

Short Note

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Taxonomic status of *Wiedomys marplatensis*, an enigmatic fossil cricetid (Rodentia, Sigmodontinae): neither *Wiedomys* nor *Wiedomyini*

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Abstract: The generic placement and tribal affiliation of *Wiedomys marplatensis* Quintana, 2002 are revised based on the study of its holotype and a single known remains from San Andrés Formation (Early Pleistocene; Buenos Aires Province, Argentina). The anatomical traits selected as indicators belonging to *Wiedomys* Hershkovitz, 1959 are interpreted here as general similarities. *Wiedomys marplatensis* is removed from *Wiedomys* and is considered as a junior synonym of *Cholomys pearsoni* Reig, 1980. The affiliation of the latter to *Wiedomyini* is discussed and the alternative hypothesis to allocate *Cholomys* Reig, 1980 in *Oryzomyini* is advanced. Although further research and more fossils are necessary to solve this issue, the placement of *Cholomys* as Sigmodontinae *incertae sedis* and the avoidance of using it as a point of calibration in molecular phylogenies are suggested.

Keywords: Argentina; *Cholomys*; Cricetidae; retromolar fossa; *Wiedomyini*.

Among the few extinct cricetid rodents named from Quaternary deposits of Argentina, *Wiedomys marplatensis* Quintana, 2002 is an obscure form. This taxon was based on a fragmentary lower jaw with the second and third molars *in situ* unearthed from the San Andrés Formation (Early Pleistocene) exposed in the southeastern Buenos Aires Province, Argentina. The original description provided by Quintana (2002) was mostly devoted to the comparison of the fossil material with another extinct species, *Cholomys pearsoni* Reig, 1980, previously named by Reig (1980)

from the Pliocene strata in the same general area. Therefore, the allocation of this jaw into the recent genus *Wiedomys* Hershkovitz, 1959 was, in fact, poorly supported. This generic allocation was transitively assumed from the general similarity detected between *Wiedomys* and the monotypic *Cholomys* Reig, 1980, a hypothesis which constitutes the seed of the tribe *Wiedomyini* (Reig 1980). Taking into account that Quintana (2002: 271–272) provided neither metrical comparisons of the holotype of *W. marplatensis* (Quintana 2002) nor a clear statement of its type locality and given that he only figured the material with a schematic draw (Quintana 2002: figure 8A), our consideration of this form as an “obscure sigmodontine” does not seem to be capricious.

We revised the holotype of *Wiedomys marplatensis* housed in the paleontological collections of the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (Buenos Aires, Argentina; acronym MACN) by confronting it with other sigmodontines. We also examined the right lower jaw MACN 19727, referred to as *Cholomys pearsoni* by Quintana (2002) that guided him in his comparisons with *W. marplatensis*. In order to refine the comparison with *Cholomys*, we observed directly the holotype of *C. pearsoni*, a right lower jaw housed in the Museo Municipal de Ciencias Naturales y Tradicional de Mar del Plata “Lorenzo Scaglia” (Mar del Plata, Buenos Aires, Argentina; acronym MMP M). All these fossils were compared with several recent sigmodontines; Appendix 1 contains a list of the materials examined. The terminology employed in this note follows Reig (1977) and the general concepts of Hershkovitz (1962).

The holotype and unique known material of *Wiedomys marplatensis* (Figure 1) is a tiny fragment of left dentary (MACN 19697) lacking almost all parts except the m2 and m3 and the adjacent labial portion of the bone; the fossil was firmly mounted in a pin probably by the collector in order to facilitate its handling. The field label, written on a small fragment of a newspaper, specified “11-1-90, Santa Isabel”; therefore, the material was collected by Quintana on January 11, 1990, when he was in charge of

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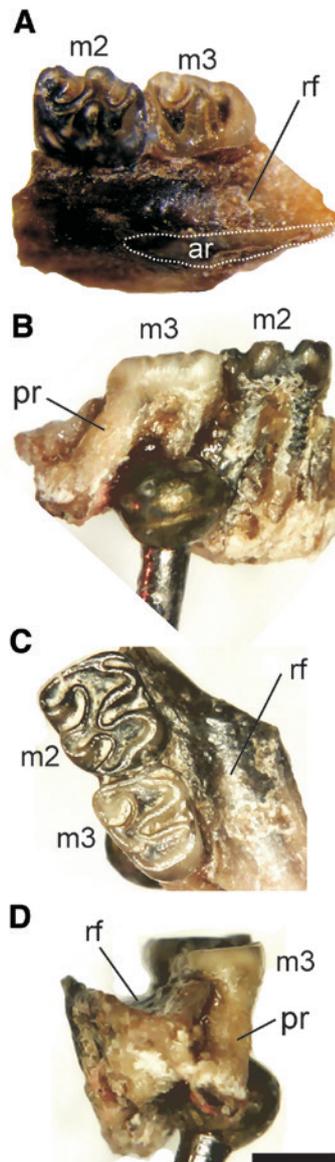


Figure 1: Holotype of the sigmodontine rodent *Wiedomys marplatensis* (MACN 19697; Playa Santa Isabel, Buenos Aires, Argentina; San Andrés Formation, Early Pleistocene), incomplete left lower jaw: (A) Labial view; (B) lingual view; (C) dorsal view; (D) caudal view. Acronyms: ar, ascending ramus; m2, second molar; m3, third molar; pr, posterior root; rf, retromolar fossa. Scale = 1 mm.

the paleontological collection of the MMP. It most likely corresponds to “Playa Santa Isabel” (ca. 38.19° S, 57.67° W), a coastal locality situated near Chapadmalal, General Pueyrredón County, Buenos Aires Province, and hence it might be restricted as the type locality of *W. marplatensis*.

When to hand, the first aspect that calls the attention from the holotype of *Wiedomys marplatensis* is its enlarged retromolar fossa (Figure 1). Although the ascendant ramus is broken at its base, the remainder portion labially delimits a subrectangular area of the bone adjacent to

the posterior side of the m2 and the entire m3. The floor of this fossa is mostly flat and lacks any perforation. The second striking aspect of *W. marplatensis* is the robust and planate conditions of its molars (Figure 2). A more cautionary inspection of the occlusal surface indicates that the m2 has the lingual corner slightly above the remainder portion of the molar, suggesting a previous bi-level condition; the m3 is almost totally flat (Figure 1). Both retromolar development and molar robustness and planate condition are partially age-dependent traits amplified in older animals. In fact, the degree of wear of the molar occlusal surfaces in *W. marplatensis* indicates that it represents a full adult individual. The wear effects on the molar design are evident in the m3, where the enamel wall of the main cusps are “fused” with the cingulids. This is particularly evident in the outer margin of the hypoconid and in the anteriormost point of the entoconid (Figure 2).

The first hypothesis to be tested is if *Wiedomys marplatensis* can be allocated within *Wiedomys*, which also comprises two living species, *Wiedomys pyrrhorhinus* (Wied-Neuwied 1821), the type species, and *Wiedomys cerradensis* Gonçalves et al. 2005, both distributed in the arid lands of northeastern Brazil (Bonvicino 2015). Both extant *Wiedomys* species are very similar in terms of molar morphology (Gonçalves et al. 2005). *Wiedomys marplatensis* shares with the living *Wiedomys* the general morphologies of the retromolar fossa and the molar occlusal pattern. However, the fossil specimen displays several differences including (1) coronal surface mostly planate (*W. marplatensis*) vs. crested (living *Wiedomys*) and (2) mesolophids absent (*W. marplatensis*) vs. typically present (living *Wiedomys*). Particularly striking is the general proportion of the m3 shown by *W. marplatensis* with respect to the living *Wiedomys* species, mainly *W. pyrrhorhinus*. While the former has an m3 with an anteroposteriorly compressed posterior lobe, the latter is characterized by a larger m3, where the mesoflexid constitutes a broadened valley in order to contain a tiny mesolophid (Figure 2; Supplemental Figure 1). These differences in proportions are also evident regarding the m2 of these taxa and they also involve the orientation of the hypoflexid, more transverse in *W. marplatensis* than in the living *Wiedomys*. All these contrasting features are enough to discard the assignment of *W. marplatensis* to *Wiedomys* (Table 1).

It is clear that *Wiedomys marplatensis* represents a morphologically unusual cricetid in the context of those recorded from the Argentinean fossil record, mostly composed of hypsodont or mesodont forms (e.g. *Akodon* Meyen, 1833, †*Panchomys* Pardiñas, 1997, *Reithrodon* Waterhouse, 1837; see Pardiñas et al. 2002). However, it shares with †*Cholomys pearsoni* this condition. *Cholomys*

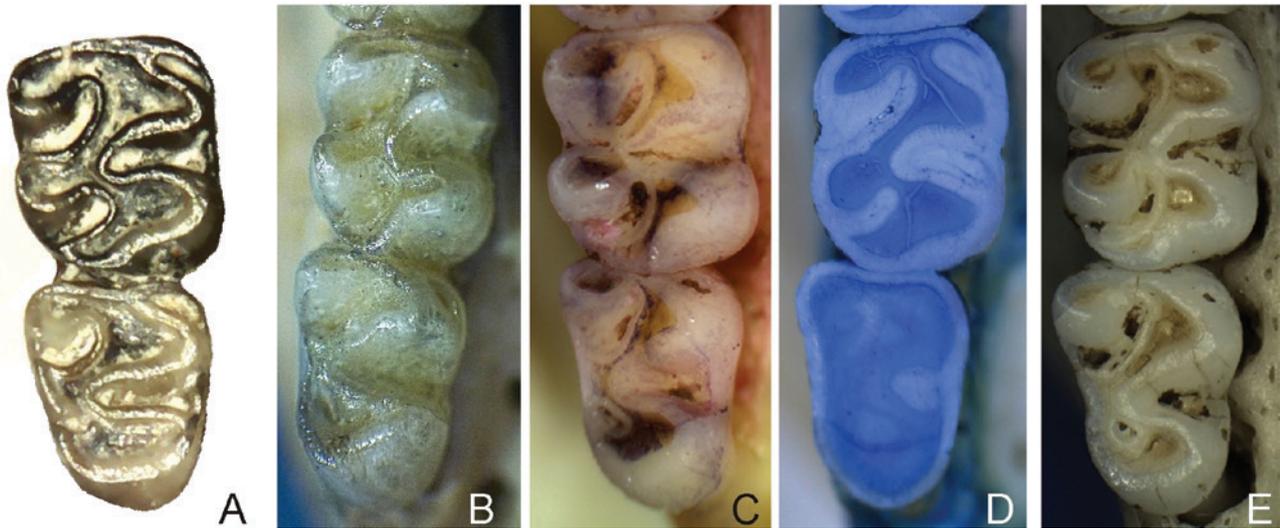


Figure 2: Comparison among the m2 and m3 in occlusal view of *Wiedomys marplatensis* (A = holotype, MACN 19697) and those of individuals of the fossil sigmodontine *Chalomys pearsoni* (B = holotype, MMP M-869), *Wiedomys pyrrhorhinos* (C = juvenile, CNP 3643; D = full adult, CNP 3718), and *Wilfredomys oenax* (E = adult, CNP 2379), the last two living members of the tribe Wiedomyini. Not to scale.

pearsoni is a small fossil cricetid described on a single right lower jaw (MMP M-869; Supplemental Figure 2) recovered from the beds of the Vorohué Formation near Chapadmalal (Reig 1972, 1980). *Chalomys* was allied to *Wiedomys* to cement the concept of the tribe Wiedomyini, a clade recently enlarged with the addition of *Phaenomys* Thomas, 1917 and *Wilfredomys* Avila-Pires, 1960 according to genetic and morphological evidence (Pardiñas et al. 2014a, Machado et al. 2015). Quintana (2002) performed a comparison between *W. marplatensis* and *C. pearsoni*, involving the MACN 19727 to accomplish this goal (see above). We studied the latter and concluded that it does not belong to *C. pearsoni*. Among other salient differential traits, this material is characterized by a low and elongated mandible with a narrow incisor, a small retromolar fossa, brachyodont simplified molars with m3 particularly

shortened, and a procingulid of the m1 lacking an internal ring (see Quintana 2002: figure 8B; Supplemental Figure 3). On the contrary, *C. pearsoni*, judged from its holotype, is a small sigmodontine with a high and short mandible with an outstanding broad incisor, enlarged retromolar fossa, brachyodont molars with a large m3 and an m1 with complex procingulid. Quintana (2002: 273) remarked putative differences between *W. marplatensis* and *C. pearsoni*, including the absence of ectostylid in the m3 and the small retromolar fossa of the latter. However, these traits were retrieved from a material which is, in fact, not referable to as *Chalomys* and more probably belongs to a sigmodontine such as *Calomys* Waterhouse, 1837 or †*Chukimys* (Barbière et al. 2016). When *W. marplatensis* and the holotype of *C. pearsoni* are compared, the similarities are striking (Figure 2). Both taxa share an enlarged retromolar fossa, brachyodont small teeth with thick enamel and lacking mesolophids, well-defined posterolophids directed backwards and penetrating hypoflexids in the m3. It is not hard to understand the occlusal morphology of the *W. marplatensis* as a more advanced stage of wear of those molars of *C. pearsoni*; the large and produced backwards posterior root of the m3 in *W. marplatensis* points in the same direction (Figure 1). The most plausible hypothesis is that *W. marplatensis* Quintana, 2002 is a junior synonym of *C. pearsoni* Reig, 1980. Accepting this proposal, the biochron of †*C. pearsoni* runs between the Vorohuean and Sanandresian stages, roughly the Late Pliocene-Early Pleistocene (~3–2 My) according to the current chronological schemes (Cione et al. 2015). As a counterpart, the stratigraphic and geographic ranges

Table 1: Coronal measurements (in mm) of the sigmodontines *Wiedomys marplatensis* Quintana, 2002 (MACN 19697, holotype; Buenos Aires, Argentina; Pleistocene), *Wiedomys pyrrhorhinos* (Wied-Neuwied, 1821) (recent specimens from Brazil) and *Chalomys pearsoni* Reig, 1980 (MMP M-869, holotype; Buenos Aires, Argentina; Pliocene).

	<i>Wiedomys marplatensis</i>	<i>Wiedomys pyrrhorhinos</i> (n = 5) ^a	<i>Chalomys pearsoni</i> ^b
m2, length	1.58	1.35 ± 0.18	1.47
m2, width	1.34	1.11 ± 0.05	1.20
m3, length	1.56	1.22 ± 0.13	1.49
m3, width	1.18	0.94 ± 0.09	1.12

^aIncluding measurements from MN 73419, 71608, 73520, 71607 and 68601.

^bMeasurements after Reig (1980: table 2).

of *Wiedomys* must be restricted to Late Pleistocene-Holocene deposits in Bahia, Brazil (Oliveira and Lessa 1999). In Appendix 2, we provide a summary of the revised content of the tribe Wiedomyini and the fossil cricetids discussed in this paper.

Concluding that *Wiedomys marplatensis* is a junior synonym of *Cholomys pearsoni* resolves partially the obscure condition of this taxon; now the aim is to discuss the affinities of †*C. pearsoni*. The hypothesis advanced by Reig (1980) is that this taxon is an extinct representative of Wiedomyini. Quintana (2002) tacitly supported this idea when he allied *marplatensis* to *Wiedomys*, because *Wiedomys* was the unique living wiedomyine at the time when Reig (1980) erected the tribe. The morphological traits that we discussed in order to extirpate *marplatensis* from *Wiedomys* can be used to separate this latter genus from *Cholomys*. In fact, both taxa share general similarities such as an enlarged retromolar fossa and brachydont simplified molars. On the other hand, they differ in many features, such as the outstanding robustness of the incisor of *Cholomys* and the absence of any trace of mesolophid on their molars (Figures 2 and 3; Supplemental Figure 2).

We now have the opportunity to deeply discuss some traits mentioned several times along this contribution. The retromolar fossa is an anatomical feature basically unstudied in Sigmodontinae. To our best understanding it was mostly Pacheco (2003: 85–86) who made observations on this trait highlighting a deep, broad and foraminated retromolar fossa in the genera *Abrawayaomys* Cunha and Cruz, 1979 and *Rhagomys* Thomas, 1886. Coincidentally, for the latter, this condition was described and figured by Luna and Patterson (2003: figure 8). However, an extensive

survey on the morphology of this structure for sigmodontines is still missing, although Weksler (2006: 115) did not detect any variation in Oryzomyini, and Teta (2013: 37) apparently referred to it as “repisa ósea por detrás del m3” (freely translated as “bony shelf behind m3”) when he surveyed Abrotrichini. Our direct inspection of several genera and tribes among Sigmodontinae suggests a moderate morphological diversity in terms of size, foramination and form of the retromolar fossa. Clearly, *Abrawayaomys* (cf. Pardiñas et al. 2009: figure 6J) and *Rhagomys* exemplify the condition where the retromolar fossa is developed as a patent basin mainly caudal to the molar series. Contrastingly, in most other sigmodontines, the retromolar area is not expressed as a fossa, but instead as a flat or partially depressed region with or without perforations. The geometry of this area follows two main rough types, one subtriangular in outline and basically adjacent to the m3 and another condition resembling a broadened “groove” and also involving the m2. Apparently, neither the size nor the development of the incisor is involved at producing these types of retromolar regions. For example, the euneomyine *Neotomys ebriosus* Thomas, 1894, a medium-sized sigmodontine with a specialized and very robust incisor has a triangular and poorly developed retromolar fossa. On the contrary, the phyllotine *Calomys callidus* (Thomas, 1916), a small sigmodontine with a slender incisor displays the rectangular enlarged type. As a widespread characteristic, age variation is important and older individuals have the retromolar region enlarged contrary to young animals. *Cholomys* – including the type of *Wiedomys marplatensis* – has an enlarged “groove” retromolar fossa, a condition shared not only by *Wiedomys*

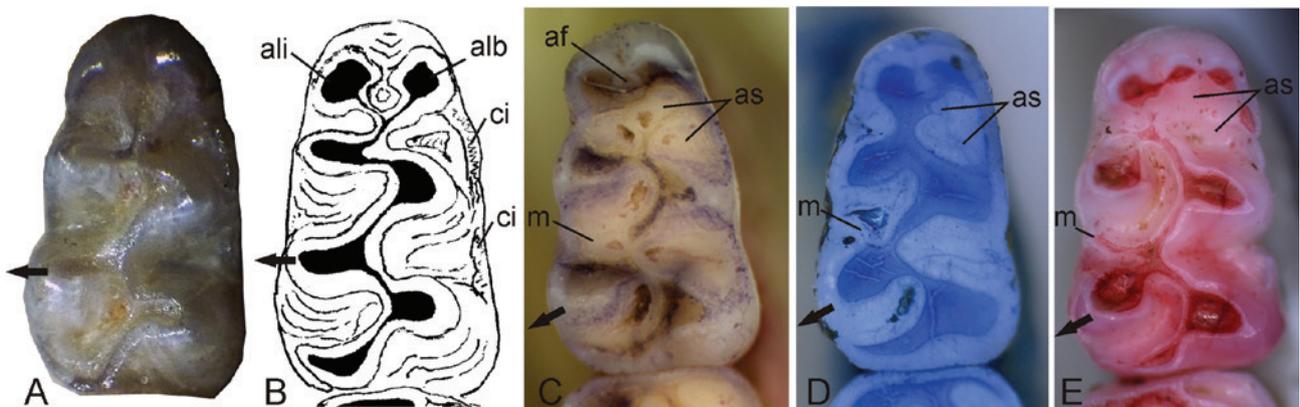


Figure 3: Comparison among the m1 in occlusal view of the fossil sigmodontine *Cholomys pearsoni* [A (photograph) and B (schematic draw) = holotype, MMP M-869] and those of recent individuals of *Wiedomys pyrrhorhinos* (C = juvenile, CNP 3643; D = full adult, CNP 3718) and *Wilfredomys oenax* (E = adult, CNP 2379), two living members of the tribe Wiedomyini. The arrows highlight the differential orientation of the entoconid between *Cholomys* and the living wiedomyine.

Acronyms: ali, anterolingual conulid; alb, anterolabial conulid; ci, cingulum; af, anteromedian flexid; as, anterosinusid; m, mesolophid. Not to scale.

and *Wilfredomys* (both assigned to Wiedomyini) but also by many other sigmodontines such as *Calomys* (phyllo-tine), *Pseudoryzomys* Hershkovitz, 1962 (oryzomyine), etc. In †*Cholomys pearsoni*, the retromolar fossa is anteriorly narrowed probably due to the subadult condition of this individual and it shows two important perforations and a recessed sector caudal to the m3. It highly resembles the condition observed in several species of *Calomys*. On the contrary, Wiedomyini – also including *Phaenomys* – have a more rectangular and “grooved” retromolar area.

Having simplified lower molars, particularly with respect to the upper ones, is a recurrent feature in sigmodontines. A variety of examples can be listed across different genera and tribes (see below). A striking case is when the mesolophid is present in upper molars and their counterpart, the mesolophid is absent (or very small) in lower ones. Hershkovitz (1993) dealt with this case when he described *Microakodontomys* (considered as an Oryzomyini); in fact he detected examples of *Oligoryzomys* Bangs, 1900 lacking mesolophids (Hershkovitz 1993: figure 3, note that in that figure the lower molar series of A and B are transposed). According to this author, “the evolutionary process of molar crown simplification ... commence with the lower molars, the second usually earliest” (Hershkovitz 1993: 10). *Calassomys* (Pardiñas et al. 2014a,b) (considered as a phyllotine), a Cerrado endemic, also represents an example where lower molars are mesolophid-free but upper molars display this structure, although poorly developed (Pardiñas et al. 2014b). *Wiedomys* constitutes a good example of this condition. While the upper molars are characterized by well-developed mesolophids, the equivalent structure in the lower molars is much less expressed. However, mesolophids are not absent in *Wiedomys* as was stated by Reig (1980: 266) when he proposed the diagnosis of Wiedomyini. Actually, mesolophids in *Wiedomys* are filiform crests of enamel which link the median mure to the base of the metaconid. A clear indication of their existence is, e.g. in the m3, the projection of the entoconid in its anterolingual corner. *Wilfredomys*, another living wiedomyine added long after Reig’s definition of the tribe, also shows very narrow mesolophids (Figures 2 and 3), which are more patent in *Phaenomys* (cf. Pardiñas et al. 2014a: figure 5). Therefore, the living Wiedomyini typically have mesolophids although with variable expression according to the wear condition.

In this context, the absence of any trace of mesolophids in the molars of *Cholomys* could be an indication that assigning it to this tribe is inappropriate. Furthermore, the marked difference between the hypsodont conditions displayed by the living Wiedomyini regarding *Cholomys* adds another justification to our proposal. The main

cuspid in the former are “mounted” in a molar “shelf” forming typical tubercular hypsodonty (Hershkovitz 1962: 89); this condition is patent in subadult animals (Supplemental Figure 1). On the contrary, main cuspid in the holotype of †*Cholomys pearsoni* (Figures 2 and 3) follow the type described as coronal hypsodonty (Hershkovitz 1962: 88). Besides, several features on m1 further distinguish *Cholomys* from the living Wiedomyini (Figure 3), including (1) procingulid well developed with anteromedian fossetid centrally located (*Cholomys*) vs. procingulid compressed with a small and lingually displaced anteromedian fossetid (living Wiedomyini); (2) protoflexid “single” (*Cholomys*) vs. “complex” (living Wiedomyini; remember the structure called anterossinusid by Freudenthal et al. 1994); (3) transverse entoconid (*Cholomys*) vs. oblique entoconid (living Wiedomyini).

The combination (brachydont simplified teeth plus enlarged retromolar fossa plus strong subrectangular incisor plus very small size), i.e. the mosaic that characterizes *Cholomys*, is unique among sigmodontines. However, this bauplan resembles that of members of two extant tribes, Oryzomyini and Phyllotini. Convergences between a few genera of both clades are classic issues in sigmodontine systematics. An emblematic example is the *Pseudoryzomys* (see Hershkovitz 1962, Voss and Myers 1991, Braun 1993), but it is to be noted that the simplification in Oryzomyini is related to the development of laminarity (sensu Hershkovitz 1962) such as in *Holochilus* Brandt, 1835 or *Pseudoryzomys*. *Cholomys* does not exhibit such laminarity in its occlusal pattern. The hypothesis of *Cholomys* as a specialized representative of Phyllotini or a simplified oryzomyine is not only coherent on morphological grounds but also makes sense biogeographically. Wiedomyini are sigmodontines restricted to southeastern Brazil and northern Uruguay, mostly associated with forested humid or dry environments; Oryzomyini and Phyllotini are widespread in mesic, temperate or cold open areas (Patton et al. 2015). In addition, nothing acts as an obstacle to suppose the occurrence of Wiedomyini in the southern Buenos Aires province during the Pliocene-Pleistocene times. However, the evidence accumulated for more than three decades (i.e. after Reig 1980) regarding fossil cricetids in Central Argentina points to limited shifts of the tribes and the adequacy of current distributions in order to address the past biogeography (Barbière et al. 2016).

In brief, we propose here that *Wiedomys marplatensis* is a junior synonym of *Cholomys pearsoni*. We also questioned the allocation of *Cholomys* in Wiedomyini. We suggest that this issue requires further exploration and better fossils; in the meantime, we suggest avoiding the use of *Cholomys* as a calibration point for the tribe

and propose the allocation of this genus within Sigmodontinae *incertae sedis* (Appendix 2). We are aware of the growing necessity of fossils to set molecular clocks in sigmodontines. However, we think that the unsupported use of problematic or poorly known fossils, such as *Prosigmodon* Jacobs and Lindsay, 1981 (cf. Leite et al. 2014: table S2; actually, a neotomine instead of a sigmodontine) or “aff. *Abrothrix*” (cf. Parada et al. 2015: 3; currently, an akodontine instead of an abrotrichine), produce more noise than answers in the complex universe of sigmodontine evolution.

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Appendices

Appendix 1: Specimens studied in this contribution belong to the following collections: Colección de Mamíferos del Centro Nacional Patagónico (CNP; Chubut, Argentina); Colección de Material de Egagrópilas y Afines “Elio Massoia,” Centro Nacional Patagónico (CNP-E; Chubut, Argentina); Colección Nacional de Paleontología Vertebrados, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN; Buenos Aires, Argentina); Museo Municipal de Ciencias Naturales y Tradicional de Mar del Plata “Lorenzo Scaglia” (MMP-M; Mar del Plata, Buenos Aires, Argentina); Museu Nacional (MN; Rio de Janeiro, Brasil).

Cholomys pearsoni. – MMP M-869 (holotype), incomplete right lower jaw; Baliza San Andrés, Buenos Aires, Argentina, Vorohué Formation.

Wiedomys marplatensis. – MACN 19697 (holotype), incomplete left lower jaw; Playa Santa Isabel, Buenos Aires, Argentina, San Andrés Formation.

Wiedomys pyrrhorhinos. – CNP 3643, CNP 4728, Sítio Marimbondo, Caruaru, Pernambuco, Brasil; MN 68601, Riacho da Ressaca, Piripá, Bahia, Brasil; MN 71607, MN 71608, Parque Nacional da Chapada Diamantina, Salinas, Morro do Chapéu, Bahia, Brasil; MN 73419, Berilo, Minas Gerais, Brasil; MN 73520, Usina Hidroelétrica Irapé, Berilo, Minas Gerais, Brasil.

Wilfredomys oenax. – CNP 2378, CNP 2379, Cerro Colorado, Soriano, Uruguay.

Appendix 2: Revised suprageneric framework, geographical and chronological distribution for the cricetid rodents discussed in this paper.

Order Rodentia

Family Cricetidae

Subfamily Sigmodontinae

Sigmodontinae *incertae sedis*

Genus *Cholomys* Reig, 1980

Cholomys pearsoni Reig, 1980

Cholomys pearsoni Reig, 1980: 266; holotype: MMP M-869, incomplete right lower jaw with incisor and m1-3.

Wiedomys marplatensis Quintana, 2002: 271; holotype: MACN 19697, incomplete left lower jaw with m2-3.

Geographical distribution: Atlantic slopes near Mar del Plata, Buenos Aires Province, Argentina.

Stratigraphical and chronological distribution: Vorohué and San Andrés Formations; Late Pliocene-Early Pleistocene.

Tribe Wiedomyini Reig, 1980

Type genus: *Wiedomys* Hershkovitz, 1959 (by original designation).

Included genera (arranged in alphabetic order): *Phaenomys* Thomas, 1917, *Wiedomys* Hershkovitz, 1959 and *Wilfredomys* Avila-Pires, 1960.

Geographical distribution: Eastern Brazil and northern Uruguay.

Chronological distribution: Late Pleistocene-Holocene (for *Wiedomys* in Brazil)-Recent.

References

- Barbière, F., P.E. Ortiz, and U.F.J. Pardiñas. 2016. Evolución de los roedores Cricetidae en América del Sur: una visión desde el registro paleontológico. In: (F. Agnolin, G. Lio, F. Brissón-Egli, N. Chimento, and F. Novas, eds.) *Historia evolutiva y paleobiogeográfica de los vertebrados de América del Sur. Contribuciones Científicas del Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”* 6, Buenos Aires. pp. 335–346.
- Bonvicino, C. 2015. Genus *Wiedomys* Hershkovitz, 1959. In: (J.L. Patton, U.F.J. Pardiñas, and G. D’Elia, eds.) *Mammals of South*

- America, Volume 2: Rodents. University of Chicago Press, Chicago, IL. pp. 683–685.
- Braun, J.K. 1993. Systematic relationships of the tribe Phyllotini (Muridae: Sigmodontinae) of South America. Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, Special Publication. pp. 50.
- Cione, A.L., G.M. Gasparini, E. Soibelzon, L.H. Soibelzon, and E.P. Tonni. 2015. The Great American Biotic Interchange. A South American perspective. Springer Briefs in Earth System Sciences, South America and the Southern Hemisphere, Springer, Berlin. pp. 97.
- Freudenthal, M., M. Huguene, and E. Moissenet. 1994. The genus *Pseudocricetodon* (Cricetidae, Mammalia) in the Upper Oligocene of the province of Teruel (Spain). *Scripta Geol.* 104: 57–114.
- Gonçalves, P.R., F.C. Almeida, and C.R. Bonvicino. 2005. A new species of *Wiedomys* (Rodentia: Sigmodontinae) from Brazilian Cerrado. *Mamm. Biol.* 70: 46–60.
- Hershkovitz, P. 1959. Two new genera of South American rodents (Cricetinae). *Pro. Biol. Soc. Washington* 72: 5–9.
- Hershkovitz, P. 1962. Evolution of Neotropical cricetine rodents (Muridae) with special reference to the Phyllotine Group. *Fieldiana, Zool.* 46: 1–524.
- Hershkovitz, P. 1993. A new Central Brazilian genus and species of sigmodontine rodent (Sigmodontinae) transitional between akodonts and oryzomyines, with a discussion of muroid molar morphology and evolution. *Fieldiana, Zool.*, n. s. 75: 1–18.
- Leite, L.R., S.O. Kolokotronis, F.C. Almeida, F.P. Werneck, D.S. Rogers, and M. Weksler. 2014. In the wake of invasion: Tracing the historical biogeography of the South American cricetid radiation (Rodentia, Sigmodontinae). *PLoS One* 9: e100687.
- Luna, L. and B.D. Patterson. 2003. A remarkable new mouse (Muridae: Sigmodontinae) from southeastern Peru: with comments on the affinities of *Rhagomys rufescens* (Thomas, 1886). *Fieldiana, Zool.*, n. s. 101: 1–24.
- Machado, L.F., M.H. Passaia, F.P. Rodrigues, F.B. Peters, J. Sponchiado, V.H. Valiati, and A.U. Christoff. 2015. Molecular phylogenetic position of endangered *Wilfredomys* within Sigmodontinae (Cricetidae) based on mitochondrial and nuclear DNA sequences and comments on *Wiedomyini*. *Zootaxa* 3986: 421–434.
- Oliveira, J.A. and G. Lessa. 1999. Análise preliminar da fauna de roedores murídeos (Mammalia, Sigmodontinae) pleistoceno-holocênico das grutas calcárias do Nordeste da Bahia. In: (D. de A. Campos, A.W.A. Kellner, R. Iannuzzi, and N. Sierra-Ramírez, eds.) *Congresso Brasileiro de Paleontologia* 16. Crato. p. 81.
- Pacheco, V. 2003. Phylogenetic analyses of the Thomasomyini (Muroidea: Sigmodontinae) based on morphological data. Doctoral thesis, The City University of New York, NY, USA.
- Parada A., G. D'Elía, and E. Palma. 2015. The influence of ecological and geographical context in the radiation of Neotropical sigmodontine rodents. *BMC Evol. Biol.* 15: 172.
- Pardiñas, U.F.J., G. D'Elía, and P.E. Ortiz. 2002. Sigmodontinos fósiles (Rodentia, Muroidea, Sigmodontinae) de América del Sur: estado actual de su conocimiento y prospectiva. *Mast. Neotrop.* 9: 209–252.
- Pardiñas, U.F.J., P. Teta, and G. D'Elía. 2009. Taxonomy and distribution of *Abrawayaomys* (Rodentia: Cricetidae), an Atlantic Forest endemic with the description of a new species. *Zootaxa* 2128: 39–60.
- Pardiñas, U.F.J., G. D'Elía, G. Lessa, M. Passamani, and P. Teta. 2014a. Nuevos datos morfológicos y una hipótesis filogenética para *Phaenomys* (Rodentia, Cricetidae). *Mast. Neotrop.* 21: 251–261.
- Pardiñas, U.F.J., G. Lessa, P. Teta, J. Salazar-Bravo, and M.V.C. Câmara. 2014b. A new genus of sigmodontine rodent from eastern Brazil and the origin of the tribe Phyllotini. *J. Mamm.* 95: 201–215.
- Patton, J.L., U.F.J. Pardiñas, and G. D'Elia. 2015. Mammals of South America, Volume 2: Rodents. University of Chicago Press, Chicago, IL. pp. 1384.
- Quintana, C.A. 2002. Roedores cricétidos del Sanandresense (Plioceno tardío) de la provincia de Buenos Aires. *Mast. Neotrop.* 9: 263–275.
- Reig, O.A. 1972. The evolutionary history of South American cricetid rodents. Doctoral thesis, College University, London.
- Reig, O.A. 1977. A proposed unified nomenclature for the enameled components of the molar teeth of the Cricetidae (Rodentia). *J. Zool.*, London 181: 227–241.
- Reig, O.A. 1980. A new fossil genus of South American cricetid rodents allied to *Wiedomys*, with an assessment of the Sigmodontinae. *J. Zool.*, London 192: 257–281.
- Teta, P. 2013. Relaciones filogenéticas de la tribu Abrotrichini (Rodentia, Cricetidae): análisis separados y combinados de evidencias morfológicas y moleculares. Doctoral thesis, Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata, La Plata, Buenos Aires.
- Voss, R.S., and P. Myers. 1991. *Pseudoryzomys simplex* (Rodentia: Muridae) and the significance of Lund's collections from the caves of Lagoa Santa, Brazil. *Bull. Amer. Mus. Nat. Hist.* 206: 414–432.
- Wied-Neuwied, M. P. 1821. *Reise nach Brasilien in den Jahren; 1815 bis 1817.* Heinrich Ludwig Brönnner, Frankfurt a. M. pp. 345.
- Weksler, M. 2006. Phylogenetic relationships of oryzomine [sic] rodents (Muroidea: Sigmodontinae): separate and combined analyses of morphological and molecular data. *Bull. Amer. Mus. Nat. Hist.* 296: 1–149.

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