

PRESENCE OF *PSYCHODOPYGUS WELLCOMEI*  
(DIPTERA: PSYCHODIDAE), A PROVEN VECTOR OF  
*LEISHMANIA BRAZILIENSIS BRAZILIENSIS*,  
IN CEARÁ STATE

P. D. READY \*  
A. L. RIBEIRO \*\*  
R. LAINSON \*  
J. E. DE ALENCAR \*\*  
J. J. SHAW \*

*Psychodopygus wellcomei*, a proven vector of (muco-)cutaneous leishmaniasis, has been found for the first time outside of the Amazon Basin, in Ceará State. Parasitological and entomological evidence suggests that the *Leishmania braziliensis braziliensis*/*Ps. wellcomei* zoonosis is widespread on the Brazilian Shield.

In the lower Amazon Basin, in Pará State, the only proven vector of *Leishmania braziliensis braziliensis* Vianna sensu Lainson & Shaw, 1972 is *Psychodopygus wellcomei* Fraiha, Shaw & Lainson, 1971 but, until now, this sandfly has never been found outside of Amazônia (Lainson et al, 1973; Lainson & Shaw, 1979). Biological and clinical characters have for long validated the use of the nominate subspecific name, *braziliensis*, for the parasite from southern Pará (Lainson & Shaw, 1973, 1979) and, recently, this treatment has been further supported by biochemical studies (Miles et al, 1981). Now, we can report that the range of *Ps. wellcomei*, too, extends beyond Amazônia.

On 7 May 1982, between 18.00 and 19.15hr, two people were able to catch 71♂ 379♀ *Ps. wellcomei* in a Shannon trap set in forest on the Serra de Baturité, close to Guaramiranga, Ceará; the trap was illuminated by two 6-watt, miniature, white fluorescent lamps. *Ps. wellcomei* was the only species of phlebotomine caught.

Lucena (1953) reported a collection of 25♀ *Ps. squamiventris* (Lutz & Neiva, 1912) from human bait at Pacotí, which is close to Guaramiranga on the Serra de Baturi-

---

This work was supported financially by the Wellcome Trust (London), the CNPq (Brasília) and the Fundação SESP (Rio de Janeiro).

\*Wellcome Parasitology Unit/Seção de Parasitologia – Instituto Evandro Chagas, Fundação SESP, 66000 Belém, Pará.

\*\*Núcleo de Medicina Tropical – Universidade Federal do Ceará, Fortaleza, Ceará.

Received for publication August 10th and accepted September, 8th, 1982.

té. However, the females of *Ps. wellcomei* and *Ps. squamiventris*, two highly anthropophilic species in the *squamiventris* series, are easily confused and recent investigations (based partly on wild and laboratory-reared material from the type locality of *Ps. squamiventris* in Pará State) indicate that *Ps. squamiventris sensu stricto* is restricted to forests north of the River Amazonas (Ready et al, 1982).

It is clearly important to extend these observations to confirm our belief that *Ps. wellcomei* is widely distributed in areas endemic for (muco-)cutaneous leishmaniasis both in Ceará and in the nearby states of Paraíba, Pernambuco and Sergipe where *Ps. squamiventris sensu lato* has been caught in the past (Lucena, 1953). Indeed, based on climate and vegetation, there are many parts of the Brazilian Shield which would be expected to support *Ps. wellcomei*.

## RESUMO

*Psychodopygus wellcomei*, um vetor comprovado de leishmaniose (muco-)cutânea, foi pela primeira vez encontrado fora da Bacia Amazônica, no Estado do Ceará. Evidência parasitológica e entomológica sugere que a *Leishmania braziliensis braziliensis* transmitida pelo *Ps. wellcomei* encontra-se largamente espalhada no "Maciço montanhoso do Brasil".

## ACKNOWLEDGEMENTS

The authors are indebted to Mr. Iorlando da R. Barata and Mr. Aldeni T. Matos for their assistance with field work and to the Regional Office (Fortaleza) of SUCAM for its support.

## REFERENCES

- LAINSON, R. & SHAW, J.J., 1973. Leishmanias and leishmaniasis of the New World, with particular reference to Brazil. *Bulletin Pan American Health Organization*, 7 (4) :1-19.
- LAINSON, R. & SHAW, J.J., 1979. The role of animals in the epidemiology of South American leishmaniasis. In: *Biology of the Kinetoplastida*. Vol. 2. W.H.R. Lumsden & D.A. Evans (Editors), pp. 1-116, Academic Press, London.
- LAINSON, R.; SHAW, J.J.; WARD, R.D. & FRAIHA, H., 1973. Leishmaniasis in Brazil: IX. Considerations on the *Leishmania braziliensis* complex: - Importance of the genus *Psychodopygus* Mangabeira in the transmission of *L. braziliensis braziliensis* in north Brazil. *Trans. Roy. Soc. Trop. Med. Hyg.*, 67 :184-196.
- LUCENA, D.T. de, 1953. Flebotomos do Nordeste. Morfologia de algumas espécies e sua distribuição. *Papéis Dep. Zool. S. Paulo*, 11 :89-107.
- MILES, M.A.; LAINSON, R.; SHAW, J.J.; PÓVOA, M. & SOUZA, A.A. de, 1981. Leishmaniasis in Brazil: XV. Biochemical distinction of *Leishmania mexicana amazonensis*, *L. braziliensis braziliensis* and *L. braziliensis guyanensis* - aetiological agents of cutaneous leishmaniasis in the Amazon Basin of Brazil. *Trans. Roy. Soc. Trop. Med. Hyg.*, 75 :524-529.
- READY, P.D.; FRAIHA, H.; LANE, R.P.; ARIAS, J.R. & PAJOT, F.X., 1982. On distinguishing the female of *Psychodopygus wellcomei*, a vector of mucocutaneous leishmaniasis, from other *squamiventris* series females. I. Characterization of *Ps. squamiventris squamiventris* and *Ps. s. maripaensis* stat. nov. (Diptera: Psychodidae). *Ann. Trop. Med. Parasitol.*, 76 (2) :201-214.