

## Conodont – History, Importance and Brazilian Research

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In 1856 C. H. Pander found small fossil teeth that he named "Conodonts". After that, other scientists also found different kinds of these teeth. Conodonts evolved rapidly through the Palaeozoic and became excellent fossil guides, but their phylogenetic position remained a mystery until recently. In 1983, fossils of some conodont animals were found in Scotland (340 My) with their teeth preserved. Since then, several other fossils have been discovered in the same area, and scientists have learned a little more about the enigmatic conodont animal. They were small, few centimetres in length, and elongate; had phosphatic hard part, a notochord and V-shaped blocks of muscle along its sides; it had paired eyes and a posterior tail fins. This characteristic identifies conodonts as chordates, the phylum to which vertebrates belong. Today we know that conodonts are vertebrates that lived since Cambrian to Triassic period, mainly in limestones and black shales from marine environment. They are important to the biostratigraphical and paleoecological study of the Palaeozoic because they are excellent fossil guides. Besides, they are useful as tool for petroleum exploration due to a measurable indicator called CAI - Colour Alteration Index - that helps to know about the state of organic matter in the reservoirs. The conodont elements have been found in some Palaeozoic Brazilian Basins as: Acre (Permian), Parnaíba (Carboniferous), Solimões (Devonian/Carboniferous) and Amazonas (Carboniferous), with many genera identified as *Idiogonathodus*, *Stretogonathodus*, *Declinogonathodus*, *Adetogonathus*, *Neogonathodus* and others that provide geological data of these basins.