

Tegumentary leishmaniasis by *Leishmania braziliensis* complex in Bolivia: the presence of *L. braziliensis* outlier

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Abstract

Leishmaniasis is caused by protozoans of the *Leishmania* genus, which includes more than 20 species capable of infecting humans worldwide. In the Americas, the most widespread specie is *L. braziliensis*, present in 18 countries, including Bolivia. The taxonomic position of the *L. braziliensis* complex has been a subject of controversy, complicated further by the recent identification of a particular subpopulation named *L. braziliensis* atypical or outlier. The aim of this study was to carry out a systematic analysis of the *L. braziliensis* complex in Bolivia and to describe the associated clinical characteristics. Forty-one strains were analyzed by sequencing an amplified 1245 bp fragment of the *hsp70* gene, which allowed its identification as: 24 (59%) *L. braziliensis*, 16 (39%) *L. braziliensis* outlier and one (2%) *L. peruviana*. In a dendrogram constructed, *L. braziliensis* and *L. peruviana* are grouped in the same cluster, whilst *L. braziliensis* outlier appears in a separate branch. Sequence alignment allowed the identification of five non-polymorphic nucleotide positions (288, 297, 642, 993 and 1213) that discriminate *L. braziliensis* and *L. peruviana* from *L. braziliensis* outlier. Moreover, nucleotide positions 51 and 561 enable *L. peruviana* to be discriminated from the other two taxa. A greater diversity, was observed in *L. braziliensis* outlier than in *L. braziliensis*- *L. peruviana*. The 41 strains came from 32 patients with tegumentary leishmaniasis, among which 22 patients (69%) presented cutaneous lesions (11 caused by *L. braziliensis* and 11 by *L. braziliensis* outlier) and ten patients (31%) mucocutaneous lesions (eight caused by *L. braziliensis*, one by *L. braziliensis* outlier and one by *L. peruviana*). Nine patients (28%) simultaneously provided two isolates, each from a separate lesion, and in each case the same genotype was identified in both. Treatment failure was observed in six patients infected with *L. braziliensis* and one patient with *L. peruviana*.

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L. braziliensis complex Bolivia.pdf available at <https://authorea.com/users/413525/articles/521823-tegumentary-leishmaniasis-by-leishmania-braziliensis-complex-in-bolivia-the-presence-of-l-braziliensis-outlier>

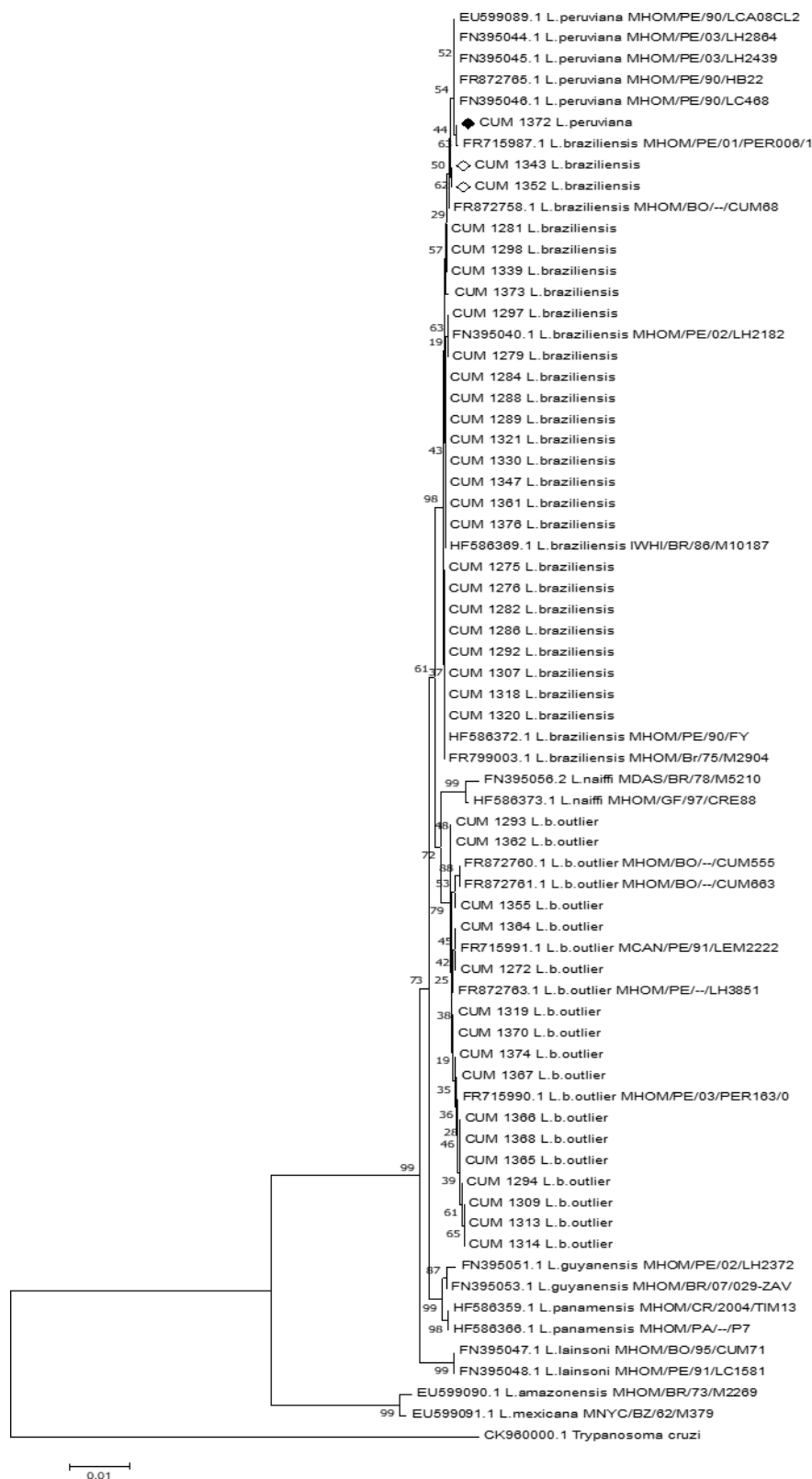


Figure 2.

