

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

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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 *Blefuscuiana* (*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* – *praetrocoidea* 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 thalmaninellids (*Th. praeticinensis*, *Pseudothalmaninnella subticinensis*, *P. ticinensis*) to representatives of *Th. appenninica* 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 *Thalmaninella 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 rotalopods (early middle Cenomanian).

This research has been supported by project APVV-14-0118 and VEGA grant 02/0034/16.

ANDO, A. et al., 2013. *Cretaceous Research*, **54**, 275–287.

HUBER, B.T. & LECKIE, M.R., 2011: *Journal of Foraminiferal Research*, **41/1**, 53–95.

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