



fossil taxa reveal the presence of cusps, which are not so well differentiated in living species, pointing out the essential role of fossils in the identification of homologous structures. In this contribution, we examine the occlusal morphology of these rodents and evaluate alternative primary homology hypotheses for occlusal structures in the cheek teeth of caviomorphs. On this base, we explore the testing of alternative primary hypotheses of loph / lophids correspondences in a phylogenetic context. Following a dynamic approach, we select the best primary homologies and evaluate the evolutionary transformations of the analyzed dental characters. Our results indicate that pentalophodonty is the derived condition for the lower molars in caviomorphs; the trilophodonty evolved independently at least two times during the evolutionary history of octodontoids, and pentalophodonty represents the primitive condition in erethizontids and octodontoids. Pentalophodonty emerges as the derived condition in the upper molars, from a "prepentalphodont" pattern. This study shows that the dental evolution in caviomorphs can be better understood when their occlusal structures are expressed as characters reliably comparable, and when fossils are taken into account.

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94. Oligocene mammals from the Andes of central Chile

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More than 1400 fossil mammal specimens have been collected over the past 20 years through a series of US-Chilean paleontological expeditions in the central Chilean Andes. These fossils derive from volcanoclastic intervals of the Abanico Formation, mostly between 33.5° and 35.5°S latitude. Mammal assemblages from this formation appear to sample at least six late Eocene to early Miocene South American Land Mammal "Ages", including two from Oligocene, the Tinguirirican (early) and Deseadan (late). The hardness of typical Abanico matrix preserves many specimens in excellent condition, but has limited the number available for taxonomic studies due to the extensive preparation time required. The first -discovered and best- characterized Abanico assemblage is Tinguiririca. Nearly half of the species from Tinguiririca have been described, and studies of two groups are forthcoming: notohippid notoungulates and caviomorph rodents. The notohippids include: two new species of *Eomorphippus* Ameghino; another species, likely new, but poorly represented; and "*E.*" *pascuali* Simpson, a species distinct from others of that genus. The caviomorphs include a new chinchillid and a new dasyproctid. Several other Abanico assemblages may be at least partly contemporaneous with Tinguiririca. One, in the valley of the Río Cachapoal, includes: *Polydolops mckennai* Flynn and Wyss (Polydolopidae); *Johnbell hatcheri* Hitz, Flynn and Wyss (Interatheriidae); *Trachytherus* Ameghino (Mesotheriidae); *Archaeotyotherium* Roth, and *Protarchaeohyrax* Reguero, Croft, Flynn and Wyss ('Archaeohyracidae'); plus several xenarthrans and at least one rodent. Two others, in the Río Maipo drainage, include *Santiagorothia* Hitz, Reguero, Wyss and Flynn (Interatheriidae), *Archaeotyotherium*, a mesotheriid notoungulate, possibly an isotheriid notoungulate, and a rodent. Another locality in the same region appears to be younger, potentially Deseadan in age; rodents are present and abundant, and armadillos, hegetotheriid notoungulates, and interatheriid notoungulates also have been identified.

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95. A new insectivoran-like metatherian from western Argentina (Quebrada Fiera, Mendoza Province, Deseadan Age, late Oligocene)

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A new metatherian was recently found in the Quebrada Fiera locality (southern Mendoza Province, Argentina), in late Oligocene deposits (Agua de la Piedra Formation; Deseadan SALMA). The specimen consists of fragments of both dentaries, the right maxilla, and a fragment of the left premaxilla with dentition, all belonging to a single, subadult individual. The teeth are represented by seven upper and lower antemolars and at least three molars, with an inferred dental formula of I/I?3/3, C/c1/1, P/p3/3, M/m?3/?3. Among the most conspicuous dental features