

NOTES ON THE HOSTS OF NEOTROPICAL CUTEREBRINI (DIPTERA, CUTEREBRIDAE), WITH NEW RECORDS FROM BRAZIL

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Maturing larvae of cuterebrid bot-flies develop subcutaneously on a wide range of warm-blooded vertebrates in the Nearctic and Neotropical realms. In the Neotropical region information on host-parasite associations are available only for a few species. This is largely the result of the rarity of these flies and of the difficulties found in laboratory rearing.

Guimarães (1967) recorded for the Neotropical region 51 valid species of Cuterebridae, distributed in 6 genera (*Cuterebra*, *Dermatobia*, *Alouattamyia*, *Rogenhoferia*, *Pseudogametes*, and *Montemyia*). Hosts are known only for the first four genera.

Studies carried out in the Amazon Valley by the "Expedição Permanente da Amazônia" (sponsored by the Fundação de Amparo à Pesquisa do Estado de São Paulo, Museu de Zoologia da Universidade de São Paulo, and Museu Paraense "Emílio Goeldi") have brought to light a number of interesting host records of Brazilian cuterebrids, which are published in the present paper. The material examined belongs to the collection of the Museu de Zoologia da Universidade de São Paulo.

All available data on host-parasite associations related to the Neotropical cuterebrid fauna, found in the literature, are presented in the following list; a few original records obtained from the material found in our collections are also included. Hosts' names are cited according to Cabrera (1958-61); names of hosts in parentheses indicate the original name used.

HOST RECORDS OF NEOTROPICAL CUTEREBRINI

1. *Alouattamyia baeri* (Shannon & Greene)

Alouatta palliata incosonans (Cebidae, Alouattinae). Guyana and Panama (Shannon & Greene, 1926); Panama (Dunn, 1934:166).
Alouatta palliata palliata (Cebidae, Alouattinae). Costa Rica (Zeledón, Jiménez & Brenes, 1957).

Alouatta belzebul (Cebidae, Alouattinae). Brazil, Maranhão (original).

Aotus trivirgatus (Cebidae, Aotinae). Brazil, Pará (original).

2. *Cuterebra apicalis* (Guérin-Méneville)

Holochilus brasiliensis (= *Holochilus vulpinus*) (Cricetidae). Brazil, São Paulo (Lutz, 1917:98-106).

Oryzomys nigripes (= *Oryzomys eliurus*) (Cricetidae). Brazil, São Paulo (Fonseca, 1938; Forattini & Lenko, 1959).

Pseudoryzomys wavrini (= *Oryzomys wavrini*) (Cricetidae). Brazil, São Paulo (Forattini & Lenko, 1959).

Oryzomys flavescens (Cricetidae). Argentina, Tucumán (Hendriksen, 1942).

"Undetermined mouse". Argentina, Tucumán (Hendriksen, 1942).

3. *Cuterebra chiquibulensis* Disney

Ototylomys phyllotis (Cricetidae). British Honduras (Disney, 1969).

4. *Cuterebra flaviventris* Bau

Sigmodon hispidus (Cricetidae). British Honduras (Disney, 1969).

5. *Cuterebra pygmaea* Bau

"Rat". Brazil, Pará (Bau, 1931).

6. *Cuterebra schmalzi* Lutz

"Undetermined rat". Argentina, Misiones (Hendriksen, 1942).

7. *Cuterebra townsendi* (Fonseca)

Marmosa microtarsus microtarsus (Didelphidae). Brazil, São Paulo (Fonseca, 1941).

8. *Cuterebra* sp.

Sciurus aestuans (Sciuridae). Brazil, São Paulo (Brauer, 1863, cited by Lutz, 1917:106).

Caluromys philander dicrurus (= *Didelphis philander*) (Didelphidae). Brazil, São Paulo (Lutz, 1917:106).

Caluromys philander (Didelphidae). Brazil, Amazonas (original).

Zygodontomys pixuma (Cricetidae). Brazil, Bahia (original).

9. *Rogenhoferu grandis* (Guérin-Méneville)

Reithrodon physodes (= *Rheithrodon cuniculoides*) (Cricetidae). Argentina, Buenos Aires (Del Ponte, 1959).

Oryzomys flavescens (= *Hesperomys flavescens*) (Cricetidae). Argentina, Rio Negro (Lynch Arribáizaga in Roca, 1881).

10. *Rogenhoferu* sp.

Rattus norvegicus (Cricetidae). Argentina (Del Ponte, 1939:529).

NOTES ON THE NEW RECORDS

1. *Alouattamyia baeri* (Shannon & Greene).

This species, originally described from Guyana and Panama, and subsequently recorded from Costa Rica, is a parasite of the howler monkey (*Alouatta*). The mature larva was described and excellently illustrated by Greene (in Shannon & Greene, 1926).

Most recently, Dr. P. E. Vanzolini dissected from the cheek of *Aotus trivirgatus* from Pará, Brazil, a mature larva which was later identified as *Alouattamyia baeri*. This record, as far as known, is the first one of this species in Brazil, and shows that at least two different genera of Primates may serve as natural hosts for this species.

A second lot of three mature larvae, also identified as *A. baeri*, found in our collection, was collected in the State of Maranhão, Brazil, by B. Malkin, from the "guariba" (*Alouatta belzebul*).

Goldman (1920:229), in his observations on the material gathered in the course of the biological survey of the Panama Canal Zone in 1910, states: "All of the specimens [of the red howler monkey] obtained, carried numerous large larvae of these flies, mainly in the skin on the throat which added materially to their repugnant appearance. These larvae were not found on the spider monkeys taken in the same vicinity".

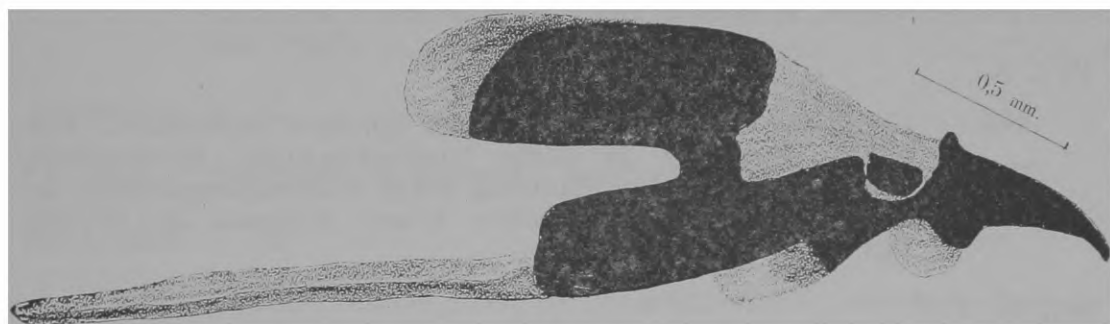


Fig. 1. *Alouattamyia baeri*, buccopharyngeal armature, third instar larva (Aldeia Araçu, Pará, B. Malkin leg.).

Shannon & Greene (1926: 285) thought that the eggs of *Alouattamyia* could "be eaten along with the leaves by the host animal and the larvae immediately upon being taken in the mouth probably emerge and begin to penetrate the tissues of the mouth, then working their way through the flesh, they come to the skin of the host through which a breathing and exit hole is made. There they stay, in a pocket just beneath the skin, until full-grown. Upon emergence they fall to the ground where they pupate". However, too little is known about the egg-laying habits of the Cuterebridae to support this theory. Catts (1965) demonstrated by experimental laboratory infections of various rodents that there was no correlation between the entrance site of the cuterebrid and the site of warble development.

Material examined: 1 larva from Monte Cristo, Rio Tapajós, Pará, 6.XII.1970 (EPA). Mature larva dissected alive from the cheek of a specimen of *Aotus trivirgatus* ("macaco da noite"); the larva was transferred to a glass jar with wet sand, but did not burrow; on the 16th day it was attacked by mold, and afterwards was preserved in formaldehyde.

Also three mature larvae, preserved in alcohol, from Aldeia Araçu, Igarapé Gurupi-Una, Maranhão, 50 km E of Canindé, Rio Gurupi, Pará, B. Malkin leg., 2.V.1963, "in the cheeks of a female black howler monkey".

2. *Cuterebra* sp.

One mature larva in alcohol, from Itapiranga, Amazonas, 9-12.XII.1968 (EPA), ex *Caluromys philander* (L., 1758) ("mucura"), Didelphidae (Hélio Camargo det.).

3. *Cuterebra* sp.

Two mature larvae in alcohol, from Palmeiras, Bahia, ex *Zygodontomys pixuna*, no collector and date.

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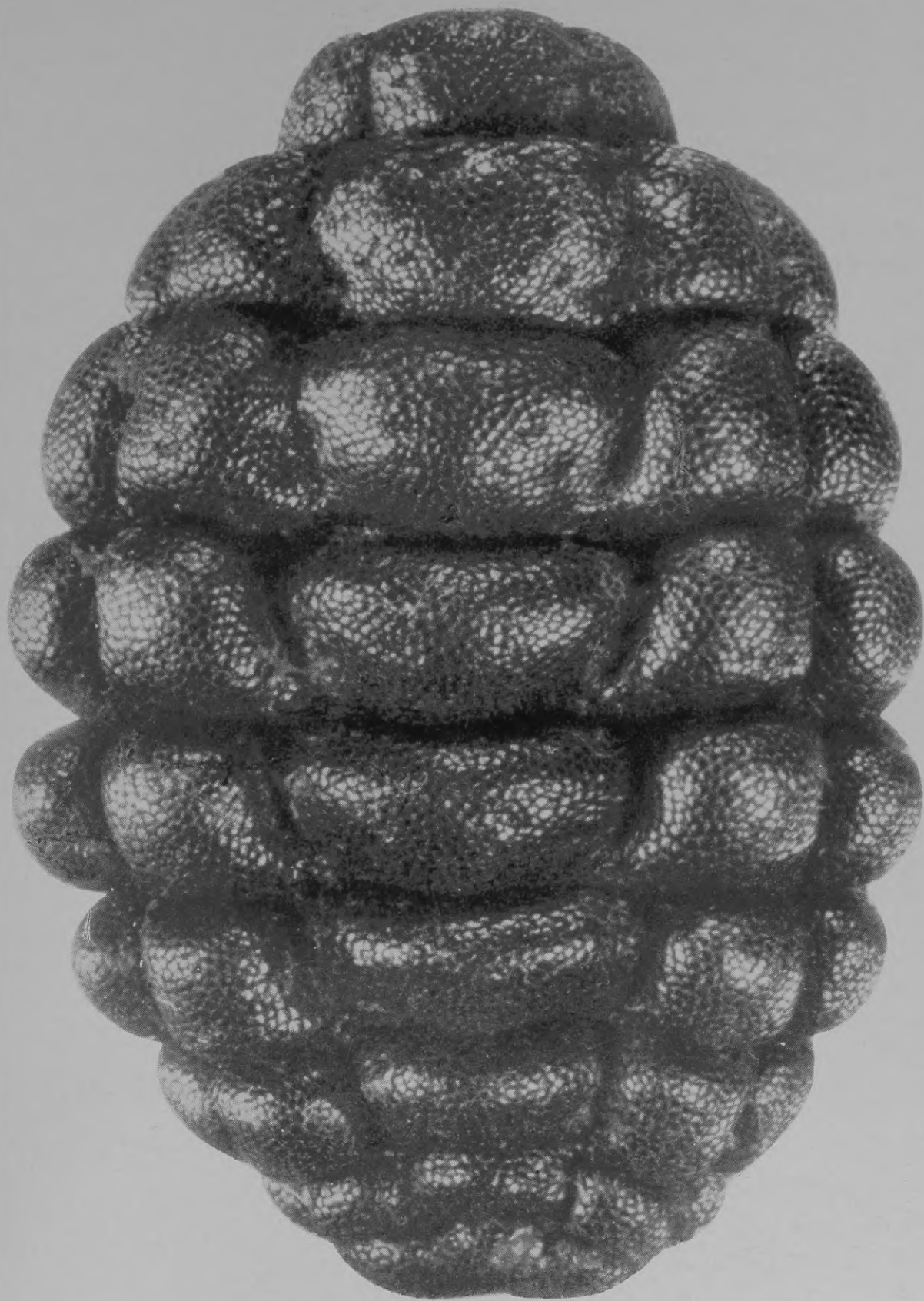


Fig. 2. *Alouattamyia baeri*, mature larva, dorsal view (Aldeia Araçu, Pará, B. Malkin leg.).

