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ECOLOGICAL DRIVERS OF BIOTIC INTERACTIONS: HOST AND VECTORS OF *TRYPANOSOMA CRUZI* CHAGAS (TRYPANOSOMATIDAE) IN MEXICO

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Trypanosoma cruzi is the aetiological agent of the Chagas disease. To understand the transmissibility of *T. cruzi*, it is necessary to clarify which are the drivers of the biotic interaction between their host and vectors. Here, we analyze role of ecological features of mammal species as drivers of biotic interaction between host and vectors of *T. cruzi* in Mexico. To address this issue, we have previously inferred and validated potential host and vectors of *T. cruzi*, as well as the interactions between them (Rengifo-Correa *et al.,* 2017, *Parasitology* (144):760-772). From this previous research, we reanalyzed the Epsilon values or the level of significance of the spatial co-ocurrence between mammal and Triatominae species. Our hypothesis is that Epsilon values are explained by ecological features of mammal species. We studied four Triatominae and 18 mammal species coocurring in the Transmexican Volcanic Belt. The following ecological features of mammal species were compiled from literature: 1) Activity cycle (crepuscular, nocturnal), and 2) terrestiality (above ground, fossorial). We compose two matrices as follows: 1) A dependent matrix, with triatomines as species, mammal species as samples, and Epsilon values as response variables, and 2) An explanatory matrix, with mammal species and their ecological features. We perform a non-metric multidimensional scaling (NMDS) and a redundancy analysis (RDA) to discover the ordination of the data matrices. According to the NMDS analysis, samples can be aggregated by its properties with a relatively low stress value (0.32). According to the RDA analysis, the ecological features of the mammal species analyzed explain 24.3% of the total variation of the data (pseudo-F=2.4, p=0.042), with axis 1 explaining 22.7% of the total variation. *Triatoma barberi*, *T. longipennis*, and *T. pallidipennis* are related to mammal species with crepuscular and fossorial habits, whereas *T. picturata* is related to mammal species with nocturnal and above ground habits.

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