

Reprinted from the Proceedings of the NATIONAL ACADEMY OF SCIENCES,
Vol. 22, No. 5, pp. 283-287. May, 1936.

THE NEARCTIC DIRHININI AND EPITRANINI

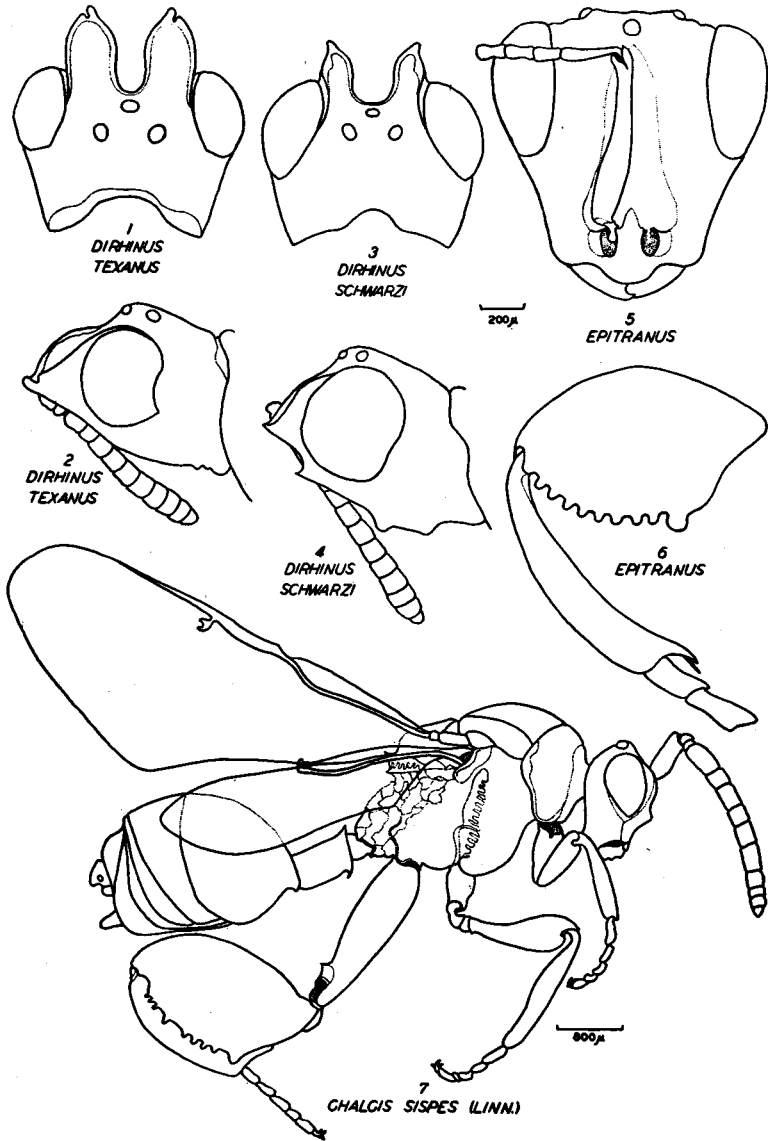
(Hymenoptera, Chalcididae)

BY B. D. BURKS^{1,2,3}

ILLINOIS STATE NATURAL HISTORY SURVEY, URBANA, ILL.

Communicated March 20, 1936

When a large number of specimens of Chalcid flies, collected over a wide area, or reared in rather large quantities, are studied, it becomes apparent that the genera, as at present established, are in an unsatisfactory and obscure condition. Almost all descriptions have been drawn up from small numbers of specimens, more often than not from single specimens, so that the published generic characterizations seldom provide for variations in structure. One of the most typical aspects of this group of parasitic insects is that almost all possible variations are to be encountered within a single species. The fact that new material very seldom exactly coincides with established types and published descriptions has led to the creation of an extremely large number of new genera and species. Some of these are un-



FIGURES 1-7

doubtedly valid, but many can be shown to be included in the range of normal variation of previously established genera and species.

As the members of the subfamily Chalcidinae are among the most bizarre and conspicuous Chalcids, they have been placed in a large number of small genera. The majority of these genera are either based on criteria

of only specific value, or the characters used intergrade with those of related genera to such an extent that it is practically impossible to make generic placements with certainty. The solution to this difficulty is to eliminate most of the genera, and include the species in a few large genera, which can then be defined simply and clearly.

Of the five tribes included in the Chalcidinae (the Chalcidini, Brachymerini, Haltichellini, Dirhinini and Epitranini) the last two will be considered here with reference to the nearctic fauna. The others will be treated elsewhere.

Tribe Dirhinini.—The typical form of a member of the Chalcidinae is shown in figure 7; the hind coxae are conspicuously enlarged and lengthened, and are round in section; the hind femora are enlarged and provided with a row of teeth on the lower side. The members of the tribe Dirhinini are easily to be recognized: the vertex of the head (Figs. 1, 2) is produced forward, laterad of the antennal grooves, into two prominent horns. This tribe in the nearctic region includes but a single genus.

Genus *Dirhinus* Dalman⁴

Synonyms: *Dirrhinus* Dalman⁵
Eniaca Kirby⁶
Hontalia Cameron⁷
Parenia Crawford⁸

Dirhinus Dalman was described for the species *D. excavatus* from Sierra Leone, and characterized as having 12 segmented antennae, which are inserted moderately far from the margin of the clypeus, and having the head deeply excavated mesally. As has been shown by Masi,⁹ however, the number of antennal segments is actually 13, the usual number in the Chalcidinae. Kirby's *Eniaca* was described as having 13 segmented antennae, and differs in no other significant character from *Dirhinus*. Most subsequent workers, finding their material to have antennae with 13 segments, have referred their species to *Eniaca*. *Hontalia* Cameron, originally placed in the Aximini of the Pteromalinae, differs from *Dirhinus* and *Eniaca* only in that the frons is secondarily produced to form two smaller projections below the principal ones of the vertex (as in Fig. 4), and the female possesses a long, conspicuously-exserted ovipositor. The first character is certainly not of generic importance, and the second is not feasible as it occurs in only one sex. *Parenia* Crawford was set up on the same character as the first one used for *Hontalia*: the possession of secondary protuberances on the frons.

Key to Nearctic Species.—Anterior margin of vertex with a slight lateral notch (Fig. 1); frons not secondarily produced (Fig. 2).....*texasus*.

Anterior margin of vertex not notched (Fig. 3); frons secondarily produced (Fig. 4).....*schwarzi*.

Dirhinus texanus (Ashmead)¹⁰

(Figs. 1, 2)

Host: Dipterous larvae.*Type:* Cat. No. 3325 U. S. N. M., female.*Distribution:* Texas, Arizona, Kansas, Tennessee, Alabama, Mexico, Philippine Islands, China.*Dirhinus schwarzi* (Crawford)¹¹

(Figs. 3, 4)

Host: Dipterous larvae.*Type:* Cat. No. 15547 U. S. N. M., female.*Distribution:* Texas, Arizona, California.

Tribe Epitranini.—The tribe Epitranini has formerly been known as the Chalcitellini. The abdomen is petiolate (as in Fig. 7), the antennae are inserted just above the clypeal suture (Fig. 5), and the hind tibiae have a terminal spine-like projection (Fig. 6). This tribe in the nearctic region includes but a single genus.

Genus *Epitranus* Walker¹²*Synonyms:* *Chalcitella* Westwood¹³*Anacryptus* Kirby¹⁴*Arretocera* Kirby¹⁴*Platychalcis* Cameron¹⁵*Arretoceroidella* Girault¹⁶*Chalcitelloides* Girault¹⁷*Arretoceroides* Girault¹⁸

The genus *Epitranus* Walker was misplaced by Ashmead¹⁹ in his tribe Smicrini; the insertion of the antennae excludes it from that tribe and would refer it to his Chalcitellini. *Epitranus*, however, has priority over *Chalcitella* Westwood, and as the two are not generically distinct, *Chalcitella* must be sunk in synonymy, and the tribe be renamed. Kirby's *Anacryptus* and *Arretocera* were established for minor differences in the antennae, and cannot be held distinct from *Epitranus*. *Platychalcis* differs only in specific characters from *Epitranus*. The three genera proposed by Girault can safely be discarded as not sufficiently distinct, the only differences given by the author being small ones of the numbers of antennal segments.

Key to Nearctic Species.—Petiole smooth above, one-half the length of the abdomen.....*fulvescens*.

Petiole longitudinally striated above, two-thirds or more the length of the abdomen.....*castaneus*.

Epitranus fulvescens Walker²⁰

Host: Unknown.

Type: In British Museum, female.

Distribution: West Indies, Brazil, and should occur in Florida.

Epitranus castaneus Cresson²¹

Host: Unknown.

Type: Cat. No. 1823.1 Phil. Acad. Nat. Sci., male.

Distribution: Cuba, and should occur in Florida.

¹ The study of the material in the U. S. National Museum was made possible by a grant from the Bache fund of the National Academy of Sciences.

² I am indebted to Mr. A. B. Gahan for considerable advice concerning genera the types of which are in Europe.

³ Contribution No. 183 from the Entomological laboratory of the University of Illinois.

⁴ Dalman, J. W., *Svensk. Vet.-Akad., Handl.*, **39**, 75 (1818).

⁵ Dalman, J. W., *Analect. Entom.*, **29** (1823).

⁶ Kirby, W. F., *Jour. Linn. Soc. Lond., Zoöl.*, **17**, 57 (1883).

⁷ Cameron, P., *Biol. Cent.-Am., Hymen.*, **1**, 112 (1884).

⁸ Crawford, J. C., *Proc. U. S. N. M.*, **45**, 312 (1913).

⁹ Masi, L., *Ann. Mus. Civ. Stor. Nat. Genova*, **48**, 23 (1919).

¹⁰ Ashmead, W. H., *Trans. Am. Ent. Soc.*, **23**, 217 (1896); Dalla-Torre, K. W. von, *Cat. Hymen.*, **5**, 368 (1898); Schmiedeknecht, O., *Gen. Ins.*, **97**, 67 (1909); Roberts, R. A., *Jour. Agr. Res.*, **50**, 490 (1935).

¹¹ Crawford, J. C., *Proc. U. S. N. M.*, **45**, 313 (1913).

¹² Walker, F., *Entom. Mag.*, **2**, 21 (1834).

¹³ Westwood, J. O., *Proc. Zoöl. Soc. Lond.*, **3**, 70 (1835).

¹⁴ Kirby, W. F., *Jour. Linn. Soc. Lond., Zoöl.*, **17**, 56 (1883).

¹⁵ Cameron, P., *Invert. Pacif.*, **1**, 57 (1904).

¹⁶ Girault, A. A., *Arch. Naturg.*, **78**, Abt. A, Heft 6, 66 (1913).

¹⁷ Girault, A. A., *Ent. News*, **25**, 30 (1914).

¹⁸ Girault, A. A., *Mem. Queensl. Mus.*, **4**, 351 (1915).

¹⁹ Ashmead, W. H., *Mem. Carn. Mus.*, **1**, 251 (1904).

²⁰ Walker, F., *Ent. Mag.*, **2**, 26 (1834); Kirby, W. F., *Jour. Linn. Soc. Lond., Zoöl.*, **17**, 55 (1883); Dalla-Torre, K. W. von, *Cat. Hymen.*, **5**, 383 (1898); Ashmead, W. H., *Mem. Carn. Mus.*, **1**, 412 (1904); Schmiedeknecht, O., *Gen. Ins.*, **97**, 37 (1909).

²¹ Cresson, E. T., *Proc. Ent. Soc. Phil.*, **4**, 100 (1865); Dalla-Torre, K. W. von, *Cat. Hymen.*, **5**, 383 (1898); Schmiedeknecht, O., *Gen. Ins.*, **97**, 37 (1909).