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EVOLUCIÓN DE LOS ROEDORES CAVIOMORFOS: FILOGENIA Y ÁRBOL TEMPORAL COMPLETO DE LOS GÉNEROS VIVIENTES

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Abstract. The Caviomorpha is a diverse lineage of hystricognath rodents endemic to the Americas and Caribbean islands. We analyzed evolutionary relationships within 11 families of caviomorphs and their relatives in the suborder Ctenohystrica using a supermatrix of 199 taxa and DNA sequences from five genes. New gene sequences were generated for 33 genera, including 12 genera newly available for molecular analysis. Presented here are the analyses pruned to a single representative for each genus, totaling 68 of the 70 living genera in Ctenohystrica. Our analyses recovered strong support for Hystricognathi containing the monophyletic groups Hystricidae, Phiomorpha, and Caviomorpha, with the latter two groups as well-supported sister taxa. The analyses also strongly supported the monophyly of the four traditional superfamilies of caviomorphs, with Cavioidea + Erethizontoidea and Chinchilloidea (including Dinomyidae) + Octodontoidea. Cuniculidae + Dasyproctidae are recovered as sister to Caviidae (including *Hydrochoerus*). Abrocomidae (including *Cuscomys*) is sister to the remaining octodontoid families, consisting of the dyads Octodontidae + Ctenomyidae and Echimyidae (including *Myocastor*) + Capromyidae. The five genera of capromyids form a robustly monophyletic group, but they are allied to a group of Brazilian echimyids, rendering Echimyidae paraphyletic. We dated nodes in our tree by comparing eight sets of fossil calibrations, identifying a set of 22 calibrations that minimized internal age conflicts. The resulting timetree dates the Hystricognathi crown to the Middle Eocene, 44.9 Ma, and the phiomorph-caviomorph split to 42.0 Ma. Crown caviomorphs diverged at 35.7 Ma, and splits of Cavioidea-Erethizontoidea and Chinchilloidea-Octodontoidea occurred at 32.4 Ma and 32.8 Ma, respectively. Most families appeared in the late Oligocene-Early Miocene and virtually all genera are of Middle-Late Miocene age, with a few exceptions. We briefly consider geo-climatic changes that might have influenced the evolution of hystricognath rodents, deferring to another work a detailed analysis of their rates and ecological drivers of diversification.

Resumen. Los caviomorfos constituyen un linaje diverso de roedores histricognatos endémicos de las Américas y las islas del Caribe. En este estudio, analizamos secuencias de ADN (mitocondrial y exones nucleares) de cinco genes en el suborden Ctenohystrica, incluyendo roedores de las familias Diatomyidae, Ctenodactylidae, Hystricidae, Petromuridae, Thryonomyidae, Bathyergidae, y 11 familias de caviomorfos. Se generaron nuevas secuencias de cyt-*b*, 12S rRNA, GHR, vWF, y/o RAG1 para 33 géneros, 31 de estos caviomorfos, 12 de las cuales corresponden a secuencias nuevas disponibles para análisis filogenéticos. Se utilizó una supermatriz de 199 taxa y 5194 pb de ADN para el análisis de las relaciones evolutivas del