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Research Note

NATURAL INFECTION OF *LUTZOMYIA TRINIDADENSIS* (DIPTERA: PSYCHODIDAE) WITH LEISHMANIA IN BARQUISIMETO, VENEZUELA

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Cutaneous leishmaniasis due to *Leishmania venezuelensis* Bonfante-Garrido, 1980 is endemic in the outskirts of towns located in xerophitic areas, near rivers and creeks, of the states of Lara and Yaracuy (R. Bonfante-Garrido et al., 1987, *PAHO Bull., 21:* 149-155).

In searching for vectors of this parasite in Barquisimeto, Lara State, an entomological study was started on 4th october, 1988, and to date 6,244 sandflies have been examined for natural infection: 708 were from areas near La Ruezga creek (670 m above sea level), where the only positive causing cutaneous leishmaniasis is *L. venezuelensis,* and 5,536 were from the Macuto forest (480 m. a.s.l.) where both *L. venezuelensis* and *L. braziliensis* s. sp. infect man. In both foci collections, using human bait, was made between 19 and 22 h around and in the houses. Captures, were also made using Disney, Shannon and modified CDC light traps, and by aspiration in tree holes. All sandflies species were identified by examining their genitalia. In the La Ruezga creek districts, seven species were collected: *Lutzomyia cayennensis* 340, *Lu. atroclavata* 202, *Lu. trinidadensis* 77, *Lu. rangeliana* 78, *Lu. marajoensis* 7, *Lu. venezuelensis* 2, and *Lu. evansi* 2. Except for the latter species all are considered to feed preferentially on rodents and reptiles (I. Ortiz, 1968, *Derm. Venez., 7:* 530-538). However, A. Arias et al. (1983, *Bol. Dermatol. Sanit., 19:* 67-109) found that in Yaracuy State 17.5% of the females collected off man were *Lu. trinidadensis.* In the Macuto forest fifteen species of sandflies were collected: *Lu. ovallesi* 4,030, *Lu. trinidadensis* 372, *Lu. cayennensis* 332, *Lu. migonei* 306, *Lu. marajoensis* 94, *Lu. olmeca bicolor* 15, *Lu. atroclavata* 68, *Lu. rangeliana* 46, *Lu. evansi* 121, *Lu. punctigeniculata* 10, *Lu. longipalpis* 2, *Lu. gomezi* 10, *Lu. bayti* 1, *Lu. venezuelensis* 1 and *Lu. beauperthuyi* 128. Females were dissected following the P.T. Johnson et al. technic (1963, *Exp. Parasitol., 14:* 107-122), when infected with promastigotes, the intestinal tract was examined to observe their location, then it was picked up from the slide and carefully disrupted in 0.5 ml of sterile 0.9% sodium chloride solution. 0.1 ml. of the suspension was inoculated into hasmsters. The animals were examined weekly and discarded if they were negative after one year. In the Macuto forest, near the Turbio river, 6(0.1%) *Lu. trinidadensis* were found positive for flagellates. In one of these specimens slowly moving promastigotes were found in the foregut and midgut and in 5, flagellates were seen in the midgut and hindgut. In hamsters one of these isolates produced a tumorlike inflamation at the inoculation site, with histiocytes containing large numbers of amastigotes. The parasite has not yet been isolated in *in vitro* culture. In Giemsa stained slides both promastigotes from the sandflies and amastigotes from the hamsters were indistinguishable from those of *L. venezuelensis* isolated from humans.

The source of this infection is unknown. However, the large distribution of *Lu. trinidadensis* in the periphery of Barquisimeto suggest that the reservoir of *L. venezuelensis* may be a domestic animal or a common rodent.

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