

SHORT COMMUNICATION

Phlebotomine Sand Flies in the State of Piauí, Brazil (Diptera: Psychodidae: Phlebotominae)

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In 1997, 1998 and 1999 we performed several captures in the State of Piauí, in the counties of Barro Duro, Campo Maior, Castelo, Floriano, Picos, São Raimundo Nonato and Teresina. We used CDC light traps inside houses, in a primary forest and in one cave. Seventeen species were collected being Lutzomyia longipalpis, Lutzomyia samueli, Lutzomyia whitmani and Lutzomyia lenti the most captured species. The genus Brumptomyia, L. whitmani, Lutzomyia sordellii, Lutzomyia carmelinoi, Lutzomyia termitophila, Lutzomyia peresi and Lutzomyia quinquefer are reported for first time in Piauí. We call the attention for the presence of L. whitmani and L. longipalpis, important vectors of leishmaniasis in various regions of South America.

Key words: Plebotominae - sand fly - *Lutzomyia* - Piauí - Brazil

Phlebotomine sand flies are originally found in forests, but due to the large devastation along the Brazilian forests, sand flies became adapted and may be found in modified rural and urban areas. Consequently a large number of cases of leishmaniasis can be observed in those areas and the disease became a health problem and endemic in several states of Brazil.

The State of Piauí has an absolute area of 252,378,6 km² and population of 2,673,085 inhabitants, distributed among 221 municipalities (IBGE on line). Since the last decade several cases of visceral leishmaniasis were notified in the State, with a high concentration in the urban area of the Capital, Teresina (Costa et al. 1990, Costa 1993).

The fauna of sand flies in Piauí is poorly known. The vector of visceral leishmaniasis, *Lutzomyia longipalpis* has been captured in some municipalities of the State and in the urban area of Teresina and more than 12 species are recorded in the State (Martins et al. 1989, Vexenat et al. 1994).

The aim of the present work is to identify the phlebotomine sand flies species in Piauí, as well as to provide some ecological data on the species of medical and veterinary interest.

Insects were captured from seven municipalities of Piauí: from 1997 to 1999 in Barro Duro, north of the State, they were captured inside the houses and in the peridomicile; in the municipalities of Picos and Floriano, in the central region of Piauí, captures were performed in 1998 inside the houses; in Picos, captures were also performed in na area of primary forest and in one cave; in Campo Maior, north of the State, and in Teresina, captures were done inside house during the year of 1998. In 1999 we performed captures in the municipality of São Raimundo Nonato, south of the State, in one cave. All captures were performed with CDC light trap between 5 and 8:00 AM.

After the captures the insects were fixed in alcohol 70° mounted on glass slide using Berlese liquid. The identification was based on the classification of Young and Duncan (1994). Vouchers specimens are deposited in the collection of sand flies of the Centro de Pesquisas René Rachou-Fiocruz (Nos. 2.363-72.769 and 76.192-76.641).

Seventeen species of sand flies were captured: *Lutzomyia (Lutzomyia) longipalpis* (Lutz & Neiva 1912), *Lutzomyia samueli* (Deane 1955), *Lutzomyia (Nyssomyia) whitmani* (Antunes & Coutinho 1939), *Lutzomyia lenti* (Mangabeira 1938), *Lutzomyia (Lutzomyia) dispar* Martins & Silva 1963,

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Lutzomyia (Micropygomyia) oliveirai 1970 Martins, Silva & Falcão, *Lutzomyia goiana* 1962 Martins, Falcão & Silva, *Lutzomyia (Sciopemyia) sordellii* (Shannon & Del Ponte 1927), *Lutzomyia carmelinoi* Ryan, Fraiha, Lainson & Shaw 1986, *Lutzomyia evandroi* (Costa Lima & Antunes 1936), *Lutzomyia termitophila* Martins, Falcão & Silva 1964, *Lutzomyia quinquefer* (Dyar 1929), *Lutzomyia peresi* (Mangabeira 1942), *Lutzomyia (Psathyromyia) sp.*, *Lutzomyia (Micropygomyia) sp.*, *Lutzomyia sp.* and *Brumptomyia avellari* (Costa Lima 1932). Table shows the specimens captured in five municipalities of the State and also the ecotype where the species were caught compared with other authors.

L. longipalpis and *L. lenti* showed to be quite eclectic, being captured in all ecotypes. In the cave we collected nine species being *L. samueli*, *L. lenti*, *L. dispar* and *Lutzomyia sp.* more frequent. From the latter, we collected 14 males and 4 females which did not fit any of the known species and this material is reserved for posterior studies, as well as the other species that were identified up to subgenus level.

The genus *Brumptomyia* had not yet been reported for Piauí, as well as *L. (N.) whitmani*, *L. (S.) sordellii*, *L. carmelinoi*, *L. termitophila*, *L. peresi*

and *L. quinquefer*. The first species is incriminated as a vector of cutaneous leishmaniasis in the South and Northeast regions of Brazil (Queiroz et al. 1994, Luz et al. 2000) and was frequent in the municipality of Barro Duro in the peridomicile, but a small number was captured inside the house, which suggests the beginning of domiciliarization of *L. whitmani* in Piauí, as observed by Campbell-Lendrum et al. (2000), species totally sylvatic in the North of Brazil (Lainson et al. 1979). Other species, *L. (S.) sordellii*, is synonym senior of *Lutzomyia nordestina* (Mangabeira 1942) (Young & Morales 1987) and its geographical distribution comprises great part of the Brazilian territory (Martins et al. 1978).

L. carmelinoi and *L. lenti* are very close species but, up to now, *L. carmelinoi* was only reported in the North region of the country and *L. lenti* has extensive geographical distribution, being captured with frequency in chicken house and pigsty in other regions of Brazil (Gomes et al. 1978, Brazil et al. 1997). Despite being captured in a larger scale inside the houses, there is no evidence that this species is a vector of leishmaniasis in Brazil.

L. (L.) longipalpis has been captured frequently inside houses in the municipalities of Campo Maior and Floriano, with low numbers in the municipality

TABLE

Phlebotomine sand flies captured in the State of Piauí by us and by other authors and also the ecotype where the species were caught

Species	Authors				
	Martins et al. 1989	Cipa Group (on line)	House	Cave	Forest
<i>Lutzomyia baityi</i>		X			
<i>Lutzomyia carmelinoi</i>			X		
<i>Lutzomyia dispar</i>	X	X		X	
<i>Lutzomyia evandroi</i>	X	X			
<i>Lutzomyia goiana</i>	X	X	X	X	
<i>Lutzomyia intermedia</i>		X			
<i>Lutzomyia lenti</i>	X	X	X	X	X
<i>Lutzomyia longipalpis</i>	X	X	X	X	X
<i>Lutzomyia oliveirai</i>	X	X		X	
<i>Lutzomyia oswaldoi</i>		X			
<i>Lutzomyia peresi</i>			X		X
<i>Lutzomyia quinquefer</i>			X		
<i>Lutzomyia samueli</i>	X	X		X	X
<i>Lutzomyia saulensis</i>		X			
<i>Lutzomyia shannoni</i>		X			
<i>Lutzomyia sordellii</i>			X		
<i>Lutzomyia termitophila</i>			X	X	
<i>Lutzomyia walkeri</i>		X			
<i>Lutzomyia whitmani</i>			X		
<i>L. (Micropygomyia) sp.</i>				X	
<i>L. (Psathyromyia) sp.</i>			X		
<i>Lutzomyia sp.</i>				X	
<i>Brumptomyia avellari</i>			X		

of Picos independent of the capture site. According to Costa et al. (1990) this species is captured in large quantity in the urban area of Teresina.

The presence of *Lutzomyia intermedia* (Lutz & Neiva 1912) in the State of Piauí was cited by other authors (Marcondes 1998). This is a sinantropic species, being caught with frequency in the Southeast region of Brazil (Lima 1986, Andrade Filho et al. 1997), although in Piauí we could not find *L. intermedia*, despite the large number of captures performed.

With these results the sand fly fauna in the State of Piauí is now composed by 20 species, being four (*L. longipalpis*, *L. intermedia*, *L. shannoni* e *L. whitmani*) suspect or confirmed vector of leishmaniasis in several regions of South America.

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