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## NEOZELIA ALINI, GEN. ET SP. N. (DIPTERA: TACHINIDAE), A PARASITE OF CERAMBYCIDS (COLEOPTERA), WITH A LISTING OF TACHINIDAE PARASITE OF CERAMBYCIDAE

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### ABSTRACT

*Neozelia alini*, gen. et sp. n., a parasite of the larvae of certain species of Neotropical Cerambycidae is described on adult and pupal characters. The host larva is killed in its pupal cell, where the parasite larva pupates. The tachinid fly emerges through a weakened exit area prepared by the host. A listing is presented of the world fauna of Tachinidae parasites of Cerambycidae larvae.

### INTRODUCTION

Published records of dipterous parasites of Cerambycidae are very scanty. Most of the records involve single parasite records sometimes doubtful, almost nothing being known on their life-histories or ecologies.

In the years 1973-1974, a number of dipterous parasites were reared from cerambycid larvae during an ecological investigation on Cerambycidae by Dr. Ubirajara R. Martins and Mr. V. N. Alin, in the vicinity of São Paulo. Branches and log parts containing cerambycid larvae were brought to laboratory were the cerambycids or their parasites were reared to adults.

During these ecological studies eight specimens of a new genus and species of Tachinidae belonging to the Dexiinae were regularly obtained from branches containing larvae of *Neocoridolon borgmeieri* Melzer and of several other cerambycid species.

A review of the available literature revealed no records of parasitism of cerambycid larvae by tachinids in the Neotropical Region.

The writer is indebted to Dr. Ubirajara R. Martins for access to and identification of the host material and for the criticism on several points on the life-history and ecology of cerambycids. I also wish to thank Mr. V. N. Alin for collecting and rearing the material and Mr. Sergio Vanin, for the photographs on the material.

**Neozelia, gen. n.**

Zeliini with the following combination of characters. Small to medium sized species (8-10 mm); body narrowed; head subtriangular in profile (fig. 1); frontalia enlarged on middle and strongly constricted just above bases of antennae; outer verticals fine and slender; inner verticals long and parallels; ocellar three pairs, fine and divaricated; eyes base (extremely fine, short and sparse hairs visible under high magnification); three proclinate orbitals and one proclinate orbital in females; male with a row of five fine proclinate cilia in line on the upper half of parafrontalia; antennae with the second segment flushed, subtriangular in profile, with a thick group of cilia anteriorly (fig. 3); arista thinly long plumose; palpi spatulate, flat dorsoventrally, with long cilia on ventral side only; epistoma of arcuate type, little projected; vibrissae reduced in size; peristomal setae weak and elongated; proboscis short; prescutum a little shorter than postscutum; scutellum as long as prescutum; propleura and prosternum bare; acrostichals 3:3; dorso-ventrals 2:3; humerals 3; post humeral 1; notopleural 1; supraalars 2; scutellum with two pairs of laterals one pair of decussate apicals and one pair of discals; wings nearly clear; R 5 open; vein M with a abruptly angulate bend normally accompanied by at least a trace of M 2; costal spine short; apical cell open (closed in one female specimen); R 5 with three bristles above; *m-cu* slightly sinuose; squamae nearly as wide as long legs of moderate length; tarsi longer than tibiae; claws and pulvilli short; abdomen long conic; T 1+2 depressed mesially to posterior border; two median marginals on T 1+2; marginal row on last three segments; three median discals in file on T 3 and two median discals on T 4.

**Neozelia alini, sp. n.**

Male length, 8 mm

Head pale yellow, thickly white pollinose. Frontalia black. Ocellar triangle silvery, faintly brassy tinged. Parafacialia wide and bare. Facialia brownish with few black hairs above vibrissae. Antennae black; first and second segment brown; Third segment elongate, twice as long as second; Gena about 0.70 of eye height. Palpi reddish, widened apically, almost as long as haustellum.

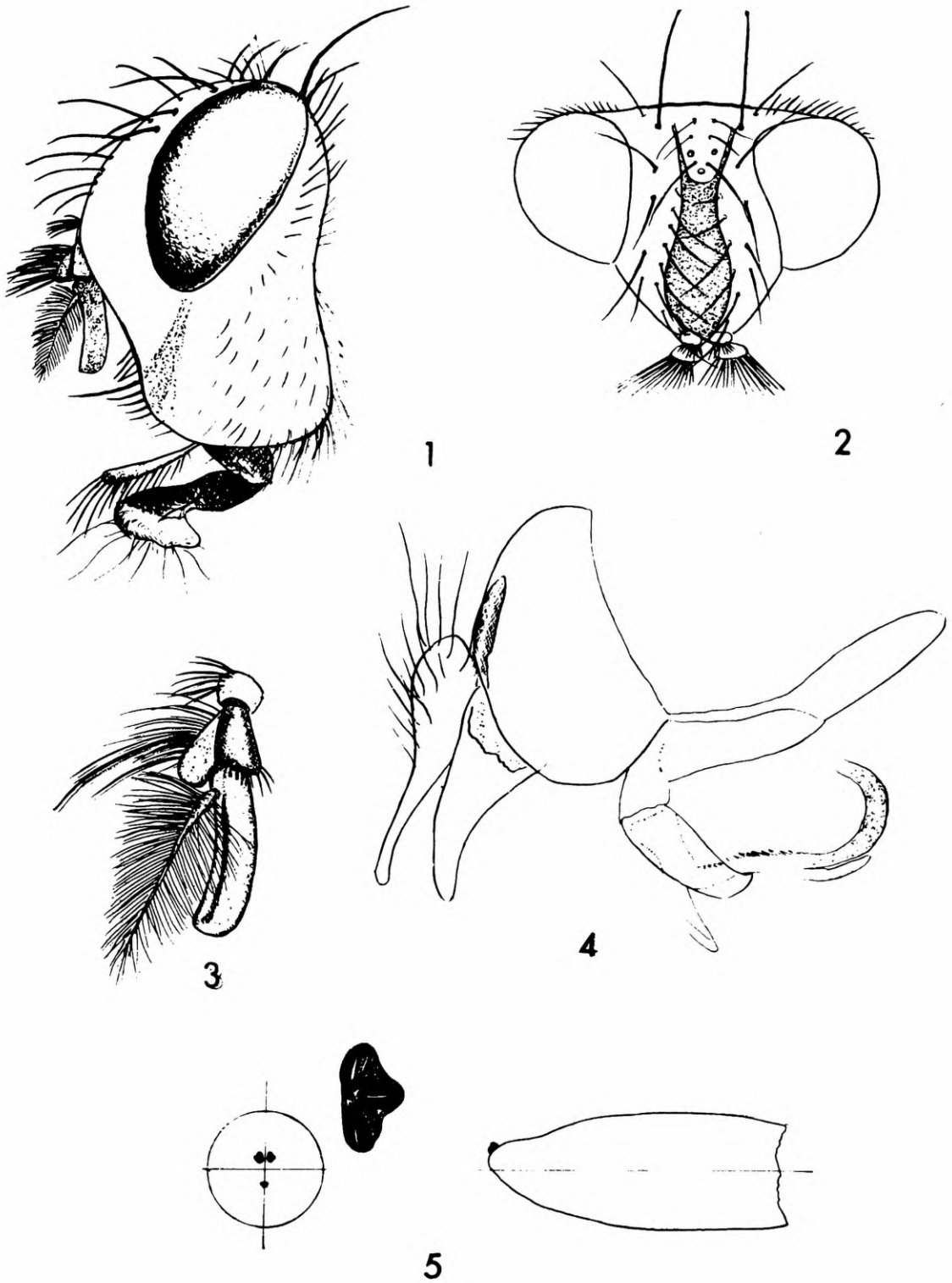
Thorax black in ground color, ashy gray pollinose; scutellum tinged with brassy on anterior half; postalar calli black. Legs black; femora thinly pollinose.

Abdomen black, T 1+2 and T 3 orange red on sides; anterior half of T3, T4, and sides of T5 thickly white pollinose. Male genitalia (fig. 4). Cerci and surstyli elongate with fine tips (fig. 4); aedeagus *Dexia*-type.

Female. Usually large than male (9-10 mm), differing from male by presenting three pairs of proclinate orbitals and a pair of reclinate orbitals.

Puparium. Medium sized; dull blackish, red, very finely rugose. Spiracles protuberant, shining black, distinctly raised above longitudinal axis and narrowly separated at the bases. Each plate has three slits located on the upper surfaces of a well defined ridges. Button small, round.

Length: 9.5-10.0 mm; diameter: 3.5-4.0 mm.



*Neozelia alini*: 1, head lateral view; 2, same, dorsal view; 3, antenna of female, lateral view; 4, male genitalia; 5, puparium.

Holotype ♀, São Paulo, SP, 6.XI.1974, V. N. Alin col. (ex. cultures of *Neocoridolon borgmeieri* Melzer) (MZSP). Paratypes: 3♀, same data as holotype (MZSP); 2♀, São Paulo, SP, IX.1974, V. N. Alin coll. (ex cultures from *Tropidium hermione* (Th.), Ibidionini. *Compsibidion vanum* (Th.), Ibidionini. *Pantonyssus nigriceps* Bates, Sphaerionini. *Gorybia adiaphora* Martins n. *nudum*, Piezocerini; 1♂ 1♀, São Paulo, SP, 6.XI.1974, V. N. Alin coll. (ex cultures from *Compsibidion vanum* (Thomson), Ibidionini; *Tropidium hermione* (Thom.), Ibidionini; *Pantonyssus nigriceps?* Bates, Sphaerionini; *Compsocerus violaceus* (White), Compsocerini.

Host parasite list of Cerambycidae attacked by Tachinidae

#### Prioninae

*Prionus coriarius* Lin. (Prionini)

*Billaea subrotundata* (Rond.) — Tölg, 1910

*Billaea pectinata* (Meig.) — Tölg, 1910

#### Cerambycinae

*Callidium violaceum* (Lin.) — (Callidiini)

(\*) *Stevenia umbratica* (Fall.) — [ cf: Emden, 1950: 194 ]

*Didymocantha quadrigullata* Sharp — (Callidiopini)

*Perrissinoides cerambycivora* Dug.-Dugdale, 1961.

*Didymocantha sublineata* White — (Callidiopini)

*Elaphidion* sp. — (Phoracanthini)

*Metadexia velox* (R.-D.) — Townsend, 1936

(\*) *Spathidexia* sp. — Townsend, 1936: 40 — [ cf. Arnaud Jr., 1960 ]

*Stenopotes pallidus* Pascoe — (Rhagiomorphini)

*Perrissinoides cerambycivora* Dug.-Alma, 1973

#### Lamiinae

*Bixadus sierricola* White — (Lamiini)

*Billaea* sp. (as *Phorostoma*) — Lepesme & Paulian, 1943

*Monochamus scutellatus* Say — (Lamiini)

*Eutheresia monohammi* Town. — Aldrich, 1932

*Monochamus titillator* (F.) — (Lamiini)

*Eutheresia monohammi* Town. — Fattig, 1949

*Neacanthocinus obsoletus* (O1.) — (Acanthocinini)

*Eutheresia interrupta* Curran — Wallace & Franklin, 1970

*Obera bimaculata* (O1.) — (Saperdini)

*Lixophaga variabilis* Coq. — Aldrich, 1925

*Saperda* sp. — (Saperdini)

(\*) *Euphorocera floridensis* (Townsend) — Aldrich & Webber, 1942  
[ cf. Emden, 1950: 201 ]

*Saperda populnea* (Lin.) — (Saperdini)

*Billaea irrorata* (Meigen) — Brauer & Bergenstamm, 1894

(\*) *Bigonicheta setipennis* (Fall.) — Audcent, 1942 [ cf. Emden, 1950: 190 ]

(\*) *Pelatachina tibialis* (Fall.). Riedel, 1908 [ cf. Emden, 1950: 190 ]

(\*) *Masicera silvatica* (Fall.) — Kröber, 1910 [ cf. Emden, 1910: 193 ]

(\*) asterisk in front of a generic name indicates a doubtful record.

*Tetraopes tentrophthalmus* (Forster) — (Tetraopini)

*Hyalomyodes triangulifer* (Loew) — Sabrosky & Braun, 1972

*Tragocephala nobilis* Fabr. — (Tragocephalini)

*Billaea vanemdeni* Fennah, 1959

#### Lepturinae

*Acmacops septentrionalis* Thoms. — (Lepturini)

*Villanovia villicornis* Zett. (= *Phyto aperta* Strob.) — Palm, 1957  
[ cf. Herting, 1973: 10 ]

Unidentified larvae

*Platytaina maculata*, *Pseudalsomyia pilifacies* — Crosskey, 1973: 178.

#### BIOLOGICAL NOTES

Small dead branches (between 3 to 5 cm diameter) of not yet identified tree containing cerambycid larvae collected by Mr. V. N. Alin in the vicinity of São Paulo were brought into the laboratory. Careful dissection of the branches revealed that *Neocoridolon borgmeieri* Melzer was the only cerambycid species found boring in the wood.

Two adult flies emerged in one of the rearing cages. The dissection of the branches revealed in some pupal chambers only integument and the head capsules of the beetle larvae. In these chambers containing cerambycid remains, a tachinid puparium was also found (fig. 6). The adult fly managed to escape from the tree through a weakened zone prepared by the beetle larva.

*Neozelia alini* were also reared from mixed cultures from branches containing several other species. In such cases the identity of the host species was not established. These mixed cultures contained the following species: Culture II — Ibdionini: *Tropidium hermione* (Thomson), *Compsibidion vanum* (Thomson); Sphaerionini: *Pantonyssus nigriceps* Bates; Piezocerini: *Goribia adiaphora* Martins (*n. nudum*). Culture III — Ibdionini: *Compsibidion vanum* (Thomson); *Tropidium hermione* (Thomson); Sphaerionini: *Pantonyssus nigriceps?* Bates; Compsocerini: *Compsocerus violaceus* (White). The cultures II and III were collected in the same area of culture I containing *Neocoridolon borgmeieri* Melzer.

The description of biology, host plant and immature stages of *Neocoridolon borgmeieri* Melzer are being under study by Dr. Ubirajara Martins.

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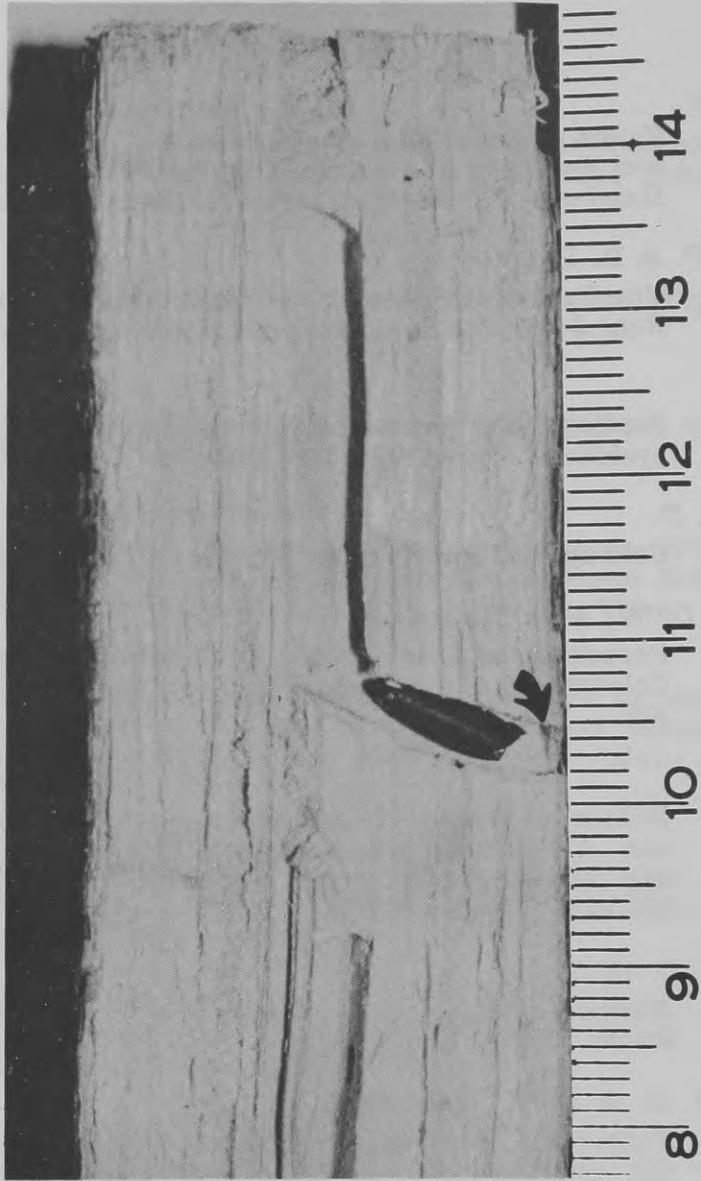
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Fig. 6, Pupation chamber of *Neocoridolon borgmeier* Melzer with empty puparium of *Neozelia alini*. The exit hole of the adult fly is arrowed.