

Upper Paleozoic Endemic Genera of Xenacanthiformes (Chondrichthyes, Elasmobranchii): A Global Perspective

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Multiple genera of xenacanth sharks are known only from North America, Europe, and Brazil. Most were freshwater, but species of some may have been marginally marine. Occurrences are often exclusively based on teeth. European multispecific genera include *Orthacanthus*, *Xenacanthus*, *Bransonella*, *Triodus*, and *Plicatodus*. *Plicatodus* may occur in North America. *Orthacanthus* and *Bransonella* have closely related species in Europe and North America, and *Bransonella* occurs in Brazil. *Triodus* is not reported from Brazil or North America (except in the Triassic). *Xenacanthus* (as generally defined, with teeth possessing a large number of foramina and nonserrated cusps lacking cristae) probably occurs in North America, but is absent in Brazil. Genera endemic to Brazil have not yet been reported.

One new genus is endemic to North America. It occurs in the Lower Permian and probably the Upper Carboniferous. It is represented by one described species, (*Xenacanthus*) *luedersensis* Berman, 1970, but another may be present. The most distinctive character of this genus is the lack of an intermediate cusp, unlike all other xenacanths. The principal cusps are nearly parallel, with cristae restricted mostly to the labial margins; a central foramen is absent. The dentition is homodont except for the presence of presumed symphysial teeth.