REVISTA BRASILEIRA DE ZOOLOGIA

Rvta bras. Zool., S. Paulo 2(2): 71-76 31.V.1984

LARVAE OF NEOTROPICAL COLEOPTERA. X: Mycteridae, Lacconotinae

CLEIDE COSTA [1]
SÉRGIO A. VANIN [2]

ABSTRACT

Larvae of Stilpnonotus postsignatus *Fairmaire, 1889 were collected inside a hard log in Peruíbe, São Paulo, Brazil; reared adults were identified. A description of the larva, pre-pupa and pupa are provided with ilustrations.*

INTRODUCTION

Costa & Vanin, 1977 described the larvae of *Eurypus muelleri* Seidlitz, 1917 referring to the works of Crowson, 1955 and Crowson & Viedma, 1964 who redefined the family Mycteridae.

The discovery of the immature phases of *Stilpnonotus* constitutes the second contribution to the knowledge of the Lacconotinae larvae from the Neotropical region. A morphologically differentiated pre-pupal instar, like that already described for *Eurypus muelleri,* was observed.

Stilpnonotus postsignatus Faimaire, 1889
(Figs. 1-18)

Lenght 12-16 mm; width 1.0 mm. Cylindrical, slightly depressed; body surface cream-white; mouthparts, anterior margin of head, eight and ninth abdominal segments darker. Body surface with scattered setae. Ninth abdominal segment heavily sclerotized (figs. 10 and 11) with apex bifurcated and strongly curved upwards. Very characteristically shaped asperities (fig. 8) on the tergites and sternites of abdominal segments 2-4.

---

1. Museu de Zoologia da Universidade de São Paulo. With partial aid from "Fundação de Amparo à Pesquisa do Estado de São Paulo" (Proc. 38 - Zoologia 81/1932-1). Pesquisadora do Conselho Nacional de Desenvolvimento Científico e Tecnológico.

2. Departamento de Zoologia da Universidade de São Paulo. With partial aid from "Fundação de Amparo à Pesquisa do Estado de São Paulo". (Proc. Biol. 80/0540).

Head (figs. 1-3) prognathous, weakly pigmented, except for the anterior margin, broader than long, retracted into thorax. Epicranial stem absent; frontal arms lyriform, complete. Ocelli dark pigmented, placed in rows of 3 (anterior) and 2 (posterior) on each side. Clypeus transverse and membranous. Labrum (fig. 12) free, transverse, covered with long and short setae. Epipharynx (fig. 13) bearing 1 conspicuous unisetiferous sensilla in the middle and 6 on each side; microtrichia densely distributed in two spots, one anteriorly and other basally. Gula elongate, broad posteriorly, strongly narrowed anteriorly, not fused to labium. Antennae (fig. 15) 3-segmented; third segment, the smallest, with an apical tuft of thin hairs; second segment with sensory appendix very short. Hypostomal rods distinct and divergent.

Mouthparts protracted. Mandibles (figs. 16-17) symmetrical, with three apical scoop-like teeth; molar area well developed, transversely ridged; two lateral setae; retinaculum absent; articulatory areas formed by the ventral condyle and dorsal acceptabulum. Maxillae (fig. 14) well developed, mala broadly rounded, fused to stipes; uncus present; palpifer present; maxillary palpi 3-segmented; cardo well developed. Labium (fig. 18) with two sclerites, postmentum and prementum; ligula elongate with a tuft of apical setae; labial palpi 2-segmented, palpiger articulated and with one elongate seta.

Head and thorax (fig. 1) approximately as wide as the abdomen. Legs of equal lenght, with a few setae. Coxae very small and widely separated. Trochanter triangularly shaped; tibia with an apical row of small spines; tarsungulus with one claw.

Abdomen with 9 segments visible from above; 8 pairs of spiracles similar in size, spiracles annular with the posterior border of the opening crenulate (fig. 9). Segments 2-4 with characteristically shaped asperities, the pair on the tergites placed medially and more conspicuous than on the sternites where they are placed near the lateral posterior margin.

Segment 8 approximately 2.5 times as long as segment 7, with typical muscular impressions and posterior margin with 2 small sclerites surronded by a membraneous area.

Segment 9 curved upward, strongly sclerotized except for a small dorsal area which is characteristically shaped; bifurcated at apex.

Segment 10 very small, completely received in an emargination of sternite 8. Anal opening transverse.

Pre-Pupa (figs. 4 and 5). General aspect shorter and broader than the mature larva; cream white; 8 and 9 abdominal segments less darker than the last larval instar. Head hypognathous. Asperities on tergites and sternites 2-4 present.

Pupa (figs. 6 and 7). Adectica, exarata, without gin-traps. The pre-pupa skin remains attached to the last pupal segment which is deeply bifurcate.

Material examined.

Brazil. *São Paulo*. Peruíbe, 27.29.04.1981, Exp. MZSP col., 3 larvae, fixed; 1 larva reared to pre-pupa; 1 larva reared to adult (MZSP).

Discussion — The larva of *Stilpnonotus* is very closely related to those of the genera *Eurypus* and *Mycterus* in characters concerning the general features of the Cucujoid larvae but shows the following morphological differences which seem to be adaptations to life in burrows:

a) body shape cylindrical (flattened in the other genera)

b) highly developed asperities present on lateral and dorsal abdominal segments 2-4 (poorly developed in other genera)

c) abdominal segment 9 hook-shaped (flattened in other genera).

According to Crowson (pers. comm.) the modified abdominal segment 9 may well be adapted to movement backwards and forwards in a narrow burrow. Crowson also called our attention to the morphology of the *Stilpnonotus* mandible. The mandibles would resemble be those of some fungivorous Clavicornia, and by their aspect they would adapted to eating soft food, like fungal spore, rather than wood-boring. The occurrence of these larvae in burrows in hard wood could be secondary, the larvae using burrows constructed by other insect, maybe ambrosia beetle (Platypodidae) and probably feeding on the ectosymbiotic ambrosia fungus developing in the burrows.

Biological Notes

Larvae of *Stilpnonotus* were found inside hard wood, in perpendicular galleries in relation to the longitudinal axis of the trunk. The larvae stays in those galleries with the dark, sclerotized ninth segment facing the external opening; when disturbed they withdraw rapidly into the galleries.

The duration of the pre-pupal phase was of 6-7 days (the same number observed for *Eurypus muelleri)* and of the pupal phase was of 12-14 days (two observations, both).

Acknowledgments

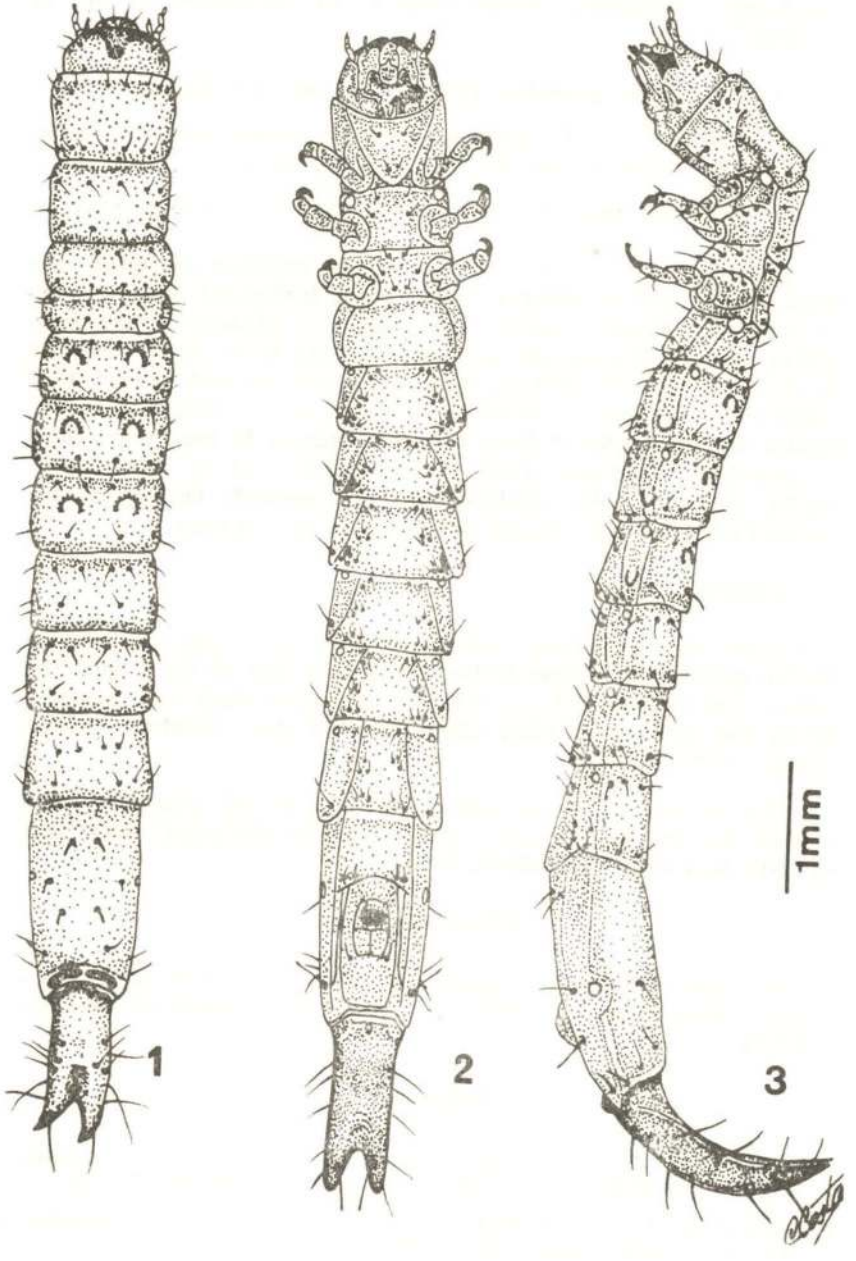
We thank Dr. R. A. Crowson, from the Department of Zoology, Glasgow University, for helpful suggestions and revision of the manuscript.

References

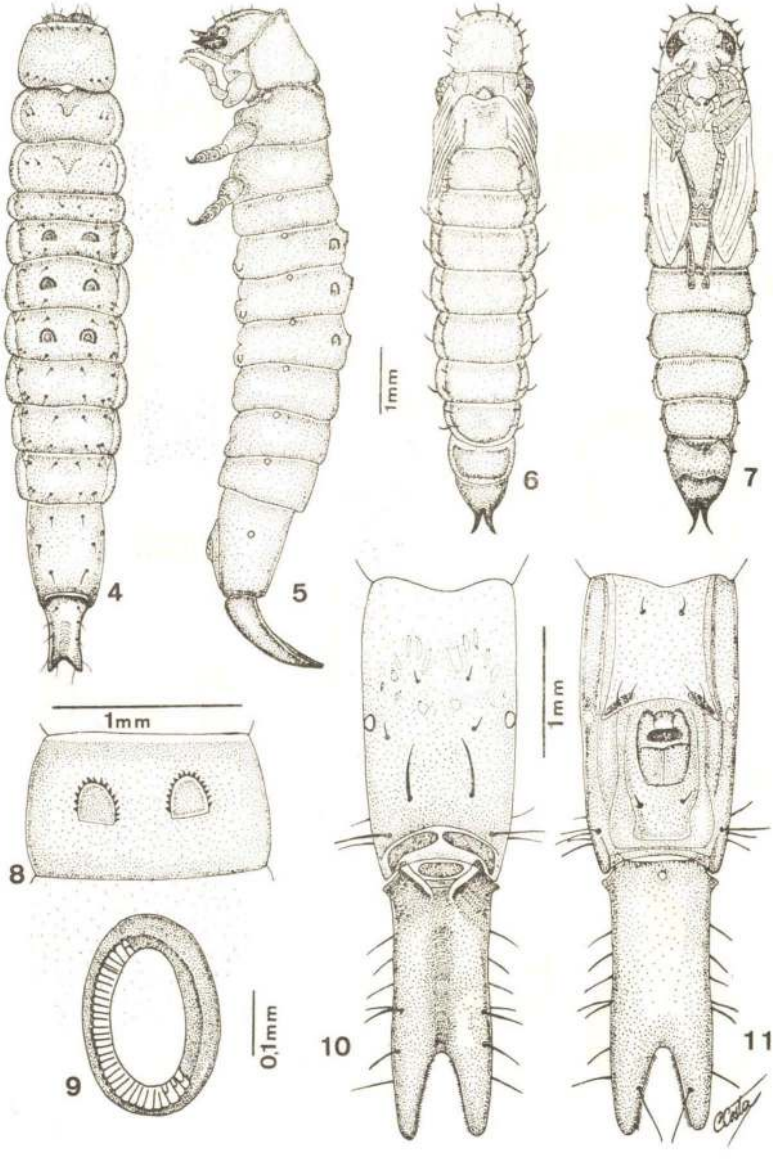
Costa, C. & S.A. Vanin, 1977. Larvae of Neotropical Coleoptera. I. Mycteridae, Lacconotinae. *Papéis Avulsos Zool., S. Paulo 31* (9): 163-168, 13 figs.

Crowson, R. A., 1955. *The Natural Classification of the families of Coleoptera,* 214 pp., 212 figs. (Reprint edition, 1967, Classey, London).

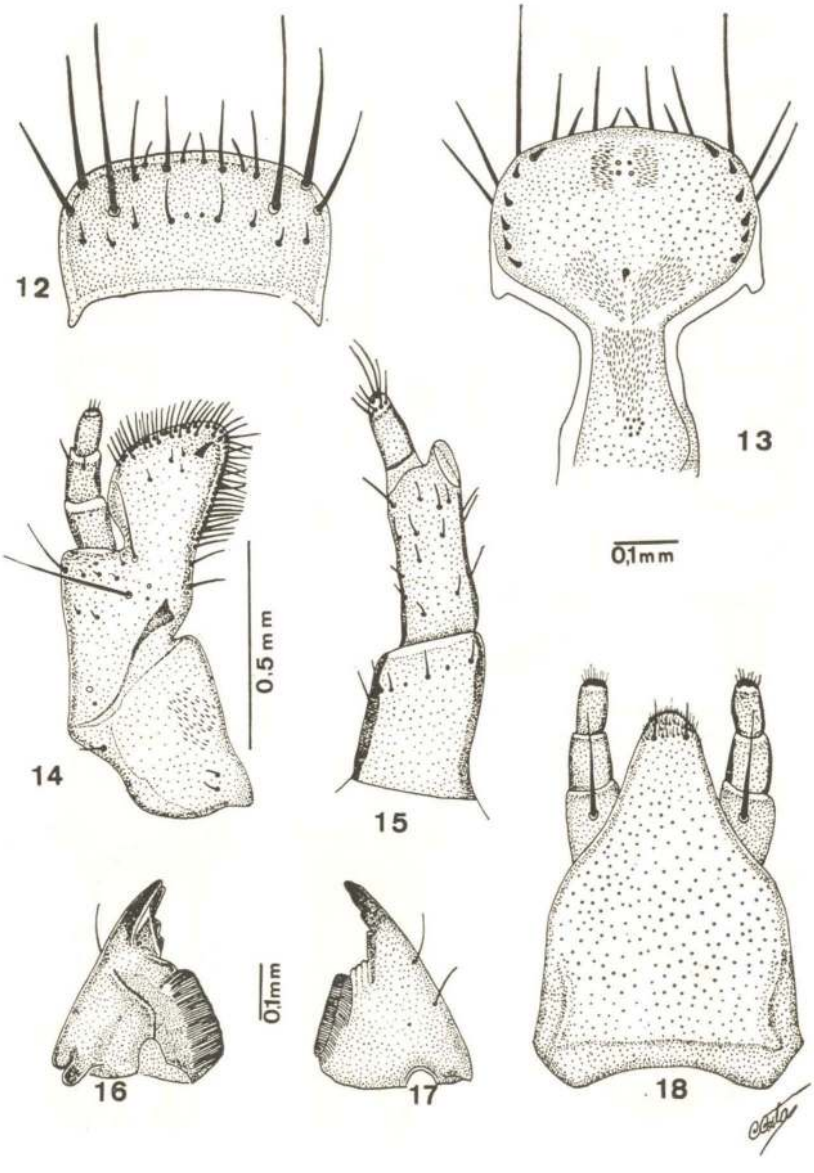
Crowson, R. A. & M. G. Viedma, 1964. Observations on the relationships of the genera *Circaeus* Yablok. and *Mycterus* Clairv., with a description of the presumed larva of *Mycterus* (Col. Heteromera). *Eos 40:* 99-107.



Stilpnonotus postsignatus Fairmaire, 1889. Mature larva, habitus. Fig. 1: dorsal; Fig. 2: ventral; Fig. 3: lateral.



Stilpnonotus postsignatus Fairmaire, 1889. Fig. 4: dorsal view of pre-pupa; Fig. 5: lateral view of pre-pupa; Fig. 6: Pupa, dorsal view; Fig. 7: Pupa, ventral view; Fig. 8: Aspect of the dorsal abdominal asperities; Fig. 9: Spiracles; Fig. 10: Eighth and ninth tergites; Fig. 11: Eighth and ninth sternites.



Stilpnonotus postsignatus Fairmaire, 1889. Fig. 12: labrum; Fig. 13: epipharynx; Fig. 14: Maxilla; Fig. 15: Antenna; Fig. 16: Mandible, ventral view; Fig. 17: Mandible, dorsal view; Fig. 18: Labium.