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The Gyne of the Harvester Ant, *Pogonomyrmex texanus* (Hymenoptera: Formicidae)[1]

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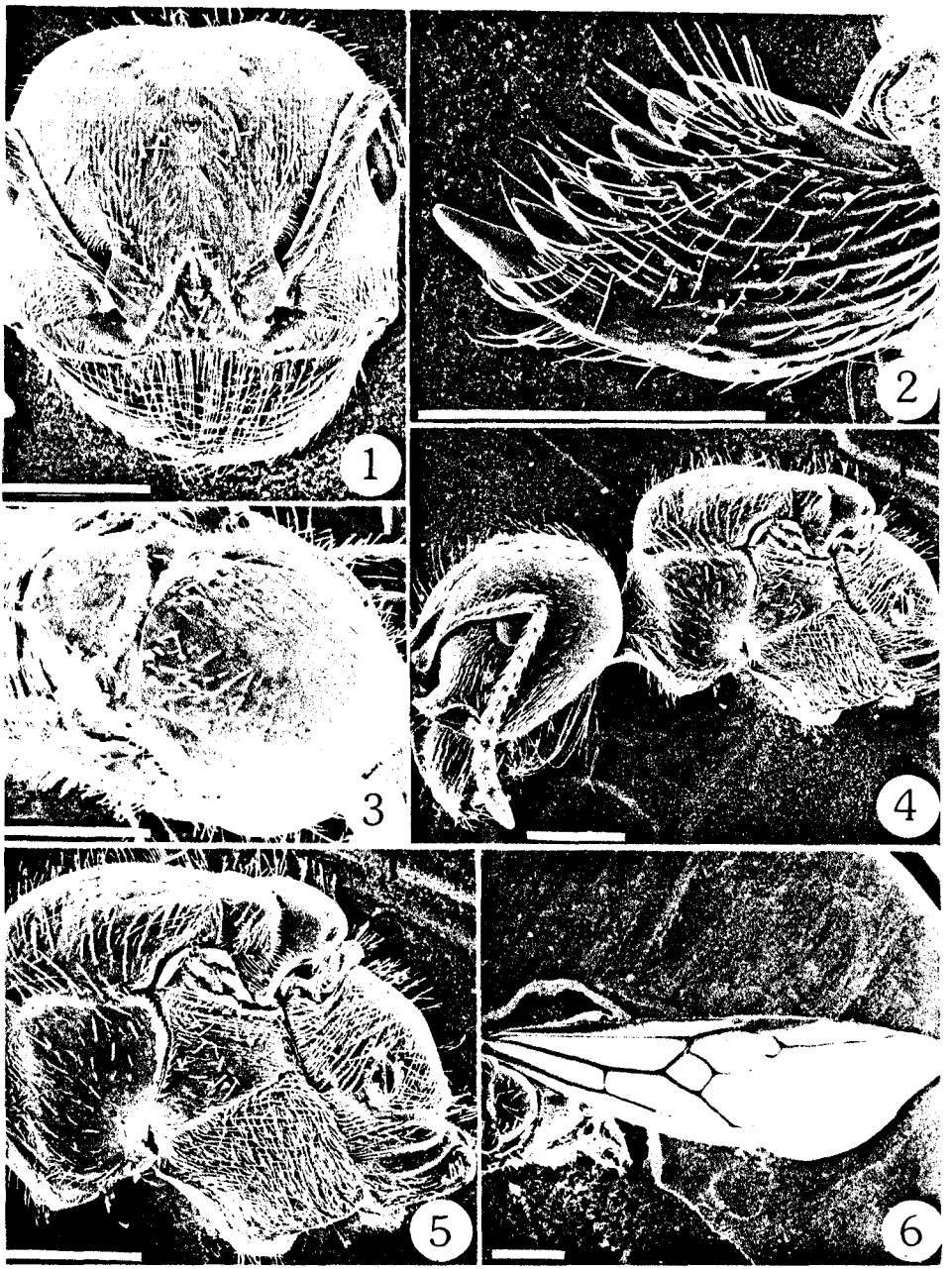
ABSTRACT: The previously unknown reproductive female (gyne) of the harvester ant, *Pogonomyrmex texanus* Francke and Merickel, is described and illustrated with scanning electron micrographs.

Francke and Merickel (1981) described *Pogonomyrmex texanus* based on workers and males. At that time no reproductive females (gynes) had been collected. On 11 August 1984, I excavated a nest in Lubbock, Lubbock County, Texas and collected 30 female alates, the nest queen, and numerous workers and males. Specimens from this series are deposited in my personal collection and in the entomological collection at Texas Tech University (TTU #7165). The description of the previously unknown gyne of *Pogonomyrmex texanus* is based on 10 randomly selected individuals and follows the terminology of Cole (1968), Snelling (1981), and the original description of the species.

Head length 2.17–2.51 mm, head width 2.55–2.81 mm, cephalic index 109.96–123.50, scape length 1.66–1.74 mm, scape index 60.14–68.23, maximum eye length 0.43–0.49 mm, maximum eye width 0.26–0.32 mm, ocular index 17.13–21.30, Weber's length 3.44–3.57 mm, petiolar node length 0.51–0.60 mm, maximum width of petiolar node 0.72–0.81 mm, postpetiolar length 0.68–0.81 mm, postpetiolar width 0.91–0.98 mm.

Head broader than long, eye small and weakly convex, not extending beyond lateral margins of head (Fig. 1). Mandible with seven teeth (Fig. 2). Antennal scape with strong peripheral carina, point present or absent. Frontal triangle deeply impressed, lateral lobes of clypeus projecting anteriorly. Median cephalic rugae dense and straight with shining interrugal spaces; occipital corners without rugae, smooth and shining, rugae not forming whorls about the eye. Psammophore well developed.

Dorsal surface of mesoscutum shining or longitudinally rugose, scutellum shining, both with numerous erect hairs (Fig. 3). Pronotal collar with transverse rugae, lateral portions almost smooth. Mesopleural rugae transverse, propodeum unarmed (Figs. 4, 5), basal surface of propodeum with



Figs. 1–6. Gyne of *P. texanus*. 1. Head, frontal view. 2. Left mandible. 3. Thorax, dorsal view. 4. Head and thorax, lateral view. 5. Thorax, lateral view. 6. Right forewing, dorsal view. Bar = 1 mm.

transverse rugae, declivious face smooth. Dorsal portions of metasternal flanges not fused together as in worker. Ventral lobe of petiolar peduncle with a few erect hairs, dorsal surface of postpetiolar node shagreened with transverse striae or with transverse and longitudinal rugae. Forewing with one cubital cell (Fig. 6), body color uniformly light orange.

The gyne of *P. texanus* will not key to another species in the revision of the genus by Cole (1968).

It appears to be most closely related to *Pogonomyrmex apache* Wheeler from which it differs most obviously in its greater size and lighter coloration. In addition, the clypeus of *P. texanus* is less deeply excised, the mesoscutal rugosity is variable, but usually less extensive than that of *P. apache,* and the declivious face of the propodeum is smooth and shining. A minor point of confusion arises in the above mentioned key (p. 44), where it specifies for *P. apache* "scutellum with prominent longitudinal striae." The subsequent general discussion (p. 52), indicates "nearly smooth and shining scutellum" with "sparse, faint, uneven, broken striae." I have specimens that fit both descriptions and hence the key should be modified to indicate this variability.

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The Drone and Species Status of the Himalayan Honey Bee, *Apis laboriosa* (Hymenoptera: Apidae)

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ABSTRACT: The taxonomic history of the Himalayan honey bee, *Apis laboriosa,* is summarized, and the morphological and biological characters that distinguish it from *A. dorsata* are reviewed. The male genitalia of *A. laboriosa* are described and figured. The genitalia of *A. laboriosa* and *A. dorsata* appear identical, although the two taxa are considered to be distinct species on the basis of other traits.

The taxonomic status of the Himalayan honey bee or cliff bee has been a subject of controversy for many years. It was first described by F. Smith (1871) as *Apis laboriosa.* He examined worker bees from Yunnan, China and differentiated *A. laboriosa* from the giant honey bee, *A. dorsata,* on the basis of ocellar and pilosity characters. Ashmead (1904) erected the genus *Megapis* for *A. dorsata* but made no mention of *A. laboriosa.* Maa (1953) recognized 24 species of honey bees in three genera and included four species in the genus *Megapis*: *binghami, breviligula, dorsata,* and *laboriosa.* Goetze (1964), Ruttner (1968), and Koeniger (1976) claimed that the morphological characters used by Maa to distinguish species were intraspecific in nature. Many honey bee specialists recognize only four species of honey bees in the single genus *Apis*: *cerana, dorsata, florea,* and *mellifera* (Goetze, 1964; Koeniger, 1976; Michener, 1974; Ruttner, 1968). However, Sakagami et al. (1980) compared over 100 characters in 194 workers of *A. laboriosa* and *A. dorsata* and concluded that *A. laboriosa* is a distinct species.

One of the autapomorphies of the genus *Apis* is the reduced external male genitalia and the greatly enlarged and membranous endophallus. The endophallus is a reliable character for separating the four commonly recognized *Apis* species. Demonstration of significant differences between the genitalia of