

SURVEY OF THE TERMITES OF THE KRUGER NATIONAL PARK.

(Including diagnosis of *Fulleritermes* gen. nov. : Nasutitermitinae).

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1. *The National Survey of Isoptera.*

The National Survey of the Isoptera has been actively conducted in the Republic of South Africa since 1957 by staff of the Division of Entomology, Pretoria, with the following main objectives: By means of planned collecting expeditions, carried out by specialist collectors, to obtain and preserve in alcohol for subsequent taxonomic study nest series complete in all castes and representative of all Isopteran genera and species present in every district of the Republic, thus eventually to enable (a) the adequate description and naming of all taxa new to science, (b) the ironing out of existing synonymy, created in the past by Isopteran taxonomists who, working with inadequate material, failed to evaluate the full extent of intra-specific variation, (c) the description and redescription of all castes of valid, named species in such a way as to embrace the extremes of intra-specific variation in each case, and (d) delimitation of the exact geographical distribution of all local Isopteran genera and species, and subsequent correlation of such distribution with ecological factors.

All material taken during the course of such surveys is determined at least to the genus, accessioned, vialled, labelled, and data concerning each accession are incorporated into the various card-index systems maintained in respect of the National Survey of Isoptera and National Collection of Isoptera. Detailed taxonomic study of the material assembled will be undertaken genus by genus, in the interests of efficiency and time-saving, as soon as adequate representation of each has been taken.

In the five years this project has been in operation, accessions have been gained from all parts of the Republic at an average rate of approximately

1000 p.a. When the localities from which these were obtained are charted according to genus, a procedure adopted to guide future survey activity, patterns of distribution emerge which are already clearcut in many cases even at a level as high as the genus. A few typical examples of the 32 charts already compiled to reflect genus distribution within the Republic are given to illustrate this aspect of the work. When further taxonomic study of the material assembled has been completed, the various species represented will, of course, be denoted by different symbols on the respective charts.

Genus *Epicalotermes* Silvestri (Fig. 1) : A genus confined to the Northern sub-tropical zone of the Republic, extending through the Bushveld and Lowveld of the Transvaal, Swaziland and Northern Zululand, to funnel down and fade out to the South-East in the vicinity of Lake St. Lucia.

Genus *Bifiditermes* Krishna (Fig. 2) : A genus present throughout the Northern sub-tropical zones occupied by *Epicalotermes*, but extending Southwards as well along the Eastern coastal belt and mountains deep into the temperate zone to as far as Cape Town in the South-Western Cape Province.

Genus *Odontotermes* Holmgren (Fig. 3) : A genus extending Southwards from the Northern sub-tropical zones, inland as well as along the coast, well into the Eastern temperate zones of the Cape Province to as far South as George — the more arid areas of the Cape Province West of Longitude 22°E. are apparently not inhabited by species of this genus.

Genus *Porotermes* Hagen (Fig. 4) : A genus confined to the temperate coastal belt and mountain ranges of the South-Western Cape Province, from Clan William in the West to Knysna in the East.

Genus *Kalotermes* Hagen (Fig. 5) : A genus extending along the Eastern temperate coastal belt and mountains of the Cape Province from Cape Town in the South-West, to fade out in the warmer climate of Natal in the districts Eshowe and Nkandhla.

Genus *Trinervitermes* Holmgren (Fig. 6) : An ubiquitous genus present everywhere throughout the temperate and sub-tropical zones of the Republic, from the most arid to the wettest areas.

From the above-mentioned review it can be seen that termite surveys in the Kruger National Park form but a minute facet and an integral part of the project as a whole. There is thus no intention of doing immediate *ad hoc* determinations of the species collected there in order to produce a check-list of its Isopteran fauna.

When the writer and his colleagues were invited by the National Parks Board to study the termite fauna of the Kruger National Park, this was accepted with alacrity since the fauna of the lower-lying sectors of the districts Sibasa, Letaba, Pilgrims Rest and Nelspruit could nowhere be surveyed to better advantage than there, where the countryside is undisturbed by farming activity and human settlement, and where the various vegetation-soil types are clearly delimited.

2. Preliminary Results of K.N.P. Surveys of Isoptera.

The writer, assisted by Dr. J. H. Grobler and Mr. J. L. Sheasby of the Division of Entomology, spent approximately 30 days in the Kruger National Park collecting termites during the months October to November of the years 1959 and 1960. The material taken, the bulk of it gained from the Sibasa sector which had previously not been studied at all, has now been given its preliminary work-over and, as will be shown subsequently, much new and invaluable data have been gained. Although even at this stage large blanks remain to be filled in in respect of the known distribution in the K.N.P. of the various types of termites present there, a preliminary report on what has been accomplished hitherto may prove to be of interest.

(1) Analysis of Accessions Gained, 1959-1960 :

During the period reviewed a grand total of 330 termite accessions was gained in the K.N.P., 148 of them complete with the alate caste. An analysis of this material, when broken down to the genera and the districts from which they were gained, is given in Table 1. (The Kalotermitidae have been re-arranged to conform with the revision of Krishna, 1961).

As a result of this survey the genera given in parenthesis were recorded for the first time from the districts listed below :

Sibasa : (*Neotermes*, *Epicalotermes*, *Bifiditermes*, *Cryptotermes*, *Hodotermes*, *Psammotermes*, *Schedorhinotermes*, *Anoplotermes*, *Microcerotermes*, *Amitermes*, *Apicotermes*, *Cubitermes*, *Lepidotermes*, *Promirotermes*, *Allodontermes*, *Macrotermes*, *Odontotermes*, *Ancistrotermes*, *Microtermes*, *Fulleritermes*, *Coarctotermes* and *Trinervitermes*). Total: 22 new district records.

Letaba : (*Neotermes*, *Epicalotermes*, *Bifiditermes*, *Cryptotermes*, *Hodotermes* and *Coarctotermes*). Total: 6 new district records.

Pilgrim's Rest : (*Epicalotermes*, *Hodotermes*, *Anoplotermes*, *Amitermes*, *Apicotermes*, *Promirotermes*, *Coarctotermes* and *Trinervitermes*). Total: 8 new district records.

Nelspruit : (*Neotermes*, *Epicalotermes*, *Cryptotermes*, *Hodotermes*, *Anoplotermes*, *Promirotermes* and *Coarctotermes*). Total: 7 new district records.

A grand total of 43 new records of genera in the 4 districts surveyed has thus been established in the K.N.P.

(2) Genera not yet recorded from the K.N.P. :

Of the 32 genera of Isoptera collected hitherto within the borders of the Republic of South Africa, only the 10 listed below have not yet been taken from the K.N.P. :

Kalotermitidae : *Kalotermes* Hag. and *Postelectrotermes* Krish.

Hodotermitidae : *Stolotermes* Hag., *Porotermes* Hag. and *Microhodotermes* Latr.

Rhinotermitidae : *Coptotermes* Wasm.

Termitidae (Amitermitinae) : Unnamed new soldierless genus.

TABLE 1.

Isoptera collected in the K.N.P., years 1959 & 1960.

(No. Acc. = Number of accessions; Acc.+Al. = Number of accessions including alates).

Family, Sub-family, Genus	Sibasa		Letaba		Pilgrims Rest		Nelspruit		Total	
	No. Acc.	Acc. +Al.	No. Acc.	Acc. +Al.	No. Acc.	Acc. +Al.	No. Acc.	Acc. +Al.	No. Acc.	No. +Al.
1. KALOTERMITIDAE. KALOTERMITINAE.										
1. <i>Neoterмес</i> Hgrn.	9	2	5	2	6	1	4	2	24	7
2. <i>Epicalotermes</i> Silv.	11	4	5	3	9	8	5	2	30	17
3. <i>Bifiditermes</i> Krish.	5	2	8	2	3	2	1	—	17	6
4. <i>Cryptotermes</i> Banks.	2	2	2	1	1	1	1	1	6	5
2. HODOTERMITIDAE. HODOTERMITINAE.										
5. <i>Hodotermes</i> Hag.	3	—	2	—	1	—	1	—	7	—
3. RHINOTERMITIDAE. PSAMMOTERMITINAE.										
6. <i>Psammotermes</i>	3	—	—	—	—	—	—	—	3	—
RHINOTERMITINAE.										
7. <i>Schedorhinotermes</i> Silv.	6	—	4	—	1	—	—	—	11	—
4. TERMITIDAE. AMITERMITINAE.										
8. <i>Anoplotermes</i> Müll.	4	2	—	—	1	1	5	5	10	8
9. <i>Microcerotermes</i> Silv.	20	13	9	8	10	10	2	1	41	32
10. <i>Amitermes</i> Silv.	7	2	2	2	7	5	2	1	18	10
TERMITINAE.										
11. <i>Apicotermes</i> Hgrn.	4	2	—	—	3	—	3	2	10	4
12. <i>Cubitermes</i> Wasm.	16	12	4	2	17	13	4	3	41	30
13. <i>Lepidotermes</i> Sjöst.	4	—	—	—	—	—	—	—	4	—
14. <i>Promirotermes</i> Silv.	5	—	1	—	2	—	1	1	9	1
MACROTERMITINAE.										
15. <i>Allodontermes</i> Silv.	2	—	2	—	1	—	—	—	5	—
16. <i>Macrotermes</i> Hgrn.	8	—	1	—	3	—	—	—	12	—
17. <i>Odontotermes</i> Hgrn.	2	—	3	—	2	—	—	—	7	—
18. <i>Ancistrotermes</i> Silv.	8	1	8	4	8	7	1	1	25	13
19. <i>Microtermes</i> Wasm	5	3	4	4	3	2	2	2	14	11
NASUTITERMITINAE										
20. <i>Fulleritermes</i> gen. nov.	7	1	—	—	—	—	—	—	7	1
21. <i>Coarctotermes</i> Hgrn.	6	—	5	—	2	—	3	—	16	—
22. <i>Trinervitermes</i> Hgrn.	18	1	5	—	8	1	5	2	36	4
TOTAL	142	46	65	28	86	51	37	23	330	148

Termitidae (Termitinae) : *Termes* Linn., *Angulitermes* Sjöst.

Termitidae (Nasutitermitinae) : *Nasutitermes* Dud.

Stolotermes, *Porotermes*, *Microhodotermes*, the unnamed new amitermitinid genus, and *Termes* have been found within our borders only in the temperate regions of the Southern, South-Western and South Eastern Cape Province, hence it is most unlikely that they will penetrate as far Northwards as the sub-tropics of the K.N.P. The genus *Kalotermes* extends from the temperate region of the Western Province along the coastal belt and mountains adjacent to the Indian Ocean Northwards to fade out in the warmer zone of Natal in the vicinity of Eshowe and Nkandhla, hence is unlikely to be recorded in future from the K.N.P. The genera *Postelectrotermes* and *Nasutitermes* are tropical, and extend Southwards from Mocambique to within our borders only in the sub-tropical, humid coastal belt of Northern Zululand, between the Indian Ocean and the Lebombo Mountains, to peter out at Sordwana Bay to the South of Lake Sibayi — the chances of their being recorded in the more arid K.N.P. are thus remote.

The tropicopolitan genus *Coptotermes* is not indigenous to this country, but there have been two introductions of *C. formosanus* Shiraki, both of which still persist today at Simonstown, C.P. and Komatipoort, Tvl. This introduced species exists at Simonstown and Komatipoort only in man-made or man-modified habitats, being apparently unable to compete with the indigenous termite fauna elsewhere. Since Komatipoort lies on the border of the K.N.P. a strong possibility exists that this most harmful termite species may spread to buildings and exotic trees in the rest camps by means of infested timber or articles of wooden construction. A close watch for the presence of this species in the rest camps of the K.N.P. should therefore be maintained.

Although the genus *Angulitermes* is recorded from within our borders mainly from the more arid areas of the Cape Province South of Latitude 28°S., in which it extends Eastward from the Atlantic Ocean as far as the districts Stockenström, Fort Beaufort, Albany and Alexandria in the Eastern Province, during the course of the surveys a new species has been recorded far to the North in the sub-tropical Bushveld of the districts Bronkhorstspuit, Waterberg, Potgietersrus and Soutpansberg of the Transvaal. There appears to be no reason why this species should not be recorded as well from the K.N.P. in the course of time.

(3) Isopteran Records from the K.N.P. of Especial Interest :

(a) Genus *Psammotermes*.

Silvestri (1908) first described *P. allocerus* from Namaland in South West Africa. Subsequently Fuller (1921) recorded it as well from Namaqualand and Ovamboland. Holmgren (1913) erroneously determined the same species, collected by Trägårdh near Lake Sibayi in the Ubombo district of N. Zululand, as *P. fuscofemoralis* Sjöst. Since the National Survey of Isoptera

was instituted it has been established that *P. allacerus* extends Eastward in the Cape Province from the Atlantic seaboard of the districts Namaqualand, Van Rhynsdorp and Clan William through the arid regions to as far as Longitude 24°E., and from the district Prince Albert in the South to that of Gordonia in the North. The Northern-most records from the Cape Province link up with the distribution area of the species in S.W. Africa recorded by Silvestri, and that in the Kalahari of Bechuanaland Protectorate established by the writer when he took the species in the vicinity of Lake Nagami in 1954. The position then existed that this single species had been widely recorded from the arid Western areas of the Cape Province, South West Africa and Bechuanaland Protectorate, while an isolated pocket in a sub-tropical zone of heavy rainfall existed in the Sandveld of the Ubombo district of Northern Zululand, without there being any known link-up between the two. This gap has now been partially bridged by (a) taking the species in the Sandveld of the Limpopo basin near Vetfontein in the district Soutpansberg, as well as in the Sandveld of the Karoo System near Wambia in the Northern K.N.P.,

(b) an accession gained from Callan, who collected it on Inhaka Island at Lourenco Marques, and (c) an accession gained from Grobler who took it in the Sandveld of the Ingwavuma district of Northern Zululand. It seems now quite clear that the main distribution area of *P. allacerus* in the arid West is linked with that in the humid East via the Sandveld of the Limpopo basin in the Northern Transvaal, that of the Karoo System forming or adjacent to the Lebombo Mountains which constitute the Eastern boundary of the K.N.P., and the Sandveld in Mocambique East of the Lebombos. It remains now only to take the species from the Letaba, Pilgrim's Rest and Nelspruit sectors of the Karoo system in the K.N.P. to complete the link-up.

(b) *Genus Apicotermes.*

The genus *Apicotermes* was erected by Holmgren (1913) to hold the species *A. trögårdhi* Hgrn., collected in the Sandveld of Northern Zululand in the district Ubombo. Since then other species have been described from Central, Southern, East and West Africa. The nesting habits of species of this genus are of great interest since the nest structures show progressive evolution according to species, from primitive cellular structures without ventilation pores on the external walls to highly evolved nests with outer walls pierced by passages ending in ventilation pores on the surface of the nests. In this genus evolution of behaviour, as evidenced by nest structure, can be studied in detail, and a vast amount of work has been published on the subject.

Although much data had been assembled anent the evolution of nest structures of Central, Southern, West and East African species of this genus, the nest of *A. trögårdhi* remained an unknown until it was taken by the writer near Mbazwane in the Ubombo district in 1955. This was described by Schmidt

(1958). It has now been established that this species is phylogenetically one of the most primitive of the genus, both morphologically and in the type of nest constructed by it.

In August 1959 Dr. J. H. Grobler took samples of an *Apicotermes* species, subsequently determined by Prof. Emerson of Chicago as being new to science, nesting below boulders on a rocky ridge in the Sandveld near Punda Milia in the Sibasa sector of the K.N.P. In October of the same year he and the writer revisited the site, took samples of the insects complete with the alate caste, studied and sketched the nests *in situ*, and brought back specimens of nests for later and more detailed study.

The nest of this new species of *Apicotermes* is completely surrounded above, at the sides of and below the outer walls by a narrow airspace which separates it from the surrounding soil. As a result of this air-space, should the nest be sited immediately below a boulder, as is so frequently the case, when the boulder is overturned the roof of the nest is unobscured by soil and immediately visible in the form shown in Fig. 7. From the nest numbers of hard-walled exit passages diverge horizontally, diagonally and vertically downwards through the soil to link up eventually with other similar nest structures, all these inter-connecting passages also being separated from the soil through being surrounded by an air-space. It is striking to note that in cooler, wet weather the bulk of the colony and its queen are congregated in those portions of the compounded nest system which are located near the soil surface, but under conditions of drought and extreme heat the upper portions of the nest system are very sparsely populated or even entirely deserted by the colony, the insects then congregating in the deeper levels thereof. In this way the insects are able to move upwards or downwards in the compounded nest system to find optimum conditions of soil temperature and humidity. In Fig. 8 is shown a vertical section through the nest shown in Fig. 7 — the primitive cellular interior and the complete absence of pores linking it with the air-space around the nest are clearly apparent.

The *Apicotermes* spp. construct no surface structures which could be used to locate their concealed sub-terrestrial nests, hence the nests are normally extremely difficult to locate by deliberate searches for them. Since it was discovered in the K.N.P. that nests could readily be found by overturning boulders and stones, this technique has been widely applied during the course of survey expeditions, with most rewarding results. During the past three years it has been possible to record this genus from the Soutpansberg district, the K.N.P. sectors of the districts Sibasa, Pilgrims Rest and Nelspruit, as well as in the Barberton and Ingwavuma districts (Fig. 9).

It is clear that the genus *Apicotermes* extends Southwards from the tropics of Africa into the subtropics of the Republic where it is apparently confined to

the Sandveld sectors of the Northern and Eastern Transvaal and Northern Zululand.

(c) Genus *Coarctotermes* s.str.

The genus *Coarctotermes* Hgrn., in the restricted sense used in this paper, had not been recorded from the Republic of South Africa prior to 1959. All earlier records of this genus from within our borders should be referred to *Fulleritermes* gen. nov. In the restricted sense the genus *Coarctotermes* Hgrn. now holds only four valid named species, *C. clepsydra* Sjöst., *C. beharaensis* Cach. and *C. pauliani* Cach. from Madagascar, with a single species, *C. coarctatus* Sjöst., from Africa.

In August, 1959, Dr. J. H. Grobler collected from the Sandveld near Wambia in the vicinity of Punda Milia in the K.N.P. the first accession from within our borders which could be referred to *Coarctotermes* s. str. Since then the National Survey of Isoptera has produced additional accessions which have proved the presence of this genus in the districts Potgietersrus, Pietersburg, Soutpansberg, Lydenburg, Sibasa, Letaba, Pilgrims Rest, Nelspruit, Barberton and Ingwavuma, with an additional record for the Hlatikulu district of Swaziland. As is the case with *Apicotermes*, the tropical genus *Coarctotermes* appears to penetrate the Republic only into the sub-tropical Sandveld areas (Fig. 10). The Lebombo Mountains of the K.N.P., Swaziland and Zululand have yielded a rich harvest of accessions of this genus.

(d) Genus *Fulleritermes* gen. nov.

The new genus *Fulleritermes* consists of species which have hitherto erroneously been placed in the hold-all genus *Coarctotermes* Hgrn. s. lat. The following valid named species, all of them confined to the Ethiopian Region, are now transferred from the genus *Coarctotermes* Hgrn. s. lat. to *Fulleritermes* gen. nov.: *F. contractus* Sjöst., *F. mallyi* Full., *F. tenebricus* Silv., *F. suffuscus* Emers. and *F. brunneus* Noir.

Fuller (1922) recorded *F. contractus* Sjöst. from the De Wildt sector of the Brits district and Warmbaths in the Warmbad district of the Transvaal under the name "*Coarctotermes*" *contractus* Sjöst. In the same publication he recorded *F. mallyi* from the district Malmesbury, C.P., erroneously assigning the species to the genus *Tenuirostritermes* Hgrn. which is confined to the Nearctic and Neotropical Regions.

The National Survey of Isoptera has extended the known distribution areas of these two species considerably during recent years (Fig. II). *F. mallyi* extends along the coastal belt and mountains of the Cape Province from Namaqualand in the West to Malmesbury in the South-West. It

crosses the coastal mountain ranges into the Karroid interior as well, and has hitherto there been recorded from the districts Calvinia, Williston, Laingsburg, Ladismith, Beaufort West, Aberdeen, Willowmore and Uniondale.

The Northern species, *F. contractus*, extends through the Bushveld of the Northern and Western Transvaal to fade out in the Cape Province North of the Orange River in the districts Mafeking, Vryburg and Warrenton.

Only in the Sibasa district of the North-Eastern Transvaal are the genera *Coarctotermes* and *Fulleritermes* known to overlap in their distribution areas within our borders — intensive searches for *Fulleritermes* in the Letaba, Pilgrims Rest and Nelspruit sectors of the K.N.P. have hitherto yielded only negative results, although *Coarctotermes* is there well represented.

3. Preliminary Diagnosis of *Fulleritermes* Gen. Nov. :

(1) Species Included and Synonymy :

(a) *F. contractus* Sjöst.: Type species of genus.

Eutermes contractus, Sjöstedt 1913, p. 384 (Katanga: Welgelegen-Type).

Coarctotermes contractus (sic), Fuller 1922, p. 117, 119, 121 (Transvaal: De Wildt, Warmbaths).

Coarctotermes contractus, Sjöstedt 1926, p. 306, 355, 356.

Coarctotermes contractus, Snyder 1949, p. 310.

(b) *F. tenebricus* Silv. :

Eutermes tenebricus, Silvestri 1914, p. 44 (Guinea: Kakoulima-Type. South Nigeria: Olokomeji).

Coarctotermes tenebricus, Sjöstedt 1926, p. 355.

Coarctotermes tenebricus, Snyder 1949, p. 311.

Coarctotermes tenebricus, Sands 1957, pp. 5, 6, 16 (Sudan: Delamil).

Coarctotermes tenebricus, Sands 1957(a), p. 19.

(c) *F. mallyi* Full. :

Tenuirostritermes mallyi Fuller 1922, pp. 115, 119, 121 (Cape Province: Malmesbury-Type).

Eutermes mallyi Sjöstedt 1926, p. 310.

Coarctotermes mallyi, Snyder 1949, p. 311.

(d) *F. suffuscus* Emers.

Nasutitermes (*Coarctotermes*) *suffuscus*, Emerson 1928, p. 496 (Congo: nr. Yakuluku — Type).

Coarctotermes coarctatus, Sjöstedt 1926(a), imago, p. 160 (Congo: Dika, Mauda in Upper Uélé).

Coarctotermes suffuscus, Snyder 1949, p. 311.

(e) *F. brunneus* Noirot :

Coarctotermes brunneus, Noirot 1955, p. 150 (Angola: Leba-Type).

Coarctotermes brunneus, Weidner 1956, pp. 90-91 (Angola: Cùilo).

Coarctotermes brunneus, Sands 1957, pp. 6, 14 (N. Rhodesia: Abercorn).

Coarctotermes brunneus, Weidner 1961, p. 49 (Angola: Alto Chicapa).

(2) *Diagnosis of Genus Based on the Imago-Worker Mandibles :*

The soldier caste of species of the genus *Fulleritermes* is so close to that of *Coarctotermes* s. str. in superficial morphological characters that for many years taxonomists have lumped the two groups together in the hold-all genus *Coarctotermes* Hgrn. s. lat. In both both of these genera the sides of the head of the nasute soldier is constricted in the middle, with the result that it has a roughly fiddle-shaped outline when viewed from the dorsal aspect.

However, in so conservative a character as the dentition of the mandibles of the imago-worker castes there is so distinct and fundamental a difference between the two groups of species that there can be no doubt whatsoever that two genera are involved. The differences in dentition pattern are clearly illustrated in Fig. 12, and can be used as an infallible guide to recognition of the two genera.

In the left mandible of *C. clepsydra* Sjöst., generitype of the genus *Coarctotermes* s. str. (vide Ahmad, 1950, fig. 9), the fused first plus second marginal tooth is not separated from the third maginal tooth by a notch, the two being joined by a more or less evenly concave cutting margin. This same pattern is present in *C. beharaensis* Cach. from the Malagasy Region (Fig. 12A) and *C. coarctatus* Sjöst. from the Ethiopian Region (Fig. 12B).

In the left mandible of *F. mallyi* (Fig. 12C) and *F. contractus* (Fig. 12D),

on the other hand, there is a deep cleft separating the fused first plus second marginal tooth from a prominent third marginal tooth which has a long, backwardly-sloping anterior margin.

4. *Termitophiles from the K.N.P. :*

While collecting Isoptera in the K.N.P. a lookout was kept for termitocoles and termitophiles associated with the host termites. A unique staphilinid termitophile was taken in the mound of *Trinervitermes pretoriensis* Full. near Punda Milia. This was despatched for determination to Prof. Charles H. Seevers of the Chicago Natural History Museum, and has proved to be a new species of *Paracorotoca* Warren, which will be described and named by Seevers in due course.

In the Sandveld, approximately 36 miles North-West of Shingwidzi, a unique thysanurid was taken from the foraging pocket of *Hodotermes mossambicus* Hag. This appeared to be closely related to *Dinatelura afra* Silv. and *Dinatelura primitiva* Silvestri, both taken from the nests of *Microhodotermes viator* Latr. In Namaqualand. The specimen was posted to Dr. P. Wygodzinsky, Buenos Aires, Argentina, for determination and proved to be a new genus and species of Nicoletiidae (Thysanura), the descriptions of which were published by Wygodzinsky (1961) under the name *Ecnomatelura coatoni* gen. et sp. nov.

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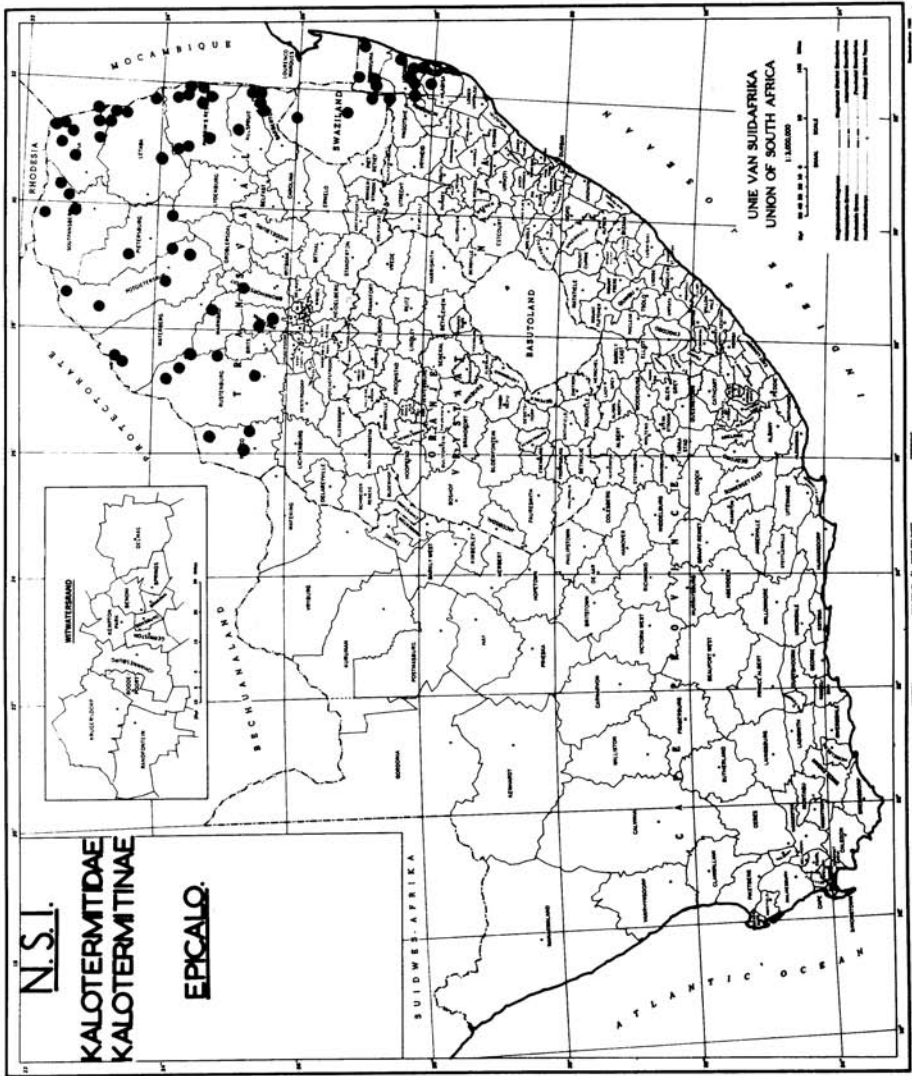


Fig. 1 : Known distribution in the Republic of S. Africa of the genus *Epicalotermes* Silv.

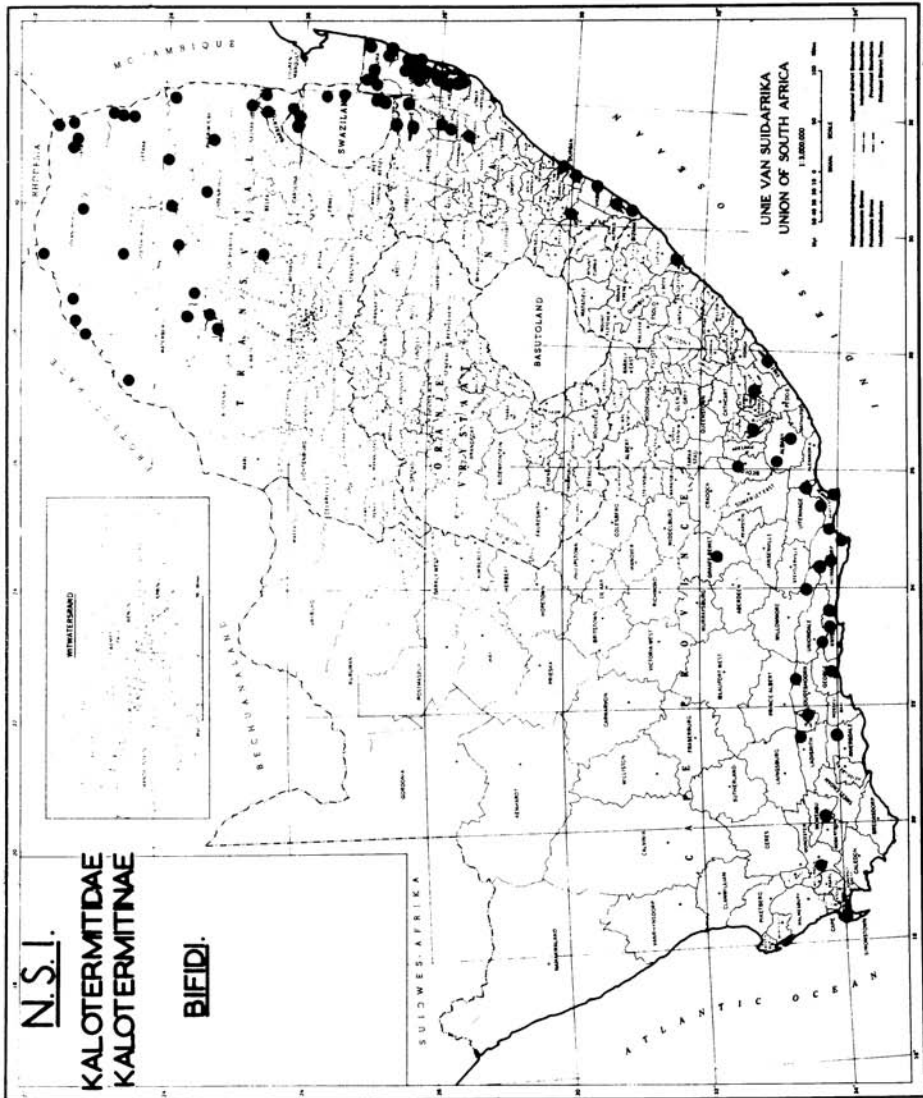


Fig. 2: Known distribution in the Republic of S. Africa of the genus *Bifiditermes* Krish.

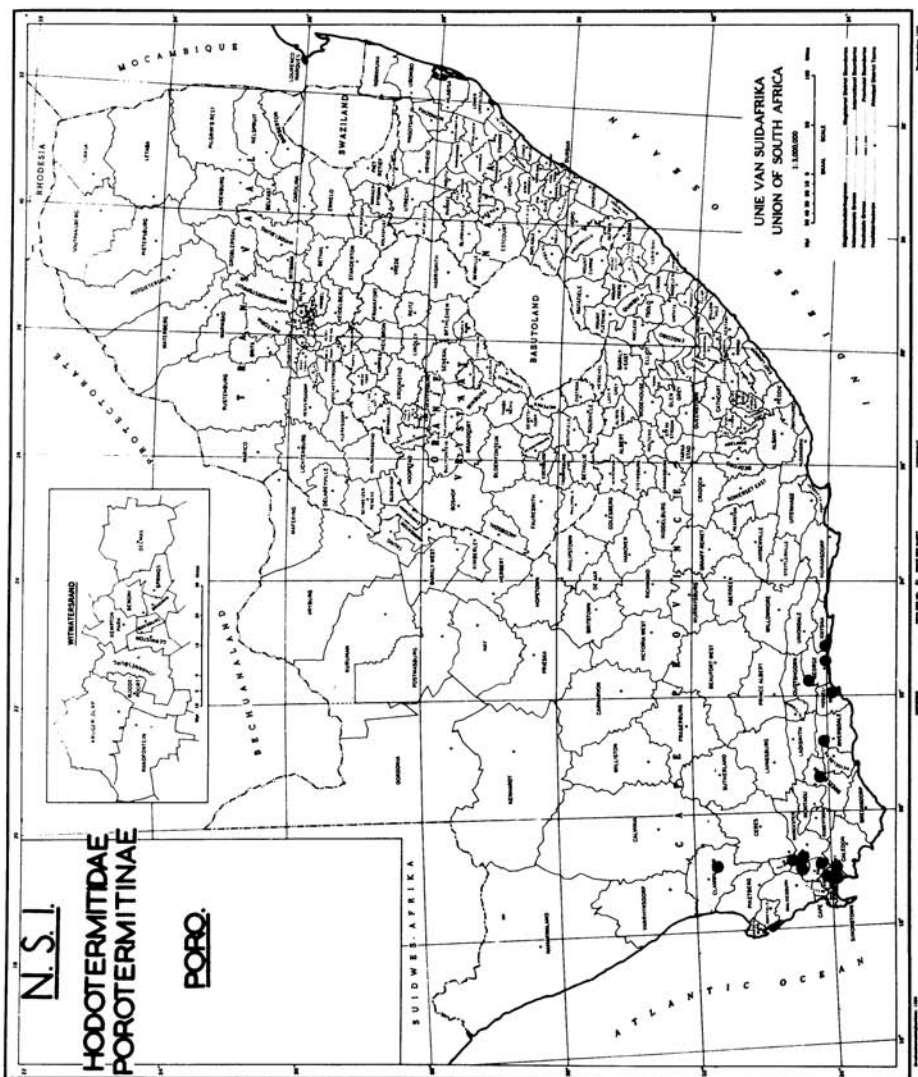


Fig. 4: Known distribution in the Republic of S. Africa of the genus *Porotermes* Hag.

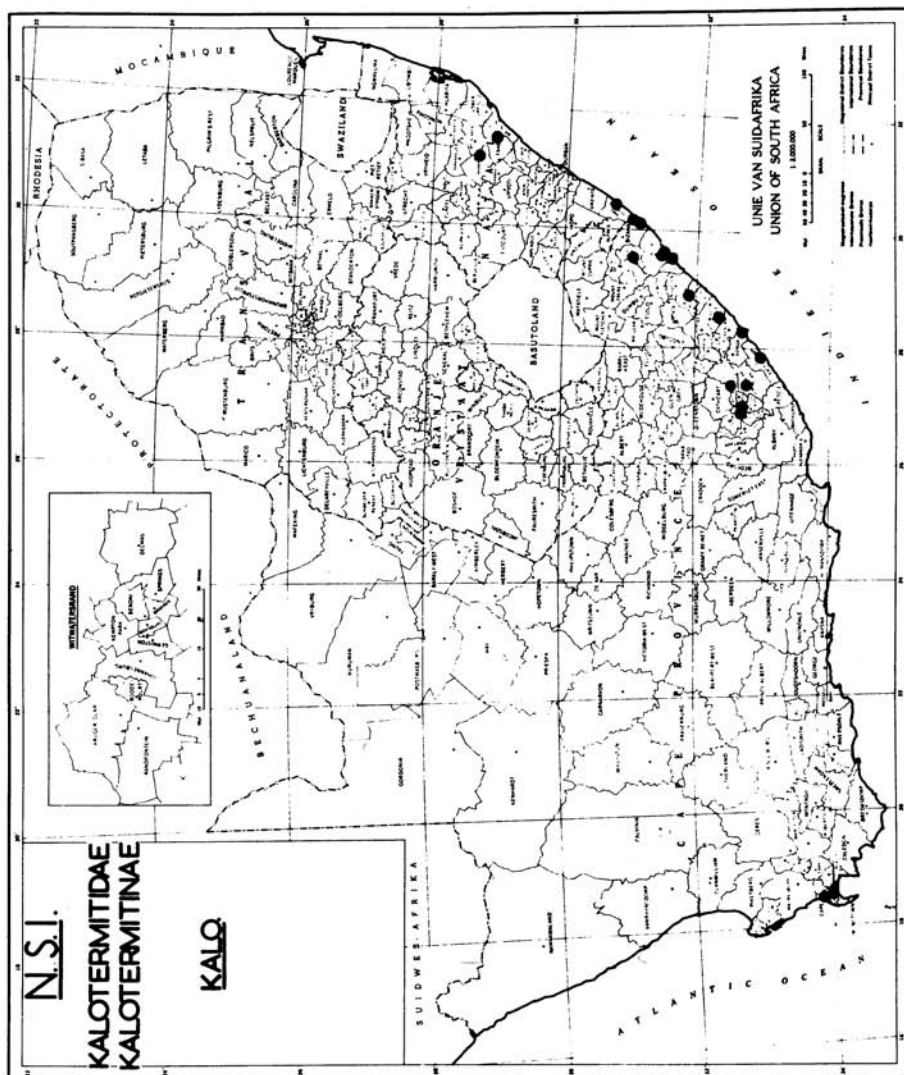


Fig. 5: Known distribution in the Republic of S. Africa of the genus *Kaloterмес* Hag.

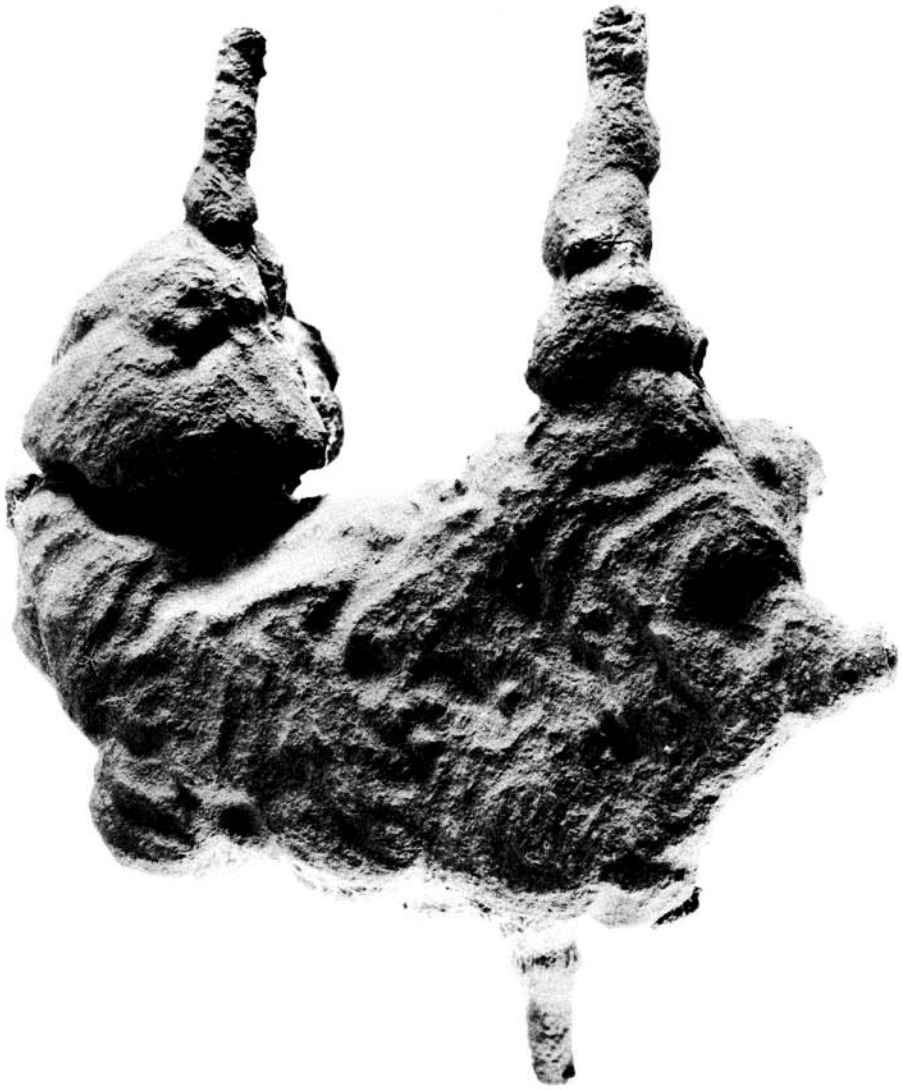


Fig. 7 : Roof of nest of *Apicotermes n. sp.* taken in the vicinity of Punda Milia, K.N.P.

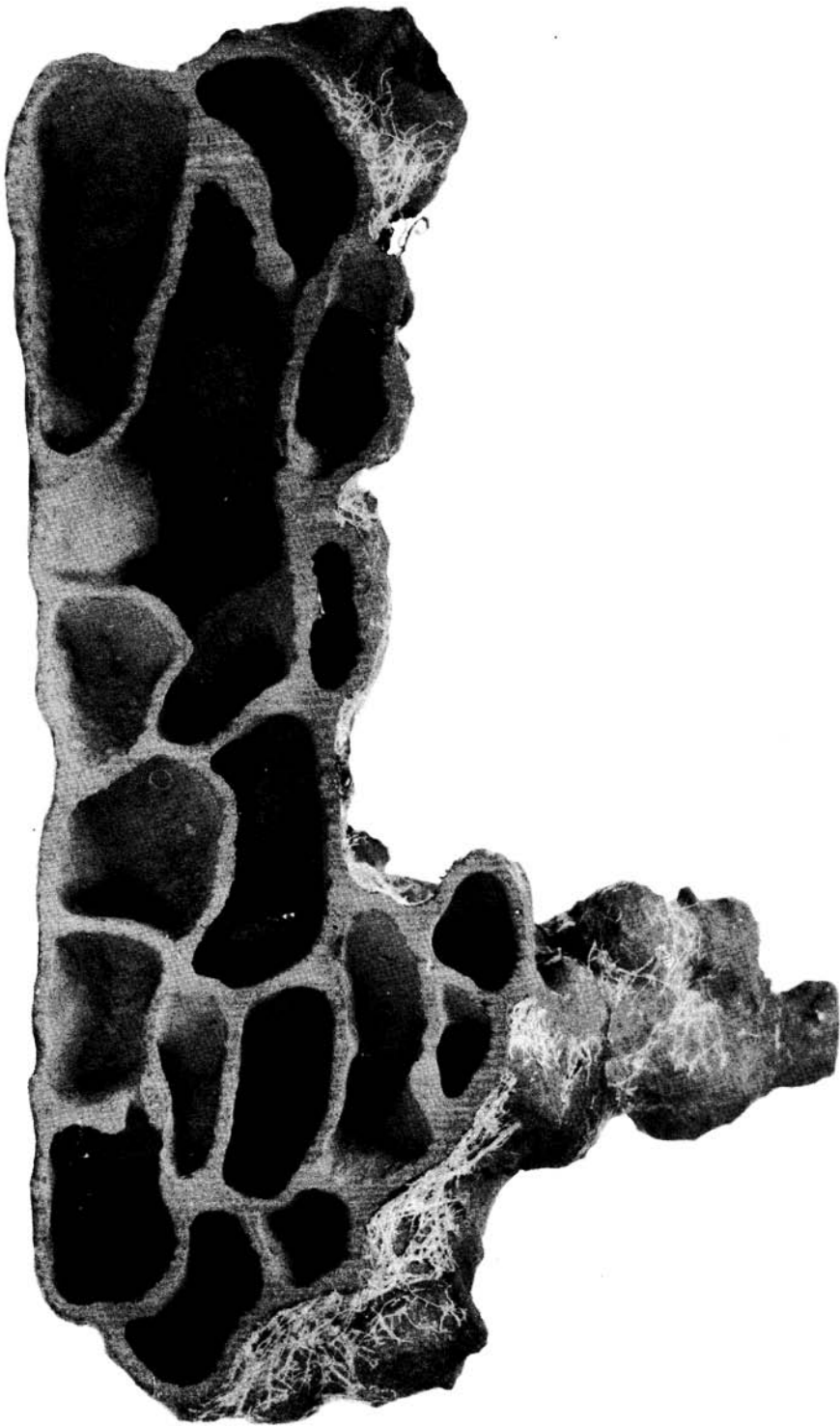


Fig. 8 : Vertical section through the nest of *Apicotermes n. sp.* shown in Fig. 7 to reveal the cellular interior.

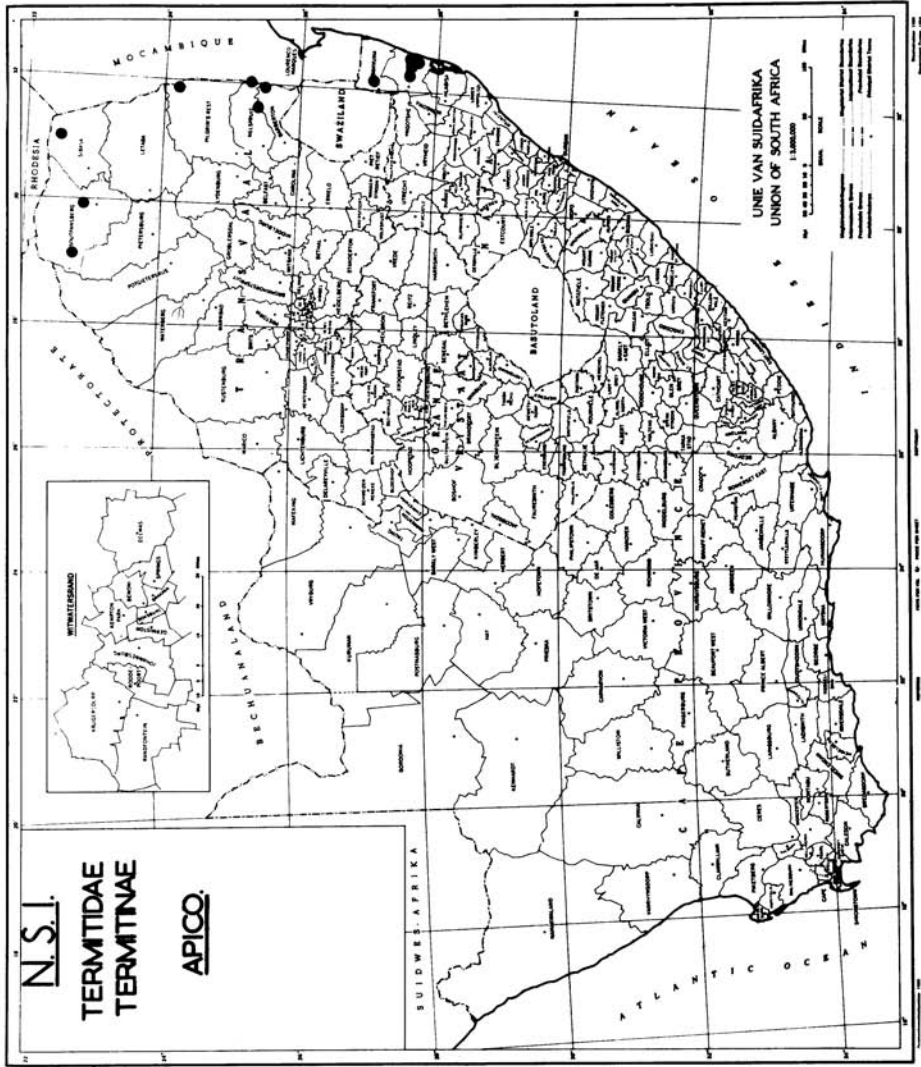


Fig. 9: Known distribution in the Republic of S. Africa of the genus *Apicotermes* Hgrn.

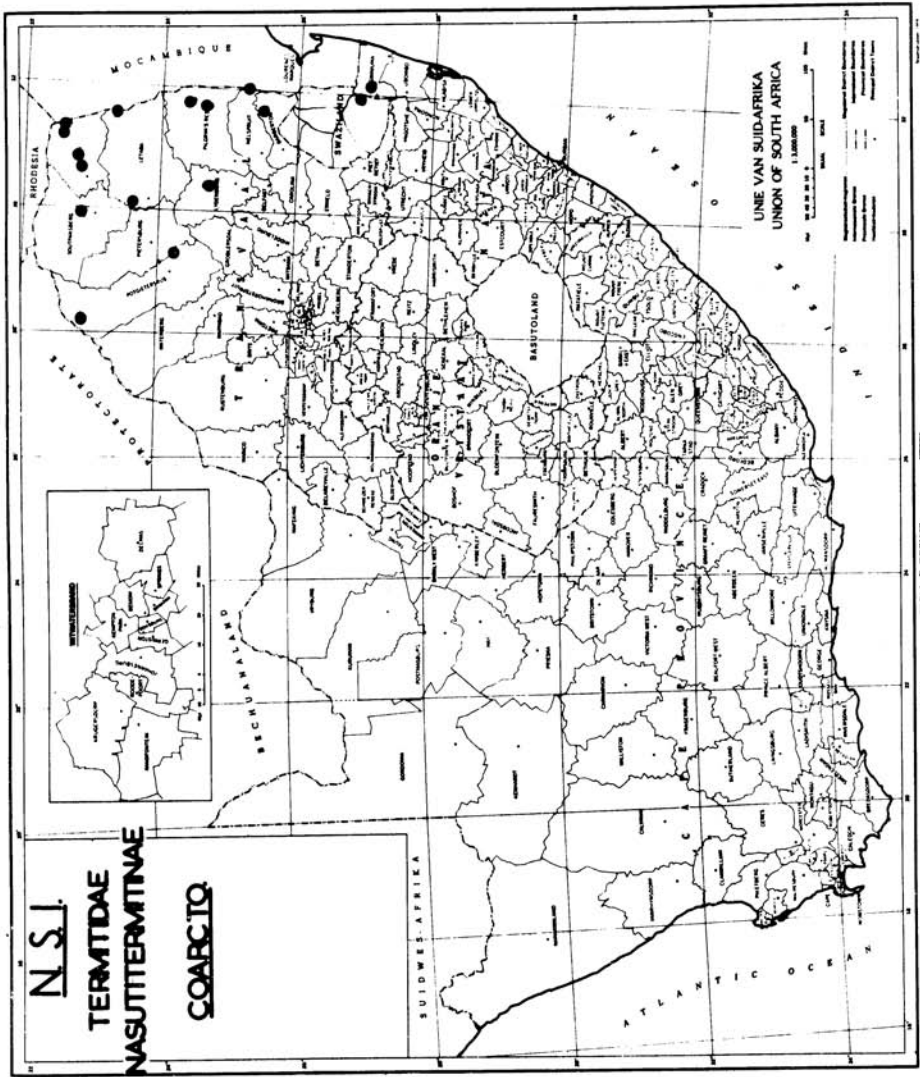


Fig. 10: Known distribution in the Republic of S. Africa of the genus *Coarctotermes* Hgrn. s. str.

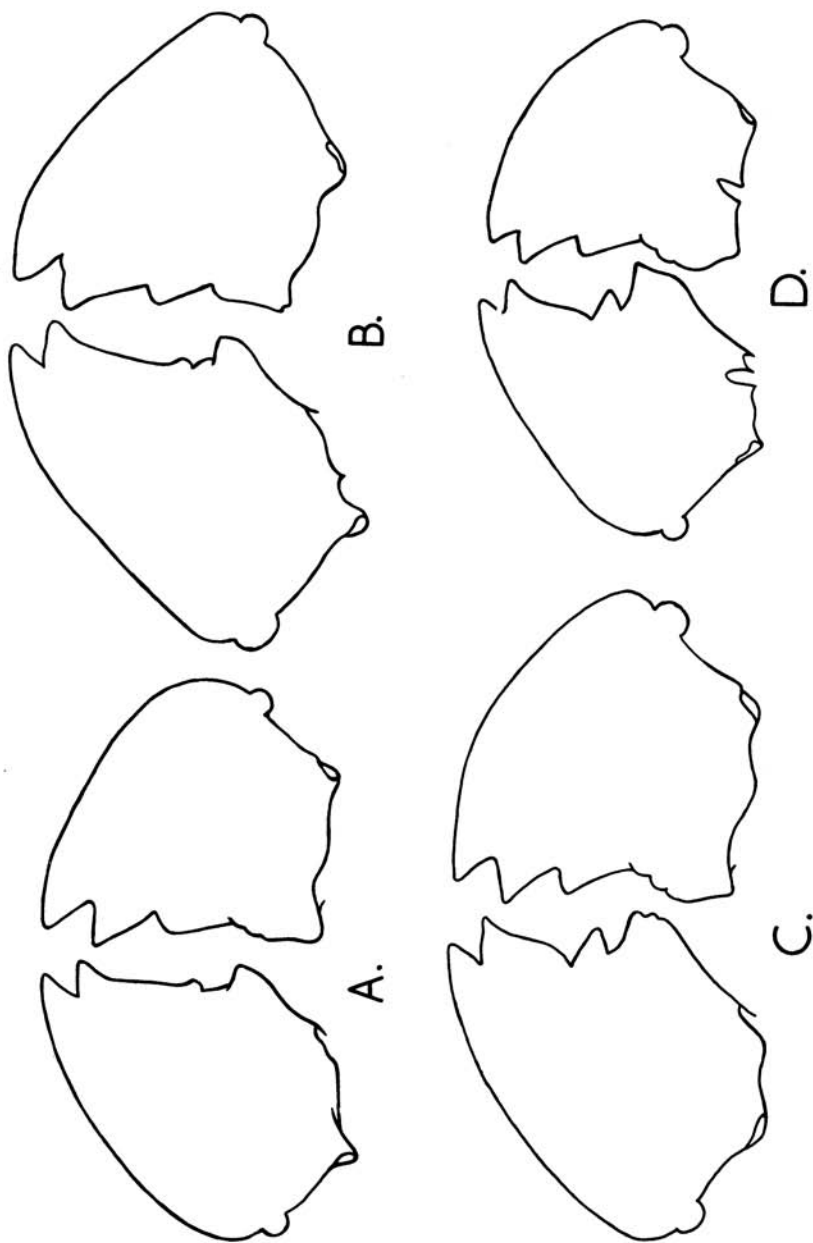


Fig. 12: Mandibular dentition of the imago-worker castes of: A: *Coarctotermes beharaensis* Cach. B: *Coarctotermes coarctatus* Sjöst. C: *Fulleritermes mallyi* Full. D: *Fulleritermes contractus* Sjöst.