

The Egidio Feruglio's collection in the Museum of Geology and Palaeontology of the University of Padova: its importance to the knowledge of Cenozoic Mammals from South America

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ABSTRACT

The Museum of Geology and Palaeontology of the University of Padova, Italy, houses an important and practically unknown collection of fossil mammals from Patagonia, southern Argentina. It consists of thousands of remains collected by the Italian geologist Egidio Feruglio in the 1920s and 1930s, during his fieldworks in Patagonia for the Dirección de Yacimientos Petrolíferos Fiscales. In this work, we disclose the history of this particular collection providing a list of the most important fossil mammals represented, including holotypes, and emphasizing its importance on palaeontological and stratigraphic issues of southern South America. Furthermore, the MGP-PD houses fossils and casts of South American mammals provided by Argentinean researchers, such as a very small collection probably donated by the Argentinean naturalist Prof. Florentino Ameghino, and several casts donated by Dr. Alberto Castellanos.

Key words:

fossil mammals, Cenozoic, Patagonia, Egidio Feruglio, Padova.

RIASSUNTO

La collezione Egidio Feruglio conservata al Museo di Geologia e Paleontologia dell'Università di Padova: la sua importanza per la conoscenza dei Mammiferi cenozoici del Sud America.

Il museo di Geologia e Paleontologia dell'Università di Padova conserva un'importante e poco nota collezione di mammiferi fossili e rocce della Patagonia (Argentina meridionale). Questa raccolta consiste di migliaia di reperti scavati dal geologo italiano Egidio Feruglio, negli anni Venti e Trenta del secolo scorso, durante il suo lavoro di ricerca in Patagonia, presso la Direzione dei Giacimenti Petroliferi Statali (Dirección de Yacimientos Petrolíferos Fiscales). In questo lavoro viene descritta la storia di questa particolare collezione e la sua importanza scientifica. Il museo di Geologia e Paleontologia conserva inoltre altri fossili e calchi di mammiferi sudamericani, tra cui alcuni resti di mammiferi probabilmente donati dal naturalista argentino Prof. Florentino Ameghino, e alcuni calchi donati dal Dr. Alberto Castellanos.

Parole chiave:

mammiferi fossili, Cenozoico, Patagonia, Egidio Feruglio, Padova.

INTRODUCTION

The Italian geologist Egidio Feruglio (Feletto Umberto (UD), 1897- Udine, 1954) immigrated to Argentina in 1925 hired by the Dirección de Yacimientos Petrolíferos Fiscales (YPF) where he worked during three periods between 1925 and 1940 (fig.1). That year, he moved to Mendoza city

(Mendoza Province) where he worked as professor in the Universidad Nacional de Cuyo until 1948, when he returned definitively to Italy. Living in Mendoza, E. Feruglio created the Instituto del Petróleo, continuing his explorations and researches in different regions of Argentina and Chile (Grossutti, 1997; Spalletti, 2008).



Fig. 1. Egidio Feruglio in Colhué Huapi Lake, Chubut, Patagonia 1936 (from Grossutti - Archivio Feruglio).

Feruglio published many publications on regional geology, stratigraphy, palaeontology, geomorphology, cartography and glaciology of Argentina (Spalletti, 2008). Most of these papers are still used as references text at present. A complete synopsis of his scientific contributions, biography, as well as photographs and correspondence, were exposed in detail by Gortani (1955), Grossutti (1997, 2011), Magrini (2011) and Spalletti (2008). In his honour is dedicated the Museo Paleontológico Egidio Feruglio located in Trelew (Chubut), Argentina. The museum, opened in 1990, houses a huge collection of fossils from Patagonia and has become a prestigious institution worldwide.

While working in Patagonia, southern Argentina, Feruglio collected thousands of specimens and built a large and valuable personal collection, particularly of Cenozoic mammals and fossil invertebrates and plants. Noteworthy, the invertebrates (mostly housed in the Museum of Geology and Palaeontology of Bologna, Italy) and fossil plants (currently housed in the 'Museo Argentino de Ciencias Naturales Bernardino Rivadavia', MACN, Buenos Aires, Argentina) were meticulously studied and published by Feruglio in numerous papers (among others Feruglio, 1936, 1938, 1939; for a complete bibliographic list see Gortani, 1955, Spalletti, 2008). However, the itinerary of fossil mammals collected was rather different.

In this paper, the history of this peculiar and almost ignored collection of mammals and its current condition are presented. The presence of holotypes and stratigraphic information make the Feruglio

collection a very important resource to perform future researches on systematic of South American mammals, palaeobiogeography of Cenozoic and stratigraphy of Sarmiento and Río Chico formations of Chubut Province. Furthermore, improving the knowledge of this collection has given a great contribution to reconstruct the history of the Museum of Geology and Palaeontology (MGP-PD).

HISTORICAL RESEARCH

An intensive search for historical evidence was carried out in order to understand the itinerary of the collection from its beginnings to the present day; searching for letters, bibliography or any evidence that could improve our knowledge about this important collection.

Dr. Feruglio gave his personal collection of Cenozoic mammals from Patagonia to the Museo dell'Istituto Geologico della Regia Università di Padova (later renamed Museo di Geologia e Paleontologia, MGP-PD), Italy, in the 1930s. At that time, the director was Prof. Giorgio Dal Piaz (1874-1962), who received the collection. Nevertheless, before arriving in Italy, the collection was first sent to the American Museum of Natural History (AMNH, USA), in order to be studied by Prof. George Gaylord Simpson (1902-1984), the renowned North American palaeontologist who, at that time, was working on fossil mammals from Patagonia (Simpson, 1932a, 1932b, 1932c). An undated letter published by Grossutti (2011) demonstrates that there was a friendly relationship between Simpson and Feruglio. The main condition of the loan implied that the collection would be shipped to the MGP-PD after being studied (Simpson, 1935a, 1935b). Unfortunately we do not have any information about the exact date of these agreements between the researchers.

Both the MGP-PD and the historical archive of the University of Padova preserve crucial correspondence that permitted us to understand the history of this collection. Part of it surely arrived in Padova in July 1935. This is testified by a notification dated July 9th, 1935, which Dal Piaz received from Kofler and Co. Custom Brokers, and by a letter dated August 1st, in which Dal Piaz informed Simpson about the arrival of the box with Patagonian fossil mammals from the AMNH (fig. 2). A couple of months later, on September 24th, Dal Piaz wrote to the Rector of the University of Padova to obtain funding in order to buy three collections of fossils, including the Egidio Feruglio's collection. Dal Piaz himself wrote that the collection was of great scientific importance and consisted of numerous remains of mammals from the lower Eocene of Patagonia. The value of the collection was estimated in 10.000 Lire (about 11.600,00 Euro at

present day). Three days later, on September 27th, Dal Piaz sent an additional letter (fig. 3) to the Rector, explaining that Dr. Feruglio agreed to give his collection to the museum free of charge, receiving in return the publication of his important monograph about the fossil invertebrates from Patagonia in the *Memorie dell'Istituto Geologico della Regia Università di Padova*. The agreement was fulfilled in November 1937 (Feruglio, 1936) and the second part of monograph was issued in 1938. Four months later, on January 28th 1936 (fig.4), Dal Piaz informed Rector that the second box of fossils mammals sent by the AMNH had arrived to the port of Trieste on board the *Vulcania* steamship. Unfortunately, there is not documentation about the number of specimens that originally Feruglio sent to Simpson and those received by MGP-PD.

In 1935, when the first box containing part of the Feruglio collection arrived to Padova from the AMNH, Simpson published two significant papers about the Río Chico Formation fauna (1935a, 1935b). Those studies included some specimens of the large collection that, on Simpson's words, "kindly Feruglio sent to New York for study". Besides, Simpson (1935a) stated "the specimens from the Feruglio collection here described have been presented to the University of Padua, Italy, where they will be permanently preserved. Casts of all these specimens are in the American Museum, and for the exact specification of types the catalogue numbers of these casts are given". It is interesting to note, that some of the specimens collected by

Feruglio were designed as holotypes for new species described by Simpson (1935a). One of the cases is the specimen MGP-PD 29023 from Bajo Palangana locality (fig. 5a) designated as holotype of *Polydolops winecage* (= *Pliodolops winecage*, Chornogubsky, 2010). Another example is the specimen MGP-PD 29079 (fig. 5b) also from Bajo Palangana that Simpson (1935a) described as similar to *Ricardolydekkeria cinctula* and "probably a distinct species but it is inadequate for a secure definition". Simpson put a red mark on the specimen to indicate it as a holotype, but he never formalized the new species in a publication. Similarly, the specimen catalogued as MGP-PD 29119, a M2? (fig. 5c) coming from Bajo Palangana, was designated holotype of *Ernestokoenia chaishoer* by Simpson (1935a). These and other examples in the Feruglio collection evidence the necessity of clarifying the taxonomical status of the specimens; a detailed revision has begun under the present collaboration project.

Afterward, Simpson (1936) proposed the specimen MGP-PD 26589, a fragment of left upper jaw collected by Feruglio, as neotype of the Mustersan *Pseudostylops subquadratus* Ameghino, 1901, whose holotype is a single tooth (MACN-A 10904) 'barely sufficed to show that a peculiar animal existed' (Simpson, 1936). Later, Simpson (1967) synonymised the name *Pseudostylops* with the notohippid *Eomorhippus* Ameghino 1901.

Since then, only part of the collection was catalogued and put on exhibition, while the rest was stored in the original wooden boxes. During the last decades, the fossils suffered severe damage, due to the improper storage (fig. 6). The bones were often unsupported, sometime enveloped in acidic paper or held in cardboard trays, acidic as well. In many cases, the original field notes just laid on the specimen or at the bottom of the tray. As a consequence, the specimens were stacked and mixed and, over the years, important information was lost. In 2005, two of us (MF and LDF) began cataloguing part of the stored collection and through a project initiated among Argentinean and Italian institutions (see below), now we continue the curatorial work.

PROJECT

As part of the PhD thesis of one of us (Vera, 2013), a first contact with the curator (MF) of the MGP-PD was realized in 2010 in order to ask for information about some taxa from the Riochican and Casamayoran South American Land Mammal Ages (SALMAs) belonging to the Feruglio collection, which were published by Simpson (1935a, 1935b, 1967). Based on this initial contact, our institutions together with the International Relations Area of the University of Padova configured a project of University Cooperation with the purpose to

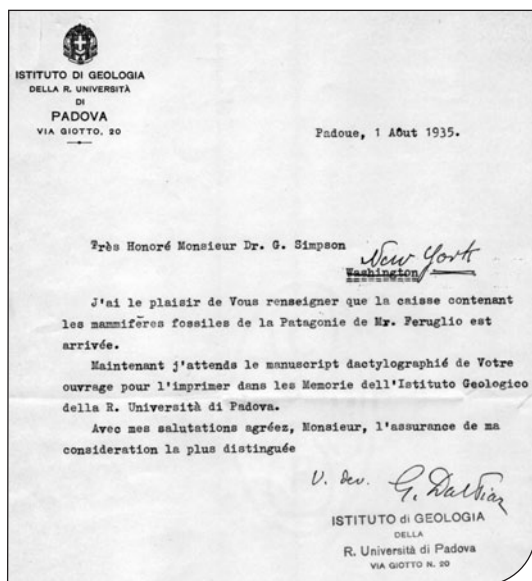


Fig. 2. Letter dated on August 1st, 1935:

G. Dal Piaz informed G.C. Simpson that the box with fossils was arrived in Padova.

reappraise the Feruglio collection and make it known to the scientific community.

The main purposes of this collaborative project were, first, to reorganize the collection, carrying out an exhaustive review of the Argentinean mammal remains stored in the museum, recording the specimens and analysing their state of preservation; then, to identify, restore, and catalogue the specimens, and, as far as possible, to determine them; finally, to enter the data in the museum database, updating and increasing the available information for the scientific community and further researches.

RESULTS

Through the grants Iniziative di Cooperazione Universitaria awarded by the International Relations Area of University of Padova to two of us (MF and BV) in two opportunities (2nd-14th October 2011 and 2nd-22nd November 2014), the complete collection (more than 700 specimens) was examined and a total of 575 specimens were studied in detail. The process consisted of reviewing piece by piece all the fossils stored in the deposit of the museum. The most relevant were identified (e.g. postcranial bone, tooth, mandible or maxilla), measured, photographed and compared with published or

catalogued material from other museums databases in order to determine them. In addition, a short description was given for each specimen.

Since the specimens were grouped into bags or trays without any specific criteria, great part of the work consisted in separating each element (tooth, mandible, maxilla, piece of bone) into individual containers or bags; then we cleaned the fossils with soft brushes and, when separated parts of the same individual were recognized, glue them together. Finally, a catalogue number was assigned. The specimens of the Feruglio collection were compared with others well known collections of South America mammals housed in Argentinean, North American and European museums (mainly BV personal data base). Besides, specialists in some groups were consulted. This led to the determination of most specimens at least at the family or generic level, but in some cases it was possible to reach the specific level. In other cases, mainly fragmentary or entire postcranial bones, it was not possible to determine them. Furthermore, the specimens of special interest such as Interatheriinae Interatheriidae, notopithecines (recognized as *Notopithecus* and *Antepithecus*) and other Eocene notoungulates were included in a PhD thesis (Vera, 2013) and also subsequent papers (Vera, 2015, Vera et al., submitted).

In terms of diversity, the Feruglio collection is represented by a wide number of taxa that belong to different orders of Cenozoic mammals from South America. Within Metatheria: Order Sparassodonta, Proborhyaenidae, and Order Polydolopimorphia, Polydolopidae. Within Eutheria: Order Rodentia, Neopiblemidae and Dasyproctidae; Xenarthra, Order Pilosa, Megalonychidae and Order Cingulata, Dasypodidae, Peltephilidae and Glyptodontidae; within 'Condylarthra': Didolodontidae; Order Litopterna, Proterotheriidae and Macraucheniiidae; Order Notoungulata, Henricosborniidae, Notostylopidae, 'Oldfieldthomasiidae', Archaeopithecidae, 'Archaeohyracidae', Isotemnidae, Leontiniidae, 'Notohippidae', Interatheriidae Interatheriinae, notopithecids, and Mesotheriidae; Order Astrapotheria, Trigonostylopidae and Astrapotheriidae; Order Pyrotheria, Pyrotheriidae; and Order Xenungulata, Carodniidae. The Order Notoungulata is the most abundant in the collection, representing the 85%, approximately, of the total of determined specimens, following by Order Litopterna (5%), and 'Condylarthra' (2%). A list of the main mammal specimens determined is detailed in catalog. In the collection there are also a few specimens of gastropods, pieces of archaeological interest and rock samples.

According to the information afforded by the original handwritten labels of Egidio Feruglio available in the MGP-PD, the specimens come

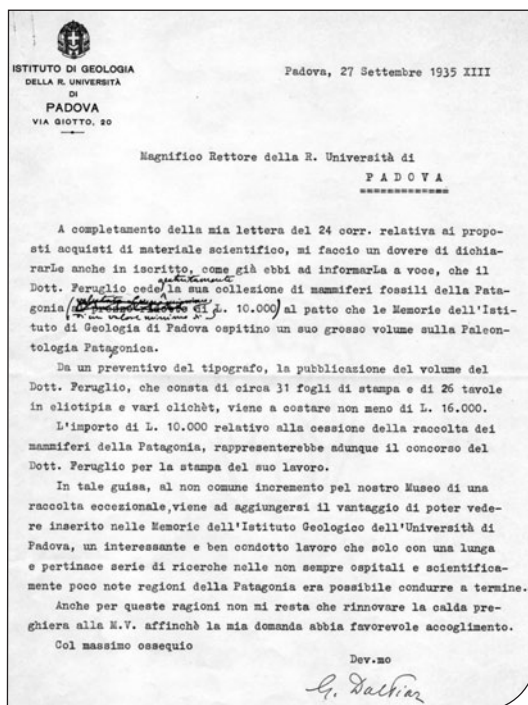


Fig. 3. The additional letter dated September 27th, 1935: that G. Dal Piaz sent to the Rector explaining that Dr. Feruglio agreed to give his collection to the museum.

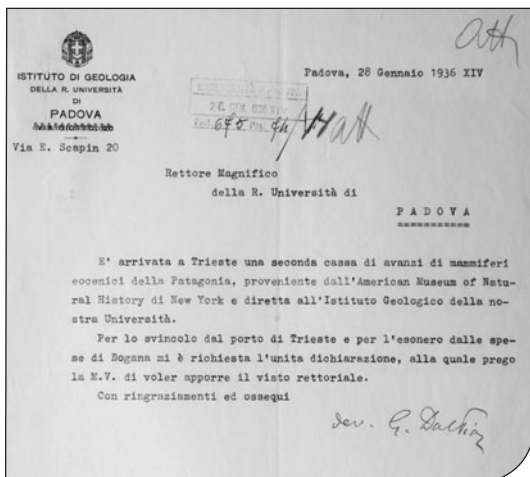


Fig. 4. Letter dated on January 28th, 1936.

Dal Piaz informed Rector that the second box of fossil mammals sent by the AMNH had arrived to the port of Trieste on board the 'Vulcania' steamship (courtesy of the Università degli Studi di Padova, Servizio Archivio generale di Ateneo).

mainly from localities of the Chubut Province (Patagonia), such as Pampa María Santísima, Cerro Blanco, Cañadón Lagarto, Cañadón Hondo, Cañadón Vaca, Río Chico, Bajo Palangana, Bahía Solano, Pico Salamanca, Gran Barranca, Valle Hermoso, Pampa Pelada (Puerto Van Wick), Lomas Blancas (Puerto Visser), Punta Peligro and Puerto Mazaredo. Unfortunately, many other specimens have not information about their provenance and, in addition, there are some isolated labels with no specimen associated. The stratigraphic record represented by the fossils includes the Río Chico and Sarmiento formations that span from Palaeocene to Miocene, including most of the South American

Land Mammal ages. The preliminary results of this project were presented in the V Latin American Congress of Vertebrate Palaeontology by Vera et al. (2015).

OTHER COLLECTIONS OF SOUTH AMERICAN MAMMALS IN MGP-PD

Besides the Feruglio collection, the MGP-PD also houses original specimens and casts of South American mammals provided by Argentinean researchers. Among them, a very small collection of specimens apparently donated by Prof. Florentino Ameghino (1854-1911), the distinguished Argentinean naturalist from late 19th to early 20th century, to his Italian colleague G. Dal Piaz. It is widely known that F. Ameghino used to sell, interchange or donate part of his own collection to different museums around the world (Vizcaíno & Bargo, 2013); for example, it is documented that in 1892 and 1895 the brothers Carlos and Florentino Ameghino sold at least 500 specimens to different European museums (Fericola, 2011), however, there is no precise information about which foreign institutions had acquired that material.

Two of the most interesting specimens that Ameghino donated to MGP-PD in 1903 are a skeleton and the cast of its endocranium (MGP-PD 26100) belonging to the South American river dolphin *Pontoporia blainvillei* (Gervais & D'Orbigny, 1844). The museum houses other specimens of South American fossil mammals attributed to the genera *Lagostomus*, *Actenomys*, *Paleolama*, *Paedotherium*, *Scelidotherium* and *Prolicaphrium*. We did not find any data about the accession of these specimens, thus we do not know when they entered the museum and whether it was a donation or a sale by Ameghino himself. These specimens are detailed in catalog.

A brief comment deserves a nearly complete skull of

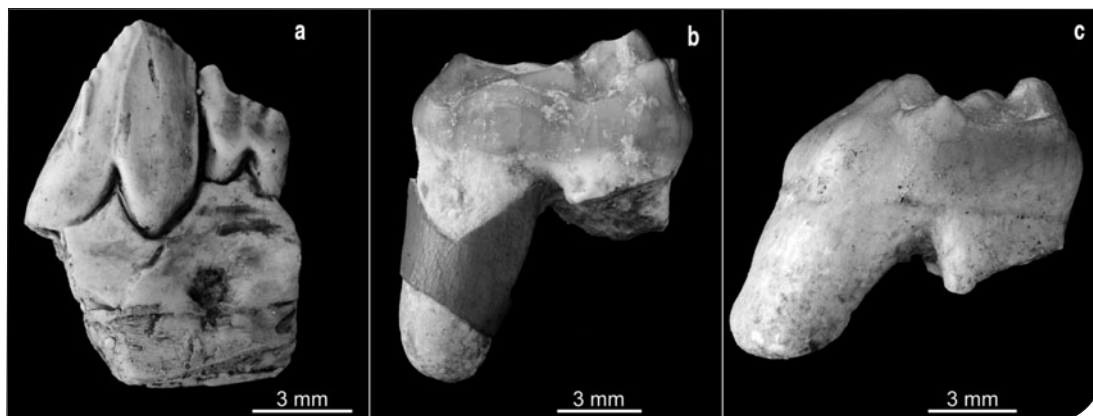


Fig. 5. a) MGP-PD 29023, left mandible with m1-2, holotype of *Polydolops wineage*; b) MGP-PD 29079, right upper cheek tooth, specimen designated as holotype of a new species of *Ricardolydekkeria* by Simpson (1935a); c) MGP-PD 29119, M2? and m2, holotype and paratype of *Ernestokoenia chaisboer*.

Mesotherium cristatum, a classic Pleistocene member of the family Mesotheriidae from Argentina. The specimen was described by Franco & Scotton (1989), but the palate and mandible remained separated for years with different catalogue numbers (MGP-PD 31195 and MGP-PD 26314, respectively), until our revision in 2011, when they were definitively reassembled. This specimen, unfortunately, lacks information about its provenance and accession. Furthermore, the museum holds several plaster life, in scale, reconstructions of emblematic South American genera of Cenozoic mammals, such as *Macrauchenia*, *Lestodon*, *Panotthus* and *Toxodon*. According to the labels, they were donated by Dr.

Alberto Castellanos (1896-1968) from the MACN (Buenos Aires Province).

CATALOG

Most taxa of fossil mammals present in the Feruglio and Ameghino collections, both housed at the Museo di Geologia e Paleontologia dell'Università di Padova (MGP-PD). Types specimens are indicated. Abbreviations: I/i, upper and lower incisors; C/c, upper and lower canines; P/p, upper and lower premolars; M/m, upper and lower molars, Mc, metacarpal.

Metatheria Huxley, 1880
Order Sparassodonta Ameghino, 1894
Proborhyaenidae Ameghino, 1897
?*Proborhyaena* Ameghino, 1897

- MGP-PD 29053: tooth
Geographic provenance: no data
Age: no data

Order Polydolopimorphia Marshall, 1987
Polydolopidae Ameghino, 1897
Polydolops winecage Simpson 1935a (= *Pliodolops winecage*, see Chornogubsky, 2010)

- MGP-PD 29023 (holotype; see Simpson 1935a: 4): mandible with left m1-2
Geographic provenance: Bajo Palangana
Age: no data

Eutheria Gill, 1872
Order Rodentia Bowdich, 1821
Dasyproctidae Smith, 1842

- MGP-PD 29092: mandible with left tooth
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Neoeplemidae Kraglievich, 1926

- MGP-PD 29099: mandible with right p4-m2
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Superorder Xenarthra Cope, 1889
Pilosa Flower, 1883
Megalonychidae Gervais, 1855
Megalonychidae indet

- MGP-PD 31692: Mc? II or III
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Cingulata Illiger, 1811
Dasypodidae Gray, 1821
Dasypodidae indet.

- MGP-PD 29101: bony external plates
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

- MGP-PD 31620: astragalus
Geographic provenance: Bahía Solano
Age: Sarmiento Formation, Eocene
cf. Peltephilidae Ameghino, 1894

- MGP-PD 29076 A: right astragalus
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Glyptodontidae Gray, 1869
Glyptodontidae indet.

- MGP-PD 31693, proximal end of right ulna
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

'Condylartha' Cope, 1881
Didolodontidae Scott, 1913
Didolodus Ameghino, 1897

- MGP-PD 29039: upper tooth
Geographic provenance: Cañadón Lagarto
Age: Eocene

Ernestokokenia chaisboer Simpson, 1935a

- MGP-PD 29119: M2? and m2 (holotype and paratype, respectively)
Geographic provenance: Bajo Palangana
Age: Eocene?
References: Simpson, 1935a

Order Litopterna Ameghino, 1889
Protheroheriidae Ameghino, 1887
Ricardolydekkeria Ameghino, 1901

- MGP-PD 29079: right upper cheek tooth
Geographic provenance: Bajo Palangana
Age: Eocene?
References: Simpson, 1935a

Prolicaphrium festinum Ameghino, 1902 (= *Lambdaconus lacerum* Ameghino, 1902, see Soria, 2001)

- MGP-PD 29024: mandible with right two molars
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Anisolambda Ameghino, 1901

- MGP-PD 31590: M3
Geographic provenance: Bahía Solano
Age: Eocene

Prolicaphbrium spectabile Ameghino, 1902 (= *Prolicaphbrium specillatum*; see Soria, 2001)

- MGP-PD 29096: upper molar
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA
- Macraucheniiidae Gervais, 1955
- Cramauchenia* Ameghino, 1902
- MGP-PD 29040 A: left M3; MGP-PD 29060: A, left lower molar, B, astragalus
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA
 - MGP-PD 31826: mandible with right p2-m1 and roots of p1; MGP-PD 31827: mandible left with m1-3
Geographic provenance: no data
Age: no data

Order Notoungulata Roth, 1903

Henricosborniidae Ameghino, 1901

Henricosbornia Ameghino, 1901

- MGP-PD 29104: A, left M3; B, right M2?; C, left M2?; D, lower molar
Geographic provenance: Bajo Palangana, north of Pico Salamanca
Age: Eocene
- MGP-PD MGP-PD 31549: mandible with left m1-2; MGP-PD 31552-31555: two right and two left isolated molars; MGP-PD 31559: right M3
Geographic provenance: Bajo Palangana
Age: Eocene

Notostylopidae Ameghino, 1897

Notostylops Ameghino, 1897

- MGP-PD 29057: left m1-2
Geographic provenance: Northwest Pico Salamanca (Comodoro Rivadavia)
Age: Eocene
- MGP-PD 29061: A, right m1-2; B, right p4-m1; C, left p4-m1; D, left m1-2
Geographic provenance: Cañadón Lagarto
Age: Eocene
- MGP-PD 29062: A, right P3-M2; B, mandible with left m3; C, mandible with left m2-3; D, mandible with left m2-3; E, fragments of mandible and maxilla; MGP-PD 29111: maxilla with right P4-M2; MGP-PD 29121: left m1-3
Geographic provenance: barranca de la Bahía Solano
Age: Eocene
- MGP-PD 29077: maxilla with left M2-3; MGP-PD 29120: right P4-M2
Geographic provenance: Valle de la Compañía Solano
Age: Eocene

Oldfieldthomasiidae Simpson, 1945

Kibenikboria Simpson, 1935a

- MGP-PD 31363: left P4-M2
Geographic provenance: no data

Oldfieldthomasia Ameghino, 1901

- MGP-PD 29055: right m3
Geographic provenance: Bahía Solano
Age: Eocene
- MGP-PD 29065: maxilla with left P4-M2
Geographic provenance: Lomas Blancas
- MGP-PD 31581: left P4?
Geographic provenance: Gran Barranca
Age: no data

Archaeopithecidae Ameghino, 1897

- MGP-PD 29056: A, right M1-2; B, left m3; C, right m1?
Geographic provenance: Bajo Palangana
Age: Eocene
- MGP-PD 31362: right maxilla with M1-3.
Geographic provenance: Valley east of Pico Salamanca
Age: Eocene

Archaeohyracidae Ameghino, 1897

Eohyrax strangulatus Ameghino, 1901 (= *Pseudohyrax* Simpson, 1967)

- MGP-PD 29124: A, right d3, d4, m1; B, left d4-m1-m2; C, left m1 (taloid)-m2 (trigonid); MGP-PD 31713: mandible with right teeth
Geographic provenance: Cerro Blanco
Age: no data

Archaeohyracidae indet.

- MGP-PD 29082: two right lower molars, left m3 and right upper molar
Geographic provenance: Gran Barranca
Age: no data

Isotemnidae Ameghino, 1897

Pleurostylodon Ameghino, 1897

- MGP-PD 29064: mandible with right m3
Geographic provenance: no data
Age: no data
- MGP-PD 29072: left m1; MGP-PD 29095: right m1?
Geographic provenance: barranca de la bahía Solano
Age: Eocene
- MGP-PD 29115: mandible with left m1?
Geographic provenance: Valle de la Compañía Solano
Age: Eocene
- MGP-PD 29074: A, right m1?; B, maxilla with right P2-3; C, right m2
Geographic provenance: Cañadón Lagarto
Age: Eocene
- MGP-PD 29089: mandible with right molar
Geographic provenance: NW Pico Salamanca
Age: Eocene

Thomasbuxleya Ameghino, 1901

- MGP-PD 29050: mandible with right c-m2
Geographic provenance: Cañadón Vaca, left to Río Chico
Age: Eocene
- MGP-PD 29091: A, right m3?; B, left p3?
Geographic provenance: Bahía Solano

Isotemnus Ameghino, 1897

- MGP-PD 31556-31558: two left upper premolars and one left upper molar
Geographic provenance: Bajo Palangana
Age: Eocene

Leontiniidae Ameghino, 1895

- MGP-PD 29107: A, fragment of mandible with left m3; B, left lower molar; C, left lower molar
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA
- MGP-PD 29112: fragment of maxilla with P4-M3
Geographic provenance: Cerro Blanco
Age: no data

Colpodon Burmeister, 1885

- MGP-PD 29076B: mandible with left m1-2
Geographic provenance: Gran Barranca
Age: Colhuehuapian SALMA

Notohippidae Ameghino, 1894

- MGP-PD 29070 B: left M3?
Geographic provenance: Gran Barranca

Interatheriidae Ameghino, 1887

Interatheriinae indet.

- MGP-PD 31712: mandible with right fragments of teeth
Geographic provenance: Cerro Blanco
Age: no data

Proargyrobyrax Hitz, Reguero, Wyss and Flynn, 2000

- MGP-PD 29078: maxilla with right P3 (broken), roots of P4, and M1-2
Geographic provenance: Cerro Blanco
Age: no data

Cochilius Ameghino, 1902

- MGP-PD 29126: A, right P3-M3; B, right p2-m3; C, right p4-m3
Geographic provenance: no data
Age: no data

'Notopithecinae' (Ameghino, 1897)

Notopithecus adapinus Ameghino, 1897

- MGP-PD 29087: mandible with left m3
Geographic provenance: Gran Barranca
Age: Barrancan age (middle Eocene)
- MGP-PD 31361: maxilla with left M1-3. MGP-PD 31681: left M2 and M3 isolated but associated
Geographic provenance: Cañadón Lagarto
Age: Barrancan age (middle Eocene)

Antepithecus brachystephanus Ameghino, 1901

- MGP-PD 31582: mandible with left p3-4
Geographic provenance: Gran Barranca
Age: Barrancan age (middle Eocene)
- MGP-PD 31585: right M1
Geographic provenance: Bahía Solano
Age: Barrancan age (middle Eocene)

Order Astrapotheria Lydekker, 1894

Trigonostylopidae Ameghino, 1901

Albertogaudryia Ameghino, 1901

- MGP-PD 29073: fragment of tooth
Geographic provenance: no data
Age: no data

Trigonostylops Ameghino, 1897

- MGP-PD 29069: right upper molar
Geographic provenance: no data
Age: no data
- MGP-PD 29118: right and left m3?
Geographic provenance: Cañadón Lagarto
Age: Eocene

Astrapotheriidae Ameghino, 1887

- MGP-PD 29049 A, mandible with left m3; B, right P2; C, right P1; D, right upper molar; E, canine?; F, lingual fragment of left upper molar; G, fragments of tooth; MGP-PD 29075: two teeth; MGP-PD 29108: teeth
Geographic provenance: barranca south of lake Colhué Huapi
Age: Colhuehuapian SALMA

Order Pyrotheria Ameghino, 1895

Pyrotheriidae Ameghino, 1889

Pyrotherium Ameghino, 1888

- MGP-PD 29135: fragment of mandible with teeth
Geographic provenance: no data
Age: no data

Order Xenungulata Paula Couto, 1952

Carodniidae Paula Couto, 1952

Carodnia Simpson, 1935a

- MGP-PD 29033: fragments of teeth
Geographic provenance: no data
Age: no data

Ameghino collection

Xenarthra

Phyllophaga Owen, 1842

Mylodontidae Gill, 1872

Scelidotherium bravardi Lydekker, 1886

- MGP-PD 27966: isolated tooth
Geographic provenance: Argentina
Age: Pliocene

Rodentia

Ctenomyidae Lesson, 1842

Actenomys priscus Owen, 1840

- MGP-PD 27964: fragment of mandible
Geographic provenance: Argentina
Age: Late Miocene

Chinchillidae Bennett, 1833
Lagostomus Brookes, 1828

- MGP-PD 27967: fragment of mandible
Geographic provenance: Argentina
Age: Pleistocene

Artiodactyla Owen, 1848
Camelidae Gray, 1821
Palaeolama weddellii Cuvier, 1855

- MGP-PD 27445: tooth
Geographic provenance: Argentina
Age: Pliocene

Litopterna
Proterotheriidae
Prolicaphrium festinum Ameghino, 1902 (= *Lambdaconus lacerum* Ameghino, 1902, see Soria, 2001)

- MGP-PD 26591: mandible with left m1-3
Geographic: Gran Barranca
Age: Colhuehuapian SALMA

Notoungulata
Hegetotheriidae Ameghino, 1894
Paedotherium chapadmalense (Castellanos, 1956)

- MGP-PD 29145: mandible with right i2, p2-m3 and left i1-i2
Geographic provenance: no data
Age: no data

CONCLUSIONS

The curatorial work done since 2005 on the Feruglio's collection, the historical research and the systematic revision of the specimens enriched the knowledge on the fossil mammals from the Cenozoic of South America, improved the knowledge of the museum and laid the foundation for possible new museum exhibition.

The project, established since 2011, strengthened institutional ties and is a precedent for future researches.

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Fig. 6. An original cigar box (left) and an old cotton bag (right) containing fossil remains.

The label on the cotton bag is handwritten by E. Feruglio.

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