Early Triassic conodonts in Western Tethys

Tea Kolar-Jurkovšek

Geological Survey of Slovenia, Dimičeva ulica 14, SI-1000 Ljubljana, Slovenia
tea.kolar-jurkovsek@geo-zs.si

Conodonts are phosphatic, tooth-like elements of extinct jawless vertebrates that are classified in the independent class Conodonta. Due to their rapid evolution, wide palaeogeographic distribution and high resistance, conodonts are one of the most significant microfossil groups in the biostratigraphy of the Paleozoic and Triassic. Animals with conodonts were bilaterally symmetrical, exclusively marine organisms, where they inhabited a variety of habitats. These include both open sea habitats, whereas some species adapted to shallow habitats of epicontinental seas. For this reason, conodonts are extremely important for understanding of the palaeoecological and palaeogeographic conditions of the Paleozoic and Triassic. They were unquestionably one of the most successful animal groups, since they existed more than 300 million years and their elements are widely used as index fossils.

Conodonts have shown their value for Triassic biostratigraphy. Based on international criteria the Permian-Triassic system boundary is defined with the first appearance of the conodont species *Hindeodus parvus* (Kozur & Pjatakova). The Permian-Triassic interval strata of the GSSP section in Meishan (China) are next to the platform-bearing gondolellids marked by the presence of *Hindeodus-Isarcicella* population that enabled to introduce also a conodont zonation for shallow facies. A standard conodont zonation is, except for the two lowermost Triassic zones, based on gondolellid genera that lived in deeper water: *Clarkina*, *Sweetospathodus*, *Neospathodus*, *Novispathodus*, *Borinella*, *Scythogondolella*, *Icriospathodus*, *Triassospathodus* and *Chiosella*. Certain Dienerian and Smithian strata of Western Tethys are marked by shallow water and euryhaline genera and due to the absence of global biozonation markers, a stratigraphic value of some genera (*Hadrodontina*, *Pachycladina*, *Eurygnathodus*, *Foliella*, *Platyvillosus*) is recognized. These shallow water genera were ecologically controlled (temperature, oxygen levels) that have been adapted to the epicontinental ramp environment and were particulary instrumental in forming the western part of the Tethyan province.

eISSN 2353-3641 | ISSN 1731-0830