

## The Taxonomy and Distribution of Some North American *Pogonomyrmex* and Descriptions of Two New Species (Hymenoptera: Formicidae)

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*Abstract.*—The taxonomy and distribution of some North American *Pogonomyrmex* and descriptions of two new species (Hymenoptera: Formicidae) by Roy R. Snelling, *Bull. Southern California Acad. Sci.* 80(3):97-112, 1981. In the nominate subgenus, the new species, *Pogonomyrmex colei*, is described from females and males; it is a workerless social parasite in nests of *P. rugosus* Emery. The previously unknown sexual forms of *P. wheeleri* Olsen are described, and new data on the distribution of *P. tenuispinus* Forel are presented. Of indeterminate status when Cole revised *Pogonomyrmex*, *P. hindleyi* Forel is synonymized with *P. californicus* (Buckley).

In the subgenus *Epebomyrmex*, a new key for workers is presented, correcting errors in that of Cole; two species are added: *P. guatemaltecus* Wheeler and *P. laevinodis*, new species. New distribution data are cited for *P. guatemaltecus*, extending the range from Guatemala to Mexico. *P. laevinodis* is described from workers from Baja California Sur, Mexico.

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### Introduction

The North American species of *Pogonomyrmex* Mayr, 1868, were revised by Cole (1968), who recognized 22 species in two subgenera: *Pogonomyrmex*, sensu stricto, and *Epebomyrmex* Wheeler, 1902. One name, *P. californicus* var. *hindleyi* Forel, 1914, was of indeterminate status. The present contribution provides new taxonomic and distributional data on some of these species, corrects a few errors, disposes of *P. hindleyi*, and describes two new species.

### Terminology

The descriptions below are patterned after those of Cole (1968) to facilitate comparison with his descriptions. A few comments on terminology are necessary.

I prefer to use propodeum rather than "epinotum" as Cole has it. Although the latter is traditional to ant systematics, it is at variance with terminology used throughout the remainder of the aculeate Hymenoptera.

Cole uses "gena" for the area usually designated the "malar" or "oculomandibular" area; his "postgena" is the true gena. I have not followed his terminology.

The following abbreviations are used in the descriptions that follow, consistent with those of Cole.

CI (Cephalic index)—(HW)(100/HL).

EL (Eye length)—Maximum length of compound eye in lateral view.

EW (Eye width)—Maximum width of compound eye in lateral view.

without longitudinal rugulae, but a few transverse to oblique rugulae usually present.

Interocellar distance about 3 times diameter of anterior ocellus; anterior ocellus smaller than posterior ocelli.

Propodeal teeth absent or barely indicated. Thorax mostly smooth and shiny; mesopleuron with a few longitudinal rugulae on upper plate, lower plate duller, finely and closely punctate between obscure longitudinal rugulae; metapleuron and propodeal side shiny between moderately coarse longitudinal rugulae, turning onto basal face of propodeum but absent across its middle; middle of propodeum, from base to apex, smooth and shiny. Nodes of petiole and postpetiole smooth and shiny.

Hairs mostly whitish to pale yellowish, long, slender, flexuous, abundant, shorter on appendages; relatively sparse on gaster.

Color blackish-brown; gaster dark reddish-brown; appendages lighter.

*Material examined*.—4 ♀♀, 6 ♂♂, 9 mi N Mazatlán, Sinaloa, MEXICO, 25 July 1973 (J. Chemsak, E. G. Linsley, and A. E. Michelbacher; UCB); 1 ♀, 1 mi N Mazatlán, Sinaloa, MEXICO, 27 Dec. 1968 (D. L. Briggs; UCD).

*Discussion*.—The male, by virtue of its large size, basally flattened scape, and uniformly blackish color, is easily separated from males of other species of the *barbatus* complex. The peculiar sculpturation of the mandible is also characteristic.

The female will go to *P. barbatus* in Cole's (1968) key, but differs by its large size and weakly (or not at all) rugose petiolar node.

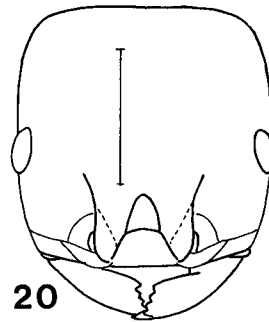
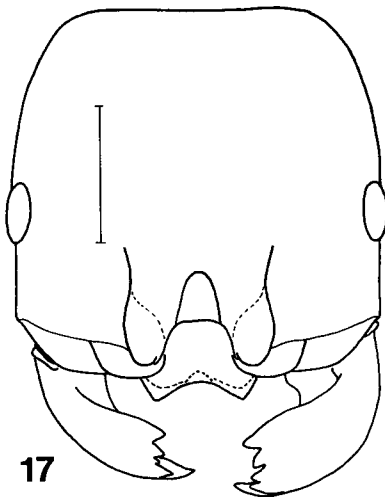
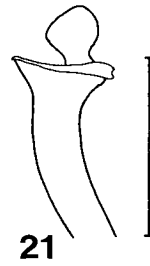
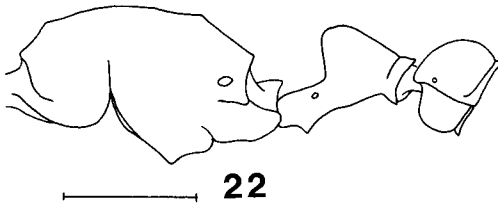
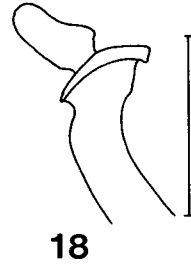
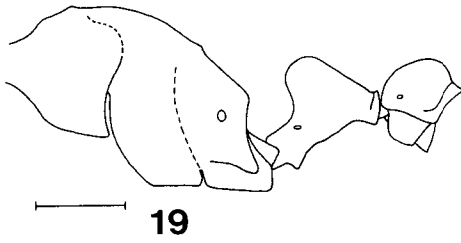
#### Subgenus *Ephebomyrmex*

The status of *Ephebomyrmex*, whether a genus or subgenus, is yet to be determined. In particular, the South American fauna must be comprehensively studied and compared to that of North America. Cole's (1968) revision of the North American *Pogonomyrmex* treated *Ephebomyrmex* as a subgenus; for convenience, I will follow that arrangement here.

In the worker portion of Cole's key, there is a serious typographic error, which could easily confuse anyone not familiar with these ants. A new key is presented below to rectify this error and to include two additional species, one new.

#### Key to Workers, Subgenus *Ephebomyrmex*

- 1a. Small, HW 0.97–1.21 mm; eye large, notably longer than wide, oculo-mandibular distance no more than about 1.2 times EL; base of propodeum reticulose, without distinct transverse rugae; in lateral view, meeting mesonotum at a prominent angle ..... 2
- b. Larger, HW more than 1.30 mm; eye variable, but often small, oculo-mandibular distance at least 1.5 times EL (if larger, propodeal spines absent); base of propodeum transversely rugose *or* largely smooth and propodeal spines absent; in lateral view, base of propodeum not meeting mesonotum at prominent angle. .... 4
- 2a. Propodeal spines present; longest pronotal hairs stiff, seta-like, little (if any) longer than EL; nodes of petiole and postpetiole distinctly sculptured ..... 3



Figs. 17–22. 17–19, *Pogonomyrmex guatemaltecus*, worker: 17, head, frontal view; scale line = 0.50 mm. 18, base of scape; scale line = 0.25 mm. 19, lateral view, thorax, petiole, and post-petiole; scale line = 0.50 mm. 20–22, *P. laevinodis*, worker. 20, head, frontal view; scale line = 0.50 mm. 21, base of scape; scale line = 0.25 mm. 22, lateral view, thorax, petiole, and post-petiole; scale line = 0.50 mm.

- b. Propodeal spines absent; longest pronotal hairs slender, flexuous, distinctly longer than EL; nodes of petiole and postpetiole for the most part smooth and shiny, often weakly punctulate anteriorly and posteriorly  
 ..... *laevinodis*, n. sp.
- 3a. Clypeus with prominent toothlike projection below each antennal socket; posterior declivity of petiolar node, in profile, much longer and less steep than anterior declivity, surface rugoreticulate; dorsum of postpetiolar node irregularly longitudinally rugose ..... *imberbiculus* Wheeler
- b. Clypeus without toothlike projection below each antennal socket; petiolar node conical in profile, surface punctate; dorsum of postpetiolar node punctate ..... *pima* Wheeler
- 4a. Propodeal spines present; dorsum of petiolar node irregularly, transversely rugose; longest pronotal hairs slender, whitish, longer than EL  
 ..... *huachucanus* Wheeler
- b. Propodeal spines absent; dorsum of petiolar node longitudinally rugose; longest pronotal hairs stout, stiff, brownish yellow, distinctly shorter than EL ..... *guatemaltecus* Wheeler

*Pogonomyrmex (Epehebomyrmex) guatemaltecus* Wheeler, 1914

Figures 17–19

This distinctive species was described from Zacapa, GUATEMALA. Recently collected material extends the range into MEXICO: Paderón, Río Tehuantepec, Oaxaca, 24 Feb. 1948 (T. MacDougal; AMNH); 8 km W Tehuantepec, 10 Aug. 1974 (E. M. and J. L. Fisher; LACM).

*Pogonomyrmex (Epehebomyrmex) laevinodis* New species

Figures 20–22

*Diagnosis.*—Separable from other members of subgenus *Epehebomyrmex* by the following combination of characters. Worker: Propodeal spines absent; nodes of petiole and postpetiole largely smooth and shiny; eye length about equal to oculomandibular distance. Female and male unknown.

*Description.*—HL 0.96–1.12 mm; HW 0.90–1.05 mm; CI 92–96; SL 0.68–0.74 mm; SI 72–78; EL 0.19–0.23 mm; EW 0.13–0.15 mm; OI 19–24; WL 0.97–1.13 mm; PNL 0.27–0.32 mm; PNW 0.26–0.32 mm; PPL 0.23–0.29 mm; PPW 0.38–0.46 mm.

Mandible about as usual in *Epehebomyrmex*; apical and preapical teeth acute, broad, thin, apical tooth longest; first basal about half as long as preapical, subacute; second basal very short and narrowly separated from first; third basal broadly separated from second, a little smaller than first; penultimate basal very small, triangular and its upper margin slightly offset from straight to weakly convex upper mandibular margin; ultimate basal tooth absent.

Base of antennal scape (Fig. 21) with shaft strongly curved but not flattened, basal enlargement well developed; superior lobe weak; basal flange thin, narrow; lip well developed, broad, slightly reflexed; point present.

Eye large, greatest length 1.5 times or more greatest width, oculomandibular distance subequal to eye length.

Lateral lobe of clypeus, below antennal socket, compressed and projecting forward (weaker than in *P. imberbiculus*).

Thoracic, petiolar, and postpetiolar profiles as in Figure 22. Propodeal spines absent, posterior declivity bounded on each side and across summit by a prominent carina. In lateral view, anterior declivity of petiolar node nearly vertical, a little shorter than posterior declivity; node, in posterior view, about as long as wide; subpetiolar process large, triangular.

Head longitudinally rugose, with few transverse rugae, interspaces moderately shiny and irregularly roughened but without definite punctulae and with sparse, shallow setigerous punctures. Thorax coarsely reticulorugose, interspaces moderately shiny and with sparse, shallow setigerous punctures. Dorsum of petiolar and postpetiolar nodes shiny between sparse, piligerous punctures, occasionally with weak punctulae along posterior margins.

Erect hairs golden brown, very uneven but longest pronotal hairs exceeding eye length; hairs short and stiff on frons; few or none on petiolar venter; shorter on appendages; eyes with numerous very short, fine hairs.

Color light to dark ferruginous.

*Type material*.—Holotype worker and 34 worker paratypes: 27 km NE Todos Santos, 900 ft, Baja California Sur, MEXICO, 8–9 Oct. 1975 (R. R. Snelling, No. 75-59). Holotype and most paratypes in LACM; three paratypes each to: AMNH, MCZ, USNM and personal collection of G. C. and J. Wheeler.

*Etymology*.—From Latin, *laevis* (smooth) and *nodus* (knot, node), for the smooth, shiny nodes of the petiole and postpetiole.

*Additional material*.—20 km NW La Paz, 100 ft, 5 Oct. 1975 (R. R. Snelling; LACM).

*Discussion*.—The characteristics cited in the key and in the diagnosis should be sufficient for recognition of this ant.

It appears that the species is most closely allied to *P. imberbiculus* and replaces it in southern Lower California.

The type series nest was in hard-packed, sandy soil at the edge of a large arroyo, in acacia-cardón scrub (kaatinga). The nest entrance was surrounded by a low crater of excavated soil, about 5.5 cm in diameter. Workers were foraging at 1700.

The record from 20 km NW of La Paz is based on a single stray taken in late afternoon from *Opuntia* sp. In the field, foraging *P. laevinodis* workers very closely resemble those of *Tetramorium spinosum* (Pergande).

#### Acknowledgments

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