

THE MIDDLE MIOCENE (LAVENTAN) QUEBRADA HONDA FAUNA, SOUTHERN BOLIVIA AND A DESCRIPTION OF ITS NOTOUNGULATES

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Abstract: The Laventan Quebrada Honda Fauna of southern Bolivia is one of the best sampled middle Miocene South American faunas. The present study describes the toxodontid, interatheriid and mesotheriid notoungulates from Quebrada Honda and summarizes the present state of knowledge of the fauna. Toxodontid specimens from Quebrada Honda include two isolated molars, one upper and one lower. The upper molar compares favourably with *Paratrigodon* and may represent a new species, but too little material is known to make an adequate diagnosis. The lower molar may pertain to the same taxon, or to a distinct species that is even more poorly represented. A new species of the interatheriid *Miocochilius* is described, *M. federicoi*, on the basis of a partial skull. It differs from *M. anomopodus* in its significantly smaller size (at least 20 per cent smaller based on linear upper molar dimensions); relatively wider P4 with deeper lingual sulcus; more prominent middle lobes on upper molars; and M3 with deeper lingual sulcus and more prominent metastyle (distal lobe). The generic allocation of this new species is considered tentative, pending a better understanding of the phylogenetic relationships among currently recognized species of *Miocochilius* and *Protypotherium*. Mesotheriids are represented at Quebrada Honda by a pair of poorly preserved mandibles that are referred to *Plesiotypotherium minor*, a species previously

recorded from slightly older deposits near Cerdas, Bolivia. A newly revised faunal list for Quebrada Honda is compiled that includes 30 species of non-volant mammals, 27 of which have been identified to at least genus level. This revised faunal list is used to compare Quebrada Honda to other well-sampled middle-late Miocene faunas (including La Venta, Columbia; Collón-Curá, Argentina; and Arroyo Chasicó, Argentina) using the Simpson Index of faunal similarity. In order to compensate for inadequately identified specimens (i.e. those not identified to genus level), minimum and maximum values of faunal similarity were estimated using two different sets of assumptions. The analysis indicates that the middle-latitude Quebrada Honda Fauna is more similar to the slightly older high-latitude fauna of Collón-Curá than to the contemporaneous low-latitude fauna of La Venta, suggesting that isolating mechanisms between the low and middle latitudes were in place during the early and/or middle Miocene. The relative paucity of taxa shared between Quebrada Honda and La Venta, despite their contemporaneity, suggests that the system of South American Land Mammal 'Ages' (SALMAs) may not be useful for biocorrelation between low-latitude faunas and those from elsewhere in South America.

Key words: biogeography, Bolivia, endemism, Laventan, Miocene, Notoungulata, SALMA.