

# Streblidae (Diptera) of Phyllostomid Bats from Minas Gerais, Brazil

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*Eight streblid species were collected from eight phyllostomid bat species, from April to November 1997, at or near the Reserve “Parque Estadual do Rio Doce”, Minas Gerais, Southeastern Brazil. In total, 48 specimens of streblid were removed from 57 phyllostomid bats. Most of batflies species were associated with a single species of the host, and only Paratrachobius longicrus (Miranda Ribeiro) and Trichobius joblingi Wenzel were recorded on three bat species. Trichobius lonchophyllae Wenzel represents a new record for the Brazilian Southeastern region.*

Key words: batflies - Streblidae - Chiroptera - Minas Gerais - Brazil

Streblidae are obligate ectoparasites of bats and, like their hosts, are primarily tropical in distribution with relatively few species occurring in the subtropical and warm temperate zones (Wenzel et al. 1966). Few data about streblid flies are known from Brazil, particularly for the Brazilian Southeastern region (Whitaker & Mumford 1977, Komeno & Linhares 1999), from which this paper reports some records.

The study was undertaken from April to November 1997 at the Reserve “Parque Estadual do Rio Doce” (PERD), located at 19°48’-19°29’S and 42°38’-42°28’W, 210 km from Belo Horizonte. It represents the largest preserved area (35,974 ha) of the Atlantic Rainforest of the State of Minas Gerais. Only one bat species was caught at “CAF - Santa Bárbara”, near PERD. Bats were captured at night using mist nets, identified and released after their ectoparasites were removed. Batflies were sampled by brushing the hosts and by using tweezers to capture them on the bats’ fur. A voucher collection of streblid flies, preserved in 70% ethyl alcohol, and voucher bat specimens were deposited respectively at Department of Parasitology and Department of Zoology, UFMG, Belo Horizonte, MG, Brazil.

A total of 57 phyllostomid bats belonging to 11 species and 8 genera were captured, as well as 48 streblid flies (5 genera and 8 species). The following hosts and parasites species were collected: bat species - *Artibeus fimbriatus* Gray, *Artibeus lituratus* (Ofers), *Artibeus obscurus* Schinz, *Carollia perspicillata* (Linnaeus), *Desmodus rotundus* (Geoffroy), *Glossophaga soricina* (Pallas), *Phyllostomus hastatus* (Pallas), *Platyrrhinus lineatus* (Geoffroy), *Platyrrhinus recifinus* (Thomas), *Sturnira lilium* (Geoffroy) and *Vampyressa pusilla*

(Wagner); streblid species - *Aspidoptera falcata* Wenzel, *Megistopoda proxima* (Séguy), *Paratrachobius longicrus* (Miranda Ribeiro), *Strebla guajiro* (García y Casal), *Strebla wiedemanni* Kolenati, *Trichobius joblingi* Wenzel, *Trichobius lonchophyllae* Wenzel, *Trichobius longipes* (Rudow). Since *T. lonchophyllae* was previously noticed in Brazil only in Distrito Federal (Gracioli & Coelho 2001), it represents a new record for Southeastern Brazilian region. Bat species and their respective ectoparasites are shown in the Table.

All batflies species were associated with a single species of the host, except for *P. longicrus* and *T. joblingi*, which were recorded on three bat species. According to Wenzel et al. (1966) *A. lituratus* and *D. rotundus* would represent occasional hosts for *T. joblingi*, which appears to be primarily a parasite of *C. perspicillata*. On the other hand, as Wenzel and Tipton (1966) discussed, *P. longicrus* might occur on different stenodermatine hosts at different altitudinal elevations. According to Guerrero (1997), *P. longicrus* was already reported on several bat species of the genus *Artibeus*, and on *P. lineatus*. Contrary to Komeno and Linhares (1999) suggestion, *P. lineatus* could be considered as a common host for *P. longicrus*.

Fifty per cent of host species harbored only one parasite species, whereas the other half was infested by two streblid species. Probably due to the small sample size, no batflies were found on *A. obscurus*, *P. recifinus* and *V. pusilla*. Although some species of streblid flies had already been reported on *A. obscurus* and on *V. pusilla* (Guerrero 1997), there are no records of ectoparasitism on *P. recifinus*. The associations between *C. perspicillata*, *P. lineatus* and *S. lilium* and their parasites agree with the recent findings of Komeno and Linhares (1999) who also studied batflies from Minas Gerais. Likewise, even though those researchers have examined more bats than we did, in general the total mean abundance of infestation was 0.8 streblid flies per host in both studies (Table).

Whitaker and Mumford (1977) had previously recorded two streblid flies species on a single *Noctilio leporinus* (Linnaeus) (Noctilionidae) at PERD, which were not captured in the present study: *Noctiliostrebla aitkeni* Wenzel and *Paradyschiria fusca* Speiser. Therefore, ten batflies species are known so far from PERD. However, this num-

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TABLE

Species of phyllostomid bats and their streblid batflies collected at the Reserve "Parque Estadual do Rio Doce" (PERD), Minas Gerais, Southeastern Brazil, from April to November 1997

Bat species	No. of bats collected	Batfly species	No. of batflies collected	Mean abundance ( $\pm$ SE)
<i>Artibeus fimbriatus</i>	3	<i>Paratrichobius longicrus</i>	1	0.3 ( $\pm$ 0.3)
<i>Artibeus lituratus</i>	20	<i>Paratrichobius longicrus</i>	17	0.9 ( $\pm$ 0.5)
		<i>Trichobius joblingi</i>	1	0.1 ( $\pm$ 0.1)
<i>Artibeus obscurus</i>	1		0	
<i>Carollia perspicillata</i>	7	<i>Strebla guajiro</i>	1	0.1 ( $\pm$ 0.1)
		<i>Trichobius joblingi</i>	12	1.7 ( $\pm$ 0.7)
<i>Desmodus rotundus</i>	14	<i>Strebla wiedemanni</i>	4	0.3 ( $\pm$ 0.2)
		<i>Trichobius joblingi</i>	1	0.1 ( $\pm$ 0.1)
<i>Glossophaga soricina</i>	4	<i>Trichobius lonchophyllae</i> <sup>a</sup>	2	0.5 ( $\pm$ 0.3)
<i>Phyllostomus hastatus</i> <sup>b</sup>	2	<i>Trichobius longipes</i> <sup>b</sup>	1	0.5 ( $\pm$ 0.5)
<i>Platyrrhinus lineatus</i>	2	<i>Paratrichobius longicrus</i>	2	1.0 ( $\pm$ 0.0)
<i>Platyrrhinus recifinus</i>	1		0	
<i>Sturnira lilium</i>	2	<i>Aspidoptera falcata</i>	4	2.0 ( $\pm$ 2.0)
		<i>Megistopoda proxima</i>	2	1.0 ( $\pm$ 1.0)
<i>Vampyressa pusilla</i>	1		0	
Total	57		48	0.8 ( $\pm$ 0.2)

a: first record for the Brazilian Southeastern region; b: specimens collected at "CAF - Santa Bárbara", near PERD; SE: Standard Error

ber will certainly increase as more bats are examined, due to the great diversity of bats recorded at this locality and the specificity between the bats and their batflies.

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