Mem. Inst. Oswaldo Cruz, Rio de Janeiro
Vol. *85* (2): 251, apr./jun. 1990

Research Note

NATURAL INFECTION OF *LUTZOMYIA (NYSSOMYIA) WHITMANI* (ANTUNES & COUTINHO, 1939) BY *LEISHMANIA* OF THE *BRAZILIENSIS* COMPLEX IN BATURITÉ, CEARÁ STATE, NORTHEAST BRAZIL

ALFREDO C. R. AZEVEDO; ELIZABETH F. RANGEL; ELIZABETH M. COSTA*; JOHN DAVID**ANTONIO W. VASCONCELOS*** & ULISSES G. LOPES*/+

Instituto Oswaldo Cruz, Departamento de Entomologia, *Departamento de Bioquímica e Biologia Molecular, Caixa Postal 926, 20001, Rio de Janeiro, RJ, Brasil, **Harvard School of Public Health, Department of Tropical Public Health, 665, Huntington, Boston, Massachusetts 02115, USA, ***Universidade Federal do Ceará, Núcleo de Medicina Tropical, Caixa Postal 3233, 60430, Fortaleza, CE, Brasil, + Departamento de Parasitologia, Universidade do Estado do Rio de Janeiro, RJ, Brasil

In Ceará State sandfly surveys have been performed in the past, in several localities, without incriminating any species as vectors of cutaneous leishmaniasis (D. Lucena, 1953, *Papéis Avulsos, 11:* 89-107; J. E. Alencar & I. Sherlock, 1961, *XIII Congres. Brasil. Hig.;* O. Mangabeira, 1940 in I. Sherlock, 1968, *Rev. Brasil. Malariol. Doenç. Trop., 21:* 3-25).

In 1955, L. M. Deane & M. P. Deane (*Rev. Brasil. Biol., 15:* 83-95) made a sandfly survey in the west of Ceará State, while studying the biology of *Lutzomyia longipalpis*. They verified that in mountaneous areas *L. whitmani* and *L. migonei* were found in high numbers and remarked that their distribution coincided with that of cutaneous leishmaniasis. P. Ready et al., in 1983, also in Ceará, was the first to find *L. wellcomei* out of the Amazon Basin where it is known to be a vector of *Leishmania braziliensis*, suggesting that it could be widely spread on the "Maciço Montanhoso" of Brazil (*Mem. Inst. Oswaldo Cruz, 78:* 235-236). According to J. J. Shaw & R. Lainson, this finding suggests that the epidemiology of cutaneous leishmaniasis in Ceará could be similar to that observed in the Serra dos Carajás, Pará State (1987, The Leishmaniasis in W. Peters & R. Killick-Kendrick eds., *Biology and Medicine, Vol. I,* London, XXV + 550 + XXVIII).

Recently, E. F. Rangel et al. found *L. whitmani* to be the dominant sandfly species in another area of Ceará, the Municipality of Aquiráz (1989, *Mem. Inst. Oswaldo Cruz, 84,* Suppl. II: 131).

In the present note we report our findings in a focus of cutaneous leishmaniasis in Baturité, Ceará State, where *L. whitmani* was the predominant species, and highly anthropofilic. Sandflies were collected outdoors close to houses (up to ten meters distance), using humans or horses as baits, during August 1989. We dissected 893 females of *L. whitmani* and infections were detected in 7 (0.8%), 4 captured on a human bait and 3 on a horse. Peripylarian infections with paramastigotes in the hindgut and promastigotes in the midgut and in the cardia were observed. The flagellates were identified, by kDNA probes, as *Leishmania* of the *braziliensis* complex.

Nearly fifty years ago, during epidemiological studies made in São Paulo State, *L. whitmani* was incriminated as a vector of cutaneous leishmaniasis. Besides being highly anthropofilic, its seasonal frequency coincided with that of the disease and it was found infected with promastigotes in nature (S. B. Pessoa & J. O. Coutinho, 1941, *Hospital, 20:* 25-35). In a focus in Caratinga, Minas Gerais State, W. Mayrink et al. verified this species to be predominant and anthropofilic (1979, *Ann. Trop. Med. Parasitol., 73:* 123-137). In Três Braços, Bahia State, *L. whitmani* has been found infected with *L. braziliensis* (A. Hock et al., 1986, *Mem. Inst. Oswaldo Cruz, 81,* Suppl.: 62).

Only *Leishmania (Viannia) braziliensis* has been isolated from patients in Baturité and our results suggest that *Lutzomyia whitmani*, a silvatic sandfly which may invade the peridomestic habitat, is an important vector.

Work supported by NIH ICIDR grant AI16305

Received March 15, 1990.
Accepted April 30, 1990.

Acknowledgements: to SUCAM (Superintendência de Campanhas de Saúde Pública, Brazil) for the facilities provided during the field work.