

## Early Pennsylvanian xenacanth chondrichthyans from the Swisshelm Mountains, Arizona, USA

Gary D. Johnson and David W. Thayer


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Three genera of xenacanth, based on isolated teeth, occur in the lepospondyl (amphibian)–dominated fauna from the upper Black Prince Limestone (late Bashkirian). *Orthacanthus donnelljohnsi* sp. nov. teeth, with carinae lacking serrations on the compressed principal cusps, and only one intermediate cusp, represent both adult and juvenile teeth. Heterodonty occurs in both adult and juvenile dentitions. The absence of serrations is unique among Pennsylvanian species of *Orthacanthus*. Teeth with often highly asymmetrical bases with an aborally–flexed lingual marginal flange (= anterolingual shelf) and a single intermediate cusp are assigned to *Triodus elpia* sp. nov. A central foramen occurs in the base, unlike most other species; the moderately compressed principal cusps bear generally straight cristae. They represent the first reported occurrence of *Triodus* in the Paleozoic of North America. Five teeth, with cristae extending from the cusps onto their bases, belong to *Bransonella*. Two are questionably assigned to *Bransonella nebraskensis*, one to *B. ?lingulata* with its labio–lingually elongated apical button and smaller than normal intermediate cusp, and one each to *Bransonella* sp. “A” and “B”. *Bransonella* sp. “A” has a base wider (labio–lingual) than long, the reverse of the other *Bransonella* teeth. *Bransonella* sp. “B” is distinctly different, as it lacks an intermediate cusp (as in some *B. lingulata* teeth), and the basal tubercle is beneath one of the cusps (with no evidence of deformity).

**Key words:** Chondrichthyes, Xenacanthiformes, Bransonelliformes, *Orthacanthus*, *Triodus*, *Bransonella*, Bashkirian, Arizona.

Gary D. Johnson [[johnsong@smu.edu](mailto:johnsong@smu.edu)], Shuler Museum of Paleontology, Institute for the Study of Earth and Man, Southern Methodist University, PO Box 750274, Dallas, TX 75275-0274, USA; David W. Thayer, 611 S. 10th St., Williams, AZ 86046-2817, USA.

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