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Miocene Amazonian biodiversity under the microscope: small erethizontoid and chinchilloid caviomorph rodents from the Solimões Formation in Brazil

Emmanuelle Fontoura, Leonardo Kerber, Laurent Marivaux, Pierre-Olivier Antoine, Narla S. Stutz, Francisco Ricardo Negri, Ana Maria Ribeiro, and Myriam Boivin
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The caviomorph rodent diversity of the Solimões Formation (Upper Miocene, Brazil) has revealed remarkable taxonomic richness, offering key insights into the evolutionary history of Amazonian biodiversity. However, small caviomorphs, which are likely the most diverse within the clade, remain poorly known, due to difficulties in recovering their fossil remains. This study describes new dental remains of small-sized caviomorphs from the "Coqueiros" fossil-bearing locality (Envira River, State of Acre, Brazil), obtained by wet-screening of the sediments process. The material comprises three new species of Erethizontoidea, assigned to two genera. *Micronoamys* Fontoura gen. nov., represented by *Micronoamys candelae* Fontoura sp. nov., is the smallest known Miocene erethizontoid and shows high-crowned molars, unilateral hypsodonty, a short oblique hypoflexus and a posteroloph initially disconnected from the hypocone area. *Enviramys* Fontoura gen. nov., with *Enviramys vucetichae* Fontoura gen. et sp. nov. and *Enviramys nasifae* Fontoura sp. nov., exhibits small size, brachydonty, and elongated crests and flexi. Additional remains of cf. *Microscleromys* sp. and *"Scleromys"* sp. were also identified. Computed tomography (Micro-CT) was used to evaluate tooth wear patterns and visualize morphological features, allowing for comparisons between wear stages. The presence of small, presumably arboreal erethizontoids suggests forested habitats, consistent with other Miocene sites in Western Amazonia. These findings expand our knowledge of the Miocene rodent diversity in South America, especially in Proto-Amazonia. They also highlight biogeographic connections between Western Amazonian and adjacent Miocene faunas. The discovery of these small-sized rodents emphasizes the importance of wet screening of fossil-bearing sediments in recovering poorly represented taxa and contributes to refining our knowledge of mammalian evolution and biogeography in the Amazonian region.

Key words: Mammalia, Hystricognathi, Late Miocene, Western Amazonia, State of Acre, Envira River, Brazil.

Emmanuelle Fontoura [fontourapaleo@gmail.com; ORCID: https://orcid.org/0000-0002-3907-618X], Museu de Ciências Naturais, Secretaria do Meio Ambiente e

Infraestrutura, R. Dr. Salvador França, 1427, 90690-000, Porto Alegre, Rio Grande do Sul, Brazil and Programa de Pós-Graduação em Biodiversidade Animal (PPGBA), Universidade Federal de Santa Maria (UFSM), Av. Roraima, 1000, 97105-900, Santa Maria, Rio Grande do Sul, Brazil.
Leonardo Kerber [leonardokerber@gmail.com; ORCID: https://orcid.org/0000-0001-8139-1493], Programa de Pós-Graduação em Biodiversidade Animal (PPGBA), Universidade Federal de Santa Maria (UFSM), Av. Roraima, 1000, 97105-900, Santa Maria, Rio Grande do Sul, Brazil and CAPPA - Centro de Apoio à Pesquisa Paleontológica da Quarta Colônia, R. Maximiliano Vizzotto, 598, 97230-000, São João do Polêsine, Rio Grande do Sul, Brazil. Laurent Marivaux [laurent.marivaux@umontpellier.fr ; ORCID: https://orcid.org/0000-0002-2882-0874], Pierre-Olivier Antoine [pierre-olivier.antoine@umontpellier.fr; ORCID: https://orcid.org/0000-0001-9122-1818], and Narla S. Stutz [narlasstutz@gmail.com; ORCID: https://orcid.org/0000-0002-1937-3902], Institut des Sciences de l'Évolution de Montpellier (ISEM), Université de Montpellier, CNRS, IRD, Place Eugène Bataillon, 34090, Montpellier, France.
Francisco Ricardo Negri [frnegriufac@gmail.com; ORCID: https://orcid.org/0000-0001-7396-0334], Universidade Federal do Acre (UFAC), Campus Floresta, Estrada do Canela Fina, Km 12, 69980-000, Cruzeiro do Sul, Acre, Brazil. Ana Maria Ribeiro [ana-ribeiro@sema.rs.gov.br; ORCID: https://orcid.org/0000-0003-4167-8558], Museu de Ciências Naturais, Secretaria do Meio Ambiente Infraestrutura (SEMA), R. Dr. Salvador França, 1427, 90690-000, Porto Alegre, Rio Grande do Sul, Brazil and Programa de Pós-Graduação em Sistemática e Conservação da Diversidade Biológica, SEMA and UERGS, Rua Dr. Salvador França, 1427, 90690-000, Porto Alegre, Rio Grande do Sul, Brazil.
Myriam Boivin [mboivin@idgym.unju.edu.ar; ORCID: https://orcid.org/0000-0002-5240-9460], Grupo de Paleontología de Vertebrados, Instituto de Ecorregiones Andinas (INECOA), Universidad Nacional de Jujuy (UNJu), CONICET, Av. Bolivia, 1661, 4600, San Salvador de Jujuy, Jujuy, Argentina and Instituto de Geología y Minería, UNJu, Av. Bolivia, 1661, 4600, San Salvador de Jujuy, Jujuy, Argentina.

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