ANTS OF THE NIGERIAN FOREST ZONE (HYMENOPTERA: FORMICIDAE) PART I PONERINAE, CERAPACHYINAE, PSEUDOMYRMECINAE

Ar illustrated guide to worker caste

Ву

Brian Taylor
Entomologist
International Black Pod Research Project*
Cocoa Research Institute of Nigeria.
Gambari Experimental Station,
P. M. B. 5244, Ibadan, Nigeria.

*sponsored by The Cocoa, Chocolate and Confectionery Alliance, International Office of Cocoa and Chocolate and the Cocoa Research Institute of Nigeria.

Printed at the CRIN Internal Printing Unit and published by Cocoa Research Institute of Nigeria Gambari Experimental Station P. M. B. 5244, Ibadan. July 1976.

CONTENTS

				Page
	SYNO	PSIS	878	1
	INTR	ODUCTION		1
	NOME	NCLATURE AND GLOSS	ARY	3
	REFE	RENCES		6
	SUBF	AMILY PONERINAE		7
	Tribe	PLATYTHYREINI		9
	Genus	Platythyrea	#7.50 PH. 43	9
	Tribe	ODONTOMACHINI		11
	Genus	Odontomachus		11
	Genus	Anochetus		13
	Tribe	PONERINI		17
	Genus	Bothroponera		17
	Genus	Brachyponera		19
	Genus	Centromyrmex		19
	Genus	Hypoponera		21
	Genus	Leptogenys		23
	Cenus	Mesoponera		25
	Genus	Paltothyreus		27
1	Genus	Plectroctena		29
-	Genus	Psalidomyrmex		31
100	Genus	Trachymesopus		31

Subfer	mily CERAFACHYINA	AE.				33
Tribe	CERAPACHYINI					33
Genus	Cerapachys					33
Genus	Phyracaces					35
Subfar	nily PSEUDOMYRME	CINAE				37
Tribe	PSEUDOMYRMECINI					37
Genus	Pachysima			• • •		37
Genus	Viticicola					37
Genus	Tetraponera		1		3.	39

SYNOPSIS

This volume is the first in a short series of illustrated guides to the worker caste of ants of the Nigerian forest zone. The sub-families of ants covered in this volume are the Ponerinae, Cerapachyinae and Pseudomyrmecinae.

INTRODUCTION

The problem of identifying insects in the tropics is widely recognised and the ants (Hymenoptera: Formicidae) are no exception to this problem. In recent years increasing attention has been given to the important role that ants, as the most abundant predatory group of insects, play in the overall pattern of insects and other invertebrates within almost all terrestrial and arboreal ecosystems. The importance of tree crops in the economy of Nigeria is undoubted and ants should not be overlooked in studies of pests and diseases of these crops.

Recently I have been involved in a study of the possible role of ants in the spread of black pod disease of cocoa. My staff and I have made extensive collections of ants at the Cocoa Research Institute of Nigeria, Gambari Experimental Station, and elsewhere in the cocoa growing areas of western Nigeria. I have differentiated some 150 species nearly 100 of which were found foraging or nesting in or on cocoa trees. Although the ant collection in the entomology museum at CRIN is the most comprehensive in Nigeria and contains nearly 160 species from 51 genera, I have been unable to recognise over 50 of my species. Moreover many of the species in the CRIN collection are labelled sp. 1, sp. 2, sp. A, sp. B, etc. My additional species I have labelled sp. T1, sp. T2, etc. The generic status of the CRIN collection and my own collection is correct as understood by modern taxonomists. This is because Bolton, who as a member of the International Capsid Research Team was based at Gambari in 1969 and is largely responsible for the relatively good state of the CRIN collection, has produced keys to the genera of West African ants (Bolton 1973a). These keys are essential for anyone working on West African ants.

Up to date taxonomic keys exist for only a few genera and Bolton is the author of several of these (e.g. on Polyrhachis 1973b, Cataulacus 1974a, Plectroctena 1974b, Leptogenys 1975a and Psalidomyrmex 1975b). Prior to the new era of work by Bolton one has little recourse but to turn to the monographic "Ants of the Belgian Congo" written by Wheeler in 1922.

The purpose of this Technical Bulletin is not to formally describe and name the ants of the Nigerian forest zone but to provide an illustrated field guide to those species present in the CRIN collection and additional species collected by me. The Bulletin will be produced in sections primarily because of the time and labour involved in making the drawings of the over 220 species involved.

For each species illustrated brief descriptive notes will be given together with the following measurements: Total length TL; Head length HL; Head width HW; Scape length SL; and Pronotal width FW. It is hoped that this Bulletin will serve as an interim means of standardising the identification of ants collected in the Nigerian forest zonc. Those specific names which are definitive are indicated as such by giving the name of the original author e.g. Platythyrea conradti Emery. As, hopefully, more definitive names become available supplements will be issued to this Bulletin to enable the correct names to be inserted. The taxonomic order followed within the subfamilies is that adopted by Bolton (1973a). Mr. Bolton has assisted me with the nomenclature by providing unpublished information.

The illustrations are of specimens mounted on card points as seen under a WILD M5 stereomicroscope filted with a camera lucida type drawing tube and using incident illumination from a WILD low voltage source. The original drawings are in black indian ink on art paper. The magnification chosen for any one species is generally such that the whole ant can be seen filling a single field of vision.

NOMENCLATURE AND GLOSSARY

The labelling of the body parts in the drawings on page 1 and the glossary given below are based partly on Bolton (1973a) and Bolton and Collingwood (1975).

Acidopore

A circular or subcircular orifice formed by the apex of the hypopygium (last visible gastral sternite) in the subfamily Formicinae, the orifice of the acid-producing glands.

Antennal scrobe

A longitudinal depression in the side of the head, either above or below the eye, which can accommodate the scape or the whole of the antenna.

Carina (te)

Ridge (ridged or furnished with a raised line or keel).

Clavate

Clubbed or enlarged at the tip

Crenulate

Finely notched or scalloped

Denticulate

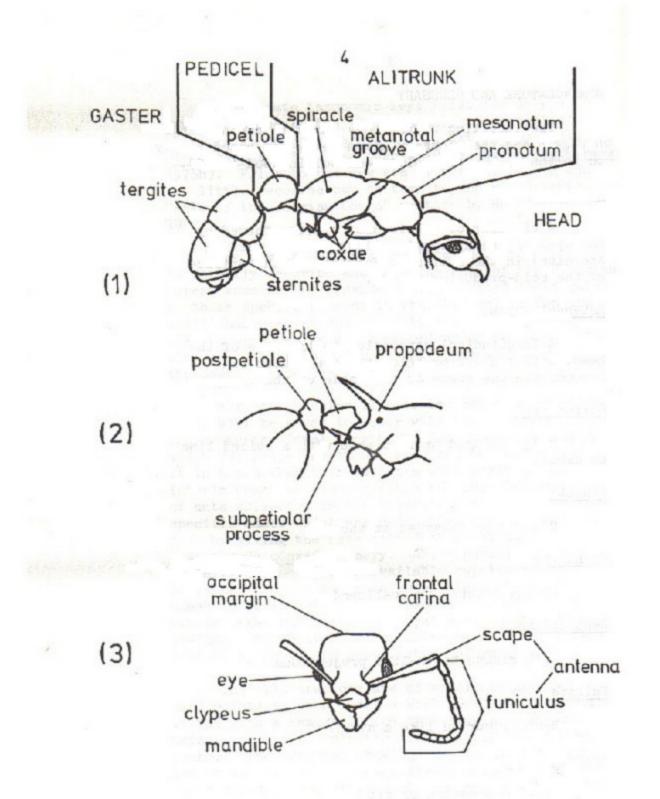
With minute tooth-like projections

Falcate

Bent or curved like a sickle

Fovea

Small depression or pit



Principal body parts of worker caste:
(1) lateral view & (3) head of a Ponerine;
(2) pedicel area of a Myrmicine.

Gena

The cheek

Geniculate

Abruptly bent, elbowed

Gula (r surface)

The median underpart of the head

Lamella

Leaf - like plate was A

Pectinate

With branches like a comb

Pilosity

Hairiness (esp. covered with soft, flexible hair)

Pygidium

The last visible gastral tergite

Reticulate

Meshed, like network

Rugose

Marked by rugae or wrinkles

Squamiform

Having the shape of a scale

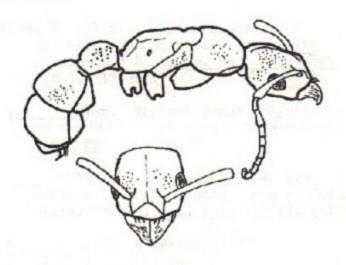
Trifid

Split in three by deep clefts as notches

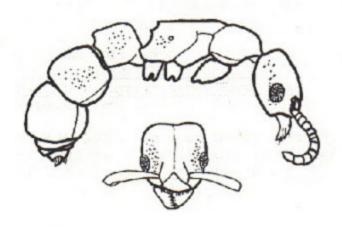
REFERENCES

- Bolton, B. 1973a. The ant genera of West Africa: a synonymic synopsis with keys (Hymenoptera: Formicidae) Bull. Br. Mus. nat. Hist. (Ent.) 27(6), 317-368.
- 1973b. The ant genus <u>Polyrhachis</u> F. Smith in the Ethiopian region (Hymenoptera: Formicidae) <u>Ibid.</u> 28(5), 283-369.
- arboreal ant genus Cataulacus F. Smith (Hymenoptera: Formicidae), Ibid. 30(1), 1-105.
- Plectroctena F. Smith (Hymenoptera: Formicidae)

 Ibid. 30(6), 309-338.
- 1975a. A revision of the ant genus
 Leptogenys Roger (Hymenoptera: Formicidae)
 in the Ethiopian region. Ibid. 31(7), 235-305.
- ant genus Psalidomyrmex André (Hymenoptera: Formicidae). Ibid. 32(1), 1-16.
- Bolton, B. and Collingwood, C.A. 1975. <u>Handbooks for</u>
 the Identification of British insects. Vol. VI,
 Part 3(c), <u>Hymenoptera: Formicidae</u>. Royal
 Entomological Society of London, 34pp.
- Wheeler, W.M. 1922. Ants of the American Museum Congo Expedition. A contribution to the myrmecology of Africa. Bull. Am. Mus. nat. Hist. 15, 1-1139.



Platythyrea conradti ×7.5



Tribe PLATYTHYREINI

Genus Platythyrea Roger

Diagnostic features

Entirety of head, alitrunk, pedicel, gaster and appendages with very fine shagreening and with scattered larger, shallow punctures. All surfaces covered by an extremely fine dense pubescence and deviod of standing hairs. Two pectinate spurs on end of the middle and hind tibiae and a median tooth on the pretarsal claws. Alitrunk with promesonotal sture distinct, the metanotal obsolete or absent.

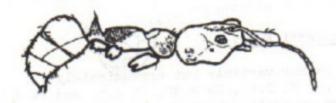
P. conradti Emery

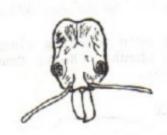
Size rather variable but approximately; TL 12.5, HL 2.55, HW 2.30, SL 2.55 and PW 1.87 Colour generally black but with dull grey appearance due to dense pubescence, extremities red-brown. No denticles on propodeum or peticle.

Fairly commonly seen foraging singly on cocoa trees and surrounding shrubs. Nests found in dead branch ends and crevices.

P. modesta Emery

TL 6.60, HL 1.34 HW 1.15, SL 1.03 and PW 0.95 Colour generally black, shiny with grey pubescence, extremities red-brown. Eye ovoid with flattened anterior edge. Posterior edge of propodeum with pair of small teeth. Posterior edge of petiole with paired lateral teeth and a single central dorsal tooth. Uncommon arboreal species I have recorded twice on cocoa.





Odontomachus troglodytes ×7.5

Tribe QDONTOMACHINI

Cenus Odontomachus Latreille

Diagnostic features

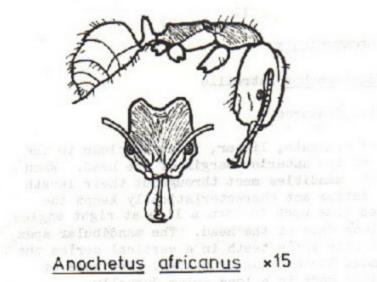
Mandibles elongate, linear, inserted close to the midline of the anterior margin of the head. When closed the mandibles meet throughout their length but the active ant characteristically keeps the mandibles wide open to form a line at right angles to the long axis of the head. The mandibular apex is armed with three teeth in a vertical series the dorsal most tooth being truncated. The node of the petiole ends in a long spine dorsally.

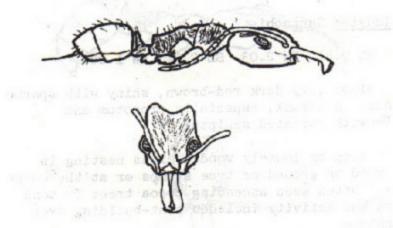
O. troglodytes Santschi

TL 10.0 HL 2.41 HW 2.03 SL 2.22 PW 1.08

Overall colour very dark red-brown, shiny with sparse pubescence. Alitrunk, especially pronotum and propodeum, with striated sculpture.

Common in open or loosely wooded areas nesting in rotting wood on ground or tree stumps or at the base of trees. Often seen ascending cocoa trees to tend Homoptera and activity includes tent-building over the Homoptera.





Anochetus bequaerti ×15





Anochetus jonesi ×15

Genus Anochetus Mayr

Diagnostic features

Similar to Odontomachus but apical mandibular armament with dorsalmost tooth acute and the petiolar node not ending in a spine dorsally.

A. africanus

TL 5.7 HL 1.24 HW 1.24 SL 1.24 PW 0.68

Overall colour castaneous, legs yellow, shiny.
Dorsum of head finely striate, alitrunk striate,
coarser on propodeum, meso- and metanotal grocves
distinct. Apex of petiolar node emarginate with two
blunt teeth. Eyes moderately large, length 0.19 mm.

Collected from soil and debris aggregations in crevices of mature cocoa trees; and from a rotten log by Bolton.

A. bequaerti

TT. 4.55 HL 1.00 HW 1.00 SL 1.00 FW 0.59

Overall colour castaneous, lighter on head, legs pale yellow, shiny. Dorsum of head finely striate, alitrunk finely rugose. Apex of petiolar node transversely rectangular. Eyes large, length 0.25 mm.

Collected from rotten log by Bolton.

A. jonesi

TL 3.93 HL 0.93 HW 0.93 SL 0.78 PW 0.17

Overall colour yellow-brown, shiny. Head sparsely punctate with sparse pubescence, pronotum sparsely punctate, propodeum lightly rugose with pair prominent lateral teeth. Petiolar node a scale with slightly concave apex. Eyes small, length 0.08 mm.

Collected from cocoa leaf litter by Bolton.



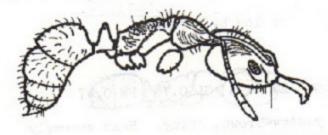


Anochetus pellucidus ×15





Anochetus punctatus ×15





Anochetus species 1. ×15

A. pellucidus

TL 5.07 FL 1.09 HW 1.09 SL 1.09 PW 0.59

Colcur golden yellow shiny transparent cuticle. Head very finely striate, most noticeably on dorsum, alitrunk spiculate especially propodeum. Petiolar node a scale with transversely rectangular apex. Eyes large, length 0.28 mm.

Collected from debris in crevice of cocca tree.

A. punctatus

TL 3.30 HL 0.75 HW 0.68 SL 0.59 PW 0.44

Colour castaneous, head lighter, legs and mandibles yellow, shiny. Head sparsely punctate, alitrunk smooth except faint rugae on propodeum, allover sparse pubescence. Petiolar node a scale with ovoid apex. Eyes small, length 0.08 mm.

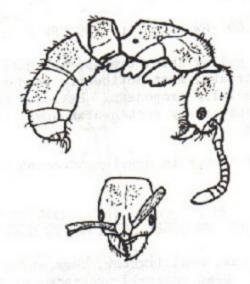
Collected from leaf litter by Bolton.

Anochetus species 1

TL 5.02 HL 1.09 HW 1.09 SL 1.09 PW 0.68

Colour very dark castaneous lighter on apices antennae golden-yellow, shiny. Head coarsely striate on dorsum, pronotum more or less longitudinally rugose, propodeum rugo-reticulate. Petiolar node a thick scale with apex bluntly concave, subpetiolar process rectangular. Eyes large, length 0.31 mm.

Collected from crevice of mature cocca tree containing vegetable debris, soil and arthropod remains.



Bothroponera silvestrii ×15





Bothroponera species in nasica group ×15

Tribe PONERINI

Genus Bothroponera Mayr

Diagnostic features

Medium to large ants, usually quite coarsely sculptured and black in colour, occasionally dark brown or deep red-brown. Mandibles dentate, with six or seven teeth, sometimes reduced to four or five. Alitrunk with promesonotal suture present, mobile, metanotal absent. Petiole thick and nodiform. Middle and hind tibiae each with a large pectinate and a small simple spur.

B. silvestrii

TL 5.32 HL 1.18 HW 1.03 SL 0.93 PW 0.81

Overall colour very dark red-brown, lighter on extremities. Generally finely punctate, coarser on gaster, overall relatively dense pilosity.

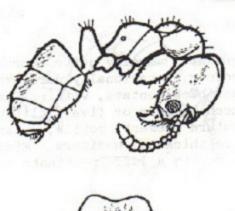
Collected from nests in dead log, rotting wood and in ground under old treee stump.

Bothroponera species in masica group

TL 6.02 HL 1.37 HW 1.06 SL 1.06 PW 0.81

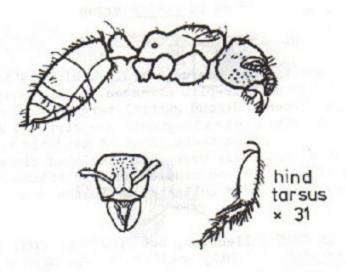
Colour red-brown. Coarse overall sculpturation of large fovea or hair-pits arranged in longitudinal parallel lines. Second gastral tergite vaulted so that remaining gastral segments are directed anteriorly. Mandibles with five teeth, apex of mandible prolonged so that apices cross over when mandibles closed. Small simple spurs on middle and hind tibiae much reduced. Specimens collected by Bolton from rotting wood.

Also in CRIN collection, but specimens from Ghana; B. sjostedti, slightly smaller, brown, more coarsely punctate and with more erect hairs; and B. soror, larger, TL 8.0, similar colouration and sculpturation to silvestrii.





Brachyponera sennaarensis ×15



Centromyrmex sellaris ×15

Genus Brachyponera Emery

Represented by a single species in West Africa

B. sennaarensis (Mayr)

TL 5.26 HL 1.24 HW 1.40 SL 1.09 PW 0.93

Overall colour black, deep red-brown on appendages. Mandibles with distinct oval pit or fovea on dorso-lateral surface. Eyes quite large, maximum diameter greater than maximum width of antennal scape. Promesonotal suture distinct and metanotal groove distinct and deeply impressed. Propodeum narrow in dorsal view than pronotum. Petiole a thick scale, gaster weakly impressed betweeen first and second segments. Extremely finely and densely punctate everywhere.

Essentially a savannah species but penetrates the forest zone bordering on savannah. Nests directly into insolated soil.

Genus Centromyrmex Mayr

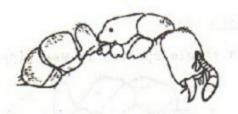
A single West African species

C. sellaris Mayr

TT. 5.32 HL 1.06 IN 0.93 SL 0.68 PW 0.78

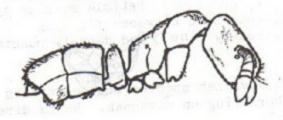
Colour golden brown, shiny with sparse erect hairs. Mandibles strongly down curved, eyes absent, head coarsely punctate. Pro- and mesonotum flat dorsally, pronotum strongly margined anteriorly and laterally. Metanotal groove absent, prododeum pinched in concave dorsally at mid length, posteriorly convex with almost straight vertical declivitous face. Coxae large especially of anterior legs; tarsi of all legs with numerous down curved spines and stiff setae. Apical tibial spurs of midlegs both small and simple, hind tibiae with one large pectinate and one simple spur.

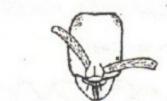
A subterranean ant usually found with termites either in or under rotten logs, sometimes in outer galleries of termite mounds.



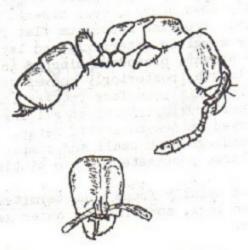


Hypoponera camerunensis × 31





Hypoponera lea ×3



Hypoponera punctatissina ×31

Genus Hypoponera Santschi

Diagnostic features

Small ants, usually yellowish brown in colour. Mandibles armed with three or four teeth apically usually followed by a series of denticulae. Eyes reduced, usually present but absent in a few species. Middle and hind tibiae each with a single pectinate spur. Sculpture usually of fine dense puncturation.

H. camerunensis

TL 1.99 HL 0.47 HW 0.39 SI O. 34 PW 0.28

Colour yellow-brown, shiny with relatively dense pilosity. Eyes absent.

Collected from soil in crevices of cocca tree (with H.lea)

H. lea

TI, 2.46 IIL 0.62 HW 0.50 SL 0.47 PW 0.34

Colour dark yellow-brown, shiny with relatively dense pilosity. Eyes small.

Collected on cocoa trees, in erevices and in ground at base of trees.

H. punctatissina

TL 2.46 HL 0.58 HW 0.47 SL 0.39 . PW 0.34

Colour dark yellow-brown, shiny with dense pilosity. Eyes absent. Metanotal groove distinct.

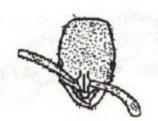
Collected in old tree stump, dead wood and soil, some 5 to 7 cm. deep.





Leptogenys elegans ×15





<u>Leptogenys stygia</u> ×15 (head ×31)

Genus Leptogenys Roger

Diagnostic features

Mandibles of varying shape, may be elongate, linear and curved, or short and quite broad but always more or less edentate, with only one or two teeth situated apically. Mandibles articulated at extreme corners of anterior margin of head. Median portion of clypeus carinate, produced anteriorly into a lobe or point. Lobes of frontal carinae small usually only partially covering the condylar bulbs of the antennal scapes in dorsal view. Middle and hind tibiae each with one large spectinates and one small simple spur. Claws pectinate, incompletely so in some species. Gaster weakly impressed between first and second segments.

L. elegans Bolton

TI. 4.5 - 4.9 HL 0.96 - 1.02 HW 0.68 - 0.72 SL 0.89 - 0.94 PW 0.58 - 0.62

Colour black, extremities yellow-brown, shiny. Coarsely sculptured with fovea smaller on head than elsewhere on body.

Collected by Bolton from stump of a rotten tree branch.

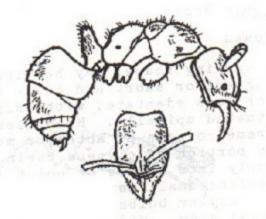
L. stygia Bolton

TL 3.0 - 3.2 HL 0.68 - 0.74 HW 0.48 - 0.52 SL 0.54 - 0.58 PW 0.38 - 0.42

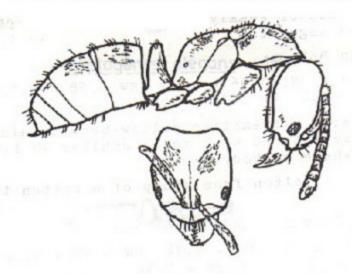
Colour dark red-brown to black, lighter en extremities, yellow antennal funiculi, shiny. Propodeum and lateral metanotum with rugulose sculpture, gaster smooth except for minute hairpits. Hair-pits most pronounced on head, eyes small.

Collected by Bolton under fallen banana stem in a small piece of wet-rotten wood.

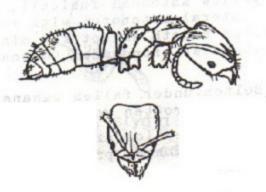
Also in the CRIN collection are specimens of L. zapyxis Bolton but these probably originated from C.R.I. Ghana.



Mesoponera ambigua ×15



Mesoponera caffraria ×15



Mesoponera species T1 ×7.5

Genus Mesoponera Emery

Diagnostic features

Mandibles triangular or elongate triangular, usually with more than eight teeth. Clypeus longitudinally carinate, may project anteromedially as a short tooth. Promesonotal suture present, metanotal groove present and impressed. Propodeum compressed above, considerably narrower in dorsal view than the pronotum. Petiole a thick scale. Middle and hind tibiae each with two spurs, one large and pectinate, the other small and simple. Sculpture of fine dense puncturation.

M. ambigua

TL 6.02 HL 1.18 HW 0.96 SL 0.87 PW 0.75

Colour very dark red-brown, lighter brown on extremities, shiny, dense pilosity except on propodeum. Posterior face of propodeum concave; subpetiolar process with acute posterior angle.

Collected nesting in dried cocoa pod on ground and on ground and lower part of cocoa tree.

M. caffraria

TL 6.97 - 7.66 HL 1.68 - 1.87 HW 1.43 - 1.59 SL 1.24 - 1.40 PW 1.09 - 1.18

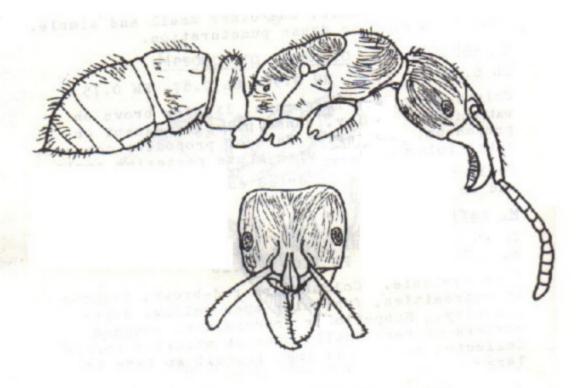
Size variable. Colour dark red-brown, lighter on extremities, funicular apex yellow, dense pilosity. Subpetiolar process with rounded corners or very small tooth at anterior corner. Collected under dead log, in soil at base of large tree.

Mesoponera species T1

TL 7.60 HL 1.93 HW 1.74 SL 1.40 PW 1.18

Colour nearly black, lighter on extremities, less pilous especially on head. Metanotal groove distinct, groove on lateral mesonotum distinct, subpetiolar process with small acute posterior curving tooth. Apical tooth of mandible blunt.

Nest found in rotting log on ground.



Paltothyreus tarsatus × 7.5

Genus Paltothyreus Mayr

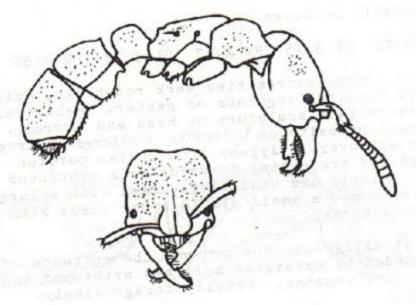
A monotypic genus with a single species, P. tarsatus (F)

Diagnostic features

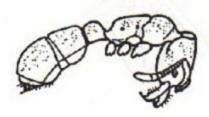
TL 18.13 HL 3.75 HW 3.67 SL 3.17 PW 2.66

Colour black, extremities dark red-brown, dull except terminal segments of gaster. Relatively coarse striate sculpture on head and alitrunk. Moderate pilosity on alitrunk, scattered coarse hairs all over. Clypeus with median portion raised and projecting forwards as a truncated lobe. Middle and hind tibiae each with a large pectinate and a small simple spur, claws with a median tooth.

Nest directly into the ground, the entrance often surrounded by excavated soil and arthropod and other food remains. Usually forage singly.



Plectroctena minor ×7.5





<u>Plectroctena macgeei</u> × 7.5

Genus Plectroctena F. Smith

Diagnostic features

Mandibles elongate, linear, weakly curved, with not more than two blunt teeth on the inner margin. Mandibular articulation associated with a marked excavation of the anterior margin of the head in front of the eye. Median portion of the clypeus reduced, vertical, the frontal carinae almost overhanging the anterior margin of the head in dorsal view. Eyes small to minute. Promesonotal suture distinct, metanotal groove faint or absent. Middle and hind tibiae each with a single pectinate spur. Two groups of species larger black P. mandibularis group and smaller, depigmented P. subterranea group.

P. minor Emery

TL 14.38 HL 3.23 HW 3.17 SL 2.15 PW 1.90

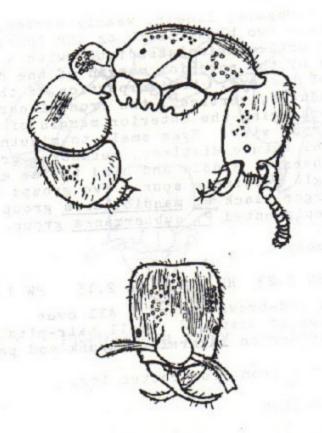
Colour dark red-brown, shiny. All over sculpturation of scattered small hair-pits, very faint striations on lateral alitrunk and petiole.

Collected by Bolton from rotten log.

P. macgeei Bolton

TL 9.50 HL 2.05 HW 1.87 SL 1.31 PW 1.24 Colour dark red-brown, shiny. All over scattered small hair-pits, fine striations on lateral alitrunk.

Collected from soil under log on ground. The holotype worker as described by Bolton (1974) is slightly larger (TL 10.8) and black in colour with legs and antennal scapes deep red-brown. However, Bolton's specimen was collected at CRIN, Gambari and it seems unlikely that I am dealing with a different species.



Psalidomyrmex foveolatus × 15



Trachymesopus brunoi ×15

Genus Psalidomyrmex E. André

Diagnostic features

Medium to large ants. Mandibles edentate to weakly toothed, varying in shape from subtriangular to falcate, always with the apex prolonged into a long, acute point. Basal mandibular groove distinct. Promesonotal suture distinct, mobile. Middle and hind tibiae with a single pectinate spur, claws simple. Basic sculpture of large shallow foveolae or pits, from each of which a single seta arises, interspaces between such pits usually finely striate.

P. foveolatus André

TL 8.42 HL 1.87 HW 1.65 SL 1.24 PW 1.03 Colour dark red-brown, shiny. Sculpturation as for genus. Mandibles subtriangular. Collected from soil at base of a cocoa tree.

Genus Trachymesopus Emery

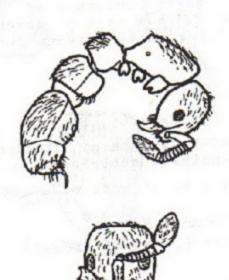
A single species T. brunoi (Forel) is known from West Africa

Diagnostic features

Mandibles triangular, dentate, basally with a distinct put or fovea on the dorsolateral surface. Clypeus carinate medially. Eyes small. Promesonotal suture distinct, metanotal groove present, very weakly impressed. Dorsum of propodeum narrower than that of pronotum. Middle and hind tibiae each with one large pectinate and one small simple spur. Sculpture of fine dense puncturation.

TL 4.75 HL 0.96 HW 0.93 SL 0.68 PW 0.68 Colour black, red-brown extremities and appendages, relatively dense pilosity all over.

Collected in soil and dead log by Bolton.



<u>Cerapachys</u> <u>cribrinodis</u> ×31

Subfamily CERAPACHYINAE

Diagnostic features

Pedical of a single segment, although constriction between first and second gastral segments may be very deep so that pedical is effectively two-segmented. Eyes usually present, may be minute or absent. Clypeus developed so that antennae insertions are some distance behind the anterior margin of the head, frontal carinae raised exposing the condylar bulbs of the anteunae. Dorsum of alitrunk devoid of autures. Pygidium impressed, armed laterally or posteriorly with spines or denticulae. Sting well developed, functional. X

Note: Bolton (pers. comm.) has informed me that the differentiation of the Cerapachylnae as a subfamily is unjustified and that the Tribes in the subfamily should be included in the subfamily Ponerinae. To avoid confusion when Bolton's (1973a) keys are used I have, however, retained the cerapachylnae as a subfamily in this guide.

Tribe CERAPACHYINI

Genus <u>Cerapachys</u> F. Smith Diagnostic features

Antennae 11 or 12 segmented, the apical funicular segment greatly swollen and forming a one-segmented club. Genus longitudinally carinate, eyes present. Petiole a distinct and massive node, gastral constriction may be extreme so that in some species there is a petiole and a postpetiole. Petiole never marginate laterally. Middle and hind tibiae with two spurs, claws simple.

C. cribrinodis

TL 2.83 HL 0.59 HW 0.47 SL 0.42 PW 0.34

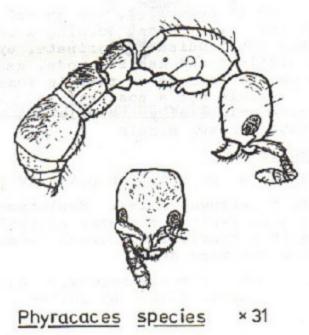
Colour dark red-brown, shiny. Sculpturation only of scattered hair-pits, coarsest on petiole, each hair-pit with a single long coarse seta. Gastral constriction not very deep.

Collected at base of cocoa tree and under log on ground, also in leaf litter by Bolton.

^{*}The genera Simopone Forel and Sphinctomyrmex Mayr are not represented in the CRIN collection.



Phyracaces langi × 31



Genus Phyracaces Emery

Diagnostic Peatures

Differing from <u>Cerapachys</u> in the following respects; antennae 12-segmented with apical three funicular segments forming a club. Node of petiole distinctly marginate laterally and often armed posterodorsally with a pair of teeth.

P. langi

TL 3.73 HL 0.78 HW 0.68 SL 0.39 PW C.50

Colour black, shiny. Extremities red-brown, orange tarsi. Sculpturation of longitudinal striations on alitrunk, less marked on lateral surfaces. Dorsum of petiole and first gastral tergite with large fovcolae. Remainder of gaster with small foveolae. Smooth areas on front of head, scattered small foveolae on remainder of head. Abundant coarse setae. Collected from leaf litter and on a cocoa pod growing at ground level.

Phyracaces species

TL 3.11 HL 0.62 HW 0.54 SL 0.34 PW 0.44

Colour black, shiny. Extremities red-brown. Sculpturation much reduced, minute foveolae on petiole and gaster. Sparse, coarse netae on head and alitrunk; abundant fine setae on petiole and gaster. Paired teeth on posterodorsal edge of petiole small. Collected by Bolton from twigin cocoa leaf litter.

Subfamily PSEUDOMYRMECINAE

Tribe PSEUDOMYRMECINI

Diagnostic features

Pedicel of two segments with the postpetiole distinctly separated from the gaster. Frontal carinae partially covering the antennal insertions Eyes well developed, usually large, ocelli often present. Clypeus not projecting back between frontal carinae. Tibial spurs of middle and hind legs pectinate. Claws usually toothed. Antennae always 12-segmented.

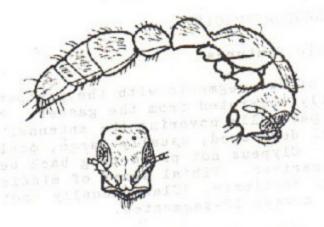
Three genera in West Africa

Genus Pachysima Emery

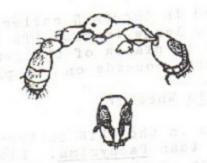
Not represented in the CRIN collection. Black ants, medium to large in size (TL 7 to 14 mm.) living usually in plants of the genus <u>Barteria</u> and tending large coccids on the plant.

Genus Viticicola Wheeler

Not represented in the CRIN collection. Similar to but smaller than <u>Pachysima</u>. Living only in the hollow stems of the liana, <u>Vitex staudtii</u> Guerke.



letraponera anthracina ×15



Tetraponera ophthalmica ×15



Tetraponera species × 7.5

Genus Tetraponera F. Smith

Diagnostic features

Slender, elongate ants with relatively short legs. Clypeus sometimes produced into a spine or armed with a row of teeth or with a crenulate anterior margin. Eyes larger than Pachysima or Viticicola, often occupying half the length of the side of the head. Ocelli variously developed often absent. Either the petiole alone with a ventral process or both segments of the pedicel without ventral processes.

Arboreal species nesting in hollow twigs and branches. Very active with rapid, jerky movements and abrupt changes of direction.

I. anthracina

TL 6.46 HL 1.18 HW 0.93 SL 0.62 PW 0.72

Colour dark red-brown, extremities orange, shiny but with dense very fine pubescence all over. Eye length 0.56 mm (0.47 of head length). Two ocelli. Relatively common on cocoa.

T. ophthalmica

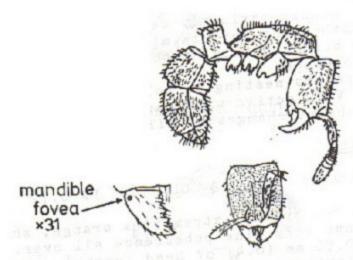
TL 4.08 HL 0.86 HW 0.53 SL 0.39 PW 0.36

Colour yellow, shiny almost transparent cuticle. Fine dense, pubescence restricted to gaster. Eye length 0.39 mm (0.45 of head length). No ocelli. Rarely collected on cocoa and cashew.

Tetraponera species

TL 9.31 HL 1.71 HW 1.40 SL 0.84 PW 1.12

Colour dark red-brown to black, orange extremities. Shiny but fine pubescence all over and abundant erect setae. Margination between dorsal and lateral alitrunk distinct with slight concavity of lateral surfaces. Eye length 0.78 mm (0.45 of head length). Two ocelli. Moderately common on shrubs and bushes, less so on cocoa.



Bothroponera sjoestedti ×15

Subfamily FONERINAE, Tribe FONERINI
Bothroponera sjoestedti

The 6.84 Hr 1.12 HW 1.00 St 0.75 PW 0.75

Colour red-brown. Erect setae moderately long,
relatively abundant. Pilosity short, dense tending
to obscure sculpturation. All over reticulopunctate,
dense and fairly coarse, except posterior face of
propodeum which is smooth and shiny. Propodeum
distinctly marginate laterally. Eye very small
recessed into head fairly close to anterior margin.
Mandibles with distinct basal dorsolateral fovea.

Found under rotting log with termites.