

## THE CLASSIC ANISIAN (MIDDLE TRIASSIC) AMMONOID LOCALITIES OF THE SOUTHERN ALPS, AND THEIR SIGNIFICANCE FOR THE DEFINITION OF THE ANISIAN SUBDIVISIONS

Balini Marco

Dipartimento di Scienze della Terra, Via Mangiagalli 34, 20133 Milano, Italy.

E-mail: Marco.Balini@unimi.it

The development of the standard scale for the Anisian Stage (Middle Triassic) has been a matter of debate since the last century. The Anisian Stage was defined in the Western Tethys, and its meaning and subdivisions were strongly influenced by ammonoid rich localities of Southern and Northern Alps, as well as Hungary. Many problems came out because of: (1) lack of bed-by-bed data, (2) restricted stratigraphic extent and scarce overlap of some type-localities, or (3) historical localities with condensed faunas, (4) direct correlations influenced also by taxonomical problems. For these reasons the number and the composition of the biozones of the Middle to Upper Anisian (Pelsonian and Illyrian Substages) is not yet well defined.

In the last 10 years seven classical and new localities in the Southern Alps have been bed-by-bed investigated in order to define the details of the Pelsonian-Illyrian faunal succession. The studied sections include Dont (Dolomites), Cimego (Giudicarie) that are the two type localities of the Pelsonian Substage and of the *Binodosus* Zone, and Stabol Fresco section, that is the most representative for the Illyrian Substage and the *Trinodosus* Zone in the original definitions. Adanà and Peschiera (Giudicarie), Menna and Lenna (Brembana Valley) were also taken into consideration.

All the sections were bed-by-bed directly correlated by guide ammonoids. In particular the most important result is the new direct correlation of Dont and Stabol Fresco sections.

The first ammonoid level of Stabol Fresco section, providing a rich *Bulogites* fauna, is correlated with level R of Dont section, that is some 2 m below the classic *binodosus* fauna. New fossiliferous levels have been found at Dont 2.5 m above the layers providing the *binodosus* fauna. The new fossil bearing beds record the FO of the bivalve *Daonella* followed by the occurrence of *Megaceratites*, *Lanceoptychites* and *Paraceratites s.s.* These taxa, typical of the *trinodosus* fauna, occur in the same sequence in the middle-upper part of Stabol Fresco section, some 50 m above the *Bulogites*-rich level. At Stabol Fresco, in between the last *Bulogites* level and the typical *trinodosus* fauna there is a rich fauna dominated by ceratitids of the group of *C. cimeganus* Mojsisovics, 1882. This fauna is not recorded at Dont where at the top of the *binodosus*-bearing level a lithologic change underlined by glauconite suggests a hiatus. Moreover faunal analysis of the *binodosus*-bearing leads to suggest a condensation.

The cross correlation of the studied sections are summarized in a composite range chart that notably differs from recent literature. As a consequence a new biostratigraphic scale for the Pelsonian-Illyrian is proposed.

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Autor(en)/Author(s): Balini Marco

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