

COMPARATIVE HISTOLOGY OF DWARF TITANOSAURIANS FROM THE LATE CRETACEOUS OF FRANCE

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The derived sauropod clade Titanosaurs encompasses the largest land animals that ever roamed the Earth as well as dwarfed species that evolved in restricted, insular habitats. Here, we report on the long bone histology (humeri and femora) of several mature individuals belonging to a new, small-sized titanosaur from the Upper Cretaceous of Velaux – La Bastide Neuve (Provence, France).

The main osteohistological feature of the new titanosaur is the heavy remodelling of the cortex, from the outermost cortex retaining some primary vascular canals with traces of External Fundamental System onsets (F to G bone tissue types) to the complete remodelling of the cortex (H bone tissue type). Histological Ontogenetic Stages (HOS) of the samples range from HOS 12 to 14, meaning these bones belong to mature close to or at final body size. Overall long bone histology of the new taxon is strikingly similar to that *Atsinganosaurus velauciensis*, another titanosaur from the same site and time period.

A mature osteohistology combined with femora and humeri that are markedly reduced in size compared to more basal macronarians indicates an earlier onset of the remodelling process during ontogeny at a rate that surpassed the apposition one. Insular dwarfism is a consistent hypothesis for this combination of features, raising the number of dwarfed titanosaurs lineages in the European archipelago.