

## MIDDLE AND LATE JURASSIC MARINE REPTILE FAUNAS OF THE SOUTHEASTERN PACIFIC, BASED ON DISCOVERIES IN ARGENTINA AND CHILE

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### ABSTRACT

The South American record of Jurassic marine reptiles complements the northern hemisphere record both geographically and stratigraphically. Middle Jurassic marine reptiles fill a gap from the Aalenian to the early Callovian, when the records are scarce or absent elsewhere. Early Bajocian ichthyosaurs from the Neuquén Basin document the co-occurrence of non-ophthalmosaurids and ophthalmosaurids and include the oldest record of Ophthalmosauridae. Similarly, the record of South American metriorhynchids is older than that of Europe. The oldest *Metriorhynchus* in Chile is early Bajocian, whereas in Europe, it is early Callovian. *Metriorhynchus* aff. *M. brachyrhynchus* in northwestern Patagonia is late Bathonian whereas the oldest *M. brachyrhynchus* in Europe is early Callovian. Early-Middle Jurassic plesiosaurs are extremely scarce worldwide, and *Maresaurus* from the early Bajocian represents almost the only plesiosaur of this age. The highest abundance and taxonomic diversity, however, occurs in the Late Jurassic (Tithonian) of the Neuquén Basin and includes pleurodiran and cryptodiran turtles (*Notomemys laticentralis* and *Neusticemys neuquina*), ophthalmosaurid ichthyosaurs (*Caypullisaurus bonapartei*, *Ophthalmosaurus* sp. and *Aegirosaurus* sp.), pliosaurs (*Pliosaurus* sp., *Liopleurodon* sp.) and metriorhynchids (*Metriorhynchus* sp., *Geosaurus araucanensis* and *Dakosaurus andiniensis*).

Jurassic marine reptile faunas from the Southeastern Pacific are closely related to Western Tethyan faunas. These close similarities can be explained in terms of a marine connection (Caribbean seaway) between both areas. The Caribbean seaway ("Hispanic Corridor") played an important role for dispersion of marine reptile since the Middle Jurassic, or even before. Toward the end of the Jurassic in the European Tethys, mass extinctions diminished the diversity of marine reptiles. However, in the Southeastern Pacific (Argentina and Chile) no evidence suggests massive extinctions, at least in the record of marine reptiles.