



## The austral components of the Neogene South American crocodylian fauna: the northeast Miocene- Pliocene Argentinean record

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During the last years the knowledge about derived eusuchian crocodiles has been increased. Anatomical and phylogenetic approaches as well as new fossil records have lighted the evolutive and biogeographic history of several groups. In this way, paleontological research on Miocene-Pliocene South American taxa have provided new information that allowed supporting taxonomical and biogeographical hypotheses, many of them erected since the end of XIX century. The richest and more explored regions concerning Mio-Pliocene crocodylians in South America correspond to basins that surround the areas of Urumaco (Venezuela), La Venta (Colombia), Acre (Brazil), and Paraná (Northeast Argentina). Late Miocene - Pliocene fossils from Paraná were recovered from the "Conglomerado Osífero" (Ituzaingó Formation) and assigned to several taxa of Caimaninae (Alligatoroidea) and one Gavialoidea. Recent research has allowed exploring the taxonomical diversity of this fauna, including a descriptive revision and phylogenetic reanalysis of bizarre forms as *Mourasuchus* species. The Miocene-Pliocene "fauna" of crocodiles recorded in Northeastern Argentina differs from coeval ones of Northern South America by the absence of sebecids, crocodyloids, some alligatorid genera (as *Purussaurus*, *Melanosuchus*, and *Paleosuchus*), and by the rarity of gavialoid species. Giant forms, conspicuous in the Northern South American deposits, are virtually rare in the southern latitudes. Despite it, the austral South American crocodylian fauna exhibits strong affinities with that from the Northern Mio-Pliocene, sharing taxa at generic and even at specific levels (*Gryposuchus neogaeus* (Rusconi), *Mourasuchus nativus* (Gasparini), and *Caiman latirostris* (Daudin) [= *C. cf. lutescens*]). Such aquatic forms might indicate partial connections of drainage basins through swampy areas on their boundaries. These fresh water habits would have permitted migration of some of the crocodiles, but would have been an effective barrier for the migration of other taxa (e.g., cryptodirans turtles) as well as preclude the assumption of an intracontinental seaway link, as already proposed by some authors. Nevertheless, the historical factors that determinate the geographic patterns of distribution of crocodyles in South America should be evaluated in a biogeographical context.

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