the watershed between summits Potok Sia and Buntu Si Kollong, and on the road from Boni (Duri) to Bolla, 2200 m, *Cool s.n.* (A, BO, K, L, SING), fr.

215. RHODODENDRON MACGREGORIAE F. V. M.

*Rhododendron macgregoriae* F. von Mueller in J. Bot. 29: 177. 1891; J. J. S. in Nova Guinea 18: 97. 1936.—*R. hansemanni* Warb. in Bot. Jahrb. 16: 26. 1892; K. Sch. & Laut., Fl. Schutzgeb. 487. 1901; Schltr in Bot. Jahrb. 55: 141, / . I. 1917; Lane-Poole, For. Res. 130. 1925; White & Francis in Proc. R. Soc. Queensl. 30: 68. 1928; Diels in Bot. Jahrb. 62: 486. 1929.—*R. lauterbachianum* Foerster in Fedde, Rep. 13: 224. 1914; Stonor, Rhodod. Yearb. 6: 49, / . 49. 1951.—*R. vonroemeri* Koord. in Nova Guinea 8(4): 879, t. 155. 1912; J. J. S., L.o. 12(2): 143. 1914; Gibbs, Arfak 170. 1917.—*R. calceolarioides* Wernh. in Trans. Linn. Soc. 2. ser. Bot. 9: 95. 1916.—*R. gormmense* Schltr in Bot. Jahrb. 55: 142. 1917.

219a. var. MACGREGORIAE

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lakes, 1800—2000 m, *Gjellerup* 1067, 1131; *Gibbs* 5554, 5714, 5923; *Mayr* 670; *Kostermans* 2233, 2403; Andjai-Mt Nettoti, 1220—1750 m, *van Royen* 3843, 3892, 3922; Kebar valley, 1100 m, *B.W. 6876 Koster*; *ibid.*, Tobi Mts, 850 m, *B.W. 5584 van der Sijde*; Arfak Mts, 1830 m, *Pratt s.n.* Wissel Lake region, c. 1750 m, *B.W. 3049 Versteegh*; *Eyma* 4341, 4344, 4464, 4601, 5382. Doormantop, 2600 m, *Lam* 1867. Nassau Mts, c. 1000 m, *Docters van Leeuwen* 10785. Mt Cyclops, 1400—1630 m, *Gjellerup* 527; *Mayr* 535, 626; *van Royen* 3750. Lake Habbema region, 2100—2630 m, *Brass* 10837, 10889, 11057, 11694. Idenburg R., Bernhard Camp, 2100 m, *Brass* 12183. Balim R. Valley, Tiom, 2000 m, *van Leeuwen s.n.* Southwestern part: Hellwig Mts, 1350—1600 m, *von Rb'mer* 1112 (BO, lectotype of *R. vonroemeri*); *ibid.*, c. 2500 m, *von Rdmer* 790 (BO, syntype of *R. vonroemeri*). Mt Carstenz, 945—2030 m, *B. Kloss s.n.* (BM, type of *R. calceolarioides*). Northeastern part: Central Highlands, Nondugl and vicinity, 1585—2750 m, *Gilliard s.n.*; *N.G.F.* 4335 *Womersley*. Mt Hagen and vicinity,

2285—3050 m, *Gilliard s.n.*; *N.G.F.* 9437 *Womersley*; *Hoogland & Pullen* 5918, 6027. Bismarck Mts, Gorum, c. 2000 m, *Schlechter* 18790 (B, type of *R. gorumense*, f; P). Telefomin, Sepik Distr., *N.G.F.* 9097 *Womersley*. Upper Chimbu Valley, *N.G.F.* 8881 *Womersley*. Wabag Valley, *Stonor* 8. Wahgi Valley, *Gilliard s.n.*; *Hoogland & Pullen* 6214. Upper Dunantina Valley, *Hoogland & Pullen* 5306. Goroka, 1615 m, *McKee* 1249; *ibid.*, 1585 m, (cult, at Lae) *N.G.F.* 9631 *White*. Daulo, 2470 m, *McKee* 1212. Jimmi R. Valley, *Vogel s.n.* Morobe Distr., Saruwaged Mts, 2400—3000 m, *Keysser anno 1912* (n. 321: BM) (B, type of *R. lauterbachianum*, f; BM); Norai R., 2135 m, *Lane-Poole* 531; *ibid.*, 3600—4000 m?, *Keysser s.n.* (cit. Diels, B, f); Matap, 1525—1830 m, *Clemens* 11117bis, 41212. A-mieng, Yaneng R., 1525—1830 m, *Clemens* 12307A, 12355. Yunzaing (Sattelberg region), c. 350 m, *Clemens* 4137, 2399, 2993; Wantoat, 1065—1830 m, *Clemens* 11113a; Ogeramngang, 1600—1700 m, *Clemens* 4497, 4851, 5078; Sambanga, 1525—1830 m, *Clemens* 6914; Samanzing, 1675 m, *Clemens* 9241 A. Abe (Saruwaged), 1220—1525 m, *Clemens* 8325; above Masak R., c. 2440 m, *Clemens* 7266. W of Finschhafen, *Neuhaus* 31 (B, f). Pinisterre Mts, 1700—2100 m, *Hellwig* 309 (B, lectotype of *R. hansemanni*, f), 310 (B, f); *ibid.*, c. 1300 m, *Schlechter* 18167 (P). Edie Creek area, Bulolo vicinity, *McAdam* 285; *N.G.F.* 7583 *McVeagh*. Central Distr., Mt Tafa, 2200 m, *Brass* 4028; Mt Yule, c. 3350 m, top, *R.G.S. Austr. Exp. leg. Bedford anno 1891* (BM, K; MEL, type of *R. macgregoriae*); Boridi, 1370 m, *Carr* 14208; Matate-Lala Divide, 2135 m, *Carr* 15005; Lala R., c. 1675 m, *Carr s.n.*; Upper Zevi Valley, 1830 m, *Brown* 327; Kunimaipa Valley, 1525 m, *Brown* 336; Mt Moroka, 1300 m, *Loria s.n.* (FI). Milne Bay Distr., Mt Garatun, 2440 m, *Cruttwell* 815; Mt Simpson, 2135 m, *Cruttwell* 39; N slopes of Mt Dayman (Maneao), 2135—2250 m, *Brass* 22445, 22609; *Cruttwell* 742. Fergusson Isl., 900 m, *Brass* 27189.

**219b. var. mayrii** (J.J.S.) Sleum., *nov. stat.*

*Rhododendron mayrii* J. J. Smith in *Nova Guinea* 18: 97, t. 20 f. 2. 1936.

NEW GUINEA. Northwestern part: Arfak Mts, Mt Ditschi, 1100 m, *Mayr* 77 (BO, type of *R. mayrii*, phot, in L; L).

**219c. var. glabrifilum** (J.J.S.) Sleum., *nov. stat.*

*Rhododendron glabrifilum* J. J. Smith in *Nova Guinea* 12(2) : 134, t. 31. 1914.—*R. torricellense* Schltr in *Bot. Jahrb.* 55: 142. 1917.

NEW GUINEA. Southwestern part: Mimika Subdiv., Kokonao, Wame-reme-epere, *B.W.* 5153 *Warint*. Northwestern part: Legarei R., near Manokwari, *Janowski* 65 (BO, type of *R. glabrifilum*). Rouffaer R., 200 m, *Docters van Leeuwen* 10193. Doormantop, E slope, 420 m, *Lam* 1411- Idenburg R., Bernhard Camp, 850 m, *Brass* 13067. Mt Cyclops, *Mayr* 582 (BO). Northeastern part: Torricelli Mts, c. 800 m, *Schlechter* 20162 (B, type of *R. torricellense*, f; P). Near Karap, Jimmi Valley, 1675 m, *N.G.F.* 7647 *Womersley & Millar*.

220. RHODODENDRON ORBICULATUM Ridl.

*Rhododendron orbiculatum* Ridley in *J. Str. Br. R. As. Soc.* 63: 60. 1912; Merr., *En. Born.* 462. 1921.

BORNEO. Sarawak: Mt Batu Lawi, Upper Limbang R., c. 1740 m, *Moulton s.n.* (SAR, type). Brunei: B. Tanggoui, 820 m, *BRUN* 755 *Ashton*.



221. *Rhododendron rosendahlii* Sleum., *nov. spec.*

Frutex terrestris, c. 1,5 m altus. Ramuli erecti, ad internodia ultima 1,5—7 cm longa et 1,5—2 mm diam., laxe substellato-lepidoti, ad internodia inferiora 3—10 cm longa et 2—3 mm crassa cortice cinerascenti longitudinaliter fisso obtecti. Folia in pseudoverticillis 3—4(—5)-meris ad nodos summos 2—3 disposita, ovata usque ovato-elliptica, apice longius vel brevius sensim acuminata vel attenuata, ± obtusa, rarius subacuta, interdum subrotundata levissimeque emarginata, basi leviter sed distincte cordata, coriacea, in sicco pallide brunnea, utrinque opaca, supra diutius relictis squamarum laxe induta ceterum densissime minutissime impresso-punctata, subtus laxe usque subdense et ± persistenter lepidota (lepidibus parvis in zona marginali cito evanescente varie substellato-lobatis vel -dentatis, centro minuto praeditis, omnino bene impressis), integra, leviter revoluta, (3—)4—6(—7,5) cm longa, (2—)2,5—3,5 cm lata, costa supra angusta et immersa, subtus inferne petioli crassitudine valdeque robusta, obtuse prominente, sursum gradatim diminuta, nervis lateralibus utroque latere 6—8 valde irregularibus, patentibus, ante marginem curvato-conjunctis, supra paulo impressis, subtus subinconspicuis, reticulatione ± indistincta; petioli subteretes, supra canaliculati, 2—4(—5) mm longi, 1,5—2 mm crassi. Umbellae 3—5-florae. Perulae exteriores subcoriaceae, ovatae, breviter acuminatae, dorso medio laxe lepidotae minuteque sericeae, 5—6 mm longae, c. 3 mm latae, interiores multo tenuiores, obtusae, oblongae usque obovato-spathulatae, extus dense brevissime subsericeae, elepidotae, usque ad 2 cm longae, c. 7 mm latae. Bracteolae inferne filiformes, superne subspathulato-dilatatae, pubescentes, usque ad 1,5 cm longae et c. 1 mm latae. Pedicelli subgraciles, dense breviter subpatenter pubescentes, laxissime vel haud lepidoti, (1,5—)2—2,5(—3,5) cm longi, c. 0,6 mm diam., Calyx disciformis, brevissime obtuse 5-dentatus, dorso breviter pubescens, c. 3 mm diam. Corolla tubuloso-infundibuliformis, paullo obliqua, saturate rubra, extus disperse substellato-lepidota, intus glabra, tota 3—3,5 cm longa, tubo (2—)2,5 cm longo, basi bene 5-saccato et c. 4 mm diam., sursum usque ad 6—8 mm diam. dilatato, lobis late spathulatis vel subrotundis, 1—1,2 cm longis, 0,8—1 cm latis. Stamina 10, inaequilonga, longissima c. % longit corollae loborum aequantia; filamenta linearia, glabra; antherae subobovato-oblongae, c. 3 mm longae, 1,2 mm latae. Discus imprimis apice tomentellus. Ovarium subcylindricum, apice sensim in stylum attenuatum, tomentosum, pilis patentibus lepides minutas occultantibus, 6—7 mm longum, 2,5 mm diam.; stylus crassiusculus, inferne tomentosus, superne pilosus, sed 2—3 mm infra apicem glaber; stigma crasse capitatum. Capsula deest.

NEW GUINEA. Western part: Wissel Lake, Ulida, c. 1800 m, B.W. \$251 *Rosendahl* (E; L, type), fl. 9-9-1955; *ibid.*, no locality given, 1380—1600 m, *Eyma U276, U276h.*

## 222. RHODODENDRON FLAVOVIRIDE J.J.S.

*Rhododendron flavoviride* J. J. Smith in *Med. Rijksherb.* 25: 4. 1915; in *Nova Guinea* 12(5): 505. 1917; *I.e. t. 200a, 204 b—e.* 1918.

NEW GUINEA. Southwestern part: Kajan Mts, 3200 m, *Pulle* (*Versteeg*) 2U55 (BO, type; K, L, U). Northwestern part: Lake Habbema, 3225 m camp, *Brass* 9378 (A), fls pale green, fragrant.

**223. *Rhododendron comparabile* Sleum., nov. spec.**

Frutex erectus usque ad 2 m altus. Ramuli graciles, (2—)3—4 mm diam., subteretes, ad internodia ultima laxe caduceque substellato-lepidoti, ad partes inferiores cito glabrescentes, saepius in statu sicco pruinosi; internodia 2—8(—11) cm longa. Folia in pseudovercillis 4—5-meris ad nodos 2—3(—5) ultimos digesta, elliptica usque subobovato-elliptica, apice latissime attenuata vel brevissime subabrupte acuminata, obtusa, interdum rotundata, basi late in petiolum attenuata, coriacea, in sicco supra viridescens vel brunnescentia, subtus pallidiora, utrinque opaca, saepius pruinosa vel glaucescentia, supra maturitate glabra, subtus laxe et ± persistenter lepidota (lepidibus minutis, in zona marginali irregulariter substellato-lobatis vel -dentatis, centro paullo immersis), integra, margine parum sed distincte revoluta, (3,5—)4,5—8(—9) cm longa, 2,5—4(—5) cm lata, costa anguste impressa, subtus inferne crasse obtuseque prominente, superne sensim decrescente, nervis lateralibus utroque latere (5—)6—9 patentibus, interdum irregularibus vel pro parte ante marginem divisivis, normaliter inter sese subparallelis et distincte curvato-conjunctis, supra leviter impressis, subtus prominulis, rete venarum laxo, in foliis adultis tantum supra ± impresso, saepius vix vel haud visibili; petioli subteretes, supra canaliculati, (8—)10—18(—23) mm longi, 1—2 mm crassi. Umbellae (8—)9—13-florae. Perulae exteriores ovatae, subacuminatae vel orbiculares, dorso medio vel apicem versus lepidotae, interiores obovatae usque spathulatae, dorso cito glabrescentes vel ab initio glabrae, omnes margine lepidotae, usque ad 2 cm longae et 1,5 cm latae. Bracteolae lineari-spathulatae, glabrae, c. 1,5 cm longae, 0,5—1,5 mm latae. Pedicelli crassiusculi, subdense substellato-lepidoti, 2—2,5(—3) cm longi, c. 1 mm crassi. Calyx oblique discoideus, brevissime obtuse 5-lobus, dorso lepidotus, c. 3 mm diam. Corolla infundibuliformis, alba, fragrans, tota (4—)4,5(—4,8) cm longa (ex coll. in vivo limbo 5 cm diam.), extus laxe vel subdense minute substellato-lepidota, intus ad tubum breviter pubescens, tubo recto, subcylindrico, c. 2,5 cm longo, basi manifeste 5-saccato et 5—6 mm diam., superne sensim dilatato, ad loborum basin 8—12 mm diam., lobis late obovatis vel suborbiculatis, patentibus, (1,5—)2 cm longis et latis. Stamina 10, subaequalia, e tubo paullo exserta; filamenta ad 2/3 infer, partem linearia et laxe patenter pilosula, superne filiformia et glabra; antherae anguste oblongae, 3—3,5 mm longae, 0,8 mm latae. Discus vix prominens, glaber. Ovarium subcylindricum, dense pilis prorsus versis lepides ± obtegentibus indutum, cum stylo subcontinuum, 5—6 longum, c. 2 mm crassum; stylus staminibus paullo brevior, ad 3/4 infer, partem dense pilosus et lepidotus, ad c. 2 mm sequentia lepidotus epilosus, infra stigma capitatum profundeque 5-lobum glaber. Capsula subcylindrica, 3—3,5 cm longa, 5—6 mm diam., pedicello fructifero 2,5—3 cm longo et 1,5 mm diam. Semina angustissima, cum appendiculis 4—5 mm longa.



NEW GUINEA. Southeastern part: Milne Bay Distr., Sudest Isl., Mt Riu, summit, 800 m, *Brass* 27861 (A, K; L, type; LAE, PNH, S, US), fl. 27-8-1956; *ibid.*, W slopes, 600 m, *Brass* 27829.

#### RHODODENDRON LOCHAE F. V. M.

*Rhododendron lochae* F. von Mueller in Viet. Nat. 3: 157. 1887; in Gard. Chron. ser. 3, 1: 543. 1887; in Bot. Centralbl. 30: 277. 1887; Bail, in Rep. Gov. Sc. Exp. Bellenden-Ker Range 47. 1889; Queensl. PL 3: 924, t. 36. 1900; Compr. Cat. Queensl. Pl. 295. / 265. 1913; Millais, Rhodod. 203. 1917; White in Contr. Arn. Arb. 4: 84. 1933; Hutch, in Gard. Chron. ser. 3, CV: 348. 1939; Bot. Mag. t. 9651. 1943.—*Azalea lochae* (F. v. M.) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.

AUSTRALIA. North East Queensland: Mt Bellenden Ker, top, 1525 m, *Sayer & Davidson s.n.* (K; MEL, type); *ibid.*, South peak, 1585 m, *Meston s.n.* (not seen). Mt Bartle Frere, 1500 m, *Kajewski 1278*; *St. Johnson anno 1892*. Mt Spurgeon, *Merrotsy s.n.* Mts at the head of Mossman R., *Lenn s.n.* Mt Alexander (Thornton Peak), 1065—1370 m, *Brass 228A*—Cult. Kew Gardens (Australia House).

*Rhododendron lochae* has not been found in New Guinea up to now, and is probably confined to Queensland. The most related species in New Guinea is *R. comparabile*. The main differences between these species are given in the key.

#### 224. RHODODENDRON LURALUENSE Sleum.

*Rhododendron luraluense* Sleumer in Notizbl. Berl.-Dahl. 12: 485. 1935.

SOLOMON ISL, Bougainville: Lake Luralu, 1500 m, *Kajewski 206k* (A; B, type, f; BM, BRI; E, fragm. ex B; P).

#### 225. RHODODENDRON LONGIFLORUM Lindl.

*Rhododendron longiflorum* Lindley in 3. Hort. Soc. 3: 88, *fiff.* on p. 89. 1848; Planch., Fl. Serres 5: 477—480, *fig.* 1849; Becc, Malesia 1: 205. 1878; Henslow in J. Hort. Soc. 13: 262, / *i2* (fol.), *43 b* (fl.). 1891; K. & G. in J. As. Soc. Beng. 74, ii: 77. 1905; Ridl. in J. Linn. Soc. Bot. 38: 314. 1908 (repr. J. Fed. Mai. St. Mus. 2: 120. 1908); J. Fed. Mai. St. Mus. 4: 43. 1909; *I.e.* 6: 158. 1915; *le.* 7: 46. 1916; Millais, Rhodod. 203. 1917; Merr., En. Born. 462. 1921; Ridl. in J. Fed. Mai. St. Mus. 10: 250. 1922; Fl. Mai. Pen. 2: 219. 1923; Burk. & Henders. in Gard. Bull. S.S. 3: 390. 1925; Ridl. in Kew Bull. 71. 1926; Henders. in Gard. Bull. S.S. 4: 280. 1928; Holttum in M.A.H.A. Mag. 9: 34, *phot.* 1939; Henders. in Mai. Nat. J. 6(1): 262. 1950.—*R. tubiflorum* Low ex Lindl. in J. Hort. Soc. 3: 88, in obs. 1848.—*R. tobbii* Veitch, Cat. 22. 1870; Anon, in Florist & Pomol. 233. 1870; Gard. Chron. 1323. 1871; Henslow in J. Hort. Soc. 13: 262, *fig.* p. 281 (fol.), 282 (fl.). 1891; Millais, Rhodod. 203. 1917.—*R. javanicum* (Bl.) Benn. var. *tubiflorum*. Hook., Bot. Mag. t. 6850. 1885; Ridl. in J. Str. Br. R. As. Soc. 23: 144. 1891; *I.e.* 33: 103!. 1900.—*R. orion* Ridl. var. *aurwn-tiacum* Ridl., Fl. Mai. Pen. 2: 217. 1923; Henders. in Gard. Bull. S.S. 4: 280. 1928.

225a. var. **LONGIFLORUM**

SUMATRA. East Coast: B. Galanggang, on the side of B. Bogan, Labu, *David 11310*. Bila, on Manalese (Aek Buro), 200 m, *Lörzing 11606*. Bagan Lubu, *Ridley s.n.* West Coast: Lubuk Sikaping, 1000 m, *de Boer 7*. Pajakumbuh, 500 m, *Meijer 4487*. Benkulen: Leborg Pasir Lebar, 1000 m, *de Voogd 1155*; Suban Ajam, *Jacobson 150*. Mentawai Isi.: Siberut, *SF 14.094 B. Kloss*.

MALAY PENINSULA. Kedah: Kedah Peak, 850—1220 m, *Robinson & B. Kloss 5968* (cit. '5967'). No locality given: *Vesterdal 233*. Perak: G. Arang Para, *Low s.n.* Larut, 150—245 m, *Kunstler 1864, 5181*. Taiping Hill, 760 m, *SF 13205 Burkill & Haniff*. Maxwell's Hill, *Scortechini s.n.* Haram, *Scortechini 553*. Pahang: Cameron Highlands, Telom, *Ridley 13682*. Ulu Liang, Raub, *For. Dep. F.M.S. 20446 Strugnell*. G. Tahan, 1065—1830 m, *Wray & Robinson 5382*; *Ridley s.n.*; *SF 7867 Haniff & NUT*; *SF 20661 Holttum*; *Seimund s.n.* G. Pardang, *For. Dep. F.M.S. 42864 Sow*; B. Raka, *For. Dep. F.M.S. 38049 Symington*. Selangor: Kanching For. Res., S of Rawang, 150—550 m, *SF 34329 Nur*; *For. Dep. F.M.S. 9942, 10518, 12471, 29838 Strugnell*; *For. Dep. F.M.S. 27052 Thomas*; *For. Dep. F.M.S. 6376 Hamid*; *Lowe s.n.*; *Melville 4749*; *KEP 57334 Sow*. Klang Gates, 300—460 m, *F.M.S. Museum 7198 Hume*; *F.M.S. Museum 10487 Henderson*; *Ridley s.n.*; *For. Dep. F.M.S. 33215, 33218, 39401 Symington*; *For. Dep. F.M.S. 12471, 13038 Strugnell*; *Foxworthy & Burkill s.n.*; *Brooks s.n.* (K, type of *R. orion* var. *aurantiacum*). Negri Sembilan: *Lister s.n.* Johore: G. Pulai, 600 m, *SF 39512 Sinclair*. B. Abu Bakar, *SF 7759 Nur & Kiah*. G. Pantai, c. 490 m, *Corner s.n.* G. Belumut, c. 915 m, *SF 10721 Holttum*. Singapore: B. Timah, near Bungalow, summit of a lofty Hopea, *Ridley 2030*, fl. 1-1891 (not more in existence).

BORNEO. Sarawak: B. Sagan, Limbang R., 550 m, *Smythies 5918*. Bungo Range, *Brooks 1076*. Kuching, *Beceari P.B. 3491*. Perungen, *Brooke 8517*. Mt Poi, 1370 m, *Clemens 20344*. Near Long Kapa, Mt Dulit, under 300 m, *Nat. Coll. (Richards) 2283*. Tringos (Tringol), *Brooks 10*. 'Sarawak' (Kuching), *Low s.n.* (CGE, type of *R. longiflorum*). Mangrove swamp near Kuching, *Hewitt 1*. Start Mt, 455 m, *Haviland 1459*. Brunei: B. Bedawan, 530 m, *For. Dep. F.M.S. 37176*. Ulu Belalong, Temburong, 275 m, *BRUN 437 Ashton*. B. Biang, 365 m, *Smythies c.s. 5776*. Western part: Mandor, *Polak s.n.* Kapuas-Mt Kenepai, *Teysmann 7972, 7973*. Central part: Penein Mts, *Teysmann 7968*. Müller Mts, Mt Liang Gagang, *Hallier 3063*. Nanga Era, *Hallier 3449*. Amai Ambit, *Hallier 3316*. G. Klam, *Hallier 2461*. Mt Kemul, 1200 m, *Endert 3847*. North Borneo: Mt Kinabalu, 1460—1525 m, *Clemens 29519, 29950, 33981, 50398*; *SF 26959 Carr*. Eastern part: Peak of Balikpapan (G. Beratus), 700 m, *Kostermans 7410*. Nunukan I.: low alt., *Meijer 2213*. Karimata Arch.: P. Serutu, *Mondih 183*.

225b. var. **bancanum** Sleum., *nov. var.*

*Rhododendron* sp., Kurz in *Nat. Tijd. N.I.* 27: 215. 1864.

A *R. longifloro* floribus in omnibus partibus minoribus petiolisque longioribus recedit. Folia elliptica vel oblongo-elliptica; petioli (9—) 12—20 mm longi. Perulae dorso manifeste sericeae. Corolla tota 2—2,5 cm longa, tubo ± rectiusculo, basi 5-gibbo et 2,5—3, infra orem 3,5—4,5 mm diam., lobis obovato-spathulatis 1,5—1,6 cm longis, 0,8—1 cm latis. Stamina c.



3,5 cm longa; antherae 2,5 mm longae, 1 mm latae. Ovarium c. 4 mm longum, 2 mm crassum, stylo 2,3 cm longo.

BANGKA. Top G. Maras, 600—700 m, *de Leeuw* 2 (A, fragm.; BO; L, type); *Kostermans & Anta* 1289. Sg. Liat, *Teysmann s.n.* G. Menumbing, c. 425 m, *Kurz s.n.* (ex cit., not seen).

226. ***Rhododendron christiana*** Sleum., *nov. spec.*

Frutex terrestris, ex coll. satis compactus, usque ad 3 m altus. Rami validi teretes, 7—8 mm diam., cortice brunneo-cinerascenti obtecti. Ramuli in partibus recentissimis obtusanguli, in partibus vetustioribus subteretes, ad apices sparse lepidoti, ceterum glabri; internodia (2—)3,5—11G—13) cm longa. Folia in pseudoverticillis 3(—5)-meris ad nodos ultimos 1—3 (—4) disposita, ± late elliptica vel subobovato-elliptica, apice subabrupte brevissime vel sensim acuminata, obtusa, interdum rotundata vel leviter emarginata, glandula apicali incrassata haud prorumpente ornata, basi late in petiolum attenuata vel rarius cuneata, coriacea, in vivo dilutius viridia vel brunnescenti-viridescens, subtus pallidiora, utrinque opaca, novella utrinque laxe lepidota, matura supra omnino glabra, subtus diutius laxe vel laxissime lepidota, (lepidibus parvis in zona marginali varie lobatis vel dentatis, centro paullo impressis), integra, haud revoluta, 4—7,5 cm longa, 3—4,5 cm lata, costa supra leviter vel levissime impressa, subtus imprimis inferne bene obtuse prominente, nervis lateralibus utroque latere 5—7 patentibus, ante marginem divisis et curvato-conjunctis, supra subobscuris, subtus prominulis, rete venarum inconspicuo; petioli subteretes, dorso sulcati, rugosuli, glabri, (5—)6—10 mm longi, 1—1,5 mm crassi. Umbellae (2—)3—4-florae. Perulae exteriores ovatae usque obovatae, intimae oblongo-spathulatae, dorso medio et apice hirsutulae, margine lepidibus cito caducis obsitae, usque ad 1,5 cm longae et 0,8 cm latae. Bracteolae lineari-subspathulatae usque filiformes, parce pubescentes, c. 1,5 cm longae. Pedicelli crassiusculi, dense patenter breviterque pilosi, basi apiceque laxe lepidoti, sub anthesi 1—1,8(—2,7) cm longi, c. 1 mm crassi. Calyx oblique disciformis, breviter obtuse 5-lobus, dorso lepidotus et pilosus, c. 4 mm diam. Corolla late tubuloso-subcampanulata, extus intense aurantiaca, interdum salmonea, intus lutea, vel interdum omnino rubescenti-brunnescens, rarissime extus rubra, intus viridescens, tota (4,5—)5(—6) cm longa, extus sparse stellato-lepidota, intus in inferiore tertio tubi laxe pilosula, tubo recto 3—3,5 cm longo, basi valde manifeste 5-saccato (calyce corollae basi ± incluso) et 7—8 mm diam., sursum sensim ampliato, ad loborum basin 1,5—2 cm diam., lobis late obovatis vel subrotundatis (1,5—)2—2,5 cm longis, ± 2 cm latis. Stamina 10, valde inaequilonga, longissima corollae loborum dimidium, brevissima vix tubum aequantia; filamenta linearia, basi fere 1 mm lata, ad c. 1/3 infer, partem dense brevissime papilloso-pilosa, ceterum glabra; antherae anguste oblongae, 4—5 mm longae, 1 mm latae, basi brevissime biappendiculatae. Discus parum prominens, in margine superiore albo-velutinus. Ovarium subcylindricum, subabrupte in stylum attenuatum, albo-tomentosum (et lepidotum, lepidibus pilis omnino tectis), c. 6 mm longum, 2,5 mm dia-

metro; stylus 3—4 cm longus, e tubo parum vel vix exsertus, ad % partem dense vel superne laxius pilosum et lepidotum, per 5—7 mm infra stigma glabrum; stigma crasse capitatum, manifeste 5-lobum. Capsula adhuc ignota.

NEW GUINEA. Southeastern part: Milne Bay Distr., Kanasuru, c. 775 m, *Cruttwell* 410 (E, type; K; L, fragm.); Baniara, Waitarua, 610 m, *Cruttwell* 255; Kwapurari, 1220 m, *Cruttwell* 121; Mt Simpson, 1525 m, *Cruttwell* 67.

#### 227. RHODODENDRON LAETUM J.J.S.

*Rhododendron laetum* J. J. Smith in *Nova Guinea* 12(2): 139, t. 35. 1914; J.J.S. in Gibbs, Arfak 169. 1917; Kaneh. & Hatus. in *Bot. Mag. Tokyo* 56: 479. 1942.—*R. uliginosum* J.J.S. in *Nova Guinea* 12(2): 136, t. 33. 1914; Kaneh. & Hatus. in *Bot. Mag. Tokyo* 56: 479. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lakes, 1800—2135 m, *Gjellerup* 1134 (BO, type of *R. uliginosum*), 1135, 1136 (A, fragm.; BO, type of *R. laetum*; L), 1137, 1199; *Kanehira & Hatusima* 13664 (cit. Kaneh. & Hatus., not seen), 13835; *Kostermans* 2070, 2293, 2324; *Gibbs* 5505; *Pratt s.n.*; *ibid.*, Mt Koebré, 2300 m, *Kanehira & Hatusima* 13625; Mt Ditschi, 1200 m, *Mayer* 19.

Much related to *R. zoelleri* Warb.

#### 228. RHODODENDRON KOCHII Stein

*Rhododendron kochii* Stein in *Verh. Schles. Ges. Vaterl. Cultur Breslau* 1883 (*non vidi*); *Gartenflora* 34: 193, t. 1195. 1885; Vid., *Rev. PL Vase. Filip.* 172. 1886; Merr. in *Publ. Gov. Lab. Philip.* 29: 41. 1905; in *Philip. J. Sc.* 3: Bot. 380. 1908; Elm., *Leafl. Philip. Bot.* 3: 1105. 1911; Millais, *Rhodod.* 199. 1917; Merr., *En. Philip.* 3: 243. 1923; Millais, *Rhodod.* 2nd ser. 168. 1924; Copel. f. in *Philip. J. Sc.* 40(2): 160, pi. 7 f. 6—7, pi. 8, pi. 11 f. 1. 1929.—*Rhododendron sp.* (aff. *R. javanicum*) Vidal, *Sinopsis, Atlas*, 30, t. 60 f.F. 1883.—*R. javanicum* {*non* (Bl.) Benn.) F.-Vill., *Novia. App.* 353. 1883; Vidal, *Rev. Pl. Vase. Filip.* 170. 1886.—*R. schadenbergii* (*non* Warb.) Merr. in *Publ. Gov. Lab. Philip.* 29: 41, p.p. 1905.

PHILIPPINES. Mindanao: Davao, Mt Apo, *de Vore & Hoover* 63 (cit. Copel., not seen); *Mearns s.n.* (cit. Copel., not seen); *B.S. 15654 Clemens* (cit. Copel., not seen); *P.N.H. 1353 Edaño*; *ibid.*, Seriban Creek, c. 2000 m, *Schadenberg s.n.* (B, type, f); *Elmer* 11435 (A, BM, BO, E, FI, GH, K, NY; L, neotype; U); *ibid.*, Lake Lanao, *P.N.H. 1386 Edaiio*; *ibid.*, Mt Mackinley *Kanehira* 2694. Cotabato, Mt Matutum, 2135—2315 m, *Copeland s.n.* (cit. Copel., not seen); *B.S.85016, 85063 Ramos & Edaiio*. Misamis, Mt Malindang, *F.B. 4674 Mearns & Hutchinson*. Negros: Canlaon Volcano, *Merrill* 7305 I (cit. Copel., not seen); no locality given: *Whitehead s.n.* (BM, fr.). Luzon: Bataan, Mt Mariveles, *Merrill* 3255 (cit. Copel., not seen); *F.B. 790 Borden*; *Leiberg* 6033 (cit. Copel., not seen); *Whitford* 450; *F.B. 2117 Borden*; *Elmer* 6856; *B.S. 1629 Foxworthy* (cit. Copel., not seen); *F.B. 6281 Curran* (cit. Copel., not seen); *Topping* 806 (cit. Copel., not seen). Laguna, Mt San Cristobal, *F.B. 28978 Canicosa*; Mt Banahao, *Vidal* 412 (*R. 'javanicum'*, K); *Whitford* 958; *Loher* 6181; *F.B. 7868 Curran & Merritt* (cit. Copel., not seen); *B.S. 9834 Robinson* (cit. Copel.,



not seen); *B.S. 19589 Ramos* (cit. Copel., not seen); *Gates 6108* (cit. Copel., not seen); *Brown s.n.* (cit. Copel., not seen); *B.S. A7424 McGregor* (cit. Copel., not seen). Mountain Prov., *Vanoverbergh 957* (differs by a more campanulate, only c. 3 cm long corolla); *Clemens 732* (cit. Copel., not seen); *F.B. 29WU Zschokke & Laraya*. Bontoc, *Vanoverbergh 1836*. Mindoro: Mt Halcon, Hong Peak, 1600 m, *P.N.H. 20497 Rabor*.

## 229. *Rhododendron brevipes* Sleum., *nov. spec.*

Frutex usque ad 3 m altus. Ramuli novelli subteretes vel obtusanguli, subdense lepidibus planis substellatis adpersi, 3—4 mm diam., vetustiores teretes, glabri, c. 7 mm diam.; internodia 7—10 cm longa. Folia in pseudoverticillis c. 5-meris ad nodos ultimos et penultimos disposita, oblonga usque elliptico-oblonga, apice breviter acuminata, subacuta, basin versus late attenuata, basi ipsa subtruncato-obtusata, subsessilia, coriacea, in sicco rubescenti-brunnea, opaca, supra pruinosa et glabra, superficie dense minutissimeque impresso-punctulata, subtus subdense lepidota (lepidibus planis tenuibus rufescentibus, in zona marginali varie lobatis vel dentatis, centre sat parvo vix impressis), integra, c. 15 cm longa, 5—7 cm lata, costa supra inferne petioli crassitie, dilatata, sursum cito decrescente, apicem laminae versus angustissima, supra per totam longitudinem leviter impressa, subtus bene prominente, nervis lateralibus utroque latere 8—10 manifestis, aliis paucis intercalaribus additis minus distinctis, omnibus erecto-patentibus, inferne vix, superne magis curvatis, praeter marginem indistincte anastomosantibus, supra parce elevatis vel planis, subtus manifestioribus bene prominentibus, reticulatione venarum supra visibili, subtus quasi obscura; petioli valde crassi, appianati, 1—2 (—3) mm longi, 3—4 mm lati. Umbellae 6—7-florae. Ferulae exteriores ovato-acuminatae, apice per 3—4 mm subulatae, dorso medio laxissime lepidotae vel glabrae, intus apice dense lepidotae, usque ad 2 cm longae et 1 cm latae, interiores oblongo-subspathulatae, glabrae, c. 2,5 cm longae, c. 0,6 cm latae, omnes margine caduce lepidotae. Bracteolae filiformes, subglabrae, c. 2 cm longae, c. 1 mm latae. Pedicelli valde robusti, apice infra calycem dilatati, laxe lepidoti, pilosi, in vivo rubescentes, sub anthesi 4—5(—6) cm longi, c. 1,5 mm crassi. Calyx subobscurus, obliquus, undulato-marginatus, vix 3 mm diam. Corolla infundibuliformis, ad limbum intense aurantiaca, ad tubum flava, tota 7,5—8 cm longa, extus laxe usque laxissime stellato-lepidota, intus ad 3/4 infer, partem tubi pilosula, tubo recto c. 4 cm longo, basi manifeste 5-saccato et 4—5 mm diam., infra lobos usque ad 1,5 cm dilatato, lobis expansis obovatis c. 4 cm longis et 2,5 cm latis. Stamina 10, inaequilonga, longissima dimidium corollae loborum aequantia; filamenta inferne ad 1/2 longit. linearia et subdense pilosula, superne filiformia et glabra; antherae oblongae, c. 4 mm longae et 1,2 mm latae, basi obtusae. Discus valde prominens, in margine superiore albo-tomentellus, inferne glaber. Ovarium cylindricum, apice cum stylo cotinuum densissime lepidotum, laxius breviter albo-pilosulum, 10—12 mm longum, 2—2,5 mm diam., stylus c. 5,5 cm longus, ad fere 2/3 partem infer. ± dense lepidotus et brevopilosus, superne laxius usque laxissime lepidotus et pilosus, in tertio super, denique gla-

ber; stigma crasse capitatum, manifeste subclavato-5-lobum. Capsula fere matura cylindrica, lepidota et pilosula, fere 8 cm longa, 3—4 mm diam., pedicello fructifero 7,5—9 cm longo, c. 2 mm diam.

NEW GUINEA. Northeastern part: Western Highlands, near Karap village, Jimmy Valley, c. 1725 m, *N.G.F. 7605 Womersley & Millar* (LAE, type), fl., fr. June 1955.

230. ***Rhododendron aurigeranum*** Sleum., *nov. spec.*

Frutex vel arbuscula, 0,5—2,5 (—3) m alta. Ramuli in partibus recentissimis 2 mm diam. paullo applanati denseque lepidoti, in partibus vetustioribus 3—4(—5) mm diam., teretes citoque glabrescentes; internodia 5—15 cm longa. Folia in pseudoverticillis c. 5-meris ad nodos 1—2 ultimos disposita, oblonga, apice breviter acuminata, subacuta, basi in petiolum cuneato-angustata, tenuiter coriacea, in sicco supra olivaceo-brunnea, subtus pallidiora, utrinque opaca, supra maturitate glabra, sed sub lente minute denseque impresso-punctulata, subtus initio dense, maturitate laxius lepidota (lepidibus sat parvis rufescgntibus, furfuraceis, ± deterrentibus, sessilibus vel brevissime stipitatis, in zona marginali irregulariter et ± profunde stellato-incisis, centro saepius in pedem brevissimum extenuatis, haud vel vix impressis), integra, plana, (7—)8—10 (—13) cm longa, 3—4|—5) cm lata, costa supra ad basin tantum parum dilatata, leviter per totam longitudinem impressa, subtus crasse prominente, nervis lateralibus utroque latere 6- 8-inferne subrectis, ante marginem curvatis et obsolete anastomosaribus, supra fere planis, subtus prominulis, reticulo venarum utrinque subinconspicuo; petioli a dorso compressi, canaliculati, lepidoti, ft—8 mm longi, 1,5—2 (rarius usque ad 3) mm crassi. Umbellae 8—10(—14)-florae. Perulae exteriores ovato-acuminatae, apice obtusae vel brevissime subulato-contractae, extus intusque ad apicem ± dense lepidotae, paterum glabrae, interiores obovato-oblongae usque subspathulatae, dorso 1 glabrae, omnes caduce in margine lepidotae, 1,5—2 cm longae, 0,4—1 cm latae. Bracteolae lineari-subspathulatae, 1—1,5 cm longae, 1—2 mm latae. Pedicelli crassiusculi, sub anthesi 2—4(—5) cm longi, c. 1 mm crassi, subdense stellato-lepidoti, laxissimeque sed distincte pilosuli. Calyx indistinctus, discoideus, undulatus, c. 3 mm diam. Corolla infundibuliformis, initio in vivo aurantiaca, postremo lutea, tota 6—7 cm longa, extus laxe stellato-lepidota, intus ad 1/2infer, tubi partem laxe pilosula, tubo recto, sat manifeste 5-angulato, (3—)3,5—4 cm longo, basi valde manifeste 5-saccato calycem includente et 4—5 mm diam., sursum sensim usque ad 1—1,5 cm infra lobos ampliato, lobis expansis, obovatis, 2—3 cm longis, 1,8—2,5 cm latis. Stamina 10, subaequilonga, c.1/2 longit. corollae loborum aequantia; filamenta linearia, ad 1/3 infer, partem subdense pilosa, ceterum glabra; antherae oblongae, 3,5—4 mm longae, c. 1,3 mm latae, basi obtusae. Discus valde prominens, superne albo-tomentellus. Ovarium subconico-cylindricum, gradatim in stylum attenuatum, dense breviter pilosum et lepidotum, c. 10 mm longum, 2,5 mm crassum. Stylus robustus, ad 3/4 infer, partem dense pilosus et lepidotus, sursum per c. 2/mm ± dense lepidotus epilosus, c. 1 cm infra



stigma glaber; stigma crasse capitatum et profunde 5-lobum. Capsula elongato-subfusiformi-cylindrica, basi breviter, apice longius attenuata, pilosa et lepidota, matura  $\pm$  curvata, c. 8,5 mm longa, c. 4,5 mm diam. Semina 7—8 mm longa.

NEW GUINEA. Eastern part: Morobe Distr., Lae-Bulolo road, above Patop Creek, on steep rock, *Lam* 7753 (CANB; L, type; SING), fl. 4-10-1954; *ibid.*, Partep Creek (cult, at Lae Botan. Gard.), *N.G.F.* 9630 *White*; Wau, road to Cristal Creek, c. 1310 m, *van Royen UUOk*; near Wau, *N.G.F.* 10161 *White*; logging road to Binatang Creek, 1065 m, *N.G.F.* 5978 *Floyd & Morwood*; Kauli Creek, 1370 m, *N.G.F.* 9737 *Millar*; Mt Misim, 1740 m, *Stevens s.n.*

### 231. *Rhododendron scabridibracteum* Sleum., *nov. spec.*

Frutex terrestris vel epiphyticus, 3—5 m altus, paucramosus. Ramuli crassi, (3—)4—6 mm diam., ad summa internodia laxe substellato-lepidoti, ceterum citissime cortice griseo subrectangulariter fissi obtecti; internodia (2—)4—18 cm longa. Folia in pseudoveriticillis 3—4(—6)-meris ad nodos ultimos 1(—2) disposita, elliptico-oblonga, apice late attenuata, obtusa, rarius rotundata vel emarginata, glandula apicali haud prorumpente instructa, basin versus late attenuata, basi ipsa haud raro subtruncata vel brevissime, rarius late rotundata, coriacea, in sicco supra sordide olivacea vel brunnea, subtus brunnea, utrinque opaca, matura supra glabra, subtus laxe lepidota (lepidibus parvis saturate castaneis, in zona marginali varie substellato-lobatis vel -incisis, centro minuto paullo impressis), integra, in sicco saepius paullo convexa margineque breviter vel vix revoluta, (6,5—)8—13 cm longa, (3—)3,5—6(—7) cm lata, costa supra anguste impressa, subtus inferne petioli crassitudine, obtuse valdeque prominente, apicem laminae versus sensim diminuta, nervis lateralibus utroque latere 10—12 irregularibus, patentibus, inferne subrectis, superne curvatis et inter sese conjunctis, nonnullis intercalaribus brevioribus additis, omnibus supra levissime insculptis, subtus prominentibus, venis subdense reticulatis, supra subimmersis, subtus prominulis, venulis minus visibilibus; petioli subteretes, rugulosi, crassi, supra canaliculati, 10—15 mm longi, 2—3 mm diam. Umbellae 6—12-florae. Perulae exteriores ovatae, interiores obovatae usque subspathulatae, obtuse apiculatae, in utraque pagina tomento e pilis scabridis basi  $\pm$  inflatis subappressis flavidis consituto obtectae, usque ad 3 cm longae et 1,8 cm latae. Bracteolae subfiliformes, dense hirsutae, c. 2 cm longae, 0,5—1 mm latae. Pedicelli dense lepidibus rufescentibus substellatis et subfurfuraceis induti, sub anthesi 2—3,2(—4,5) cm longi, c. 1 mm crassi, postea usque ad 5 cm elongati. Calyx disciformis, breviter (c. 1 mm) 5-dentatus vel -lobatus (dente uno alterove usque ad 4 mm protracto), dorso dense lepidotus, 4—5 mm diam. Corolla tubulosa, rubra, distincte obliqua, tota (5—)5,5—6 cm longa, extus dense stellato-lepidota, intus ad tubum pilis retroversis hirsutula, tubo subcylindrico bene curvato 3—4,5 cm longo, basi  $\pm$  6 mm diam., sursum paullo dilatato, infra lobos 1—1,5 cm diam., lobis erecto-patentibus, obovato-spathulatis, 1,5—2 cm longis, 1—1,2 cm latis. Stamina 10, corollam aequantia vel denique breviter **extrorsa**; fila-

menta inferne linearia et pilis  $\pm$  prosus versis crassis dense, superne ad partem filiformen laxius usque laxissime instructa, infra antheras per mm nonnulla glabra; antherae oblongae, c. 5 mm longae, 1,3 mm latae, basi  $\pm$  obtusae. Discus crasse prominens, inferne glaber, superne tomentosus. Ovarium subobconico-cylindricum, cum stylo sat abruptum, flavido-hirsutum et lepidotum (lepidibus pilis omnino tectis), 8—10 mm longum, 3—4 mm diam.; stylus crassus, inferne dense, superne laxius pilis substrigosis et lepidibus minutis (hie bene visibilibus) fere usque ad apicem obtectus; stigma turbinato-capitatum, obliquum, valde crassum. Capsula adhuc ignota.

NEW GUINEA. Central Eastern part: Western Highlands, Al R., Nondugl, *N.G.F.* 5161 Womersley; *ibid.*, 2135 m, *N.G.F.* 5341 Womersley, *ibid.*, Al R. Valley, *N.G.F.* 4889 Womersley (A, BRI, CANB, K; L, type; LAE). Mt Kuni, near Mt Hagen, c. 2135 m, *N.G.F.* 9462 Womersley; Wankl village, c. 5 km SE of Mt Hagen, 2150 m, *Hoogland & Pullen* 584a. Above Koraka, Lower Kangol Valley, 2135 m, *Robbins* 408.

### 232. RHODOEDRON ZOELLERI Warb.

*Rhododendron zoelleri* Warburg in *Bot. Jahrb.* 16: 15, 24. 1892; K. Sch. & Laut., *Fl. Schutzgeb.* 488. 1901; Schltr in *Bot. Jahrb.* 55: 156. 1918.—*R. moszkowskii* Schltr, *l.c.* 161.—*R. asparagoides* Wernh. in *Trans. Linn. Soc. ser. 2 Bot.* 9: 94. 1916.—*R. oranum* J.J.S. in *Fedde Rep.* 30: 167. 1932.—*R. doetersii* J.J.S. in *Nova Guinea* 18: 98, *t.* 21, *l.* 1936.—*R. laetum* (non J.J.S. 1914) J.J.S., *l.c.* 98.

NEW GUINEA. Northwestern part: Arfak Mts, Mt Ditschi, 1200 m, *Mayr* 19 (*R. 'laetum'*); Kebar Valley, 560—1700 m, *van Royen* 3936, 5000; *B.W.* 6873, 6890, 6891 *Roster*. Mamberamo R., 100—150 m, Albatros Bivak, *Docters van Leeuwen* 9474- (BO, lectotype of *R. doetersii*; K, L, SING), 9595, 11342. Idenburg R., 150 m, *de Bruyn* 85. Rees Mts, Naumoni, 100—300 m, *Moszkowski* 297 (B, type of *R. moszkowskii*, f). Southwestern part: Wissel Lake region, 1700—1800 m, *Eyma* 4235; *B.W.* 3058 *Versteegh*; *B.W.* 3251 *Rosendahl*. Mt. Carstensch, 1095—1495 m, *B. Kloss s.n.* (BM, type of *R. asparagoides*). Northeastern part: Sepik Distr., Green R. (3°55' E, 141°10' S), 75 m, *N.G.F.* 9381 Womersley. Western Highlands, Tagan R., Kuno area, 1310 m, *N.G.F.* 7668 Womersley & Millar. Finisterre Mts, 1000 m, *Schlechter* 18017 (E, K; L, fragm.; NY; P, neotype of *R. zoelleri*); *ibid.*, am Plussufer des Gabenau, 1150 m, *Hellwig* 839 (B, type of *R. zoelleri*, f). Morobe Distr., Wantoat, *Clemens* 11017; Yunzaing, Sattelberg region, 1525 m, *Clemens* 3565, 3625. Mt Saruwaged, *Clemens* 5873. Kaile to Saruwaged, 1675—1830 m, *Clemens* 4889; vicinity of Kajabit mission, *Clemens* 10766 *R.* Kani Mts, 1000 m, *Schlechter* 17675 (B, f). Southeastern part: Central Distr., Mafulu, 1100 m, *Brass* 5305; Vanapa Valley, Ononge, 2000 m, *Brass* 4585; Pani-Mondo road, 1350 m, *Brass* 5132.

MOLUCCAS. Ceram: W. Ceram, Ora Mts, 1000 m, *Stresemann* 15 (L, type of *R. oranum*).

Similar, but different by the anthers only 3—4 mm long:



NEW GUINEA. Southeastern part: Central Distr., Boridi, 1430 m, *Carr 14443*; Isuarava, c. 1370 m, *Carr 16048*. Milne Bay Distr., Stirling Range, Cloudy Mts, c. 1220 m, *Mioholitz s.n.* (K); Mt Dayman, 1370 m, *Brass 23335*; Bonenao, 1065—1160 m, *Cruttwell 221, 497*; Param, 1280 m, *Cruttwell 412*.

### 233. RHODODENDRON MAXWELLII Gibbs

*Rhododendron maxwellii* Gibbs in J. Linn. Soc. Bot. 42: 103. 1914; Merr., En. Born. 462. 1921.

BORNEO. North Borneo: Mt Kinabalu, 1830—2440(—2895) m, *Gibbs 4254* (BM, type); *Clemens 27575, 29728, 31752, 32882, 33187, 33628*; *SF 27575 Carr*.

### 234. RHODODENDRON NERVULOSUM Sleum.

*Rhododendron nervulosum* Sleumer in Bot. Jahrb. 71: 146. 1940.

BORNEO. North Borneo: Mt Kinabalu, 2440—3050 m, *Clemens 31687, 33127, 33186* (A; BM, type; BO, E, L, NY), *33918*.

### 235. RHODODENDRON SALICIFOLIUM Becc.

*Rhododendron salicifolium* Beccari, Malesia 1: 202. 1878; Nelle For. di Borneo 147. 1902; Merr., En. Born. 463. 1921.

BORNEO. Sarawak: Mt Mattang, *Beccari P.B. 2929* (FI, type; K, L, P); *Ridley s.n.*; *Moulton's coll. s.n.* Locality not given: *Curtis 92*; *Nat. coll. 1747*.

### 236. RHODODENDRON LANCEOLATUM Ridl.

*Rhododendron lanceolatum* Ridley in J. Str. Br. R. As. Soc. 63: 60. 1912; Merr., En. Born. 462. 1921.—*R. partitum* J.J.S. in Bull. Jard. Bot. Btzg. III, 13: 453. 1935.

BORNEO. Sarawak: Mt Batu Lawi, Upper Limbang R., c. 1125 m, *Moulton s.n.* (SAR, type of *R. lanceolatum*). Central part: Mt Batu Tiban, 1700 m, *Mjbbberg 27* (BO, lectotype of *R. partitum*; L), 39, 40.

### 237. RHODODENDRON SUMATRANUM Merr.

*Rhododendron sumatranum* Merrill in Pap. Mich. Ac. Sc. 19: 182. 1933; J.J.S. in Bull. Jard. Bot. Btzg. III, 13: 450. 1935.

SUMATRA. Atjeh: Lau Alas R. via Agusan ridge to Blang Kedjeren, 2000 m, *van Steenis 8734*. Putjuk Angasan, 1800—2700 m, *van Steenis 8283*; G. Lembuh, summit, 2500 m, *van Steenis 8998*. East Coast: Asahan, Dolok Si Manuk-manuk, 2121 m, *Rahmat Si Boeea 11356*. Karo Plateau, Dolok Baros, 1800—1950 m, *Lbrzing 16199*. G. Pintu, summit, 1950—2212 m, *Frey-Wyssling la, 3*; *Lorzing 8258, 13909*. Pangulubau, 1900—2155 m, *Heusser 5a, 5b, 7*; *Batten Pooll s.n.* Sibajak, 2000 m, *Schierbeek s.n.*; *Heusser 5*; *van der Meer Mohr 5050 p.p.* Tapanuli: Habinsaran, summit of Dolok Surungan, summit, *Bartlett 7998* (L; MICH, type, not seen).

## 238. RHODODENDRON ARFAKIANUM Becc.

*Rhododendron arfakianum* Beccari, *Malesia* 1: 201. 1878; J.J.S. in *Nova Guinea* 12(2): 134, in text ('arfakense'). 1914.—*R. undulaticalyx* J.J.S. in *Gibbs, Arfak*. 168. 1917.

NEW GUINEA. Northwestern part: Arfak Mts, Hatam, 1525—2135 m, *Beccari s.n. (Hei-b. Becc. 5792, A, B; FI, type of R. arfakianum)*; *ibid.*, Angi Lakes, 2135 m, *Gibbs 5549* (BM, type of *R. undulaticalyx*).

## 239. RHODODENDRON IMPOSITUM J.J.S.

*Rhododendron impositum*- J. J. Smith in *Fedde, Rep.* 68: 201. 1937.

CELEBES. Central part: Enrekang, B. Pokapindjang, 2400—2700 m, *Kjellberg 3926, UU9* (E, fragm.; S, type); *ibid.*, Pokapindjang-Tinabang, 2800—3000 m, *Eyma 642, 6U, 645*.

## 240. RHODODENDRON LEYTENSE Merr.

*Rhododendron leytense* Merrill in *Philip. J. Sc.* 10: Bot. 55. 1915; *En. Philip.* 3: 244. 1923; *Copel. f. in Philip. J. Sc.* 40(2): 165, *pi. 11 f. 7—9*. 1929.

## 240a. var. LEYTENSE

PHILIPPINES. Leyte: Mt Ibuni, back of Dagami, *B.S. 15252 Ramos* (BM; E, fragm. ex PNH; K, L, P; PNH, type, f). Luzon: Sorsogon, Mt Bulusan, *E Inner 16797*.

240b. var. loheri (Copel. f.) Sleum., *nov. stat.*

*Rhododendron loheri* Copel. f. in *Philip. J. Sc.* 40(2): 166, *pi. 11 f. 10—12*. 1929.

PHILIPPINES. Luzon: Rizal, Guinuisan, *Loher 14-769* (E, fragm. ex PNH; PNH, type, t; UC, cit. Copel., not seen).

241. *Rhododendron convexum* Sleum., *nov. spec.*

Frutex erectus usque ad 3 m altus. Ramuli robusti, subteretes, 3—5 mm diam., ad internodia ultima caduce lepidoti, citissime glabrescentes, in partibus junioribus saepius pruinosi, vetustioribus griseo-corticati et lenticellosi; internodia (2—)3—12(—14) cm longa. Folia in pseudover-ticillis 4—5-meris ad nodos ultimos 1—2(—3) disposita, ovato-elliptica, apice brevissime obtuse acuminata vel subrotundata, basi rotundata vel saepius leviter cordata, coriacea, etiam in vivo rigida et supra convexa, subsessilia, in sicco supra olivacea usque brunnea, maturitate glabra, subnitentia, subtus dilute usque saturate brunnea, opaca, subpersisterter laxequ lepidota (lepidibus planis sat parvis in sicco albescentibus, in zona marginali irregulariter substellato-lobatis vel -dentatis, centro minuto ± manifeste impressis), integra, margine ± distincte revoluta, 4—7 cm longa, (2—)2,5—5 cm lata, costa supra basin dilatata excepta anguste impressa, subtus inferne petioli crassitudine, robusta, rugosa obtuseque



prominente, apicem laminae versus gradatim angustata et depressa, nervis lateralibus utroque latere c. 10 sat irregularibus, patentibus, saepius ante marginem divisis, indistincte curvato-conjunctis, supra bene impressis, subtus elevatis, venis laxe reticulatis, in foliis plane maturis distincte immersis, subtus prominulis, interdum utrinque minus conspicuis; petioli valde crassi et rugosi, 2—5 mm longi, 2—3 mm diam., a dorso compressi et sulcati. Umbellae 5—9-florae. Perulae exteriores suborbiculares, apiculatae, interiores ovatae usque obovatae, obtusae, rigide membranaceae, extus laxe lepidotae et subsericeae, intus subdense sericeae, usque ad 2 cm longae et 1,2 cm latae. Bracteolae lineares, apicem versus subdilatatae, subglabrae vel apice pilosae, c. 2 cm longae, 0,5—2 mm latae. Pedicelli crassiusculi, laxe usque subdense substellato-lepidoti, epilosi, 1,5—2 cm longi, fere 1 mm crassi. Calyx suboblique disciformis, margine brevissime (0,5 mm) lobatus vel subdentatus, reflexus, dorso lepidotus, c. 4 mm diam. Corolla suboblique tubulosa, (intense) rubra, tota 3,5—4 cm longa, extus laxe vel subdense lepidota, intus ad tubum laxe pilosa, tubo subrecto vel paullo curvato  $\pm$  3 cm longo, basi parum saccato, c. 5 mm diam., superne usque ad 8(—10) mm diam. dilatato, lobis suberectis vel paullo patentibus obovato-suborbiculatis, 1—1,2 cm longis et 0,8—1 cm latis. Stamina 10, corollam longitudine aequantia vel sub plena anthesi breviter excedentia manifesteque exserta, subaequilonga; filamenta linearia, per c. % dimid. infer, laxe vel densius patenti-pilosa, ceterum glabra; antherae oblongae, (3—)3,5 mm longae, c. 1 mm latae, basi haud vel minute, appendiculatae. Discus vix prominens, in margine superiore pilosus, ceterum glaber. Ovarium ovoideo-cylindricum, flavo-subhirsuto-tomentosum, lepidibus minutis a pilis fere omnino tectis instructum, subabrupte in stylum abiens, 6—7 mm longum, c. 3 mm diam.; stylus ex corolla denique exsertus, ad ipsam basin pilis paucis lepidibusque obtectus, crassiusculus; stigma crassum, oblique obconicum. Capsula ignota, ex coll. nigra, haud visa.

NEW GUINEA. Northwestern part: 5 miles NE of Wilhelminatop, 3440 m, *Brass 9403* (A, type); *ibid.*, 11 km NE of Wilhelminatop, 3400 m, *Brass & Meijer Drees 9668* (A). Mt Carstensz, Merendal, 3750—4000 m, *Wissel 68* (BO); *ibid.*, Dajakweide, 3700—4000 m, *Wissel 84* (BO).

#### 242. RHODODENDRON BRACHYGYNUM Copel. f.

*Rhododendron brachygyllum* Copeland f. in *Philip. J. Sc.* 40(2) : 137, 165, *pi. 11 f. 4—6.* 1929.

PHILIPPINES. Cebu: Sudlon, *F.B. 28346 Cenabre & De la Cruz* (PNH, type, t).

#### 243. RHODODENDRON MINDANAENSE Merr.

*Rhododendron mindanaense* Merrill in *Publ. Gov. Lab. Philip.* 29: 41. 1905; *Philip. J. Sc.* 3: Bot. 381. 1908; *Elm., Leaf. Philip. Bot.* 3: 1106. 1911; *Millais, Rhodod.* 210. 1917; *Merr., en Philip.* 3: 244. 1923; *Millais, Rhodod.* 2nd ser. 188. 1924; *Copel. f. in Philip. J. Sc.* 40(2) : 164, *pi. 7 f. 10—11, pi. 10, pi. 11 f. 3.* 1929.

PHILIPPINES. Mindanao: Davao, Mt Apo, near summit, c. 2895 m, *Copeland 1042* (PNH, type, t) > *Mearns s.n.* (US, cit. Copel., not seen); *Hachisuka s.n.*; *de Vore & Hoover 73* (A; E, fragm. ex PNH; PNH, paratype, f); *Elmer 11383*.

#### 244. RHODODENDRON RENKKCHIANUM Sleum.

*Rhododendron renschianum* Sleumer in Bot. Jahrb. 71: 146. 1940.—*R. javanicum* (non (Bl.) Benn.) Malm in Fedde, Rep. 34: 284. 1934.

FLORES. Mt Geli Mutu, 1500—1700 m, *Renseh 1498* (B, type, f; BO; L, fragm. ex B); *van der Pijl 869*; *de Vaogd 1806, 1825, 2803*; *Posthumus 3040*; *Jaag 1511*. G. Mandaswai, 2300 m, E slope, *Posthumus 3361*.

#### 245. RHODODENDRON ANGIENSE J.J.S.

*Rhododendron angense* J. J. Smith in Nova Guinea 12(2): 133, t. 30B. 1914; Kaneh. & Hatus. in Bot. Mag. Tokyo 56: 478. 1942.

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lakes, *Gjellerup 1093* (BO: pedicels exclusively lepidote; calyx not ciliate; L: pedicels lepidote and pubescent; calyx ciliate), *1217* (BO, type, pedicels lepidote and pubescent; calyx ciliate); *ibid.*, 2000—2300 m, *Kanehira & Hatusima 13445* (cit. K. & H., not seen), *14116* (cit. K. & H., not seen).

Perhaps a mere variety of *R. culmicolum* F.v.M.

#### 246. RHODODENDRON KEYSSERI Foerster

*Rhododendron keysseri* Foerster in Fedde, Rep. 13: 223. 1914; Schltr in Bot. Jahrb. 55: 155. 1918; Diels, *l.e.* 62: 487. 1929.

NEW GUINEA. Northeastern part: Mt Saruwaged, summit (Bolan), 3400—3800 m, *Keysser s.n.* (B, type, f; BM (*Keysser 175*)); *ibid.*, 3600—4000 m, *Keysser 42* (B, f), 60 (B, f); *ibid.*, (2745—)3050—3810 m, *Clemens 5667, 5879, 5885, 5886, 7297, 7297A, 10104bis*; Masak R., 1830—2440 m, *Clemens 7568*, Rawlinson Range, 2135—3050 m, *Clemens 41951*. Eastern Highlands, Mt Kerigomna, c. 3400 m, *Hoogland & Pullen 5630*; E slope of Mt Wilhelm, Lake Aunde, 3350—3600 m, *Hoogland & Pullen 5685, 5734*. Western Highlands, Upper Minj R. Valley, Minj-Nona Divide, 3410 m, *Pullen 225*. Mt Kin Kin, Central Kubor Range, Upper Minj Valley, 3290 m, *Pullen 210A*.

#### 247. RHODODENDRON CULMINICOLUM F.V.M.

*Rhododendron culmicolum* F. von Mueller in Trans. R. Soc. Viet. n.s. 1(2): 23. 1889.—*R. nodosum* C. H. Wright in Kew Bull. 1899: 103. 1899.—*R. angense* (non J.J.S. 1914) J.J.S. in Gibbs, Arfak 169. 1917.

##### 247a. var. CULMINICOLUM

NEW GUINEA. Northwestern part: Arfak Mts, Angi Lakes, 2100—2200 m, *Bergman s.n.* (S); *Kostermans 2069*; Mt Koebre, c. 2745 m, *Gibbs 5618*



(*R. angiense*); Kebar valley, 900—1200 m, B.W. 6872, 6875 Koster; Mt Nettoti, top at c. 1980 m, *van Boyen* 3883. Southeastern part.: Central Distr., Mt Victoria, *McGregor* anno 1889 (MEL, type of *R. oulminicolum*); Mt Albert Edward, 3600 m, *Brass* 4332 p.p. (A, K, L); Murray Pass, Wharton Range, 2840 m, *Brass* 4713; Mt Scratchley, 3050—3960 m, *Ghdianetti* anno 1896 (K, type of *R. nodosum*; MEL),

247b. vaf. **nubicola** (Wernh.) Sleum., *nov. stat.*

*Rhododendron nubicola* Wernham in Trans. Linn. Soc. Bot. 9: 98. 1916.

NEW GUINEA. Southwestern part: Mt Carstensz, 2530—3200 m, *B. Kloss* s.n. (BM, type). Northwestern part: Lake Habbema, 3225 m, camp, *Brass* 9569.

248. **Rhododendron gregarium** Sleum., *nov. spec.*

Arbuscula 2—5 m alta. Ramuli robust!, teretes, 2,5—5(—6) mm diam., ad internodia ultima subdense ± caduce lepidoti, ad inferiora cito glabrati et griseo-corticati; internodia (2—)3—8 cm longa. Folia in pseudoverticillis (3:—)4—5-meris ad nodos 1 (vel rarius 2) ultimos congregata, oblongo- vel obovato-elliptica, elliptica vel elliptico-oblonga, rarius oblonga, apice obtuse attenuata, interdum breviter acuminata, basi late in petiolum attenuata, coriacea, rigida, etiam in vivo ± convexa, supra in sicco cinerascens-olivaceo-brunnescentia et opaca, subtus clarius olivaceo-brunnescentia et interdum subnitida, initio utrinque subdense lepidota, aetate supra denique glabra, subtus subdense et subsistentem lepidota (lepidibus sat parvis, in zona marginali varie substellato-lobatis vel -dentatis, centro demum nigrescente bene impressis), integra, ± manifeste revoluta, (4,5—)5,5—8(—9) cm longa, 2,5—4(—5) cm lata, costa supra anguste impressa, subtus petioli crassitudine, longitudinaliter striata vel rugosa, obtuse prominente, sed apicem laminae versus gradatim angustiore, nervis lateralibus utroque latere 7—10 irregularibus, patentibus, ante marginem curvato-conjunctis, supra cum rete venularum laxo levissime impressis vel paullo elevatis, subtus prominentibus, reticulatione subtus distincta; petioli a dorso appanati, supra sulcati, lepidoti, rugosi, 8—14(—16) mm longi, 2—3 mm crassi. Umbellae 5<sup>^</sup>—8-florae. Perulae exteriores suborbiculares dorsoque laxe lepidotae, sequentes ovatae usque obovatae, sicut intimae spathulatae obtusae dorsoque sub lente minutissime sericeae, vel glabrae, margine lepidibus caducis obsitae, usque ad 2 cm longae et 1 cm latae. Braeteolae inferne filiformes, apicem versus subspathulato-dilatatae, ± 2 cm longae, apice usque ad 3 mm latae, laxe caduce lepidotae, vel glabrae. Pedicelli subgraciles, ± dense stellato-lepidoti, 1,6—2,2 cm longi, c. 0,6 mm diam. Calyx oblique disciformis, irregulariter breviter deijctulatus vel lobulatus, dorso lepidotus, c. 4 mm diam. Corolla oblique tubulosa, rubra vel rosea, tota (4,5—)5—5,5 (raro usque ad 6) cm longa, extus laxe ± caduce stellato-lepidota, intus per tubum laxe pilosula, tubo paullo curvato vel subrecto, 3—3,5(—4,5) cm longo, basi aliquot 5-saccato et 5—6 mm diam., sursum sensim dilatato, infra lobos 0,8—1 cm diam., lobis ± patentibus, late obovatis vel suborbicularibus 1—1,5 cm longis,

0,8—1,2 cm latis. Stamina 10, inaequilonga, longissima corollam fere aequantia, lobis reflexis  $\pm$  extrorsa; filamenta linearia, ad  $\frac{1}{2}$  infer, partem laxe pilosula, superne glabra; antherae obovato-oblongae, parum curvatae, basi obtusae, in vivo purpureo-brunneae, 3—3,5 mm longae, 1 mm latae. Discus prominens, in margine superiore pilosulus. Ovarium subcylindricum, subdense flavido-pilosum denseque stellato-lepidotum (lepidibus inter pila bene visibilibus), apice gradatim in stylum continuatum, c. 7 mm longum, 2,5 mm diam.; stylus corollam subaequans, denique stamina paullo superans, inferne per 2—3 laxe pilosus et lepidotus, superne glaber; stigma oblique clavatum, sublaterale. Capsula haud cognita.

NEW GUINEA. Northwestern part: Near Habbema Lake, 2800 m camp, Brass 10250, 10564, 10565; *ibid.*, Bele R., 2350 m, fl. red, 11-1938, Brass 11293, 11465 (A, type; L).

#### 249. RHODODENDRON MOLLIANUM Koord.

*Rhododendron mollianum*, Koorders in *Nova Guinea* 8(1): 187. 1909.

NEW GUINEA. Southwestern part: Noord R., Pulle (*Versteeg*) 1297 (BO, type; K, L, U).

#### 250. RHODODENDRON POREMENSE J.J.S.

*Rhododendron poremense* J. J. Smith in *Bot. Jahrb.* 68: 203. 1937.

CELEBES. Southeastern part: B. Porema (in the N part of the Mengkoka Mts), 1400 m, *Kjellberg* 2627 (BO; S, type).

#### 251. RHODODENDRON STRESEMANNII J.J.S.

*Rhododendron stresemannii* J. J. Smith in *Fedde*, Rep. 30: 166. 1932.

MOLUCCAS. Ceram: Western part, Ora Mts, 1000 m, *Stresemann* 1 (L, type).

#### 252. *Rhododendron retivenmw* Sleum., *nov. spec.*

*Rhododendron brookeanum* (*non* Low *ex* Lindl.) Stapf in *Trans. Linn. Soc.* 2nd ser. Bot. 4: 196. 1894.

Frutex altus vel arbor parva, usque ad 6 m alta, terrestris vel epiphytica. Ramuli robusti, teretes, (3—)4—5 mm diam., ad internodia ultima 1—2 sat laxe lepidibus planis obsiti, in sicco  $\pm$  pruinosi, in partibus inferioribus citissime griseo-corticati; internodia (2—)3—9(—13) cm longa. Folia partim ad nodos ultimos 1 vel 2 in pseudovorticillis 3—4-meris disposita, partim in superiore dimidio internodiorum alternatim distanter digesta, lanceolata usque lanceolato-oblonga, apice breviter subacute acuminata, basi in petiolum cuneata, basi ipsa haud raro subtruncata, coriacea, sed  $\pm$  flexibilia, in sicco supra saturate brunneo-olivacea vel nigrescentia, subnitida, subtus pallidiora, opaca, aetate supra glabra et indistincte



nigro-impressopunctulata, subtus diutius sat laxe lepidota (lepidibus minutis, in zona marginali mox evanescente lobatis vel dentatis, centro atrescente paullo impressis), integra haud vel leviter, imprimis basin versus, revoluta, 12—23 cm longa, (2—)2,5—4(—4,5) cm lata, costa supra in parte basali dilatata, superne angustissima profundeque immersa, subtus petioli crassitudine, obtusa valdeque prominente, apicem laminae versus sensim angustiore, nervis lateralibus utroque latere 12—18 valde irregularibus, patentibus, secus laminae marginem anastomosantibus, utrinque parum elevatis, rete venarum venularumque denso, utrinque parum sed distincte prominulo; petioli paullo applanati, crassi, rugulosi, sicut costa in vivo rubescentes, cito glabrescentes, (0,6—)0,8—2 cm longi, 2—3(—4) mm diam. Umbellae 4—6(—8)-florae. Perulae exteriores ovatae, interiores late ovato-oblongae, intimae spathulatae, obtusae, membranaceae, omnino glabrae, usque ad 3 cm longae et 1,2 cm latae. Bracteolae lineares, glabrae, c. 2 cm longae et 1 mm latae. Pedicelli robusti, laxe (in apice basique densius) lepidoti, epilosi, 2—2,8 cm longi, c. 1 mm diam. Calyx oblique disciformis, margine undulatus indistincte 5-lobulatus, glaber, 4—5 mm diam. Corolla infundibuliformis, lutea vel aurantiaca, fragrans, inferne tubulosa, ad limbum valde aperta, tota 6—7(—7,5) cm longa, extus glabra, intus in inferiore tubi dimidio laxe pilosula, tubo subrecto (3—) 3,5—4 cm longo, basi valde saccato vel inflato, calycem includente, 6—7 mm diam., sursum parum dilatato, ad loborum basin 1,5(—2) cm diam., lobis late obovatis usque suborbicularibus 2,5—3 cm longis et latis. Stamina 10, inaequilonga, e fauce tubi paullo exserta; filamenta inferne linearia (1 mm), in tertio inferiore dense patenter pilosa, superne filiformia et glabra; antherae oblongae, curvatae, basi minute apiculatae, (3,5—)4,5—5 mm longae, c. 1 mm latae. Discus valde crassus et prominens, glaber vel interdum in summo apice puberulus. Ovarium cylindricum, cum stylo continuum, in sicco nigrescens, primo visu, ut videtur glabrum, sed certe sub lente laxe distincte puberulum, ceterum lepidibus nonnullis instructum, 8—10 mm longum, c. 2 mm diam.; stylus sat gracilis, stamina fere aequans, glaber; stigma crasse capitatum, manifeste lobulatum. Capsula subfusiformis, basi brevissime, apice longius attenuata, sparse lepidota, in parte inferiore puberula, vel omnino glabra, 5—5,5 cm longa, c. 0,8 cm diam, pedicello fructifero 2,5—3 cm longo, 1,5 mm diam.

BORNEO. North Borneo: Mt Kinabalu, 1220—2895 m, *Haviland 1U9* (*R. brookeanum*); *Clemens 11031, 27922, 31399, 33655, 5071b, 50947; SF 27478 Carr; Holttum s.n.*; *ibid.*, Upper Kinataki R., 8 ridge, 2135 m, fl. 22-2-1933, *Clemens 35017* (A, BM, BO, E; L, type; NY).

### 253. RHODODENDRON LOWII Hook. f.

*Rhododendron lowii* Hooker f. in Hook.,  *Ic. PL t. 883. 1852 (lower)*; Walp., *Ann.* 5: 447. 1858; Stapf in *Trans. Linn. Soc. ser. 2 Bot.* 4: 195. 1894; Gibbs in *J. Linn. Soc. Bot.* 42: 102. 1914; Millais, *Rhodod.* 204. 1917; Merr., *En. Born.* 462. 1921, *non R. lowii* Courtois, *Mag. d'Horticult.* 1: 105, n. 402. 1833, *pro var. R. pontic. L.*; Loudon, *Gard. Mag.* 11: 79. 1835, *pro var. R. pontic. L.*

BORNEO. North Borneo: Mt Kinabalu, (1980—)2440—3350 m, *Low s.n.* (CGE; K, type); *Burbidge s.n.*; *Haviland 1081*; *Gibbs 4169, 4218*; *Clemens 10536* (cit. Merr., not seen), *10569, 10581, 27109, 27940, 29072, 29081, 29949, 31908, 33149, 50832, 50862*; *Nat. coll. 56, 84*; *Sinclair c.s. 9186*; *KEP 80363 Wyatt-Smith*; *SF 27629 Carr*.

254. RHODODENDRON TOXOPEI J.J.S.

*Rhododendron toxopei* J.J. Smith in Fedde, Rep. 30: 168. 1932.

MOLUCCAS. Buru : Kunturun, 1075 m, *Toxopeus Ab* (BO, type).

255. RHODODENDRON BROOKEANUM LOW ex Lindl.

*Rhododendron brookeanum* Low ex lindley in J. Hort. Soc. 3: 82, c. icon. p. 83. 1848; Planch., Fl. Serres I, 5: 477—480, c. icon xyl. 1849; Anon., Gardn. Chron. 404, c. icon. 1855; Hook, f., Bot. Mag. t. 4935. 1856; van Houtte, Fl. Serres II, 2: 111, t. 1238139. 1857; Miq., Fl. Ind. Bat. 2: 1057. 1859; Becc, Malesia 1: 207. 1878; Stapf in Trans. Linn. Soc. ser. 2 Bot. 4: 196 1894; Gibbs in J. Linn. Soc. Bot. 42: 103. 1914; Millais, Rhodod. 130. 1917; Merr., En. Born. 460. 1921; Holttum in M. A. H. A. Mag. 9: 35. 1939.—*Azalea brookeana* (Low ex Lindl.) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.

255a. var. BROOKEANUM

BORNEO. Sarawak: Upper Limbang R., *Low s.n.* (BM; CGE, type; IO. Kuching, *Haviland 1972*. Mt Mattang, *Nat. Coll. 5177*. Mattang R., *Beccari P. B. 2499, 3030*. Bintulu R., *Beccari P. B. 4006*. Sg. Tatau, 60 m, *Purseglove 5440*. Mt Dulit, near Long Kapa, 900—1000 m, *Nat. Coll. (Richards) 2196*. Gat, Upper Rejang R., *Clemens 21695*. G. Lemakok, Upper Baram R., 1370 m, *Moulton 6668*. Braang, *Haviland 51*. Labuan, *Motley s.n.* Brunei: along Temborong R., near junction with Balalang R., low, *Jacobs 5630*. Kuala Temburong Machang, 120 m, *BRUN 716 Ashton*. North Borneo: Mt Kinabalu, 1005—1525 m, *Low s.n.* (CGE); *Gibbs 4042*; *SF 26380, 26962* (hybrid with *R. retivenium*) *Carr*; *Clemens 10141, 10183, 10300, 28119, 28349, 28541, 28659, 28815, 30079, 30709, 31298, 32056, 34236, 50312, 50689*; *Holttum*; *s.n.*; *Nat. Coll. 88*. Central part: Sg. Brunei, *Jaheri 1323*. Sg. Raun, *Hallier 3093*. W. Kutei, Long Hut, 120 m, *Endert 2520*. Eastern part: Samarinda, near the coast along S. Bangko, mangrove, *Meijer 1032*.

255b. var. cladotrichum Sleum., nov. var.

Ramulis costaque foliorum ± dense pilis fusciscentibus brevibus ± patentibus indutis a typo diversum. Pedicelli ± glabri.

BORNEO. Central Eastern part: W. Kutei, Long Suh, 300 m, fl. 2-9-1925, *Endert 4000* (A, BO; L, type).

255c. var. gracile (Low ex Lindl.) Sleum., nov. stat.

*Rhododendron gracile* Low ex Lindley in J. Hort. Soc. 3: 84, fig. 1848; Planch., Fl. Serres I, 5: 477—480, c. icon 1849; Millais, Rhodod. 174. 1917; Cost. & Smith in Ann. Jard. Bot. Btzg 28: 137, t. 29 f. 20 (terat.). 1914; Merr., En. Born. 461. 1921, non Becc, Malesia 1: 203. 1878.—*R. brookeanum* Low ex Lindl. var. *gracile*". (no



author, no basionym), Henslow, J. Hort. Soc. 13: 261, / . 42 (fol.), / • 43a (fl.). 1891; *ditto*, Millais, *Rhodod.* 130. 1917.—*R. obscurinervium* Merr. in J. Str. Br. R. As. Soc. 76: 109. 1917; En. Born. 462. 1921.

BORNEO. Sarawak: 'Sirul' rocks, mouth of the Sarawak R., *Low s.n.* (CGE, type of *R. gracile*). Kuching, *Bartlett anno 1893* (BM). Mt Lambia, 150 m, *Haviland & Hose 2016* (BM). B. Sagan, Limbang R., 550 m, *Smythies 5919*. Marapok Mts, Upper Lawas R., *Anon. (Hewitt!) s.n.* (SAR). Bongo Mts, near Tegora, 610 m, *Haviland 2065*; *Brooks & Hewitt anno 1908*. Bidi Cave, *Clemens 20615*. Mt Start, limestone, 455 m, *Haviland 1459*. Mt Kawn (?), *Haviland s.n.* Mt Mattang, *Ridley s.n.* Bako N. P., *For. Dep. Sarawak 7712 Ilias*. No locality given (but almost certainly from Kuching): *Nat. Coll. 1504* (A, type of *R. obscurinervium*; K). North Borneo: Temburong, summit of B. Patoi, 275 m, *SAN 17149 Smythies, Wood & Ashton*. Brunei: B. Biang, *Smythies, Ashton & Wood 5781*. East Borneo: Berouw, top of Mt Has Mapulu, 800 m, *Kostermans 14020*. Western parts Landak R., waterfall Ambar Djawa, *Teysmann 11394*.

255d. var. *extraneum* Sleum., *nov. var.*

Ramuli laxe lepidoti, epilosi. Folia oblongo-lanceolata, 9—18 cm longa, (2—)2,5—5 cm lata; petioli 7—12 mm longi, 2—3 mm crassi. Pedicelli dense breviter pubescentes laxequae lepidoti, c. 15 mm longi, c. 1 mm crassi. Corolla infundibuliformis, dilute aurantiaca, 4(—5) cm longa; cetera ut in var. *brookeanum*.

SUMATRA. West Coast: Harau Canyon, near Pajokumbuh, c. 500 m, on sandstone rocks, fl. 26-11-1955, *Meyer 4582* (L, type); *ibid.*, Dec. 1956, *Meijer 5390*.

### Subgenus HYMENANTHES

*Rhododendron* subgen. *Hymenantes* (Bl.) Endlicher, Gen. 759. 1839; K. Koch, *Dendrol.* 2(1): 170. 1872 (*Hymenanthus*).—*R.* subgen *Eurhododendron* Endl., Gen. 759. 1839, *p.p. et auct. plurim.*; Koehne, *Deutsch. Dendrol.* 449. 1893, s. *str.*; Sleum. in *Bot. Jahrb.* 74: 526, 542. 1949.—*Hymenantes* BL, *Bijdr.* 862. 1826; G. Don, *Gen. Syst.* 3: 849. 1834; Copel. f. in *Am. Midi. Nat.* 30: 614. 1943.—*Hymenanthus* D. Dietr., *Synops.* 3: 2. 1843.

TYPE SPECIES.—fl. *metternichii* S. & Z. (*Hymenantes japonica* BL, nee *R. japonicum* Sur.).

### Section HYMENANTHES

*Rhododendron* sect. *Hymenantes* De Candolle, *Prodr.* 7: 721. 1839.—*R.* sect. *Eurhododendron* DC, *I.e.*, *p.p.*

TYPE SPECIES.—*R. metternichii* S. & Z.

### Subsection IRRORATA

*Rhododendron* subsect. *Irrorata* Sleumer in *Bot. Jahrb.* 74: 548. 1949; in *Blumea Suppl.* 4: 52. 1958.

TYPE SPECIES.—*R. irroratum* Pranch.

## KEY TO THE MALAYSIAN SPECIES OF SUBSECTION IRROBATA

1. Ovary densely set with stipitate glands, or glandular *and* hairy (strigose). Leaves not wax-coated above, i.e. unaltered when heated.
2. Style densely or subdensely glandular to the top. Leaves glabrous at maturity, laxly set with red glandular points underneath. Sumatra . . . . . 256. *R. atjehense*
2. Style glabrous or practically so. Leaves clad underneath with a thin greyish, whitish or fawn indumentum of interlaced cobweb hairs for a long time. Malay Peninsula . . . . . 257. *R. wrayi*
1. Ovary not glandular, laxly to densely hairy. Leaves wax-coated above, i.e. becoming lustrous when heated. Sumatra . . . . . 258. *R. korthalsii*

256. *Rhododendron atjehense* Sleum., *nov. spec.*

*Rhododendron atjehense* Sleumer in Blumea Suppl. 4: 53. 1958, in *elavi* (anglice).

Frutex magnus vel arbor, 5—7 alta, trunco c. 8 cm diametro, ramis validis, ramulis robustis teretibus pallide flavo-griseo-corticatis, apicibus, id est internodiis ultimis, dense  $\pm$  persistenter glandulis stipitatis vel substrigosis indutis; internodia 1,6—7 cm longa. Folia ad nodos ultimos 2—4 vel in summa internodiorum parte ad pseudoverticillos 5—9-meros digesta, oblongo-lanceolata, apice breviter acuminata, subacuta, basi subinaequilatera in petiolum cuneato-attenuata, tenuiter coriacea, firmula, in sicco supra saturate brunnea et  $\pm$  opaca, subtus dilutius brunnea et saepius  $\pm$  nitidula, initio caduce rufescenti-lanata, maturitate omnino glabra, sed subtus per totam faciem punctis glanduliferis rubescentibus laxe regulariter induta, haud ceracea, integra, margine cartilagineo in sicco undulata, parce revoluta, 7,5—10(—13,5) cm longa, (2—)2,5—3,5 (—5) cm lata, costa supra bene immersa, subtus imprimis inferne crasse prominente, nervis lateralibus utroque latere c. 15 curvato-ascendentibus inter sese subparallelis, supra in foliis plane maturis levissime insculptis, subtus prominentibus, venis venisque reticulum densum supra vix, subtus magis elevatum formantibus; petioli initio glanduliferi, cito glabrati, supra canaliculati, 1—1,5 cm longi, 1,5—2 mm diam. Racemi terminates umbelliformes, 6—10(—12)-flori. Gemmae floriferae oblongo-ovoideae,  $\pm$  viscosae, c. 3 cm longae, 1—1,5 cm diam., Perulae exteriores late ovatae, apiculatae, dorso tenuiter flavescenti- vel griseo-subsericeae, 0,5—1 cm longae, 0,6—0,8 cm latae, interiores  $\pm$  obovatae, dorso glandulis stipitatis (sive pilis crassis glandulosis)  $\pm$  appressis pilisque tenuibus e glandulis rufis et flavescentibus tomentellae, 1—1,5 cm longae, 1 cm latae, intimae obovato-spathulatae, dorso breviter flavido-tomentosae vel lanatae, margine fimbriato-pilosae, usque ad 2 cm longae et c. 0,8 cm latae. Bracteolae lineares, pilosae, ad 2 cm longae et  $\pm$  1 mm latae. Rhachis 0,5—2,5 cm longa, crassitudine sat abrupte decrescens, laxe glandulis stipitatis adpersa, ceterum ad pedes pedicellorum tantum pilis albidis sat brevibus tenuibus quasi barbata. Pedicelli fere 1 mm crassi, dense glandulis rufescenti-rubescentibus stipitatis  $\pm$  patentibus ornati, saepius ad basin et apicem, interdum per totam longitudinem (*van Steenis 9566*) pilis substrigosis rufidulis induti, sub anthesi 1—1,5 cm longi. Calyx crasse membranaceus, undulatus, profunde 5-lobus, lobis manifestis subdeltoideis



obtusiusculis erectis vel =t patentibus dorso brevissime glandulosis vel fere glabris, margine laxe vel subdense breviter glanduloso-fimbriatis et/vel pilis substrigosis longis ornatis, 1,5—2,5 mm longis. Corolla subinfundibuliformi-campanulata, basi attenuata et 5-gibba, tenera, glabra, rosaceo-lilacina, (3—)3,5(—4) cm longa, limbo 3—3,5 cm diam., basi intus nectariis 5 purpureis, ad faucem maculis colore saturatoribus ornata, lobis 5 erecto-patentibus late oblongis usque subobovatis, leviter retusis, 1,5—2 cm longis, 1—1,5(—1,8) cm latis. Stamina 10, valde inaequilonga, V<sub>s</sub> vel V<sub>2</sub> long, corollae aequantia; filamenta inferne linearia et laxissime pilosula, superne filiformia glabra; antherae obovatae, truncatae, 1,5—1,8 mm longae. Discus glaber. Ovarium conicum, obtusum, omnino dense glandulis stipitatis obsitum, ceterum in inferiore dimidia parte pilis subsetulosis rufescentibus eglanduliferis laxe usque subdense instructum, sub anthesi 4—5 mm longum, 2—3 mm crassum. Stylus abruptus, sat gracilis, per totam longitudinem subdense vel dense glandulis stipitatis indutus, c. dimidium corollae long, aequans; stigma subcapitatum. Capsula cylindrica, obtusa, nigrescens, glandulosa basi que setulosa, 1,5—1,8 cm longa, 0,6—0,7 cm diam., valvis sat crasse lignosis, basi calycis lobis persistentibus subreflexis fulta, pedicello glandulifero 1,5—2 cm longo, 1 mm crasso.

SUMATRA. Atjeh: Gajo Lands, Putjuk Angasan, 1800—3000 m, fl. 27/28-1-1937, *van Steenis* 8282, 8394 (BO, K; L, type). Mt Kemiri, E slope, mossy forest, 1800—2000 m, *van Steenis* 9566. G. Lemfouh, 2500—3000 m, common, *von Steenis* 8991. Gaju Alas country, *Fairchild* 55.

257. RHODODENDRON WRAYI K. & G.

*Rhododendron wrayi* King & Gamble in J. As. Soc. Beng. 74, ii: 75. 1905; Ridl. in J. Linn. Soc. Bot. 38: 314. 1908, repr. in J. Fed. Mai. St. Mus. 2: 120. 1908; *I.e.* 4: 42. 1909, incl. var. *elliptica* Ridl., *I.e.*: *I.e.* 6: 49. 1915, incl. var. *minor* Ridl., *I.e.* 157; Fl. Mai. Pen. 2: 217. 1923; Burk. & Holtt. in Gard. Bull. S.S. 3: 47. 1923; Henders. in J. Mai. Br. R. As. Soc. 5: 256. 1927; Symington, *I.e.* 14: 355. 1936; Henders. in Mai. Nat. J. 6(1): 261. 1950; Sleum. in Blumea Suppl. 4: 53. 1958, in *clavi*.—*R. dubium* K. & G. in J. As. Soc. Beng., 74 ii: 78. 1905; Ridl., Fl. Mai. Pen. 2: 221. 1923.—*J?*. *coruseum* Ridl. in J. Fed. Mai. St. Mus. 5: 37. 1914; Fl. Mai. Pen. 2: 217. 1923.

MALAY PENINSULA. Perak: loco haud ind., *Scortechini* 369b (cit. '367, 367b'). G. Kerbau, 1525—2135 m, *Robinson s.n.*; *For. Dep. F. M. S.* 31451, 32244 *Symington*; G. Raja, c. 1750 m, *For. Dep. F. M. S.* 45868 *Strugnell & Tachun*. G. Batu Puteh, 1370—2040 m, *Wray* 233 (CAL, lectotype of *R. dubium*), 322, 460, 886. Pahang: G. Tahan, 1220—2165 m, *For. Dep. F. M. S.* 8223 *Woolley*; *SF* 7871 *Haniff & Nur*; *Holttum s.n.*; *Seimund* 515; *Ridley* 16047 (BM, K; SING, type of *R. wrayi* var. *minor*); *Wray & Robinson* 5387; *ibid.*, Skeats Hill, 1220 m, common in *Leptospermum* forest, *Corner s.n.* Kuantan, G. Tapis, 1400 m, *SF* 28900 *Symington & Kiah*. G. Ulu Kechau, *For. Dep. F. M. S.* 42915 *Strugnell & Sow*. Cameron Highlands, *For. Dep. F. M. S.* 11540 *Watson*; *Williamson s.n.*; *Batten Pooll s.n.*; *ibid.*, Lubok Tamang Hill, 1220 m, *SF* 10977 *Henderson*; G. Terbakar, 1370 m, *SF* 10995 *Henderson* (cit. *Henderson*, not seen), 10997; Myrtle Hill, 1585 m, *SF* 11784 *Henderson*; G. Batu

Gongan, *For. Dep. F. M.S. 27027 Jadmat*; Ulu Terla, Ulu Telom, c. 1475 m, *For. Dep. F.M.S. 27614 Dolman*; Telom Ridge, Ridley s.n.; *Rhododendron* Hill, 1555—1585 m, *SF 23655 Henderson*; *Henderson 11071, 11715* (cit. *Hend.*, not seen); *For. Dep. F. M. S. 20930 Symington*; summit of G. Jasar, *For. Dep. F. M.S. 36129 Symington*; G. Irau, 1830 m, common, *For. Dep. F.M.S. 36556 Symington*; G. Batu Brinchang, c. 2025 m, *For. Dep. F. M. S. 36521 Jadmat & Talib*; Sg. Perdah, 1525 m, *KEP 12968 Watson*; E of Sg. Rotan, 1465 m, in mossy forest associated with *Dacrydium elatvm*, *For. Dep. F. M. S. 13626 Mead*; Castle Rock, in dwarf moss forest, *KEP 63679, 63680 Wyatt-Smith*; G. Berumbun, 2135 m, *Wray 1569* (CAL, lectotype of *R. wrayi*). Frazer Hill, Pine tree Hill, c. 1465 m, *Purseglove 4221*; *SF 8539 Burkill & Holtum*; *For. Dep. F. M. S. 32270 Symington*; *Landon & Melville 4818*. G. Tinggi, Ulu Liang, Raup, on quartzite cliff, 1220 m, *For. Dep. F. M. S. 20432 Strugnell*. P a h a n g / S e l a n g o r border: G. Mengkuang Lebah, 1465—1770 m, *Robinson (Nat. Coll.) s.n.* (BM, K; SING, type of *R. coruscum*); G. Ulu Semangko, *Burn Murdoch s.n.* (fl. white, fr., K, type of *R. wrayi* var. *elliptica*; SING); *ibid.*, 855 m, *For. Dep. F. M. S. 16156 Mead*; *ibid.*, S of the Gap, 1125 m, *Burn-Murdoch 1*; *ibid.*, 4 miles SW of the Gap, *Burn-Murdoch 2*. Selangor: Hills N of G. Ulu Kali, in moss-forest, *KEP 56663 Symington*.

#### 258. RHODODENDRON KORTHALSII Miq.

*Rhododendron korthalsii* Miquel in *Ann. Mus. Bot. Lugd.-Bat.* 1: 43. 1863; Millais, *Rhodod.* 199. 1917; Sleum. in *Blumea Suppl.* 4: 54. 1958, in *clavi*.

SUMATRA. Loco haud indicate (Padang Highlands?), *Korthals s.n.* (L, type).

#### Subgenus ANTHODENDRON

*Rhododendron* subgen. *Anthodendron* (Reichb.) Endlicher, *Gen.* 759. 1839; emend. Rehd. in *Wils. & Rehd.*, *Monogr. Azaleas* 115. 1921; Sleum. in *Bot. Jahrb.* 74: 527, 551. 1949.—*Anthodendron* Reichb. in *Mossl.*, *Handb.* 2nd ed. 1: XL, 244, 308. 1827.—*Azalea* L., *Sp. PL* 1: 150. 1753, *p.p.* (sp. 1); Bl., *Bijdr.* 852. 1826, *p.p.*

TYPE SPECIES.—#. *indicum* (L.) Sweet.

#### Section ANTHODENDRON

*Rhododendron* sect. *Tsutsusi* Sweet, *Br. Fl. Gard.* 5: *sub t. 117*. 1831; Sleum. in *Bot. Jahrb.* 74: 527, 551. 1949; *Blumea Suppl.* 4: 49. 1958.—*R.* sect. *Tsutsusi* G. Don, *Gen. Syst.* 3: 845. 1834, *p.p.*—*R.* sect. *Tsutsugi* Don ex Miq., *Fl. Ind. Bat.* 2: 1059. 1859.—*Azalea* L., *Sp. PL* 1: 150. 1753, *p.p.* (sp. 1).

TYPE SPECIES.—*R. indicum* (L.) Sweet.

#### 259. RHODODENDRON SUBSESSILE Rendle

*Rhododendron subsessile* Rendle in *J. Bot.* 34: 357. 1896; Merr. in *Publ. Gov. Lab. Philip.* 29: 40. 1905; *Philip. J. Sc.* 3: Bot; 379. 1908; *I.e.* 5: Bot. 371. 1910; Millais, *Rhodod.* 249. 1917; *Wils. in Wils. & Rehd.*, *Monogr. Azaleas* 51. 1921; Merr., *En. Philip.* 3: 245. 1923; Millais, *Rhodod.* 2nd ser. 244. 1924; Copel. f. in *J. Philip. Sc.* 40: 174, *pi. 16 f. 7—10*. 1929, incl. var. *baucoense* Copel. f., *I.e.* 175; Rehd. in *Spec.*



Rhodod. 2nd ed. 106. 1947.—*R. rubropilosum* Hayata in J. Coll. Sc: Tokyo 30, art. 1: 173 (Mat. Fl. Formos.). 1911; Wils. in Wils. & Rehd., Monogr. Azaleas 52. 1921; in J. Arn. Arb. 6: 182. 1925; Kaneh., Formos. Trees 326, 1917; *I.e.* 547, *l.* 507. 1936; Rehd. in Spec. Rhodod. 2nd ed. 99. 1947.—? *R. caryophyllum* Hayata, Ic. PL Formos. 3: 130, *t.* 23. 1913.—? *R. randaiense* Hayata, Ic. PL Formos. VI Suppl. (Gen. Ind. Fl. Formos.) 43. 1917, *nom. nud.*

PHILIPPINES. Luzon: Mountain Prov., Benguet Subprov., Mt Data, *White-head s.n.* (BM, type of *R. subsessile*); *B. S.* 84634 *Quisumbing*; *B. S.* 4606 *Merrill*; *LoKer* 3757, 3758, 3759, 3760; Mt Santo Tomas (Mt Tonglon), c. 2250 m, *P. N. H.* 20419 *Mendoza*; *Sinclair & Edano* 8902; *F. B.* 922 *Barness*; *Williams* 1223, 2000, 2001; *B. S.* 4815 *Merrill*; *F. B.* 5032 *Curran* (cit. CopeL, not seen); *F. B.* 14168 *Merritt* (cit. CopeL, not seen); *Mearns s.n.* (cit. CopeL, not seen); *F. B.* 11090 *Whitford* (cit. CopeL, not seen); *Merrill* 736; *F. B.* 25125 *Leano*; *B. S.* 15775 *Clemens*; *B. S.* 45099 *Ramos & Edano*; *B. S.* 16008 *McClure* (cit. CopeL, not seen); Mt Pauai, c. 2100 in, *B. S.* 4690 *Merrill*; *B. S.* 82398 *Sulit*; *B. S.* 4275 *Mearns*; *B. S.* 8420 *McGregor*; *B. S.* 31994 (cit.:i3994) *Santos*; Mt Pulog, *F. B.* 18035 *Curran et al.* (cit. CopeL, not seen); *F. B.* 18172 *Curran et al.*; *Clemens* 4966, 5063 (cit. CopeL, not seen); Mt Baudan, *B. S.* 40308 *Ramos & Edano*; Bucao, *F. B.* 18362 *Alvarez*; Baguio, 1300 m, *Elmer* 5799, 8595, 1429S; *Santos* 38; *Hancock* 96. Ifugao Subprov., Mt Polis, *B. S.* 37708 *Ramos & Edano*; Banaue (Banaao), *Vanoverbergh* 364 (cit. CopeL, not seen). Bontoc Subprov., *Vanoverbergh* 2851; Bontoc road, *P. N. H.* 35827 *Steiner*; Mt Malaya, *F. B.* 16573 *Darling* (cit. CopeL, not seen); Besao, summit of Mt Sisipatan, 1830 m, *Santos* 5536; loco haud indie, *Clemens* 7278 (cit. CopeL, not seen); Bauko, *Vanoverbergh* 351 (A; PNH, type of *R. subsessile* var. *baucoense*, f). Abra Prov., Mt Paraga, *B. B.* 7105, 7249 *Ramos*.

NOTE 1. Var. *baucoense* Copel. f. is a microform, connected with the typical form by intergrades.

NOTE 2. WILSON (1921) has *R. subsessile* Rendle (Philippines) and *R. rubropilosum* Hayata (Formosa) as distinct species. Render (1947) follows him, but says, that *R. rubropilosum* differs from *R. subsessile* in its pink flowers with the stamens shorter than the corolla and "is perhaps not specifically distinct from that species". But already Copeland f. (1929) had shown, that the colour of the corollas of *R. subsessile* varies from white to pink, red violet or purple and "is certainly too inconstant to be distinctive". Recently collected material of *R. rubropilosum* (*Gressitt* 121, from Mt Arisan) has the stamens as long or slightly longer than the corolla, same as in *R. subsessile*. One difference the two species seems to be that in *R. rubropilosum* the corolla is spotted with darker red markings, and in *R. subsessile* apparently is not so, to conclude from the collector's labels, which do not mention such spots. Another difference might be that *R. rubropilosum*, as apparently all Formosan species belonging to the section — to judge from Kanehira's key in Formos. Trees (1936) 537 — has

dimorphic leaves, and *R. subsessile* apparently has not. If only herbarium specimens of the same flowering stage are compared, the two species seem to be conspecific. A near relative to *R. subsessile* is the Formosan *R. lasiostylum* Hayata, which however differs by having only 5 stamens and generally somewhat larger leaves.

### Subgenus AZALEASTRUM

*Rhododendron* subgen. *Azaleastrum* Planchon in Fl. Serres 9: 75. 1853—54 ('*sous-type*'); in Rev. Hort. IV, 3: 43. 1854 ('*sons-type*'); ex K. Koch, Dendrol. 2(1): 159. 1872, descr. subgen.; Sleum. in Bot. Jahrb. 74: 528, 552. 1949.

TYPE SPECIES.—? , *ovatum* (Lindl.) Hook.

### Section CHONIASTRUM

*Rhododendron* sect. *Choniastrum* Pranch. in Bull. Soc. Bot. Fr. 33: 229. 1886; Sleum. in Bot. Jahrb. 74: 528, 552. 1949; Blumea Suppl. 4: 56. 1958.

TYPE SPECIES.—*R. stwmineum* Franch.

### KEY TO THE SPECIES

1. Ovary completely glabrous. (China, Burma, Indochina, Siam) Malay Peninsula. . . . 260. *R. moulmainense*
1. Ovary laxly to subdensely hairy. (Indochina) Malay Peninsula. . . . 261. *R. klossii*

### 260. RHODODENDRON MOULMAINENSE Hook.

*Rhododendron moulmainense* Hooker, Bot. Mag. t. 4-904., 1856; Kurz in J. As. Soc. Beng. 46, ii: 216. 1877; Fl. Burma 2: 94. 1877; Clarke in Hook, f., Fl. Br. Ind. 3: 463. 1882; Brandis Ind. Tr. 412. 1906; Craib, in Kew Bull. 405. 1911; Ridl., Fl. Mai. Pen. 2: 218. 1923; Dop in Fl. Gen. I.—C. 3: 734. 1930; Hutch, in Spec. Rhodod. 620. 1930, excl. syn. *R. klossii* Ridl.; Hutch, in Craib, Fl. Siam. En. 2: 318. 1938; Sleum. in Blumea Suppl. 4: 58. 1958.—*R. westlandii* Hemsl. in J. Linn. Soc. Bot. 26: 31. 1889; Millais, Rhodod. 261. 1917; Hutch, in Spec. Rhodod. 626. 1930.—*R. oxyphyllum* Franch. in J. Bot. 12: 264. 1898; Millais, Rhodod. 222. 1917; Hutch, in Spec. Rhodod. 621. 1930.—*Azalea moulmainensis* (Hook.) O. Ktze, Rev. Gen. Pl. 2: 387. 1891.—*R. siamense* Diels in Fedde, Rep. 4: 289. 1907.—*R. leucobotrys* Ridl. in J. Fed. Mai. St. Mus. 4: 43. 1909; *I.e.* 7: 46. 1916; Fl. Mai. Pen. 2: 218. 1923; Hutch, in Spec. Rhodod. 619. 1930.—fl. *stenauidum* Balf. f. & Forr. in Not. R. Bot. Gard. Edinb. 10: 157. 1917; Hutch, in Spec. Rhodod. 624. 1930, excl. syn *R. mackenzianum* Forr.

MALAY PENINSULA. Kedah: Kedah Peak (G. Jerai), 855—1220 m, Ridley 5531 (BM, CAL; SING, type of *R. leucobotrys*); Evans & Gordon 82, 140\ 144; SF 4-72S Haniff & Nur; SF 604 Haniff; Robinson & Kloss 6033; For. Dep. F.M.S. 46840 Symington; SF 35806 Nauen; For. Dep. F.M.S. 17931 Mat.



## 261. RHODODENDRON KLOSSII Ridl.

*Rhododendron klossii* Ridley in J. Fed. Mai. St. Mus. 4: 43. 1909; Fl. Mai. Pen. 2: 218. 1923; Sleum. in Blumea Suppl. 4: 59. 1958.—*R. laoticium* Dop in Fl. Gén. I.—C. 3: 735. 1930.

MALAY PENINSULA. Perak/Pahang border: Cameron Highlands, Batten Pooll s.n.; G. Berumbun, 1830 m, Ridley 15589 (BM, K; SING, type) South-west Pahang: Tras, Raub, For. Dep. F. M. S. 20232 Strugnell. Bt. Raka, Bentong, For. Dep. F.M.S. S80M Symington (KEP).

## SPECIES OBSCURAE

1. *Rhododendron ignicolor* Warburg ex Sarasin, Reisen in Celebes 2: 42. 1905 (Kew Ind.: *R. ignicola*), *nom. nud.*

Reported to be found in Central Celebes, on the descent from the Sibaronga Mts to Lake Lindu (B, f; no isotype preserved). Epiphytic, with big, fiery red azalea-like corollas.

2. *Rhododendron ferrugineum* Reinwardt ex Blume, Cat. 72. 1823, *non* L. 1753, *nom. nud.*

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