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Description of the Larva of *Dioedus Punctatus* LeConte (Coleoptera: Tenebrionidae)

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DESCRIPTION OF THE LARVA OF *DIOEDUS PUNCTATUS* LeCONTE (COLEOPTERA: TENEBRIONIDAE)

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ABSTRACT

Larvae of *Dioedus punctatus* LeConte have been collected from logs, probably *Ulmus americana,* in the red-rotten stage of decay and determined from reared adults. They are described and illustrated.

INTRODUCTION

Larvae of *Dioedus punctatus* LeConte were collected in Ingham County, Michigan, on 8 September, 1974. They were taken along with numerous adults from a dead log, probably *Ulmus americana,* in the red-rotten stage of decay.

Several larvae were placed in a covered plastic petri dish with small amounts of the moist decaying wood and maintained at room temperatures. Of these, three pupated and thus a positive association was established through determination of the ensuing adults.

DESCRIPTION OF LARVA

Larvae of *punctatus* possess the general alleculid-tenebrionid conspectus, differing in details of the head and ninth tergite as described below.

Mature larvae attain lengths of 6-7 mm and widths of 0.5-0.75 mm, with the body cylindrical and subparallel to slightly broader posteriorly. The head and body are creamy white to light yellowish-brown in color, brown to piceous in areas of heavy sclerotization such as the tips of the mandibles and the urogomphi; vestiture is sparse with a few moderately elongate setae associated with the head and ninth tergite, the remainder of the body possesses but a few short setae.

Head prognathous, exserted from prothorax, as wide as or slightly wider than prothorax. Epicranial suture and ocelli lacking; rim of occipital foramen but slightly reinforced, not more deeply pigmented than remainder of head capsule. Antennae prominent, 3-segmented, with second segment bearing an ovate, disk-like sensorium which occupies ½ of its inner surface; first antennal segment slightly longer than second, third segment 0.4-0.5 times as long as second and bearing a few short setae subapically and one elongate apical seta. Mouthparts retracted, with stout asymmetrical mandibles, the right one bearing a well developed transversely serrulate molar area, the left with a prominent molar area which is produced into a blunt molar tooth; apices of mandibles tridentate with middle tooth slightly longer than outer teeth; left mandible usually closing over the right. Clypeus distinct; labrum movable, symmetrical, slightly longer than wide and bearing several elongate, anteriorly directed setae. Maxillae movable, composed of cardo, stipes, undivided pad-like maxillary articulating area, maxillary mala, and a 3-segmented palpus. Mala bearing numerous stout, spine-like setae along inner and apical margins. Labium with ligula absent; palpi 2-segmented. Mentum slightly longer than wide, broadest distally; submentum trapezoidal, widest proximally; gula elongate and narrow, its length 5 times its width. Ventral epicranial ridges and hypostomal rods absent. Epipharynx similar in form and structure to that of *Phthora canalicollis* Lewis (Hayashi, 1966; pl. 14, K); hypopharyngeal sclerome heavily sclerotized and transversely rectangular.

Legs short, 0.4-0.5 times as long as width of thorax, each bearing a short terminal claw; legs narrowly separated, with intercoxal distances of about one coxal diameter. Thoracic spiracle ovate, located near anterior margin of laterotergite (mesothoracic preepipleuron *sensu* St. George, 1924).

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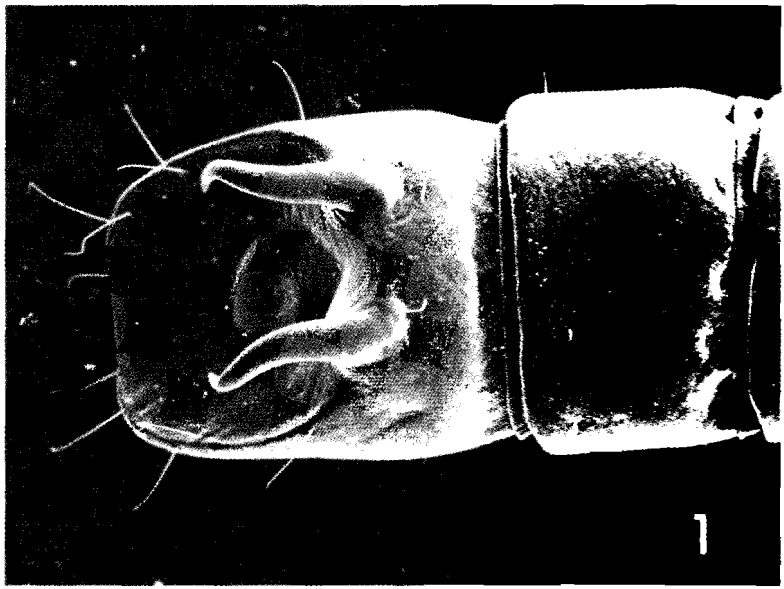

Figs. 1 & 2. Larva of *Dioedus punctatus* LeConte, abdominal segments 8 & 9: Fig. 1, dorsal aspect; Fig. 2, lateral aspect.

Abdomen cylindrical, moderately sclerotized, tergites 1-8 subequal in length and of similar shape. Ninth tergite (Figs. 1, 2) nearly twice as long as eighth, bearing two heavily sclerotized, darkly pigmented, fixed urogomphi and terminating as excavated concavity caudodorsally; the caudoventrally directed recurved urogomphi arise dorsally, anterad of excavated area (Fig. 1). Ninth sternite reduced, visible laterally (Fig. 2) or ventrally, arising from distal margin of eighth sternite. Tenth segment reduced, visible as lightly sclerotized area surrounding anal opening immediately behind ninth sternite, frequently obscured due to intimate association of ninth sternite with ventral aspect of ninth tergite. Circular spiracles of similar size located laterally on laterotergites 1-8.

DISCUSSION

Dioedus punctatus, from the eastern states, and *Phthora americana* Horn, a West Coast species, comprise the North American representatives of the tribe Phrenapatini. Larvae of *P. americana* have recently been associated with adults by Lawrence and Doyen (Lawrence, *in litt.*), and will be described in a future paper dealing with tenebrionid larvae (Doyen, *in litt.*).

The only other source of information known to the author relative to phrenapatine larvae is that provided by Hayashi (1966). Larvae of *Phthora canalicollis* Lewis and *Tagalus* sp., both from Japan, are described and figured. The descriptions agree rather closely with that of *D. punctatus* not only in general conspectus, but also in such salient features as the apparent lack of an epicranial suture, lack of ocelli ("sometimes visible" in *Tagalus*), and in the unique and bizarre form and structure of the ninth tergite.

LITERATURE CITED

Hayashi, N. 1966. A contribution to the knowledge of the larvae of Tenebrionidae occurring in Japan (Coleoptera: Cucujoidea). Ins. Matsumurana, Suppl. 1:1-41.

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