

STRATIGRAPHIC POSITION OF THE LATE JURASSIC TETRAPODS FROM PORTO DINHEIRO (LOURINHÃ, PORTUGAL)

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Porto Dinheiro is a locality situated 4 km SSW of Lourinhã, in the central-western part of Portugal. It outcrops siliciclastic rocks of the Lourinhã Formation (Upper Kimmeridgian and Tithonian), within the Lusitanian Basin. In most Porto Dinheiro (N39°12'52"; W9°20'36") crops out the Amoreira – Porto Novo Mb. (Upper Kimmeridgian), but the Praia Azul Mb. (Upper Kimmeridgian to Lower Tithonian) starts above the first (of two) marine transgressive units in the top of the cliff. The outcrop area shows thick layers of brownish-grey mudstone that alternate with sandstone that tapers laterally. This outcrop evidences a continental environment rich in tetrapod fossils, aged as Late Kimmeridgian. The fauna succession is as follows:

Top of the cliff south of the port (lower beds): reptilian eggshell, teeth from rhamphorhynchoid pterosaurs, crocodylomorphs (namely the mesoeucrocodylian *Lusitanisuchus mitracostatus* and *Goniopholis brodiei*), choristoderan *Cteniogenys*, and teeth from the squamate *Saurillus obtusus* and the ornithischians *Trimucrodon cuneatus* and *Hypsilophodon*. About 800 mammalian teeth (Triconodonta, Symmetrodonta, Dryolestidae and Zatheria) but mostly Multituberculata (namely 250 of Pinheirodontidae: *Pinheirodon pygmaeus*, *P. vastus*, *Bernardodon atlanticus*, and *Iberodon quadrituberculatus*);

Base of the cliff north of the port: an anterior dorsal vertebra of the sauropod *Zby atlanticus*, a stegosaur spine, and postcranial elements of a relatively articulated small theropod;

Top of the cliff north of the port: teeth of the theropod *Torvosaurus gurneyi*, including a 17 cm long tooth, ribs and gastroliths of the holotype of the sauropod *Supersaurus* (= *Dinheirosaurus*) *lourinhanensis*; a diverse ichnofauna of dinosaur tracks; and the Zimbral microvertebrates bonebed.