

ANTS OF THE KRUGER NATIONAL PARK

By

A. J. PRINS,

Research Institute for Plant Protection, Rosebank, C.P.

DESCRIPTION OF A NEW VARIETY.

Subfamily: MYRMICINAE.

Cataulacus rugosus For. *krugeri* var. nov. (Plate I, Figs. 1-3 and Plate II, Figs. 1-2).

By careful examination of the ants from a nest of *Cataulacus rugosus* found in a branch of a red bush-willow, *Combretum apiculatum* Sond. at Pumbe (C. 43), it was obvious that the specimens differ slightly from *C. rugosus* collected in blocks N. 51, C.69, S.61, and S.20 (see maps). This form is very similar to the variety *subrugosus* Sant., but differs from it by the slightly longer and more acute epinotal spines and by the sculpture of the abdomen which is less developed; in the paratypes of the latter variety so kindly lent to me by the National Museum, Geneva, Switzerland, the sculpture of the abdomen is almost as coarse as in *rugosus*, and its basal third is longitudinally rugose.

As the description of *rugosus* and *subrugosus* given by Arnold (1915-1924) is insufficient, a more detailed description of this variety is given here.

Material: 537 ♀♀, 71 ♀♀ (alate) and 2 ♂♂ from Pumbe (AcAx 1800), collected by the writer, 12.V.62. Type and paratypes in the National Collection of Insects, Plant Protection Research Institute, Pretoria.

♀; Length: From tip of mandibles to tip of abdomen 5.36 mm. (5.99 mm. in larger specimens), from anterior margin of clypeus to apex of epinotum 2.78 mm. (3.0 mm. in larger specimens). Length of head (excluding mandibles) 1.34 mm. (1.41 mm. in larger specimens).

Colour black, except the scape, bases and apices of the flagella, the tibiae and tarsi and apices of femora which are ferruginous. The intermediate segments of the flagella, the apices of tibiae and first segment of the middle and hind tarsi are dark ferruginous to almost black. Masticatory margin of mandibles dark castaneous red.

Pubescence absent, except on the coxae, tarsi and club of the flagellum; pilosity scanty, composed of thick, short and blunt whitish hairs, oblique on

the legs and masticatory margin of mandibles, erect elsewhere; the hairs on the flagellum are rather thin, and below the eyes there are a few fairly long, thin, brownish coloured hairs as in *rugosus*. The whole body dull.

Head, excluding the mandibles, only slightly wider than long, wider than the thorax, about twice as wide across the eyes than across the anterior margin of the clypeus. The posterior border of the head almost straight, or only feebly emarginate; denticulate; each posterior angle ending in a broad tooth; there is also a slightly smaller tooth on each side of the posterior margin, placed some distance from the exterior one. The sides of the head as far as the anterior margin of the eyes denticulate, the denticulation not so strong as in *rugosus* and in the front of each eye the lateral margin is produced into a broad and obtuse tooth. Anterior margin of the clypeus emarginate in the middle and slightly concave on each side of the emargination; the posterior border arcuate and indistinct; each anterior angle produced into an obtuse tooth.

The sculpture of the head weaker than in *rugosus*, consisting of longitudinal rugae connected by transverse anastomoses, forming a network, the meshes smaller than in the latter species; somewhat indistinct on the clypeus and anterior half of the head both of which appear longitudinally rugose; the rugae stronger behind and below the eyes; the floor of the meshes finely reticulate-punctate.

The eyes are large, fairly convex, placed a little behind the middle of the sides of the head. The scrobes are deep and placed below the eyes and are finely reticulate and dull as in *rugosus*. The scapes are somewhat flattened towards their apices, longitudinally rugulose, and extend as far as the middle of the eyes; the flagellum short, forming a club; all the segments, except the first and apical one, wider than long. Mandibles triangular, longitudinally rugose, with large punctures, the surface between the rugae finely reticulate-punctate; the masticatory margin straight, curved dorso-ventrally and armed with two blunt apical teeth; the rest of the surface almost edentate. In some specimens the mandibles are almost smooth, slightly shining and alutaceous with a few large punctures.

Thorax about one-fifth longer than wide; the anterior margin arcuate, the sides of the prothorax seen from above straight and slightly divergent behind, denticulate, the denticles smaller than in *rugosus*. Mesonotum narrower than the pronotum, the sides convergent behind, each with one or two blunt teeth. Epinotum again a trifle narrower than the mesonotum, with a broad tooth on each side; the epinotal spines acute and long, longer than the interval between their bases, flattened, divergent, and directed slightly upwards. Seen in profile the dorsum of the thorax is feebly convex, being highest in the region of the mesonotum, with the epinotum a trifle lower than the pronotum. Thoracic sutures are well-defined at the sides, but obsolete above.

Sculpture of the thorax consists of coarse transverse rugae on the pronotum, semi-circularly arranged and connected with longitudinal anasto-

moses, each forming a blunt tooth at the point of junction. On the mesoepinotum the rugae are longitudinally arranged, the transverse anastomoses are indistinct; the sculpture somewhat coarser on the epinotum; the latter fairly deeply sulcate between the rugae; in addition the thorax is finely reticulate-punctate between the rugae and between the epinotal spines the thorax is coarsely and transversely rugose. The sides of the thorax longitudinally and obliquely rugose, sulcate between the rugae and in addition finely reticulate-punctate. The declivity vertical, feebly concave dorso-ventrally, transversely rugulose and finely reticulate-punctate.

Both nodes of the petiole of about equal width, and seen from above widest at about the anterior third and fairly angular at the sides; the first node nearly one-third wider across the anterior margin than behind; the second node about as wide behind as across its anterior margin. Seen from the side the first node is almost as high as long, highest at about the anterior third, the anterior face subvertical, the posterior-dorsal face oblique as in *rugosus*; the ventral surface with a strong, broad and truncate tooth pointing forward. In profile the second node is rounded above, with a vertical anterior face and an oblique posterior dorsal face. Both nodes coarsely and longitudinally rugose and deeply sulcate between the rugae; the surface between the rugae also finely reticulate-punctate. Anterior face of first node transversely rugose and finely reticulate-punctate. In some specimens the second node has in addition also a few transverse rugae behind..

Legs fairly short; the femora and tibia somewhat flattened and swollen, all the segments finely and closely reticulate-punctate; the femora and tibia also longitudinally rugose, the rugae coarser on the femora.

Abdomen ovate, slightly less than one-fifth longer than wide and arcuately emarginate at the base. In some specimens, however, the abdomen is nearly one-quarter to one-third longer than wide, the sides more parallel. The whole abdomen closely and finely reticulate-punctate as the rest of the body; the basal fourth evenly and longitudinally rugose; rest of the abdomen rugulose, the rugae almost indistinct over the middle portion, but faintly indicated on the apical fourth.

The workers of this subspecies are very similar to those of *rugosus* from which they differ by the slightly longer epinotal spines and by the sculpture of the body, which in this case is slightly less developed. On the head the meshes of the network are smaller and not so pronounced as in *rugosus*, while in the latter the rugae on the thorax are much coarser, almost ridge-like, and the transverse anastomoses on the meso-metanotum stronger, forming a network, which is almost obsolete in this variety; the basal third of the abdomen is rugose, the rugae slightly coarser.

♀: Length: From tip of mandibles to apex of abdomen 6.41 mm.; from anterior margin of clypeus to apex of epinotum 3.14 mm. Length of head (excluding mandibles) 1.28 mm.

Very similar to the worker but differs from it as follows: Head excluding the mandibles, about as long as wide or only a trifle wider than long, the posterior margin almost straight; the denticles on the sides smaller than in the worker and three distinct ocelli present on the vertex.

The thorax nearly one-third longer than wide, the sides feebly convex; about one-third wider in front (across anterior border) than behind. Seen from the side the dorsum of the thorax is almost straight, only slightly convex, the epinotal plane lower than that of the pro-mesonotum. The pro-mesonotal suture well-defined, deep, in the form of a wide inverted V, and arcuate in the middle. The Maryian furrows almost obsolete, the scutum impressed in the region of the stem of the Maryian furrows, its posterior margin feebly convex in the middle; the parapsidal furrows well-defined. Paraptera of meso- and metathorax clearly indicated; the scutellum small, about two-fifths wider than long, slightly less than half as long as the scutum, flat, the posterior border rounded; anterior margin angular in the middle. The metanotum present as a narrow sclerite; the epinotum as long as the scutellum, wider in front than behind; the anterior margin feebly concave, the sides strongly marginate as in the worker. The epinotal spines broad and acute, but shorter and not so divergent as in the worker.

The sculpture of the pronotum as in the worker, but not so coarse; the scutum longitudinally rugulose, the rugae almost obsolete in the middle; the mesonotal paraptera longitudinally rugose, and sulcate between the rugae; the rugae extending over the separating suture to the posterior border of the scutellum; the sides of the paraptera also with somewhat indistinct transverse rugae; the epinotum sculptured as in the worker.

The abdomen oblong, about three-sevenths longer than wide, the sides parallel; the anterior margin arcuately emarginate, the emargination less deep than in the worker; the basal fifth longitudinally rugose, the rugae also faintly indicated on the posterior fifth.

Wings hyaline, with a brownish tinge near the nervures; the latter pale; the stigma pale-brown; the fore-wings nearly three times longer than wide and about one-quarter longer than the hind-wings, with one closed cubital cell. The junction of the radius with the costal is indistinct and the lower part of the cubital (Plate II, fig. 1 g) almost obsolete. The hind-wings nearly four times longer than wide with one closed median and submedian cell; anterior margin with 8 to 9 hooks and the margin with a fringe of short hairs.

♂:Length: From tip of mandibles to apex of abdomen 5.67 mm; from anterior margin of clypeus to apex of epinotum 3.11 mm. Length of head (excluding the mandibles) 1.22 mm.

Not unlike the female, but differs from it as follows: Head narrower in front, slightly more than twice as wide across the eyes than across the anterior margin of the clypeus (twice as wide across the eyes in the female), the sculpture not so strong as in the female or worker, and the innermost teeth on the posterior margin almost obsolete; the latter feebly concave as

in the worker. On each side of the clypeus, just behind the anterior angle is a small area where the rugae are interrupted and the punctuation not so pronounced, giving it a shining appearance when seen from above.

The rugae on the pro-mesonotum not so coarse as in the female; the scutum with a small and shining triangular area in the middle of the arcuate anterior margin where the punctuation is less strong than in the rest of the area; the Mayrian furrows clearly visible and traversed by oblique rugae. The separating suture between the mesonotal paraptera and the scutellum wider and more shining; the latter more oval in shape than in the female. Seen in profile the scutum of the mesonotum is more rounded in front and much higher than in the female and the dorsal plane of the scutellum a trifle higher than that of the thorax. Metanotum with a flat, blunt tooth on the median line which is also present in the males of *rugosus*. The epinotal spines not so acute and the nodes not sulcate between the rugae. The anterior margin of the first node forms a definite transverse ridge and the anterior face has a few oblique rugae; otherwise like the female.

The legs indistinctly rugose. Abdomen ovate, slightly more shining than in the female; the sides fairly convex; about one-third longer than wide and emarginate at the base; less than the basal seventh longitudinally striate; (in *rugosus* the basal fourth is longitudinally striate). Hairs on the abdomen longer than in the female and worker.

ACKNOWLEDGEMENT

The paratypes of *C. rugosus subrugosus* were kindly lent to me by Dr. Claude Besuchet of the Museum of Natural History in Geneva, Switzerland to whom I offer my sincere thanks.

EXPLANATION OF FIGURES

- Plate I. Fig. 1 — Worker, dorsal aspect.
Fig. 2 — Female, dorsal aspect.
Fig. 3 — Male, dorsal aspect, external paramera extruded.
Plate II. Fig. 1 — Fore-wing, female.
Fig. 2 — Hind-wing, female.

Veins

- a — costal; b — subcostal; c — externo-median; d — anal; e and g — cubital; f — marginal (radius); h — discoidal and subdiscoidal; o — first section of radius; n — basal; z — transverso-median.

Cells

- v — costal; i — median; y — second discoidal; w — first cubital; x — sub-median.

REFERENCES

- ARNOLD, G. 1915-1924 — A Monograph of the Formicidae of South Africa. *Ann. S. Afr. Mus.*, 14: 386-404.
———, 1926 — *Idem, Ibid.*, 23: 286-287.
FOREL, A. 1913 — Quelques Fourmis du Musée du Congo Belge. *Ann. Soc. Ent. Belg.*, 57: 350.
SANTSCHI, F. — 1914 — Formicides de l' Afrique Occidentale et Australe. *Bull. Lab. Zool. Gem. Agr. (Portici)* 8: 367-373.
———, 1914 — Formicidae. *Voy. Alluaud et Jeannel Afr. Orient.*, 11: 106-111.

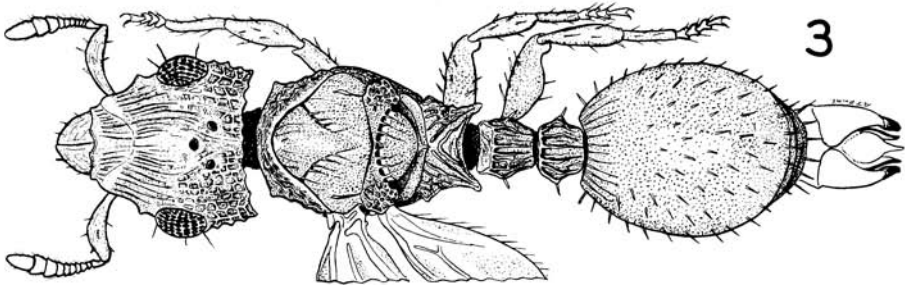
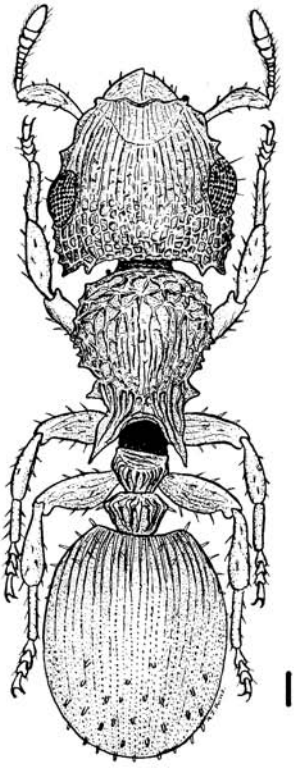


Plate 1

Cataulacus rugosus Krugeri 1. Worker 2. Female 3. Male external paramere extruded.

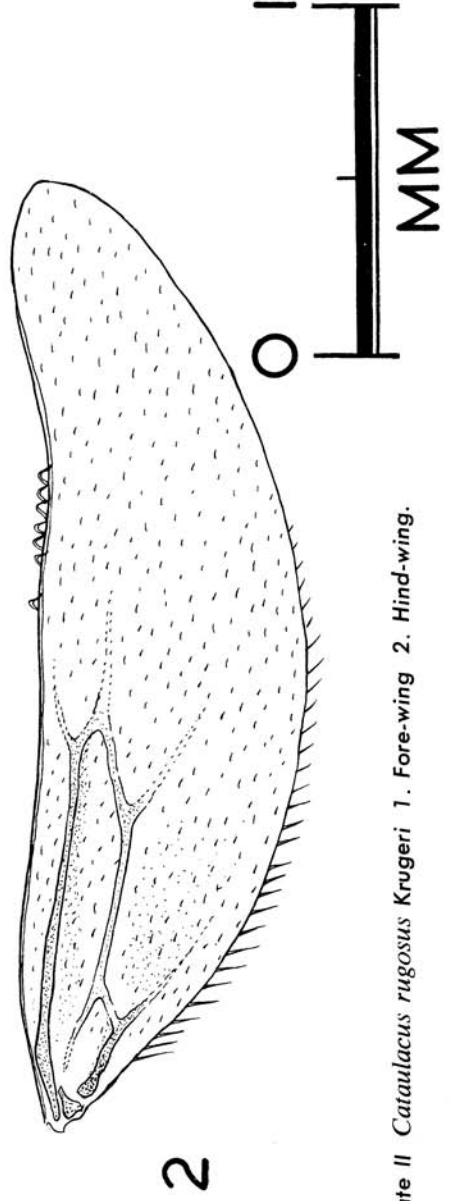
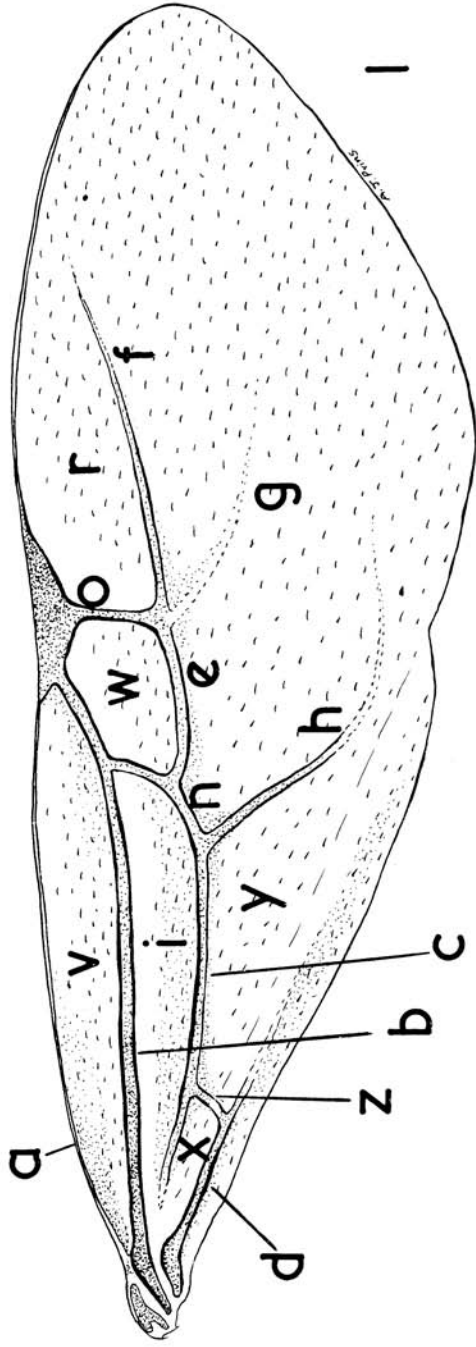
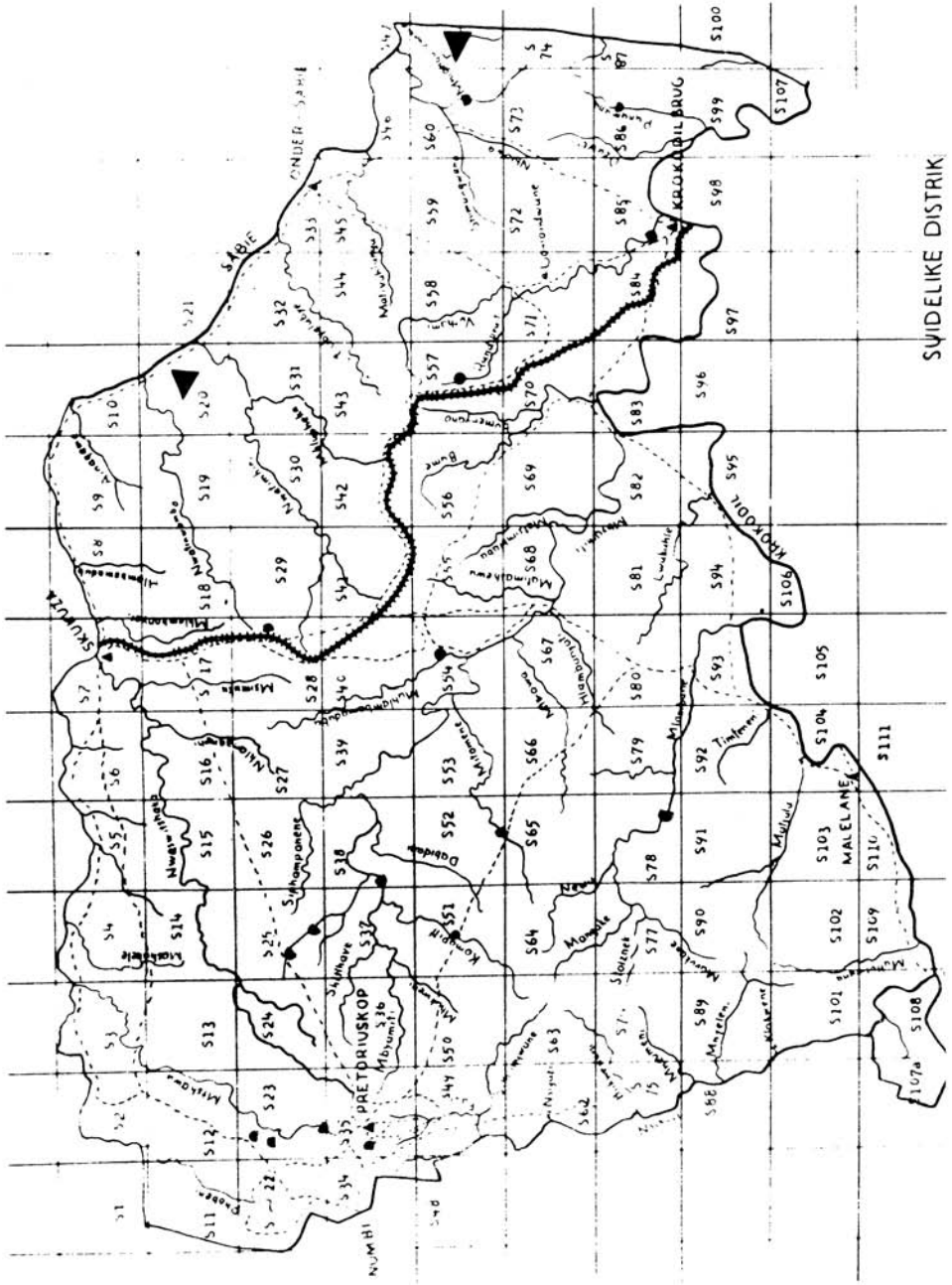
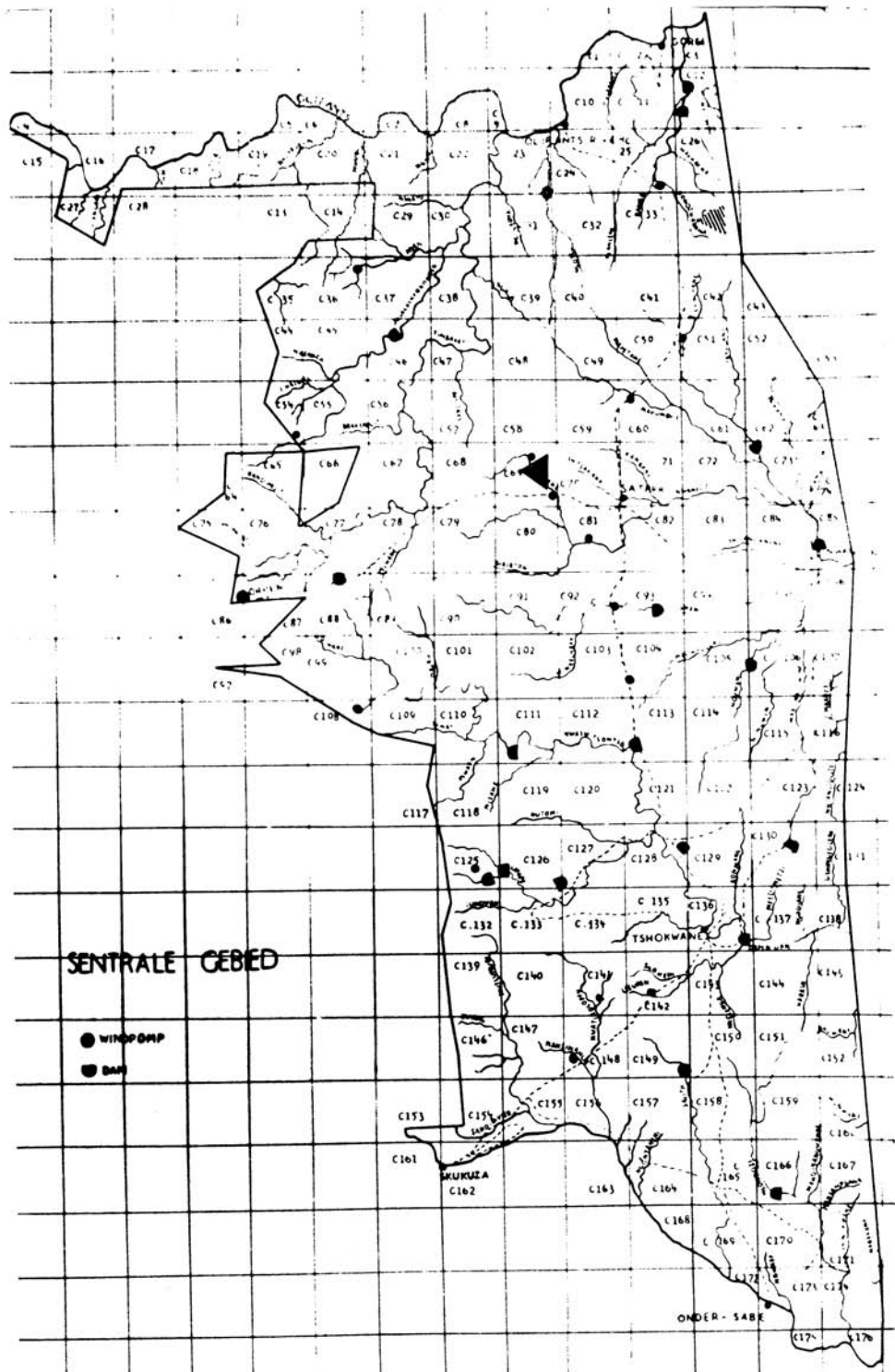


Plate II *Cataulacus rugosus* Krugeri 1. Fore-wing 2. Hind-wing.



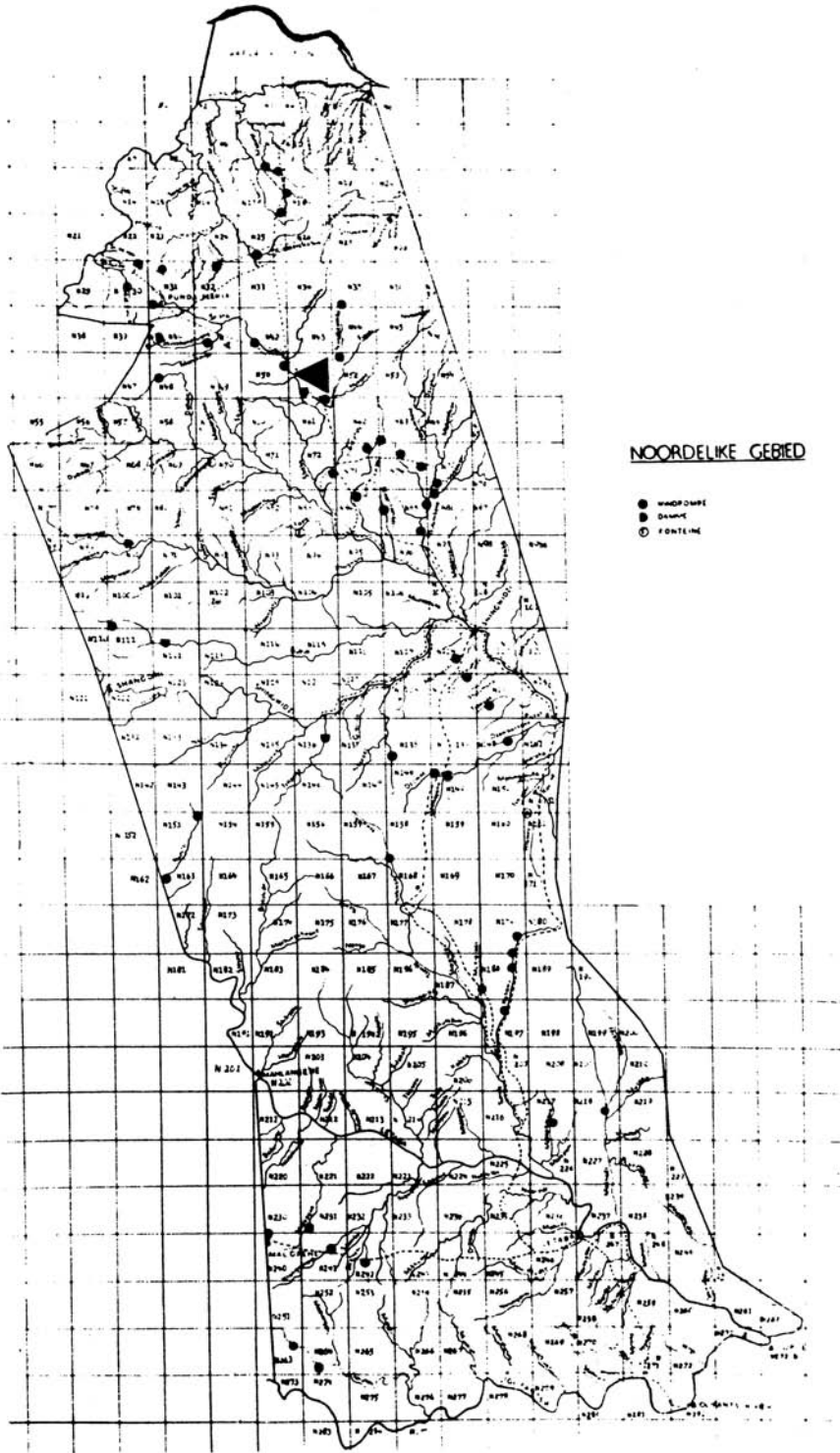
SUIDELIKE DISTRIK



SENTRALE GEBIED

- WINDPOMP
- DAM

ONDER-SABE



NOORDELIKE GEBIED

- WAGDRONNET
- DAMM
- FONTEINE