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# A new gobiconodontid mammal from the Early Cretaceous of Spain and its palaeogeographic implications

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A new gobiconodontid from Vallipón (Teruel, Spain) represents the first record of this family in Europe. The site has a diverse fossil assemblage mainly composed of isolated bones and teeth probably accumulated by tidal action and water streams in an ancient beach of upper Barremian, in the transitional marine-continental sediments of the Artoles Formation. The new gobiconodontid consist of an isolated upper molar, smaller in size than that element in other gobiconodontids, with a robust cusp A, characterised by lateral bulges on each mesial and distal flanges of that cusp, and a discontinuous cingulum raised at the lingual side. The oclusal outline is smooth compared with Gobiconodon borissiaki, Gobiconodon hoburensis, or Gobiconodon ostromi. The Gobiconodontidae record is exclusively Laurasiatic. The oldest gobiconodontid fossil remains are Hauterivian; though their probable origin has to be found at the Late Jurassic in Central Asia (as inferred from derived character of the first gobiconodontids as well as phylogenetic relationships). At the end of the Early Cretaceous they expanded throughout Laurasia as indicated by findings in Asia, North America and Spain. Two dispersion events spread gobiconodontids: to the West (Europe) in the Barremian and to the East (North America) during the Aptian/Albian.

**Key words:** Cretaceous, Barremian, Mammalia, Gobiconodontidae, Europe, palaeogeography.

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