

A Platygasterid Parasite of Certain Wasp Larvae

(Hymenoptera: Proctotrupoidea, Platygasteridae)

C. F. W. MUESEBECK

United States National Museum, Washington, D. C., U. S. A.

(With 1 figure)

The species of Platygasteridae of which the host relations are known are mostly parasites of larvae of Cecidomyiidae. There seem to be comparatively few exceptions apart from the genera *Amitus* and *Allotropa* the members of which are specialized as parasites of Aleyrodidae and mealybugs, respectively. The type species of *Fidiobia* is said to have been reared from eggs of the chrysomelid beetle *Fidia viticida* WALSH; *Platystasius strangaliophagus* NIXON was described as apparently a parasite in the eggs of a cerambycid beetle, *Strangalia aurulenta* (F.) in Ireland, while *P. othus* NIXON, the only other known species of this genus, was reared in association with Scolytidae infesting olive trees in Italy; there are isolated records (some of them doubtful) of a few species of *Platygaster* from galls of Cynipidae and Tenthredinidae, and of one even from a gall of the eurytomid genus *Harmolita*; and *Trichacis rufipes* ASHMEAD has been obtained from acorns infested with curculionid and blastobasid larvae; but Cecidomyiidae are the normal hosts of the vast majority of the species.

So far as I am aware no species of Platygasteridae has been reported as a parasite of wasp larvae. I have, therefore, been greatly interested to receive from Dr. K. V. KROMBEIN, of the U. S. Department of Agriculture, a large number of specimens of a platygasterid which he had reared from isolated larvae of certain crabronine wasps. The species is new, so far as I have been able to determine. Moreover, it seems not to be satisfactorily referable to any known genus. Accordingly, both the genus and the species are described here.

Crabroborus, new genus

The species for which this name is proposed runs to *Isostasius* FOERSTER in KIEFFER's key to the genera of Platygasteridae (Das Tierreich 48, 560, 1926) but it differs strikingly in general appearance due to the fact that the thorax is depressed and the mesoscutum and scutellum are relatively flat. It also differs significantly in certain details. The club of the female antenna is 4-segmented, as in *Isostasius*, but it is solid, with the segments not separated as they are in that genus; and the lateral ocelli are very near the eyes in *Crabroborus* but far removed from them in *Isostasius*. In the depressed thorax and the position of the ocelli *Crabroborus* resembles *Platystasius* NIXON, but from that genus it differs in having the notauli convergent, in having the club of the female antenna solid and 4-segmented

(in *Platystasius* it is composed of three distinctly separated segments), in the stouter abdomen and the relatively enormous second tergite.

Head transverse; antennae inserted at the clypeus, 10-segmented in both sexes, with the last four segments forming a stout, compact club; maxillary palpus 2-segmented; labial palpus consisting of a single elongate segment; lateral ocelli very near the compound eyes and far removed from the median ocellus; eyes with scattered and very short hairs. Thorax depressed, distinctly wider than high; notauli complete, sharply impressed and posteriorly convergent; scutellum not elevated, strikingly broad, the suture at its base very fine; forewing with a straight subcostal vein which is dilated at the apex; all femora short and thick; tarsi 5-segmented. Abdomen short and broad, the second tergite occupying most of the dorsal surface.

Type of the genus, *Crabroborus krombeini*, new species.

Crabroborus krombeini, new species

Female: Length about 1.2 mm. Head, from above, twice as broad as long, its surface with very fine scaly reticulation; frons twice as wide as high from antennae to median ocellus; eyes noticeably divergent below; malar space about half as long as eye height; temples strongly receding; scape of antenna slightly curved and reaching about to the level of the median ocellus; pedicel about one-third as long as scape; first segment of the funicle the largest, broadening apically and a little longer than wide; second and third segments small, moniliform, the fourth transverse; club very large, twice as wide as greatest width of funicle and about as long as pedicel and funicle combined, its four segments distinctly defined but closely joined, the basal one the largest; lateral ocelli less than their diameter from eye margins.

Thorax about as broad as head and conspicuously wider than high; mesoscutum only slightly convex and covered with very fine scaly reticulation, rather shiny; notauli sharply impressed, widened posteriorly and converging caudad but still widely separated at scutellar furrow, which is sharply impressed but very narrow; scutellum very large, much broader at base than long and broader than greatest width of middle lobe of mesoscutum, not elevated above level of mesoscutum, and like the mesoscutum covered with very fine scaly reticulation; lateral margins of scutellum carinate and with a narrow, shallow groove just inside margins; surface of mesonotum with short, rather evenly spaced, appressed hairs; mesopleuron impressed, smooth, polished and glabrous; metapleuron rather dull, minutely reticulate and thickly pubescent. Forewing long and broad, extending considerably beyond apex of abdomen; subcostal vein reaching about to end of basal third of wing. All femora short and thick, thickest a little beyond middle, narrowed basally and apically; anterior tibiae barely longer than their femora and strongly thickened apically; middle and hind tibiae longer and much more slender.

Abdomen gently convex, broadening gradually from base to apical margin of second tergite and narrowing rather abruptly from there to apex; second tergite about as long as its greatest width, smooth, polished, and perfectly glabrous; third, fourth, fifth and sixth tergites strongly transverse, very short and becoming successively shorter, all vaguely reticulate or shagreened and a little hairy. Ovipositor not or slightly protruding.

Black; scape, pedicel and funicle testaceous, antennal club brown; legs testaceous except coxae, which are brownish black; wings subhyaline.

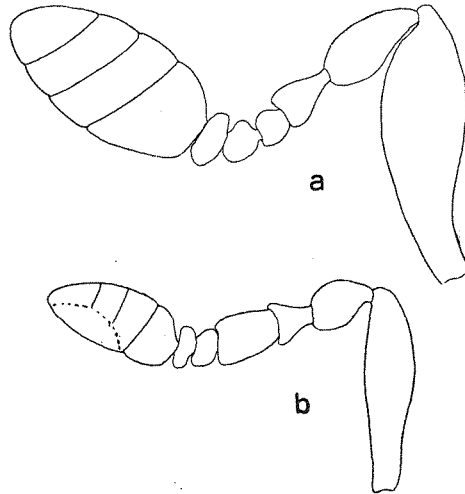


Fig. 1. Antennae of *Crabroborus krombeini* n. sp.: a, female; b, male

Male: Essentially similar to the female except in the structure of the antennae. The scape is more slender and the second funicular segment is conspicuously enlarged, being longer than broad and as wide as pedicel; in the club only the basal segment is completely marked off and it is slightly separated from the remainder of the club, which is solid and has the lines demarcating the three segments incomplete; the apical segment of the club, which is the most incompletely separated, is the longest.

Type: U. S. National Museum No. 66599.

Type locality: Plummers Island, Maryland (a small island in the Potomac River adjacent to the District of Columbia).

Described from 150 females and 29 males, all from Plummers Island, Maryland, and all reared in 1961 and 1962 by K. V. KROMBEIN from isolated larvae of the crabronine wasps, *Euplilis rufigaster* (PACKARD), *Euplilis* sp. and *Ectemnius paucimaculatus* (PACKARD). Both the holotype and the allotype were reared from *E. paucimaculatus* on September 18, 1962.

This is a gregarious internal parasite. As many as 26 adults have been reared from a single wasp larva. The parasitic larvae completely consume the contents of the host, leaving only the head capsule and the transparent

26*

skin through which the parasites are clearly visible. The possibility of polyembryony is immediately suggested since this phenomenon is not uncommon in the Platygasteridae, but there is no definite evidence for it in this case. In fact, the common emergence of both sexes (although the ratio of males to females is only 1 to 5 in the material thus far examined) from the same host larva suggests that reproduction is not by polyembryony.

Summary

There is described a new Platygasterid genus and species as a parasite of crabronine wasp larvae.

Zusammenfassung

Eine neue Gattung und Art der Familie Platygasteridae als Parasit von Crabroniden-larven wird beschrieben.

Резюме

Описывается новый род и вид семейства Platygasteridae в качестве паразита личинок Crabronidae.