High-resolution foraminiferal stratigraphy of the Puez Formation (Dolomites, Austria): a reference section for definition of the Cretaceous stage boundaries

Soták, J.1,*, Lukeneder, A.2, Józsa, S.3

1) Slovak Academy of Science, Banská Bystrica, Slovakia, *E-mail: sotak@savbb.sk
2) Natural History Museum, Vienna, Austria
3) Comenius University, Bratislava, Slovakia

The section studied occurs in expanded outcrops on the southern margin of the Puez Plateau in the northern part of the Dolomites (South Tirol, Northern Italy). The high-resolution study of planktonic foraminifera makes possible to improve the stratigraphy of the Puez section (composite P-1, P-2, P-3, P-5, P-7 sections). Fundamental results are as follows:

1) P–1 and P-7 sections represent the stratigraphic interval from the Late Valanginian to the Late Barremian. Foraminiferal stratigraphy is based on the Late Valanginian – Hauterivian associations of gorbachikellids and praehedbergellids, Late Hauterivian association of *Hedbergella semielongata* Zone in P-7 section and praehedbergellids of the *Blefusculiana (P.)* kuznetzove Zone and Barremian-Aptian praehedbergellids at the top of P-1 section.

2) The Puez section lacks the foraminiferal zones from the Earliest Aptian, which indicates a stratigraphic gap between the P-1 and P-3 sections. Post-hiatus microfauna contains rich hedbergellids (*occulta – aptiana – protrocoidea* group), and pseudo-planispiral forms belonging to the *Praehedbergella luterbacheri* Zone and *Globigerinelloides ferreolensis* Zone (Early Late Aptian) in the lower part of the P-3 and P 6 sections. The upper part of these sections has been assigned to the Late Aptian zones of *Hedbergella trocoidea* and *Paraticinella rohri* (sensu ANDo et al. 2013).

3) Aptian/Albian boundary is approximated at the top in the P-3 section (24 horizon), P-6 section (35 horizon) and P-2 section (24 horizon) by disappearance of pustulose hedbergellids with perforation cones, like *Hedbergella infracretacea* (P-3/24), and appearance of tiny smooth-walled hedbergellid species, like *Microhedbergella praeplanispira, Mi. richi* and *Mi. renilaevis*, which define a basal Albian biozone (see HUBER & LECKIE, 2011, PETRIZZO et al., 2012).

4) Albian formations in the Puez P–2 section contain common ticinellids allowing the identification of the *Ticinella primula* Zone (P-2/30-57), followed by the *Biticinella breggiensis* Zone (P-2/57-192) and ancestral forms of thalmanninellids (*Th. praeeticinensis, Pseudothalmanninnella subticinensis, P. ticinensis*) to representatives of *Th. appeninnica* and *Planomalina buxtorfi* Zones in the Latest Albian (from P-2-192, P-5-12 beds).

5) The Albian/Cenomanian boundary is defined by the first occurrences of *Thalmanninella globotruncanoides* in the topmost part of the Puez section. This marker species of the Early Cenomanian biozone provided FO from P-2/254 and P-5/39 beds, higher up even associated with *reicheli*-type rotaloporids (early middle Cenomanian).

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PETRIZZO, M.R. et al., 2012. Newsletters on Stratigraphy, 45/1, 55–74.