SCIENTIFIC COMMUNICATION

Bilateral anomaly in the style of *Micropygomyia schreiberi* (Martins, Falcão & Silva) (Diptera, Psychodidae)

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Resumo. Anomalia bilateral no dististilo de *Micropygomyia schreiberi* (Martins, Falcão & Silva) (Diptera, Psychodidae). Este trabalho relata o encontro de um flebotomíneo com anomalia bilateral no dististilo. Esta anomalia é rara neste grupo de insetos e pode causar confusão na identificação específica e levar à descrição de novas espécies, aumentando a lista de sinonímia do grupo. O espécime foi medido e comparado com o holótipo e quatro parátipos de *Micropygomyia schreiberi* (Martins, Falcão & Silva, 1975) e concluímos que, de fato, se trata desta espécie.

Palavras-Chave. Anomalia; *Micropygomyia schreiberi*; Phlebotominae; Psychodidae.

Abstract. This paper presents a specimen of phlebotomine sand fly with a bilateral anomaly in the style. Although such anomaly be rare in this group of insects, it may cause confusion in taxonomic identification and even lead to description of new species, increasing the number of synonymies. The specimen was measured and compared with the holotype and four paratypes of *Micropygomyia schreiberi* (Martins, Falcão & Silva, 1975) and confirmed that it belongs, in fact, to this species.

Keywords. Anomaly; *Micropygomyia schreiberi*; Phlebotominae; Psychodidae.

The many problems in the systematics of phlebotomine sand flies include incomplete species descriptions and erroneous associations between the sexes (Galati 1981; Young & Duncan 1994). Another difficulty in identifying these insects is the close resemblance of several species to each other, which may lead to errors in identification and mapping of their geographical distribution.

Another serious problem for the taxonomy of this group is that of anomalies, which affect the systematics and therefore the taxonomic position of some species. Several cases of anomalies in American sand flies have already been reported (Young & Arias 1982; Marcondes 1999; Ximenes *et al.* 2002). These anomalies occur in the antennae, palpomeres, spermathecae and in male terminalia. As these structures are paired, examination of the corresponding structure on the opposite side of the body normally permits correct identification.

Coutinho & Barretto (1940) described the male of *Martinsmyia alphabetica* (Fonseca, 1936) based on specimens reared in the laboratory and cited the presence of six spines on the style. Later, Barretto (1943) observed that these specimens each had a bilateral anomaly on the style, which normally bears only five spines in this species. Another example of the description of a new species from an anomalous specimen occurred with *Sciopemyia sordellii* (Shannon & Del Ponte, 1927), whose male holotype presented five spines on one of the styles and was therefore included in the *oswaldoi* group by Theodor (1965) and in the subgenus *Helcocyrtomyia* Barretto, 1962 by Martins *et al.* (1978). This anomaly was only detected when Young & Morales (1987) examined the lectotype of *S. sordellii*, noting five spines on one of the styles and only four on the other. After comparing the other characteristics with those of *Phlebotomus nordestinus* Mangabeira, 1942 they considered the latter to be a junior synonym of *S. sordellii*, which often presents four spines on the style and belongs to the subgenus *Sciopemyia* Barretto, 1962 (Young & Duncan 1994).

The sand fly *Micropygomyia schreiberi* (Matins, Falcão & Silva, 1975) closely resembles *M. micropyga* (Mangabeira, 1942) but the two species can be distinguished by the anterior femur/anterior tibia ratio (> 1 in the former and < 1 in the latter), as well as the pigmentation of the thorax (Martins *et al.* 1975). The males of *M. schreiberi* present small terminalia, without the tuft of setae on the coxite; the paramere is a little shorter than the coxite and the style bears four spines. It is widely distributed in several of the states of the Northeast region and in all those of the Southeast of Brazil (Martins *et al.* 1978).

The phlebotomine fauna of Lapinha Cave, near Lagoa Santa in the Brazilian state of Minas Gerais, has been fully studied (Dougherty *et al.* 1992; Andrade Filho *et al.* 1998). In 1995 a

Fig. 1. *Micropygomyia schreiberi*: terminalia of the anomalous specimen. Bar = 100 µm

sand fly with five spines on the styles was collected but could not be identified to any known species. This specimen is described here.

MATERIAL AND METHODS

With the exception of the styles, all structures of the terminalia and head in the anomalous specimen were identical to those of *M. schreiberi*, which is often found in Lapinha Cave. The specimen was measured with a microscope calibrated for morphometric examinations and compared with the holotype and four paratypes of *M. schreiberi*, which were already deposited in the phlebotomine collection of the Centro de Pesquisas René Rachou-Fiocruz (CPqRR).

The head structures measured were the three first flagellomeres, palpomeres, labrum-epipharynx, length of the head and clypeus. The lengths of the ejaculatory pump, genital filaments, lateral lobe, coxite and style were also measured. Neither the wings nor the legs were measured because the former present great variation in size and the latter were absent, having been lost during the process of clarification. The classification and the terminology of the characters is in accordance with Galati (2003).

RESULTS AND DISCUSSION

No significant difference was found when the measurements of some of the anomalous specimen characters were compared with those of the *M. schreiberi* type material

Table I. Structures measured in the *Micropygomyia schreiberi* type series and the anomalous specimen

Structure measured	*Micropygomyia schreiberi*		
	Types		Anomalous specimen
	N	Mean	
Head	5	207	207
Clypeus	5	105	107
Palpomere 1	5	30	29
Palpomere 2	5	105	103
Palpomere 3	5	131	128
Palpomere 4	5	105	110
Palpomere 5	4	333	349
AIII	5	197	199
AIV	5	101	110
AV	5	105	118
Ejaculatory pump	5	109	114
Genital filament	5	270	263
Lateral lobe	5	142	150
Coxite	5	136	135
Style	5	85	85

(Table I). We therefore concluded it to be a specimen of *M. schreiberi* with a bilateral anomaly in the style (Fig. 1). The spines of the style in *M. schreiberi* are arranged as follows: one terminal, one subterminal and two proximal spines implanted almost at the same level. On the anomalous specimen the fifth spine is situated on the distal third, between the subterminal and the proximal ones.

Publication of this observation is important for phlebotomine taxonomy, since the occurrence of double anomalies is rare in this group. This can lead to mistakes in specific identification and the erroneous description of new species.

The *M. schreiberi* material examined was as follows: holotype male number 35,269, paratype males numbers 35,270, 35,271, 35,272, 35,273, Vitória City, Espírito Santo State (J. E. Silva col.), 9.V.1965, 1965 (CPqRR). The anomalous specimen was captured in Lapinha Cave, Lagoa Santa, Minas Gerais (M.L.N. Lima col.), 29.XII.1995.

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Received 04.V.2004; accepted 30.IX.2004