

RESEARCH NOTE

***Lutzomyia neivai* (Pinto, 1926) in Bolivia (Diptera, Psychodidae, Phlebotominae)**

**Carlos Brisola Marcondes⁺,
François Le Pont^{*},
Ana Leuch Lozovei^{*,*}**

Departamento de Microbiologia e Parasitologia,
Centro de Ciências Biológicas, Universidade Federal
de Santa Catarina, Campus Trindade, 88040-900
Florianópolis, SC, Brasil ^{*}ORSTOM, IBBA, La Paz,
Bolivia ^{**}Departamento de Patología Básica, SCB,
UFPR, Curitiba, PR, Brasil

Key words: Phlebotominae - sandflies - *Lutzomyia neivai* - Bolivia - anomaly - wing

CB Marcondes (1996 *Mem Inst Oswaldo Cruz*, 91: 457-462) proposed the revalidation of *Lutzomyia neivai* (Pinto, 1926) which, together with *L. intermedia s. s.*, would form the *L. intermedia* complex. Insects of this complex have been reported in Brazil, Argentina and Paraguay [DG Young & M Duncan 1994 *Guide to the Identification and Geographical Distribution of Lutzomyia Sand Flies in Mexico, the West Indies, Central and South America (Diptera: Psychodidae)*, Mem Am Entom Inst 54, 881 pp.], and have been incriminated as vectors of dermal leishmaniasis in São Paulo (OP Forattini et al. 1976 *Rev Saúde Públ* 10: 31-43, AC Gomes et al. 1983 *Rev Saúde Públ* 14: 540-556) and Rio de Janeiro (e. g., EF Rangel et al. 1990 *Mem Inst Oswaldo Cruz* 85: 39-45). However, FA Squire (1972 *Pest Art News Summ* 18: 249-268) and F Le Pont et al. (1992 *Leishmanioses et Phlébotomes en Bolivie*, ORSTOM Ed., 116 pp.) mentioned the presence of *L. intermedia* in Bolivia.

Recently, CB Marcondes (1998 *Rev Soc Bras Med Trop* 31: 51-58) studied the geographical distribution of this complex, and identified all specimens from the State of Paraná, west of the State of São Paulo, Paraguay, Argentina and Bolivia as *L. neivai*.

We got 39 measurements [1997 *Morfometria e DNA Mitochondrial de Populações Sul Americanas de Lutzomyia intermedia* (Lutz & Neiva, 1912) (Diptera, Psychodidae, Phlebotominae), PhD Thesis, Univ. Fed. Paraná, xxiv+260 pp., p. 57, 59] from one male and 14 females of *L. neivai* from Bolivia. The insects were collected in Fortin Campero, near Bermejo (22°11'S 64°38'W), Tarija Department, southern Bolivia. The region has sandy soil, the vegetation is low and the dry season is very short (900-1500 mm/year). Collections were made in a gallery forest in the foot of the last hills of subandean area, called "Argentine Yungas". Based on extensive studies in the region, this was the only species found and it is very aggressive to man.

Insects identified as *L. neivai* (Marcondes 1997 *loc. cit.*) were suspected as vectors of parasites of dermal leishmaniasis in a nearby region of Argentina (OD Salomón et al. 1992 *Rev Inst Med Trop S Paulo* 37: 91-92) and its importance in Bolivia as a vector needs to be studied.

The fork between R₂ and R₃ of both wings of one female was much near the tip to the wing than usual in other insects of the complex (cf. ca. 750 specimens measured). The distances in her wings, compared to the wings of other females from the same locality, are shown in the Table.

HH Taniguchi et al. (1992 *Rev Inst Adolfo Lutz* 52: 105-106) described a female of *L. intermedia* (actually *L. neivai*) from São Roque, in the State of São Paulo, with three spermathecae, and many other authors described several different anomalies in other species (e. g., MP Barretto 1943 *Rev Med Cir Bras* 51: 703-710, Floch & Abonnenc 1944 *Inst Pasteur Guyane fr* 95: 4, A Dampf 1945 *Bol Entomol Venez* 4: 153-159, JF Azevedo 1946 *An Inst Med Trop Lisboa* 3: 183-186, OP Forattini 1954 *Folia Clin biol* 21: 353-356, IA Sherlock 1958 *Rev Bras Biol* 18: 433-437, E Abonnenc et al. 1971 *Cah ORSTOM sèr Ent Med Parasitol* 9: 307-316, DG Young & JR Arias 1982 *J Med Entomol* 19: 134-138, F Morillas-Marquez et al. 1983 *Rev Ibér Parasitol* 43: 135-144, JP Dedet et al. 1984 *Cah ORSTOM sèr Ent Méd Parasitol* 22: 99-127, D Cazorla et al. 1988 *Bol Dir San Amb* 28: 91-98, B Geoffroy 1984 *Cah ORSTOM sèr Ent Méd Parasitol* 22: 257-260, RHP Moraes & RMO Veiga 1988 *Mem Inst Butantan* 50: 41-46, J Adhami 1991 *Parassitologia* 33: 169-173). However, only JA Sinton (1925 *Ind J Med Res* 12: 467-470, 1927 14: 947-953) described wing anomalies in sandflies. More detailed studies on specimens from several localities should be developed, to clear the frequencies of these anomalies and the possible relationship with genetics and environment.

⁺Corresponding author. Fax:+55-48-331.9258. E-mail: cbrisola@mbox1.ufsc.br

Received 10 July 1997

Accepted 11 December 1997

TABLE

Measurements, in mm, of several wing distances of a female of *Lutzomyia neivai* from Bermejo, in southern Bolivia, compared to other females from the same locality

Structures	Left wing	Right wing	Wings of other females ^a
Length of wing	2007	2103	2078 ± 91.86(12)
Max. width wing	597.7	608.8	612.8 ± 48.1 (11)
Length of R ₅	1387	1410	1394 ± 59.99(12)
Length of R ₂ (a)	190.1	127.4	569.6 ± 55.37(11)
Length of R ₂₊₃ (b)	699.6	749.8	338.6 ± 55.37(12)
a / b	0.272	0.17	1.81 ± 0.51 (11)
Length of R ₂₊₃₊₄ (c)	244.1	236.4	231.8 ± 93.12(12)
Dist. fork R ₂₊₃ - R ₁ (d)	-165	-183.4	290.4 ± 45.93(11)
Dist. forks R ₂₊₃ - M ₁₊₂ (p)	195.9	270.2	187.8 ± 54.78(12)
Length of R ₃ (e)	321.3	280.8	719.9 ± 54.93(11)

a: mean ± standard deviation (number of measured specimens).