

## BRIEF REPORT

### NOTE ON SANDFLIES ASSOCIATED WITH A TEGUMENTARY LEISHMANIASIS FOCUS IN SALTA, ARGENTINA, 1988.

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As part of a multidisciplinary approach on the study of tegumentary leishmaniasis in northwestern Argentina, sandfly (Diptera: Psychodidae) collections were initiated in November-December 1988 in 2 localities, Embarcación and Pichanal, both close to the city of Orán, in Salta Province, with the aim to identify the sandfly species present in the area, and to determine the role of individual species in leishmaniasis transmission. Several decades ago, the Orán area was recorded as endemic for tegumentary leishmaniasis<sup>5,8</sup>, and in 1984-87 an epidemic outbreak occurred. During this outbreak the strains isolated from cutaneous lesions were subsequently identified as *Leishmania braziliensis*<sup>3</sup>. This is the first report on sandfly captures related to a leishmaniasis focus in Argentina published in the last 50 years.

Orán (23°09'S; 64°19'W) is located 357m above sea level and has a dry season and a rainy season, the latter between November and April, when sandfly activity is more pronounced. However, when the sandfly collections were made, the weather was unusually dry for the season (mean November precipitation 85mm vs. 5.4mm for November 1988). Captures were carried out close to an irrigation canal, and the Bermejo River (Embarcación), or at a short distance from the Colorado River (Pichanal) where leishmaniasis cases were previously detected. Collections took place between 21:30 and 23:45. Phlebotomines were captured with Shannon traps (46 females/14 males/6 nights), CDC light traps (30 females/23 males/3 nights), on a horse (21 females/9 males/1 night), and on protected human bait (2 females/1 male/1 night). A total of 146 sandflies were collected, of which 120 (82.2%) were *Lutzomyia*

*intermedia* (Lutz & Neiva), 16 (11%) *Lu.migonei* (França), and 10 (6.8%) *Lu.cortelezzii* (Brethes). For both sexes *Lu.intermedia* was the prevalent species captured in the Shannon trap (80.1%). *Lu.intermedia* was highly attracted to horse, representing 90% of the females aspirated from this bait; the remaining 10% were *Lu.migonei*, and all the males belonged to this last species. Virtually, no peridomestic sandfly activity was observed, and only 2 *Lu.intermedia* females and 1 male *Lu.cortelezzii* were aspirated from human bait. Over 90% of the 53 specimens collected with light trap, were *Lu.intermedia* females and males, while the rest were *Lu.migonei*. Sandflies were cryopreserved in liquid nitrogen and transported to the central laboratory in Buenos Aires, where specimens were individually dissected to detect promastigote infections in the digestive tract, and to identify the specimens based on the morphology of the spermatheca. In this group of sandflies no natural infections were detected.

Interestingly, the few publications on sandflies from this area<sup>1,2</sup> did not record *Lu.intermedia*, which is currently the most abundant species. The captures made at Tabacal and Embarcación in 1926-1927<sup>5,6,7,8</sup> showed that *Lu.migonei* was the predominant anthropophilic sandfly, exhibiting peridomestic and domestic activity, and which was also capture biting dogs, and horses. Those collections were accomplished between October and May, from dusk to 3:30am. On the other hand, *Lu.cortelezzii* was captured on dog and human bait in the peridomestic, both in Salta and Tucumán Provinces, and was considered as the potential vector involved in leishmaniasis transmission<sup>12,13</sup>. In addition to *Lu.migonei* and *Lu.cortelezzii* we re-

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corded *Lu.intermedia*, which was also attracted to light, as the predominant anthrophilic species in the Orán area. Based on these preliminary data, which was obtained under unusual climatic conditions (drought), it is not possible to draw conclusions about the normal species composition of the area at this time of the year. Nevertheless, it is worthwhile to note that the high proportion of *Lu.intermedia* at the particular moment, demonstrates its capability to withstand extremely harsh climates, consequently increasing its vector potential through extended periods of biting activity. *Lu.intermedia* has been found naturally infected with *L.braziliensis* in Rio de Janeiro<sup>10</sup> and Bahía<sup>9</sup> States(Brazil), and is highly prevalent at the domicile and peridomicile levels, where it avidly seeks humans to feed on<sup>4,11</sup>. Although *Lu.intermedia* could be considered the suspected vector in Orán region, longitudinal studies on sandfly population dynamics will be necessary, to determine the main vector of leishmaniasis, and propose control measures.

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