

The Santonian - Campanian boundary at Göynük, Northwestern Anatolia, Turkey

Wolfgring, E.^{1,*}, Böhm, K.², Wagreich, M.¹, Dinarès-Turell, J.³, Yılmaz, İ.Ö.⁴

1) Department of Geodynamics and Sedimentology, University of Vienna, Vienna, Austria,

*E-mail: erik.wolfgring@univie.ac.at

2) University of Amsterdam, Amsterdam, The Netherlands

3) Istituto Nazionale di Geofisica e Vulcanologia, Laboratorio di Paleomagnetismo, Roma, Italy

4) Department of Geological Engineering, METU, Ankara, Turkey

A Santonian - Campanian boundary section, close to the village of Göynük in North-western Turkey (Bolu province), was recorded and examined with respect to nannofossil and foraminiferal biostratigraphy, magnetic polarity, as well as magnetic susceptibility.

Located on the Sakarya continent in the Upper Cretaceous, the Mudurnu-Göynük basin was confined by the Intra Pontide Ocean to the North and the northern branch of the Tethys Ocean to the South. Deposits at this locality record a variety of facies; inner neritic shelf-, continental slope – and pelagic open marine environments, are evident in this region.

The sections assessed for this study yield hemipelagic to pelagic deposits. Five localities were examined and a composite record spanning the Santonian – Campanian boundary was established. The main focus of this study is on the “Road” - and “Jandarma” sections, which are interpreted to be complementary. The older deposits of this composite section are characterised by uniform reddish limestone, while we frequently record shaly marls and marly limestones with recurrent tuff intercalations in the younger subsections. The other three sections serve as auxiliary sections that help to complete the biostratigraphical record.

A biostratigraphic investigation of planktonic foraminifera and calcareous nanoplankton assemblages together with magnetostratigraphy provides a sound stratigraphic framework and allows to approach the Santonian -Campanian boundary. The biostratigraphic data suggest an age from the late Santonian *Dicarinella asymetrica* to the early Campanian *Globotruncanita elevata* planktonic foraminifera biozone (calcareous nannofossil zones UC13-14, CC16-CC18). The reversal in magnetic polarity from chron 34n to 33r that coincides with the base of the Campanian is evident in the “Road” section.