

NEUROPTERA OF THE AMAZON BASIN

Part 8 Berothidae

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Summary

A new species of Berothidae is described from the Rio Trombetas, Pará State. This constitutes the first record for this family in Brazil and all of northern South America.

INTRODUCTION

The family Berothidae is a small one, with about 61 species described worldwide, in 22 genera. As adults they are generally of medium size, brown in color, with elongate wings, often falcate wings and a weak, fluttering flight. Other morphological characteristics are large, hairy tubercles on the head; absence of ocelli; filiform antennae; subequal wings, often with abundant pilosity; and females sometimes bearing wing scales. Trichosors are present along the wing margin. Crossvein cu-a of hindwing is long and oblique, giving the impression that Cu is apically fused, leaving a closed basal cell. In the male genitalia the ninth tergite is fused with the ectoproct (except in *Cyrenoberotha*) and the mediuncus is elongate and sometimes coiled. In more specialized Berothinae, the female ninth gonocoxites bear elongate hypocaustae.

BIOLOGY

Only very recently has the life cycle of Berothidae been elucidated. Eggs are placed on the ends of long stalks, either separately (*Spermophorella*) or in clusters of up to 12 (*Lomamyia*), often on tree trunks (Tjeder, 1959). For *Lomamyia latipennis* Carpenter, egg incubation pe-

riod is seven days. There are three larval instars lasting 12, 3, and 21 days respectively (Taber & Tauber, 1968). First and third instars are active predators of termites, while the second instar is a nonfeeding stage, hanging immobile from the tip of the abdomen (Tauber & Tauber, l. c.). The cocoon is oval and transparent, with adults emerging after 20 days (Tauber & Tauber, l.c.). Almost all records of berothid biology pertain to North American species of *Lomamyia*.

SYSTEMATICS

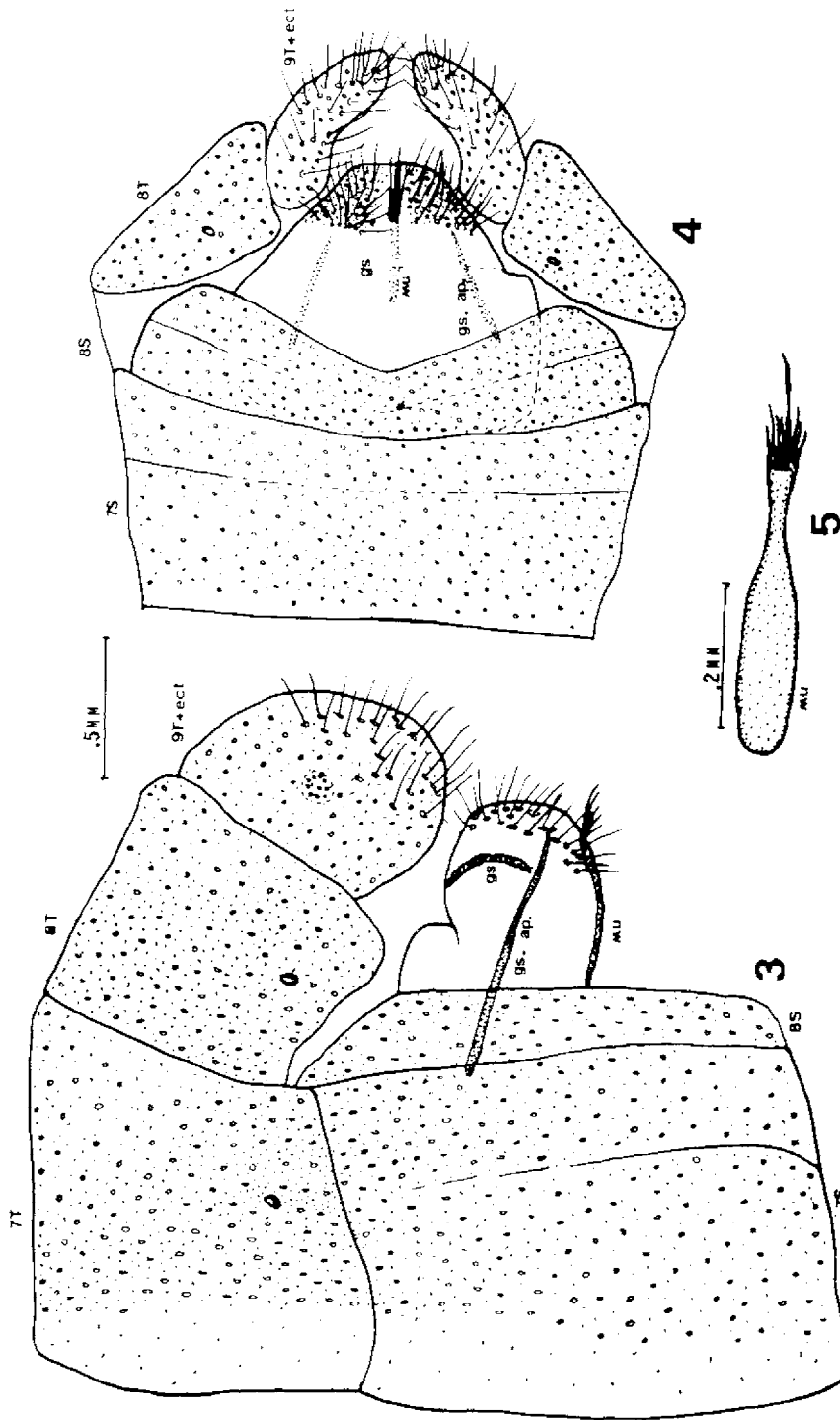
Two classic papers, one by Tjeder (1959), and the other by MacLeod & Adams (1967) have greatly clarified the phylogeny, morphology and higher classification within this family. A series of recent papers on the Asiatic and European fauna by Aspöck & Aspöck (1980, 1981a, 1981b) promises to give us more knowledge of systematics and morphology of the Old World species.

MacLeod & Adams (1967) divided the Berothidae into four subfamilies: the *Cyrenoberothinae* confined to Chile, the *Rhachiberothinae* confined to southern Africa, the *Nosybinae* confined to southern and central Africa, and the *Berothinae*, which is almost cosmopolitan in tropical and south temperate regions of the world. Furthermore, MacLeod & Adams (l.c.) selected 23 morphological characters which are variable within the Berothidae, and considered of evolutionary importance, and demonstrated a phylogenetic index for eight genera, belonging to all four subfamilies.

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Fig. 1 *Lomamyia trombetensis* Penny, n. sp. general aspect.



Figs. 3-5. *Lomamyia trombetensis* Penny, n. sp. male terminalia. 3) lateral view, 4) ventral view, 5) mediuncus; gs. ap. = basal apodeme of gonarcus, gs = gonarcus, mu = mediuncus, 7S = 7th sternite, 8S = 8th sternite, 7T = 7th tergite, 8T = 8th tergite, 9T + ect = 9th tergite and ectoproct.

Resumo

Uma nova espécie de Berothidae é descrita do Rio Trombetas, Estado do Pará. Isto constitui a primeira coleta desta família no Brasil e todo o norte de América do Sul

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