

A Key to the Parasitic Euglossine Bees and a New Species of *Exaerete* from Mexico (Hymenoptera-Apoidea)*

by

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The parasitic genera of the Euglossini are among the most brilliant and magnificent of the bees. While studying the collection of the Snow Entomological Museum at The University of Kansas, I found one male specimen of *Exaerete* from well north of the previously known range of these bees, and it apparently is a new species closely related to *Exaerete dentata* (Linnaeus). For that species I propose:

Exaerete azteca, n. sp.

MALE: Uniformly bluish green, with some purple reflections on thorax and legs, and weak golden hue on head. Wings moderately dark fuscous. Pubescence very sparse, mostly fuscous on vertex, mixed with white on thorax and abdomen, pure black on seventh tergum and on inner sides of all basitarsi and anterior fimbria of front and hind tibiae; almost completely white near antennal sockets, on scape, and on ventral side of metasoma. External face of hind tibia clothed medially with a narrow strip of velvety fuscous pubescence, tapering apically, not reaching distal extremity of tibia. Long white hairs behind scar depression of hind tibia and along posterior margin of hind basitarsus.

Head and thorax coarsely punctate; punctures crowded on head, coarser on clypeus, sparse on ocellorbital area and the interspaces reticulate and leaving a shining area in front of median ocellus; uniformly coarse and dense on meso-

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scutum and scutellum, a little sparser between prescutal sutures and some punctures larger on the elevated area at each side of the scutellum representing the lateral tubercles of *E. dentata*; rather dense and coarse on hind femur and tibia, a little sparser toward lower margin on femur and toward scar depression on tibia.

Eyes moderately large, inner orbits converging above, lower inter-orbital distance conspicuously shorter than eye length (234:150:190); frons protuberant, not tuberculate; interocellar distance a little longer than ocellorbital one and than diameter of median ocellus (40:30:25). Scape mostly metallic, longer than alveolocellar distance (105:90); flagellum longer than three times length of scape, third flagellar segment longer than first and this than second (20:15:25:27:Ø27). Scutellum a little more than twice as wide as long, curved outward laterally and slightly narrowed behind, broadly and shallowly emarginate posteriorly, dorsal surface with a low elevation at each side, without true tubercles as in *E. dentata*. Distal half of lower external margin of hind femur carinate, the carina emarginate medially simulating two low rounded projections, hairy glandular scarlike opening of posterior tibia situated postero-medially and followed apically by a strong glabrous depression parallel to posterior margin.

SIZE: Body length 17 mm; anterior wing length from the costal sclerite 15.3 mm. Head and abdominal widths 5.5 mm and 7.0 mm.

TYPE MATERIAL: Holotype male, in the Snow Entomological Museum, The University of Kansas, Lawrence.

TYPE LOCALITY: 38 mi. northeast of Jacala, Hidalgo, Mexico, 3100 ft. altitude, 10 July 1961, University of Kansas Mexican Expedition.

This species agrees in most of its characters with *Exaerete dentata*. It can be distinguished from that species by the lack of true lateral tubercles on the scutellum and by the structure of the lower margin of the anterior face of the hind femur, which in *Exaerete dentata* is armed with a strong aculeate tooth.

There are two genera of parasitic bees included in the Euglossini, *Exaerete* and *Aglae*. The latter contains only one species, *caerulea*, simulating a *Xylocopa* by the flatness, carination and hair vestiture of its abdomen.

Exaerete can be divided into two natural groups, the first including *frontalis* and *smaragdina* and the second *dentata* and the new species. The first group suggests correlations with *Eulaema* by the lack of the two small apical segments of the labial palpi and the structure of the tibial glandular scar. On the other hand, the second group resembles *Euglossa* proper, but lacks the white marks on the mouthparts.

The following key shows the most distinctive features of the parasitic species of Euglossini. According to Friese's description, his *Chrysanthbeda trochanterica* from Pará seems to be closely related to *Exaerete frontalis*, but easily recognizable by the structure of its hind trochanters. No other specimens have been reported since the description of the type specimen in 1900, in spite of the large collections made in Pará, Brazil.

KEY FOR THE SPECIES OF PARASITIC EUGLOSSINI

1. Scutellum enormous, as long as three fourths of mesoscutum, its surface uniformly slightly convex; hind basitarsus very long and slender (4:1), subparallel-sided; metasoma very long, flattened, strongly carinate ventrally, moderately so dorsally; first submarginal cell conspicuously smaller than second; interocellar distance as short as half ocellorbital distance. Females with hind tibia very slender, elongate, sides mostly subparallel; sixth metasomal tergum well developed, fully exposed as a flat triangular plate. Males with a small scarlike glandular opening, occupying distal fourth of posterior margin of hind tibia *Aglae caerulea* Lepeletier & Serville
- Scutellum of moderate size, shorter than half the length of mesoscutum its surface conspicuously concave; hind basitarsus less than three times as long as broad; metasoma rather turbinate, not carinate; first submarginal cell almost as large as second one; interocellar distance longer than ocellorbital distance. Females with hind tibia subtriangular, recurved; sixth metasomal tergum strongly convex. Males with a scarlike glandular opening occupying almost distal half of posterior margin of hind tibia *Exaerete*—2
2. Hypepimeral area tuberculate; distance between scutellar tubercles conspicuously greater than upper interorbital distance; labial palpus two-segmented; lower external border of hind femur unarmed in female, with small tubercles in male; hind basitarsus almost three times as long as wide. In male hairy glandular scar reaching apex of tibia and split in two teeth 3.
- Hypepimeral area slightly convex; distance between scutellar tubercles almost as long as upper interorbital distance; labial palpus four-segmented; lower external border of hind femora armed with two large teeth; hind basitarsus conspicuously shorter than three times its width. In male hairy glandular scar very small, followed by a deep glabrous depression closely parallel to hind tibial margin 4.
3. Very large species (wing length greater than 23 mm); a strong longitudinal tubercle on middle of frons; scutellum uniformly concave between strong lateral tubercles. In male lower inner border of hind femur armed with enormous triangular process
..... *Exaerete frontalis* (Guérin).
- Moderately large species (wing length less than 19 mm); frons strongly protuberant but without median tubercle; scutellum with a median low longitudinal carina between small lateral tubercles. In male lower inner margin of hind femur unarmed
..... *Exaerete smaragdina* (Guérin).
4. Lower external margin of hind femur armed with a strong aculeate process followed by one or two small tubercles; lateral tubercles of scutellum shining, conspicuous. External face of mid tibia in male entirely clothed with fuscous velvety pubescence
..... *Exaerete dentata* (Linnaeus).
- Lower external margin of hind femur armed with a longitudinal emarginated crest simulating two low tubercles; lateral tubercles of scutellum very low and densely punctured. External face of mid tibia in male clothed with a median narrow strip of fuscous velvety pubescence, tapering distally *Exaerete azteca*, n. sp.

RESUMEN

Se describe una nueva especie de abeja *Exaerete* de México, *E. azteca*.
Se presenta una clave para las especies de Euglossini parásitas.