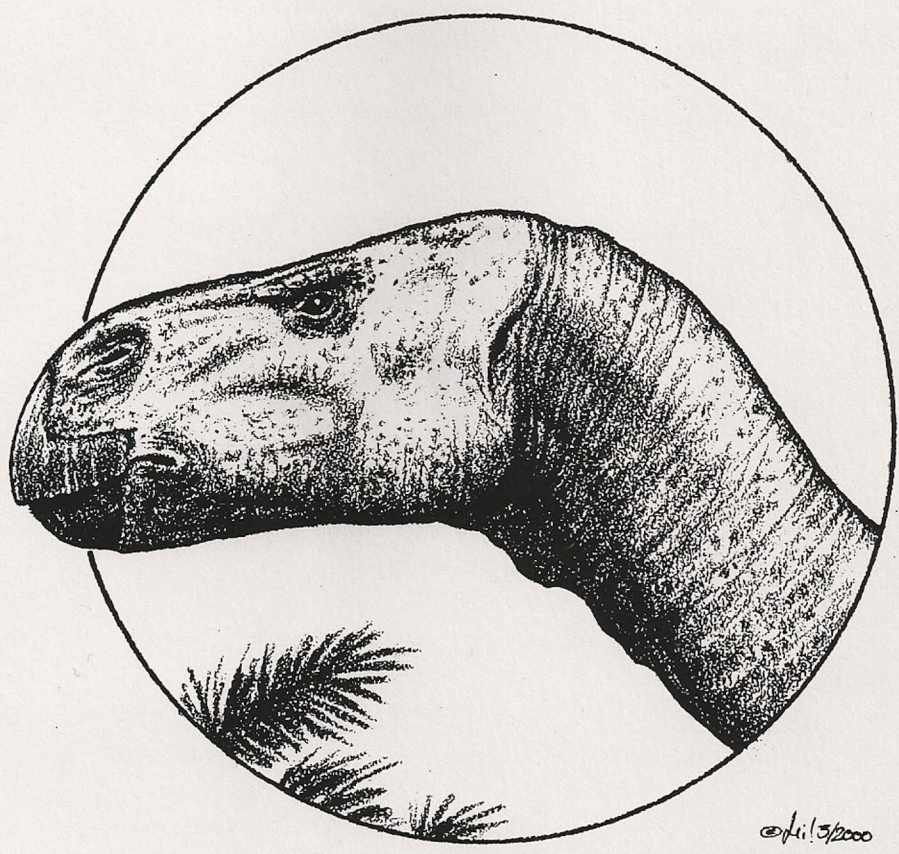


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LATE JURASSIC DINOSAURS OF PORTUGAL

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Two main Portuguese sites for Late Jurassic (Kimmeridgian/Tithonian) dinosaurs are known: Lourinhã (70 Km North of Lisbon) and Guimarota (Leiria).

In Portugal there are represented the main groups of dinosaurs for that time: Stegosauria, Hypsilophodontidae, Dryosauridae, Camptosauridae, Diplodocidae, Brachiosauridae, Ceratosauria, Spinosauroida, and Carnosauria. Ankylosauria and Titanosauria have not been found, so far.

A femur and tibia ascribed to cf. *Ceratosaurus* sp. have been recently found in the Kimmeridgian of Lourinhã are extremely similar to those found in Morrison and described by GILMORE. It may be ascribed to Ceratosauria due to 1) the presence of trochanteric shelf, 2) the not blade-shaped anterior trochanter, 3) the anteromedially projected femoral head, 4) the presence of a femoral intercondylar bridge, 5) deep sulcus along the lateral side of the crista tibiofibularis and 6) the fibular crest in the tibia is proximally placed; And ascribed to Ceratosauroida (Neoceratosauria) due to the lack of the lateral longitudinal groove at the distal end of tibia that is synapomorphic of Coelophysidae ceratosaurs and to the femoral head that is projected anteromedially.

A strong tibia was found and ascribed to cf. *Torvosaurus* sp. It has the highest tibial ratio (minimal circumference/length: 47.0) described in the literature for theropod dinosaurs.

Excluding the taxa assigned by dental material (as Dromaeosauridae, cf. *Paronychodon* sp., *Hypsilophodon*, and others), the list of Late Jurassic dinosaurs in Portugal is as follows:

THEROPODA: *Lourinhanosaurus antunesi*, *Allosaurus fragilis*, cf. *Ceratosaurus* sp., cf. *Torvosaurus* sp.

SAUROPODA: *Lourinhasaurus alenquerensis*, *Brachiosaurus atalaiensis*, *Dinheirosaurus lourinhanensis*

ORNITHISCHIA: *Dacentrurus armatus*, Dryosauridae indeter., *Camptosaurus* sp.

All these groups are well represented in Morrison Formation. There are strong similarities in the dinosaur faunal list between these contemporaneous places (Kimmeridgian-Tithonian). In particular, the theropod fauna is strongly similar to that in Morrison Formation given to the presence of *Lourinhanosaurus* (taxonomically related to *Allosaurus*) and the genera *Ceratosaurus* and *Torvosaurus*, also known in Morrison Formation.

Eggs, eggshells, and embryos are also known. Six sites were located with eggshells in Lourinhã area. Theropod eggshells are the most common. Furthermore, in the Late Jurassic of Portugal were also discovery footprints of Theropoda, Ornithischia, and Sauropoda in the last years.

The last discoveries in the Late Jurassic of Portugal (mainly in Lourinhã area) make it one of the most productive European Late Jurassic areas for dinosaur remains, nowadays.