

Preliminary observations on the silvatic cycle of leishmaniasis in French Guiana

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A considerable increase in the occurrence of human cases of cutaneous leishmaniasis has been observed in French Guiana during the past two years.

The clinical form, known locally as "pian bois", is caused by the parasite identified by FLOCH (1954) and LAINSON & SHAW (1972, 1973) as *Leishmania braziliensis guyanensis*. Cases often occur in groups of people and multiple lesions are seen in about 10% of patients. The vector and reservoir host, not previously identified, are strongly indicated by the present work.

During 1978 and the first three months of 1979, extensive sandfly surveys were carried out in the primary forest. Four collection methods were used: hand catching of flies sitting on tree-trunks and buttresses, CDC miniature light traps, guinea-pig-baited oiled traps and night hand catching on human baits. Rodent-baited traps were set in the afternoon and removed at dawn. Sandflies caught in the traps and on humans were dissected on the spot and gut peristalsis was still evident in all specimens. When flagellates were observed, their position in the gut was carefully noted and they were inoculated into the upper part of the feet of hamsters. The positive flies were prepared for identification.

A large number (1451) of *Lutzomyia umbratilis* Ward & Fraiha were dissected and 19 of them (13/1000) were found to harbour promastigotes, developing mainly in the golden hamster. Other parasites found in five specimens of *L. anduzei* (Rozeboom) and in two specimens of *L. shamoni* (Dyar) are probably not *Leishmania* but unidentified flagellates, possibly *Schizotrypanum* sp. or *Entotrypanum* sp.

Although the two strains are still under examination, it is likely that *Lutzomyia umbratilis*, a very abundant and anthropophilic species, found in the primary and secondary forests, is a vector of human leishmaniasis in French Guiana. This species has already been incriminated as vector of *Leishmania braziliensis guyanensis* in the State of Pará in Brazil (LAINSON *et al.*, 1976) and suspected (under the name of *Lu. anduzei*) in French Guiana (FLOCH & ABONNENC, 1952) and in Surinam (WIJERS & LINGER, 1966).

The pyloric development observed in the sandflies is said to be characteristic of *L. braziliensis* (LAINSON *et al.*, 1977), but the period of development of both strains from man and sandflies in hamster skin is short (about two weeks) and the parasites are very abundant in the lesions. Development in naturally infected men was also short—about two/three weeks—and amastigotes were very abundant in the lesions. The incubation of *L. braziliensis* in man and golden hamsters generally takes longer and parasites are scanty.

Infected sandflies have been caught on man in the canopy at the height of 92 feet as well as at ground level, which suggests a possible silvatic cycle in the mammals of the canopy, as already reported for *L. braziliensis panamensis* from Panama.

Two wild mammals belonging to the genus *Proechimys* (one of which was *P. cuvieri*) were found naturally infected with *Leishmania*. In the first (*P. cuvieri*) there was a skin lesion on one ear in which amastigotes could be seen but, unfortunately, the parasite was not inoculated into the hamster. The liver, spleen and pieces of skin of the second *Proechimys* were pooled, triturated and inoculated into the foot of a hamster which developed a typical leishmanial lesion at the site of the inoculation. Clinical features were the same as those observed in hamsters inoculated with promastigotes from *Lu. umbratilis*. Nevertheless the nature and status of the *Leishmania* found in *Proechimys* awaits precise experimental determination.

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