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Immunodiffusion Studies on a Skin-inhabiting *Leishmania* from the Tropical Porcupine, *Coendou rothschildi* Thomas

In connection with a continuing search for jungle reservoir hosts of the agent of cutaneous leishmaniasis in Panama, Herrer et al. (1966, J. Parasit. **52**: 954–957) reported the presence of *Leishmania* sp. in the dermis of the prehensile-tailed Central American porcupine, *Coendou rothschildi* Thomas. Immunodiffusion studies, using as antigen cultured flagellates isolated from a small series of coendous, were performed to compare the isolates with each other and with a number of strains of *L. braziliensis* (s.l.) of human origin as well as certain strains isolated from wild-caught *Phlebotomus* sandflies. Culture methods, im-

TABLE I. *Immunodiffusion reactions between 6 strains of* Leishmania *sp. from* Coendou rothschildi, *6 strains of human origin, and 5 strains derived from wild-caught* Phlebotomus *sandflies.**

	Coendou-strains, Antisera						Group I Antisera					Group II Antisera				"Mexicana"-Group Antisera	
Antisera → Antigen	C5	C6	C7	C8	C10	C11	Batista	Monteza	Van Horn	WC-6103	WC-6217	SH-24	WC-5003	WC-6445	WC-7258	Guatemala	*L. mexicana*
C5	3	0	3	1	3	0	1	0	±	0	1	1	2	1	2	1	2
C6	2	2	1	2	3	2	1	0	1	1	1	0	4	2	1	1	2
C7	3	1	3	2	3	1	0	±	0	1	1	0	2	2	1	±	2
C8	2	1	2	2	2	1	1	0	1	2	±	0	1	2	0	1	2
C10	3	4	1	2	4	3	1	1	1	2	1	0	4	3	2	1	2
C11	2	1	3	1	2	2	0	0	0	1	0	0	2	3	1	0	1

* Numbers represent number of individual bands detected. Intensity of reactions or the time required for them to form are not indicated.

munization procedures, and the techniques of the test as well as descriptions of some of the human and sandfly strains and antisera used for comparison were given by Schneider and Hertig (1966, Exp. Parasit. **18:** 25–35). Media controls were not run. Microslide reactions were photographed and data were recorded in terms of the number of lines of precipitate which could be detected. A plus-minus reading was one in which a reaction was detectable but indistinct. The results with isolates from six coendous are reported in Table I.

The antisera produced in rabbits varied in potency. Their relative strengths could be judged by inspecting the number of bands produced in the homologous reactions. In this regard, C5, C7, and C10 stood above the others but antisera to C6 and C11 were weak enough so that, in each case, fewer lines were produced in homologous reactions than in at least one heterologous reaction.

With regard to relationships with other leishmanial strains, the coendou isolates seemed to react most strongly with antisera to some of the strains comprising Group II, as described by Schneider and Hertig (loc. cit.). Indeed, the reactions of C6 and C10 with antiserum to WC-5003 were spectacular. On the other hand, reactions with antiserum to SH-24, a human strain, were conspicuously weak or absent.

The coendou flagellates could not easily be identified with the members of Group I, which includes most of the human strains isolated in Panama. In the "*mexicana*" group, reactions with antiserum to a human isolate from Guatemala were weak or absent, but reactions to a strain of *L. mexicana* from British Honduras consistently included two clear bands (with the exception of C11, where but one band was seen).

This method of roughly cross-comparing a series of flagellates by the number of bands produced in agar-gel does not necessarily provide proof of the common identity of any of them, although it helps to arrange a picture of possible groupings. But the absence of reactivity between antigens and antisera of demonstrated potency must certainly be taken to illustrate a lack of relationship. In the present work it was concluded that the coendou isolates were (1) probably not closely related to the principal etiologic agents of cutaneous leishmaniasis in Panama (but may be to a strain identified as *L. mexicana* from British Honduras) and (2) appear to be closely related to two strains of *Leishmania* (WC-5003 and WC-6445) which had previously been isolated as leptomonads from *Phlebotomus* sandflies.

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