

New data on the Paleocene monotreme *Monotrematum sudamericanum*, and the convergent evolution of triangulate molars

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We describe an additional fragmentary upper molar and the first lower molar known of *Monotrematum sudamericanum*, the oldest Cenozoic (Paleocene) monotreme. Comparisons suggest that the monotreme evolution passed through a stage in which their molars were "pseudo-triangulate", without a true trigonid, and that the monotreme pseudo-triangulate pattern did not arise through rotation of the primary molar cusps. Monotreme lower molars lack a talonid, and consequently there is no basin with facets produced by the wearing action of a "protocone"; a cristid obliqua connecting the "talonid" to the "trigonid" is also absent. We hypothesize that acquisition of the molar pattern seen in *Steropodon galmani* (Early Cretaceous, Albian) followed a process similar to that already postulated for docodonts (*Docodon* in Laurasia, *Reigitherium* in the South American sector of Gondwana) and, probably, in the gondwanathere *Ferugliotherium*.

Key words: Monotremata, Monotrematum, pseudo-triangulate molars, molar structure, Gondwana, Patagonia, Paleocene

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