

On a remarkable new Genus in MELOIDÆ infesting Mason-bee Cells in the United States.

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While the natural history of none of our N. A. species of *Meloe* has been traced or recorded, they will, beyond all doubt, be found to agree with their European congeners in their partial parasitism on Mason-bees. In examining the cells of *Anthophora sponsa*, Smith, I have so far failed to discover that *Meloe* is parasitic upon that species, but *Meloe* is, in reality, very rare around St. Louis. I have, however, found on four different occasions in the Fall, within the sealed cells of the bee mentioned, a very interesting and anomalous Meloid which may be taken to represent the typical partial parasitism of the family in the United States. There is a tendency in the family to wing reduction, but in no hitherto described species is the reduction carried to such extremes as in this, both sexes (Pl. V., Fig. 13) having the elytra as rudimentary as in the ♀ of the well-known European Glow-worm (*Lampyrus noctiluca*). Another characteristic feature is its simple tarsal claws, which, together with the rudimentary wings and the heavy body, show it to be a degradational form. *Anthophora sponsa*, its host, builds mostly in steeply inclined or perpendicular clay banks, and, in addition, extends a tube of clay from the entrance. The burrow has usually two branches which decline about an inch from the surface of the bank, and 6 or 8 cells are arranged end to end. By means of saliva the inside of the cell is rendered impervious to the moisture of the honey and bee-bread stored in it for the young. It is evident, therefore, that this clumsy Meloid will have difficulty in crawling out of or about the cells, and it is probably subterranean and seldom, if ever, leaves the bee gallery. It can climb and drag its body, but with some difficulty, up a steep surface, and, as it does not leave the bee-cell till spring, when the *Anthophora* tubes are very generally broken and have fallen, it may possibly wander a short distance from the mouth of the bee-burrow. The triangulin is yet unknown, but the ultimate stage of the second larva as well as the coarctate larva, as shown by the distended and unruptured skins, exhibit the ordinary family characteristics, the legs and mouth-parts being atrophied in the former, and

merely tuberculous in the latter. The lateral ridge, as found in *Epicauta* and *Meloe*, is not conspicuous, and in this respect, as well as in the final transformations taking place within the two unrent skins, the insect approaches *Sitaris*. In the hairless and unarmed surface of the second larva, and of the third larva and pupa, as shown by careful examination of their shrunken exuviae, the insect also resembles that genus. I take great pleasure in dedicating the genus to Dr. Horn, who has so well studied the structural characters of our Meloids.

HORNIA, Nov. Gen. — Head oval deflexed, suddenly constricted posteriorly; clypeus emarginate in front; labrum transverse, truncate; mentum slightly longer than wide, rounded in front; labial palpi with the last joint elongate-oval; maxillary palpi with the 2nd joint rather longer than the others, the terminal joint somewhat longer than the preceding and elongate-oval; mandibles moderately prominent, acute at tip; antennae filiform, slightly flattened, 11-jointed, slightly arcuate, as long as head and thorax in the ♂, scarcely longer than the head in the ♀; joint 1 robust, conical, 2 transverse, 3 somewhat longer than the others, 4-10 equal, 11 longer than the preceding and oval at tip. Scutellum cordiform. Elytra very small, semicorneous and translucent, oval, diverging from scutel, reaching to and resting against the first abdominal joint. Hind wings of same form but not $\frac{1}{3}$ as large as elytra, through which they may be discerned. Meso- and metathorax very short and constricted: side pieces small, partly covered at anterior end by the elytra. Tarsi spinulose, claws simple. Abdomen 8-jointed, elongate-oval, large, membranous; in the ♂ with two series of approximate, subquadrate, semicorneous dorsal plates, and two more rounded, more widely separated ventral series: in the ♀ these plates are obsolete. First abdominal joint covered beneath by the metasternum. First pair of spiracles mesothoracic.

H. minutipennis, n. sp. — ♂ Head, palpi, prothorax, and legs, rufous antennae and horny abdominal plates darker; labrum, wings, and elytra, whitish; abdomen yellow. All the corneous parts, as also the elytra, sparsely covered with short stiff dark hairs. Head, prothoracic and semicorneous abdominal plates, also sparsely punctulate. There is a dark, transverse, narrow line in the suture between metathorax and abdomen also similar sutural lines between the ventral plates. Length 16 mm.

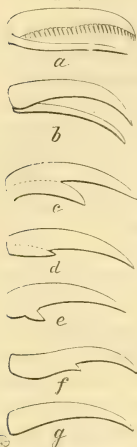
♀ Differs from ♂ in the antennae being scarcely longer than the head: in the semicorneous pieces on metanotum more nearly covering the same: in the semicorneous plates entirely lacking on the venter, which is more evenly spinulose; in the dorsal plates, except on the anal joint, being subobsolete and colorless; and in the color of the abdomen being whiter.

Four ♂'s and one examined.

Ultimate stage of second larva with the jaws broad and simple, the other mouth-parts as in *Epicauta*, but with the three leg-parts well separated and tapering to a single tarsal point (Pl. V., Fig. 13, *d*).

Coarctate larva with the trophi tuberculous as in *Epicauta*, but with the lateral ridge but slightly developed, and the skin less firm and showing all the wrinkles of the larva (Pl. V., Fig. 13, c).

Fig. 40.



The variation from the more complex to the more simple—the degradational tendency in the tarsal claws of the Meloidæ is shown by outlines in Fig. 40.

In the Nemognathini the claw is double and the upper and thicker portion is strongly serrate beneath (Fig. 40, a). In the Lyttini, the upper portion becomes simple (b). In *Calospasta*, *Tegrodera*, *Eupompha*, *Rhodaga*, the lower division is shorter than the upper, and connate with it (c). In *Poreospasta* the lower part is still shorter, connate, and scarcely visible (d). In *Megetra*, and allied genera, the faint basal suture is obliterated, and the hook varies somewhat in size (e). In *Cordylospasta* the hook is more acute and nearer the tip (f); while in *Hornia* the claw is entirely simple (g).

TARSAL CLAWS OF MELOIDÆ.

The following table of our N. A. Meloini will serve as an amplification of that given by Dr. Horn in 1863 (*Trans. Am. Ent. Soc.*, vol. ii. p. 139), and show the position of the genus, which I have added.

- A.—Antennæ 11-jointed. Hind wings obsolete, or nearly so.
- b. Elytra imbricated; claws equally cleft MELOË.
 - c. Elytra divergent from scutellum; claws toothed .. MEGETRA.*
cc. Claws simple HORNIA.
 - d. Elytral inner margins contiguous at anterior third; claws equally cleft NOMASPIS.
 - dd. claws with lower part very short and connate. POREOSPASTA.
 - e. Elytral inner margins contiguous their whole length and entirely (or nearly) covering the abdomen; claws equally cleft; elytra subconnate..... HENOUS.
 - ee. Claws toothed; elytra connate and inflated .. CYSTEODEMUS.
- B.—Antennæ 8-jointed, last joint equal to the three preceding. Hind wings feeble.
- Elytral inner margins contiguous throughout nearly the entire length; claws feebly toothed at middle..... CORDYLOSPASTA.

* *Pseudomeloe* (Fairm. & Germ.) is, as has been recorded by Dr. Horn (*Zoöl. Record*, London, 1875. p. 346), but a synonym of *Megetra*.