

Commonwealth of Australia

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

**CHARACTERIZATION OF THE AUSTRALIAN ENDEMIC ANT GENUS
PERONOMYRMEX VIEHMEYER (HYMENOPTERA: FORMICIDAE)**

By ROBERT W. TAYLOR

Reprinted from the Journal of the Australian Entomological Society,

Volume 9, pp. 209-211, December 31, 1970

CHARACTERIZATION OF THE AUSTRALIAN ENDEMIC ANT GENUS
PERONOMYRMEX VIEHMEYER (HYMENOPTERA: FORMICIDAE)

By ROBERT W. TAYLOR*

[Manuscript received July 31, 1970]

Abstract

The unique holotype of *Peronomyrmex overbecki* Viehmeyer is described and figured. This monotypic genus appears related to *Podomyrma* Fr. Smith.

INTRODUCTION

In 1922 Hugo Viehmeyer described the aberrant myrmicine ant genus *Peronomyrmex*, and its type-species *P. overbecki*, from a single worker specimen collected in northeastern New South Wales. The original description was inadequate and poorly illustrated, and has not been supplemented until now. Indeed, the *P. overbecki* holotype has evidently never received direct specialist attention since it was first described, and additional specimens have not become available for study.

Through the generosity of Dr. S. Königsmann of the Museum für Naturkunde, Humboldt-Universität, Berlin, I have been able to examine the *P. overbecki* holotype, which is redescribed below.

This work is part of a project investigating the status of various small or monotypic Australian ant genera, with the aim of producing a sound generic classification of the regional fauna. Like *Dorylozelus*, which I recently eliminated as a synonym of *Leptogenys*, most of the monotypic genera will probably prove spurious. *Peronomyrmex*, at present, however, seems best treated as a valid genus, for reasons detailed below.

Genus *Peronomyrmex* Viehmeyer

Peronomyrmex Viehmeyer, 1922, *Arch. Naturgesch.*, 88, Abt. A, 7: 212.

Type species: *Peronomyrmex overbecki* Viehmeyer l.c. p. 213, worker.

Type locality: Trial Bay, New South Wales. Monobasic.

Material examined.—The notes to follow are based on the holotype and sole known specimen of *Peronomyrmex overbecki*, which bears the following data: (1) two white labels in different handwriting with "*Peronomyrmex overbecki* Viehm."; (2) a white printed label reading "Coll Viehm"; (3) a red printed label reading "Typus"; (4) a large plain yellow label. There is no indication of the collection locality, collector, or other data. The original description gave these as: "Australien, N.S.W.: ein Stück aus dem Walde bei Trial Bay, (H. Overbeck)." Brown (1949) has questioned the collection localities of this and other species described by Viehmeyer.

Generic diagnosis, worker

Medium-sized myrmicine ants. Head a little longer than broad, slightly inflated posteriorly; occipital border strongly concave. Median area of clypeus inflated, lacking carinae, teeth or other ornamentation; lateral areas broad and raised, but not forming trenchant ridges. Frontal carinae extending back almost to corners of cranium and defining the upper edges of shallow antennal scrobes, which lie above the eyes and are not clearly delimited behind and below. Eyes large, situated just behind the midpoint of the head. Mandibles short, triangular, dental formula 2 + 3 or 4. *Palpal formula* 5 : 3. *Antennae* 11-segmented, without a segmentally differentiated club, apical segment as long as the three preceding together.

* Division of Entomology, C.S.I.R.O., Canberra, 2601, A.C.T.

Thorax as in Figures 2 and 3. Pronotal humeri tumose in dorsal view; promesonotal suture lacking on dorsum; metanotal groove distinct, without an associated incised suture; propodeal spines well developed; *metapleural spines lacking*; inferior propodeal plates small, unspecialised; propodeal spiracles circular. Legs, especially femora, strongly inflated; *middle and hind tibiae lacking apical spurs*; pretarsal claws simple. *Petiole and postpetiole inflated and extended dorsally as high turreted cones* which are somewhat compressed laterally and inclined posterodorsally at their apices. Gaster broader than deep; tergites extending laterally almost to ventral surface; anterior border in dorsal view broadly emarginate at midline; sting weakly developed.

Peronomymex overbecki Viehmeyer
(Figs. 1-3)

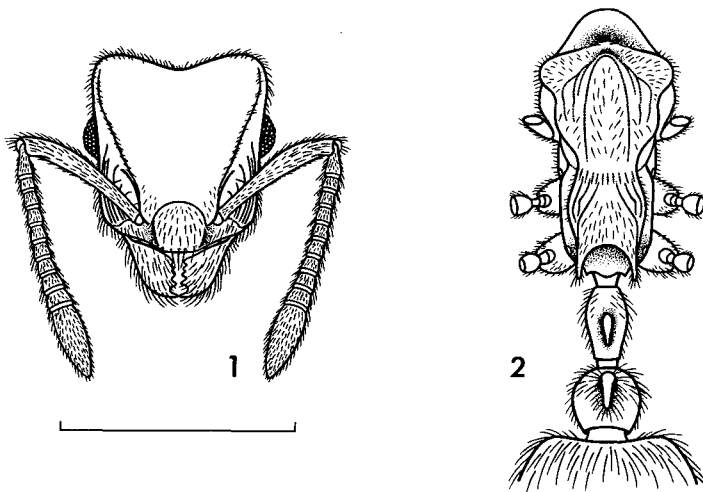
Redescription of worker holotype

General features as illustrated. Dimensions as follows: aggregate total length c. 4.1 mm; maximum head length 0.91 mm; maximum head width (behind eyes) 0.74 mm; maximum diameter of eye 0.19 mm; scape length 0.64 mm; cephalic index 81; scape index 87; width across pronotal humeri 0.59 mm; Weber's length of thorax 1.03 mm; dorsal petiole width 0.21 mm; maximum petiole height 0.58 mm; dorsal postpetiole width 0.30 mm; maximum postpetiole height 0.60 mm.

Clypeal disc, frons between frontal carinae, thorax, petiole, postpetiole and gaster generally shining, though virtually nowhere entirely smooth, but with a minute and very finely incised net or scale-like microreticulation. Superimposed macrosulpturation on various parts as follows: lateral areas of clypeus longitudinally striate, some striae curving below and behind antennal foveae. Sides of head, especially anterior to eyes, finely longitudinally striate-rugose. Lateral areas of thoracic dorsum finely and irregularly longitudinally striate. Propodeal declivity smooth and shining, transversely convex below propodeal spines. Sides of thorax with fragmentary and scattered longitudinal striae. Petiole and postpetiole lacking macrosulpture, gaster relatively shining, microreticulate, with scattered minute blister-like hair follicles. Mandibles, antennae and legs moderately shining, with very fine, dense, piligerous point punctures and almost no microreticulation.

Head, thoracic dorsum and apices of nodes generally covered with short erect to suberect hairs. Longer suberect hairs abundant on mandibles, sides of clypeus, sides of head anterior to eyes, and gaster; those of mandibles and gastral apex longest, a few on crests of petiole and postpetiole.

Colour dull chestnut-brown, the gaster darker, eyes black.



FIGS. 1, 2.—*Peronomymex overbecki* Viehmeyer, holotype worker: (1) head, frontal view; (2) thorax and waist nodes, dorsal view. Scale line 1.0 mm.

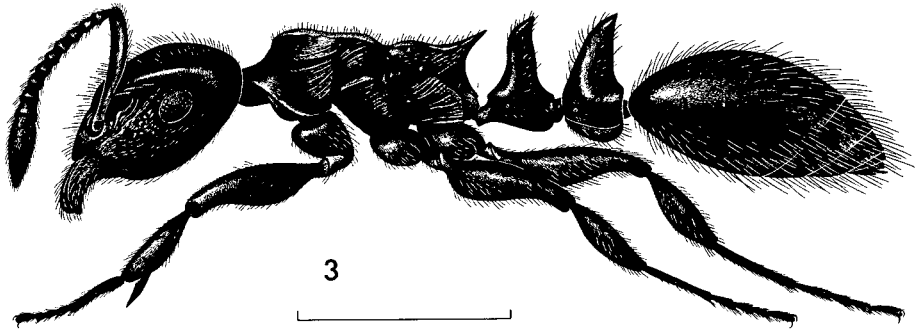


FIG. 3.—*Peronomyrmex overbecki* Viehmeier, holotype worker, lateral view. Scale line 1.0 mm.

Relationships

Viehmeier and authors following him (Donisthorpe 1943, Brown 1948) placed *Peronomyrmex* in the tribe Dacetini. However, Brown's early papers in his comprehensive studies of the tribe showed that this allocation was unacceptable (Brown 1949). Despite this, no alternative classification has been proposed. I consider the genus to be related to *Podomyrma* Fr. Smith, and its Australian satellites *Dacryon* Forel and *Pseudopodomyrma* Crawley. It resembles these in general habitus, palpal formula, structure and segmentation of the antennae, absence of metapleural spines, and general form of the legs, notably their lack of middle and hind tibial spurs. *Peronomyrmex overbecki* stands apart however in its general cephalic and thoracic structure, and especially its aberrantly developed petiole and postpetiole. I have considered many described and undescribed species placed with the above genera in the Australian National Insect Collection and conclude that *Peronomyrmex* should be retained as a genus at present, even though it might eventually fall under *Podomyrma*. The affinities between these two nominal genera are clear, but the value of *Peronomyrmex* as a taxon cannot be firmly established except as part of a full species analysis of *Podomyrma*, *Dacryon* and *Pseudopodomyrma*, along with the Oriental genus *Dilobocondyla* Santschi, and the African genera *Terataner* Emery and *Atopomyrmex* André. Such a study would almost certainly sink *Dacryon* and *Pseudopodomyrma* under *Podomyrma*, but there are several distinctive groups of Australian species loosely contained by these genera, as now constituted, which might require new genera for their satisfactory classification. Decisions on these matters are not possible while most of the relevant species are undescribed or poorly represented, and probably even more than these remain undiscovered.

REFERENCES

- BROWN, W. L. Jr. (1948).—A preliminary generic revision of the higher Dacetini. *Trans. Am. ent. Soc.* **74**: 101-129.
- BROWN, W. L. Jr. (1949).—Revision of the ant tribe Dacetini: IV. Some genera properly excluded from the Dacetini, with the establishment of the Basicerotini new tribe. *Trans. Am. ent. Soc.* **75**: 83-96.
- DONISTHORPE, H. St. J. K. (1943).—A list of the type-species of the genera and subgenera of the Formicidae. *Ann. Mag. nat. Hist.* (S.11), **10**: 617-737.