

## SEBECOSUCHIAN CROCODYLIFORMS FROM THE LATE CRETACEOUS OF EUROPE

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Sebecosuchians are deep-snouted mesoeucrocodylians with labiolingually compressed, serrated (ziphodont) teeth that are known from the Late Cretaceous to the Miocene. The major diversity of these terrestrial crocodyliforms is recorded in South America (*Baurusuchus*, *Bretesuchus*, *Pehuenchesuchus*, *Sebecus*, etc.), but putative sebecosuchians are also known from northern Africa (*Eremosuchus*), Indo-Pakistan (*Pabwehshi*) and Europe (*Iberosuchus*, *Bergisuchus*). Most recent phylogenetic analyses support a monophyletic Sebecosuchia (Ortega et al., 2000; Turner & Calvo, 2005; Turner, 2006). In this context, sebecosuchians and notosuchians are sister groups nested within the Ziphosuchia clade (Ortega et al., 2000; Turner, 2006). In Europe, besides the fossil remains discovered in the Tertiary formations, the presence of sebecosuchians in the Late Cretaceous is worthy of consideration. The enigmatic crocodyliform *Doratodon*, which was previously regarded either as a hsisosuchid or as a basal neosuchian, has been reinterpreted as a sebecosuchian-like form (Company et al., 2005). *Doratodon* is represented by two species: *D. carcharidens* (type species; lower jaw, fragment of maxilla, isolated teeth) from the Early Campanian of Austria; and *D. ibericus* (dentary with teeth) from the Late Campanian-Early Maastrichtian of Valencia, Spain (Company et al., 2005). The presence in *Doratodon* of a longitudinal depression on the lateral surface of the dentary, and a sigmoidal tooth row in dorsal view are characters considered as sebecosuchian synapomorphies (*sensu* Turner & Calvo, 2005). *Doratodon* appears to be more derived than *Pehuenchesuchus*, found to be the most basal sebecosuchian (Turner & Calvo, 2005), in having denticulate carinae on tooth crown margins. However, *Doratodon* lacks a number of derived sebecosuchian features (e.g., presence of a large foramen intramandibularis oralis; anterior dentary teeth opposite premaxilla-maxilla contact more than twice the length of other dentary teeth; Turner, 2006). *Doratodon* is characterized by a short and narrow rostrum with reduced dentition (11 dentary teeth in *D. ibericus*) and by the absence of a mandibular fenestra (Company et al., 2005). New ziphosuchian material from Valencia includes an isolated humerus that may also belong to *Doratodon*. The occurrence of sebecosuchians in the Late Cretaceous of Europe provides evidence of dispersal from West Gondwana to Laurasia, but the time of this event is not yet accurately known.

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Company, J.; Pereda Suberbiola, X.; Ruiz-Omeñaca, J.I. & Buscalioni, A.D. 2005. A new species of *Doratodon* (Crocodyliformes: Ziphosuchia) from the Late Cretaceous of Spain. *Journal of Vertebrate Paleontology*, 25: 343-353.

Ortega, F.; Gasparini, Z.; Buscalioni, A.D. & Calvo, J.O. 2000. A new species of *Araripesuchus* (Crocodyliformes, Mesoeucrocodylia) from the Lower Cretaceous of Patagonia (Argentina). *Journal of Vertebrate Paleontology*, 20: 57-76.

Turner, A.H. 2006. Osteology and phylogeny of a new species of *Araripesuchus* (Crocodyliformes: Mesoeucrocodylia) from the Late Cretaceous of Madagascar. *Historical Biology*, 18: 255-369.

Turner, A.H. & Calvo, J.O. 2005. A new sebecosuchian crocodyliform from the Late Cretaceous of Patagonia. *Journal of Vertebrate Paleontology*, 25: 87-98.