



VI Congreso Latinoamericano de
Paleontología de Vertebrados

Diversidad con alas

Villa de Leyva, Boyacá, Colombia
Agosto 20 al 25 de 2018



Formation corresponds to mobile channels belts, where the width/thickness relationship of the channel bodies in cross-section, are characterized by broad ribbons forms. In many channels bodies, it is possible to recognize rhizoconcretions and carbonates nodules, which indicate that these fluvial systems developed under semi-arid climates. This unit represents the initial filling stages of the Chaco foreland basin, during the late Oligocene-early Miocene.

**A NEW SPECIES OF PROTYPOTHERIUM (NOTOUNGULATA:
INTERATHERIIDAE) FROM THE MIDDLE MIOCENE OF NAZARENO,
BOLIVIA**

Darin A. Croft/ Case Western Reserve University/ dcroft@case.edu/USA
Federico Anaya/Universidad Autónoma “Tomás Frías”/ fedanaya@hotmail.com/ Bolivia

The Nazareno Formation of southern Bolivia crops out throughout the Nazareno Basin, a north- south trending syncline whose axis runs ca. 10 km east of the town of Tupiza. Fossils were first described from the area in 1925, but the area has been relatively unknown from a paleontological perspective until recent years. As part of our ongoing field investigations of Miocene fossil mammal localities in southern Bolivia, our team made two trips to the Nazareno Basin to collect fossil mammals. Specimens recovered through this fieldwork, as well as others deposited in the collections of the Universidad Autónoma ‘Tomás Frías’ in Potosí, reveal the presence of an interatheriid notoungulate unique to southern Bolivia. The new species is known from several specimens that preserve most of the upper and lower dentition, including P1-M3 and c-m3. An immediately recognizable characteristic of the new species is its very small size, some 15% smaller than *Protypotherium minutum* from the early late Miocene (Tortonian age) of Arroyo Chasicó (central Argentina). It is further distinguished from other currently-recognized species by its m3 talonid, which is smoothly convex buccally (rather than having a sulcus), and its little-pronounced P3-4 parastyle-paracone sulcus, a feature much more prominent in most other species. Based on its relatively closed upper premolar lingual sulci, absence of a median lobe in the upper molars, and its relatively square upper molar distal lobes, it appears to pertain to the genus *Protypotherium* rather than *Miocochilius*. However, in addition to features noted above, it displays a combination of character states not found in other *Protypotherium* species. For example, the Nazareno species resembles *P. colloncurensis* from the early middle Miocene (Langhian age) Collón-Curá Formation of southern Argentina and *P. minutum* in having upper molars that decrease in size distally in the toothrow, but it differs from these species in its little-imbricated upper dentition. The p2 of the Nazareno species has a well-demarcated talonid, a feature shared with several *Protypotherium* species but not *P. colloncurensis* (and unknown in *P. minutum*). The new Nazareno interatheriid is likely also present at the early middle Miocene site of Cerdas, located roughly 100 km to the northwest on the Bolivian Altiplano, which would make the species the second if not the third tythere





VI Congreso Latinoamericano de Paleontología de Vertebrados

Diversidad con alas

Villa de Leyva, Boyacá, Colombia
Agosto 20 al 25 de 2018



notoungulate shared between the two sites (in addition to the hegetotheriid *Hegetotherium cerdasensis* and potentially the mesothere '*Plesiotypotherium minus*'). These shared species, in addition to general (higher-level) similarities between the faunas of the two sites, suggest that the fossils of the Nazareno Formation sample a time interval much closer to that of Cerdas (roughly 16-15 Ma) than that of Quebrada Honda, Bolivia (roughly 13-12 Ma; late middle Miocene, Serravallian age), a site located a mere 60 km to the southeast. Ongoing studies promise to refine the paleontology, geochronology, and paleohabitat of the Nazareno assemblage in coming years.

WHAT DO THE ITABORAÍ BASIN FOSSIL MAMMALS SAY ABOUT ITS AGE?

Lilian Paglarelli Bergqvist/ Universidade Federal do Rio de Janeiro/
bergqvist@geologia.ufirj.br/ Brazil

Leonardo Carneiro/ Universidade Federal do Estado do Rio de Janeiro/
leonardo.carneiro8@gmail.com/ Brazil

Tábata Zanesco/ Universidade Federal do Rio de Janeiro/ *tabatazf@yahoo.com.br*/ Brazil

Jéssica Maciel/ Universidade Federal do Rio de Janeiro/ *jessica.macal@gmail.com*/ Brazil

The first fossil mammal of Itaboraí Basin, in Rio de Janeiro, Brazil, was discovered in 1945, but most of the mammal specimens recovered in the basin came from fissure fill deposits discovered in 1948/49 (specimens housed at Museu Nacional of Rio de Janeiro/MN), and 1949 and 1968 (specimens housed at Museu de Ciências da Terra/MCT, in Rio de Janeiro). In addition to these, a few specimens have different dates of collection, and some housed at MCT have no collecting information. The thousands of catalogued specimens in these institutions have revealed the presence of a diverse paleomastofauna comprised mainly of ungulates and marsupials. The ungulate fossils are much more abundant than marsupials (about five times more abundant), but the marsupials are much more diverse (30 versus 13 genera). Publications of the 1980s and 1990s suggested that the fauna of Itaboraí Basin included fossils of somewhat different ages, but more recently, the paleomastofauna has been treated in the literature as a sole contemporaneous assemblage. As has been mentioned elsewhere, the variable locations of the above-mentioned fissures and the faunal composition of each one challenge this recent view. The differences in faunal composition among the fissures is reflected not only in the frequency of the taxa, but also in their presence or absence. Taking the most abundant genera as examples, Protolipterna is exclusive to the 1968 fissure, whereas 91% of Colbertia and 70% of Ricardocifellia were recovered from 1948/49 collections, but neither is represented among the fossils collected in the 1968 fissure; Carodnia is also absent from the 1968 fissure (it is restricted to the 1949 fissure) as is Victorlemoinea. Among the marsupials, the increase in abundance of Epidolops from 5% in 1968 to 36% in 1948/49 to 52% in 1949 is noteworthy. In addition, more than 90% of Marmosopsis were recovered from 1948/49 and none from 1968. As for Protolipterna, a new Pediomyoidea genus is restricted to the 1968 fissure. Several statistical analysis were undertaken to evaluate the

