

Lower deciduous tooth homologies in Erethizontidae (Rodentia, Hystricognathi): Evolutionary significance

Adriana Magdalena Candela

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Cusp and lophid homologies of the lower deciduous teeth (dp4) in erethizontids and other Hystricognathi are specified. On this basis, a new nomenclature for these structures is proposed. The probable primitive condition and evolution of the occlusal patterns of these teeth are also analyzed. In contrast to previous proposals, it is concluded that the mesoconid, mesostylid, and mesolophid of the dp4 of erethizontids can be recognized since the Early Miocene. The anteriormost three lophids of the pentalphodont dp4 of the Erethizontidae would be homologous to the anterolophid, metalophid II, and mesolophid, respectively. In addition, it may be proposed that the lophids of the dp4 of the Baluchimyinae and Old World Hystricognathi are homologous to those of the erethizontids and the remaining South American Hystricognathi. The pentalphodont pattern is probably the primitive condition of the dp4 of the Hystricognathi.

Key words: Rodentia, Hystricognathi, Erethizontidae, deciduous teeth, homology, evolution.

Adriana Magdalena Candela [acandela@museo.fcnym.unlp.edu.ar], Departamento Científico Paleontología Vertebrados, Museo de La Plata, Paseo del Bosque s/n, 1900 La Plata, Argentina.

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