



1983) y *Coloradolops cardonensis* Chornogubsky *et al.*, 2018. La única mención de este grupo fuera de Argentina corresponde a un prepodolópido de afinidades con *Punadolops* listado para niveles eocénicos de Contamana, Perú. Damos a conocer una nueva especie de prepodolópido a partir de un ejemplar recolectado en niveles del Eoceno medio de la Formación Quebrada de Los Colorados aflorante en el Parque Nacional Los Cardones (provincia de Salta, Argentina). El fragmento de mandíbula referido (IBIGEO-P 128, Instituto de Bio y Geociencias del Noroeste Argentino) presenta los dos últimos molares, probablemente m3-4. Estos poseen como características únicas 1) una extremada reducción del trigónido, con un paracónido vestigial y el protocónido y metacónido unidos por una alta metacrístida y formando un lófido; 2) talónido muy desarrollado, con un hipocónido proyectado bucolabialmente, un entocónido alineado transversalmente con el anterior y ubicado en la esquina distolingual del diente; 3) un hipoconúlido moderadamente desarrollado, apareado con el entocónido pero separado por un surco. Además, es el prepodolópido más grande conocido hasta el momento, teniendo un área oclusal de más del doble de la de *Prepidolops* o *Coloradolops*. Este nuevo hallazgo aumenta la riqueza taxonómica de Prepidolopidae para el Noroeste Argentino en general y la Formación Quebrada de Los Colorados en particular, dado que en esta última sólo se habían reconocido *Coloradolops cardonensis* y *Punadolops alonsoi*.

*Proyecto subsidiado por: ANPYCT, PICT201-0508 y PICT2019-3551; CONICET, IBIGEO-PUE y PUE22920160100098; y UNLu PC-BC142-20.

THE FIRST HEGETOTHERIID NOTOUNGULATES FROM CACHAPOAL AND LOS QUEÑES (ANDEAN MAIN RANGE, CENTRAL CHILE)

D. A. CROFT¹, R. CHARRIER^{2,3}, J. J. FLYNN⁴, A. HOLLAND¹, C. TAYLOR⁵, AND A. R. WYSS^{6*}

¹Department of Anatomy, Case Western Reserve University. 10900 Euclid Ave., Cleveland, OH 44106-4930, U.S.A. darin.croft@case.edu; aaron.holland@case.edu

²Departamento de Geología, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile. Casilla 13518, Correo 21, Santiago, Chile.

³Carrera de Geología, Facultad de Ingeniería, Universidad Andres Bello. rcharrie@ing.uchile.cl

⁴Division of Paleontology, The American Museum of Natural History. Central Park West at 79th St., New York, NY 10024-5192 U.S.A. jflynn@amnh.org

⁵Department of Integrative Biology, University of California-Berkeley. 1101 Valley Life Sciences Building, Berkeley, CA 94720-4780, U.S.A. catherine_taylor@berkeley.edu

⁶Department of Earth Science, University of California-Santa Barbara. 1006 Webb Hall, Santa Barbara, CA 93106, U.S.A. wyss@geol.ucsb.edu

We report here two well-preserved Paleogene hegetotheriids specimens from volcaniclastic deposits of the Abanico Formation of the Andean Main Range of central Chile. SGOPV 3449 (Museo Nacional de Historia Natural, Santiago, Chile), a partial anterior palate preserving most of LI1-2, LC-P4, and RI1-3, was collected from the upper Cachapoal River drainage, approximately 100 km SSE of Santiago. Its first incisors are large and chisel-shaped; they are strongly canted such that their medial edges diverge rootward at ~70° in anterior view, with only their mesialmost tips meeting. Short diastemata are present among separate I1, I2, I3, and C. The alveolus of C is aligned with the remainder of the toothrow. The imbricated premolars gradually transform in outline from subtriangular anteriorly to trapezoidal posteriorly. They lack any trace of fossettes but bear a thin layer of cement. The combined length of P1-4 is comparable to that of *Prohegetotherium schiaffinoi*, to which SGOPV 3449 is referred. Other elements of the Cachapoal fauna argue that these deposits pertain to the Tinguirirican South American Land-Mammal "Age", extending the biochron of this taxon several million years and making SGOPV 3449 the earliest known hegetotheriid. SGOPV 5513 (Museo Nacional de Historia Natural, Santiago, Chile), a partial mandible, was collected near the town of Los Queñes, approximately 170 km SSE of Santiago. The thick stratigraphic succession in this area preserves faunas pertaining to at least two South American Land-Mammal "Ages". SGOPV 5513, recovered from high in the section, is evidently referable to the late Oligocene Deseadan South American Land-Mammal "Age". It preserves the entire right lower dentition, though the occlusal surfaces of i1-2 are incomplete. No large diastema is present, and the teeth are moderately imbricated. A thin layer of cement is present. The specimen is comparable in size to *P. schiaffinoi* but differs conspicuously in the presence of a well-defined external sulcus on the talonid of m3. It further differs from *P. schiaffinoi* in having a more molariform p3 and molar talonids that are more angled buccally and smaller relative to the trigonids. The broad posterolingual groove on m3 resembles that of *P. schiaffinoi* and differs from the narrow groove present in *P. malalhuense*. SGOPV 5513 likely represents a new species of *Prohegetotherium*. We explored the phylogenetic relationships of both Andean specimens by incorporating them into a recent hegetotheriid character-taxon matrix and performing a New Technology search in *TNT* with all character states unordered. This resulted in two most-parsimonious trees of 145 steps each. In the strict consensus tree, the two Chilean specimens form a polytomy with *P. schiaffinoi*, compatible with the interpretation that they are conspecific with (SGOPV 3449) or closely related to (SGOPV

5513) this species. Regrettably, the Chilean specimens could only be coded for 11 (SGOPV 3349) and 17 (SGOPV 5513) of the 48 total characters in the original matrix. This highlights the need for additional specimens preserving other craniodental information and/or an expanded character matrix to further clarify the phylogenetic affinities of these specimens.

*Financial support: FONDECYT Chile 1970736 and NSF DEB-0513476, DEB-0317014, and DEB-9317943.

NINETY YEARS LATE TO THE PARTY: NEW GENERA AND SPECIES OF SPARASSODONTA FROM HISTORICAL COLLECTIONS OF THE MIDDLE EOCENE GRAN BARRANCA AND CAÑADÓN VACA MEMBERS (SARMIENTO FORMATION) OF PATAGONIA

R. K. ENGELMAN¹ AND D. A. CROFT²

¹Department of Biology, Case Western Reserve University. 10900 Euclid Avenue, Cleveland, Ohio 44106, USA. neovenatoridae@gmail.com, ORCID: 0000-0002-9988-7427

²Department of Anatomy, Case Western Reserve University School of Medicine. 10900 Euclid Avenue, Cleveland, Ohio 44106-4930, USA. dcroft@case.edu, ORCID: 0000-0002-6514-2187

Sparassodonts were the dominant carnivorous mammals in South America for over sixty million years, rapidly evolving from unassuming opossum-like taxa in the Paleocene to massive megafaunal predators by the middle Eocene. However, the early evolutionary history of Sparassodonta, particularly the adaptive radiation of the group during the Eocene, is very poorly documented compared to later intervals. For example, the middle Eocene layers of the Sarmiento Formation has few described sparassodonts except for *Patene* spp. and the proborhyaenids *Callistoe* and *Arminiheringia*. Here, we report on several isolated sparassodont teeth collected from middle Eocene sites in Patagonia by the American Museum of Natural History in 1930. These teeth represent at least four species, including 1) a new genus and species of *Cladosictis*-sized sparassodont from the Gran Barranca Member of the Sarmiento Formation represented by an upper molar with perpendicular preparacrista, large StB, and presence of StC and StD, 2) an upper molar representing a slightly older species of the same genus from Cañadón Vaca with well-developed ectocingulum, 3) isolated upper molars from Cañadón Vaca that might pertain to a species of *Patene* intermediate in morphology between *P. simpsoni* and *P. coluapiensis*, and 4) an isolated lower molar from a *Sipalocyon*-sized sparassodont from Eocene levels at Cabeza Blanca that could either pertain to an m2-3 of an early hondadelphid or the m1 of a very early-diverging sparassodont similar to *Mayulestes* or *Allqokirus*. The phylogenetic positions of these new taxa are unstable, but they all appear to have diverged prior to the common ancestor of Hathliacynidae and Borhyaenoidea. These new taxa effectively fill in the gaps of the size distribution of the Casamayoran sparassodont guild and suggest that the Casamayoran sparassodont community was as ecologically diverse as that of the Neogene. This result also supports the previous hypotheses that metatherian diversity was at its highest during the Eocene and that sparassodonts radiated explosively between the early and middle Eocene.

PRIMER PYROTHERIA (MAMMALIA, MERIDIUNGULATA) DE LA FORMACIÓN QUEBRADA DE LOS COLORADOS (EOCENO MEDIO-TARDÍO), PROVINCIA DE SALTA, NOROESTE ARGENTINO

M. FERNÁNDEZ^{1,2,3}, J. C. FERNICOLA^{1,2,3}, M. BOND^{3,4}, L. CHORNOGUBSKY^{1,3}, N. ZIMICZ^{3,5} Y N. A. MUÑOZ^{3,6*}

¹Sección Paleontología de Vertebrados, Museo Argentino de Ciencias Naturales "Bernardino Rivadavia". Av. Ángel Gallardo 470, C1405DJR Ciudad Autónoma de Buenos Aires, Argentina. mechisfernandezpaleo@gmail.com; jctano@yahoo.com; lchorno@macn.gov.ar

²Laboratorio de Anatomía y Biología Evolutiva de los Vertebrados-Universidad Nacional de Luján, Departamento de Ciencias Básicas. Ruta 5 y Av. Constitución, 6700 Luján, Buenos Aires, Argentina.

³Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET).

⁴División Paleontología Vertebrados, Museo de La Plata, Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata. Paseo del Bosque s/n, B1900FWA La Plata, Buenos Aires, Argentina. constantino1453@yahoo.com.ar

⁵Instituto de Bio y Geociencias del Noroeste Argentino. Av. Bolivia 5550, 4400 Salta, Salta, Argentina. natalia.zimicz@gmail.com

⁶División Paleontología Vertebrados, Facultad de Ciencias Naturales y Museo, Unidades de Investigación Anexo Museo de La Plata, Universidad Nacional de La Plata. Av. 60 y 122, B1900FWA La Plata, Argentina. nahuelmunoz@fncnym.unlp.edu.ar

El orden Pyrotheria es uno de los cinco grandes grupos de ungulados nativos de América del Sur, el cual incluye grandes organismos herbívoros que están representados desde el Eoceno temprano (Edad Mamífero Casamayorensis) hasta el Oligoceno tardío (Edad Mamífero Deseadense). En el noroeste argentino, este orden estuvo representado por el género