

## CONODONT BIOSTRATIGRAPHY OF THE LATE TRIASSIC IN THE WESTERN BERGAMASC ALPS (ITALY)

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In the Lombardian succession, the last Triassic depositional system, developed after the demise of the Dolomia Principale carbonate platform, is represented by a subtidal, mixed and cyclic ramp depositional environment (Riva di Solto Shale and Zu Limestone formations), developed on the tilted blocks affected by the Norian rifting event (Jadoul et al., 1992; 1994; 2004). This succession passes upward into a relatively homogenous outer carbonate ramp environment of the earliest Hettangian Malanotte Formation (GALLI et al., 2007) followed by the Bahamian-type carbonate platform of the Albenza Formation (*Conchodon Dolomite Auctorum*; JADOUL & GALLI, 2008).

In the last decades the biostratigraphy of the aforementioned units has been carried out mainly with bivalves, benthic foraminifers and palynomorphs. Here, we present the conodont biostratigraphic characterization of the subtidal shale - carbonate succession of the Zu Limestone Formation (Zu1, Zu2 and Zu3 members) through the investigation of the Imagna Valley sections. A useful conodont fauna composed of *Misikella hernsteini* and *Misikella koessenensis* has been also recorded from the base of the upper Argillite di Riva di Solto (ARS2), restricting thus the age of this unit to Sevatian 2 (latest Norian) (KOZUR & MOCK, 1991; MOIX et al., 2007). Even if rare, *Misikella koessenensis* can be found in the latest Sevatian (MOIX et al., 2007).

A major dataset has been collected for the Zu limestone Fm., in particular from the Zu1 member. In the transitional interval between the Argillite di Riva di Solto and the Zu Limestone Formation only species *Misikella hernsteini* occurs, along with *Misikella koessenensis*. This fauna is the same collected from the underlying upper Argillite di Riva di Solto (ARS2). At the base of the Zu1 member, and thus the base of the Zu Limestone Formation, *Misikella posthernsteini* occurs. Conodont investigations have been also carried out at the top of the Zu1 member where a fauna composed by *Misikella hernsteini*, *Misikella posthernsteini* and *Misikella koessenensis* occurs. The base of the Zu2 member has been also investigated for conodont biostratigraphy, but the samples resulted barren as expected. The upper Zu Limestone Formation (Zu3 member) yielded only a species of *Misikella ultima* which has been collected from the last calcareous layer, just below the net contact with the overlying Malanotte Fm. which is Hettangian in age basing on palynomorphs and isotopic data (CIRILLI et al., 2000; GALLI et al., 2005; 2007).

The first occurrence (FO) of *Misikella posthernsteini* is commonly used to define the base of the Rhaetian (KOZUR & MOCK, 1991) and it has been recently calibrated with the FO of *Paracochloceras suessi*, an ammonoid largely used to define the base of the Rhaetian stage (KRYSTYN et al., 2007).

Furthermore, KOZUR & MOCK (1991) recognized the upper Rhaetian with the appearance of *Misikella ultima*, never found from Jurassic strata.

The conodont fauna collected from the western Bergamasc Alps allowed to constrain the whole Zu Limestone Formation to the Rhaetian stage and to reconsider and relocate the previous stratigraphic boundaries of the Late Triassic in the Lombardian succession.

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