



## The role of Paleogene larger foraminifera and plankton in the subdivision of carbonate platforms on the Adriatic plate – the example of Herzegovina

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Paleogene strata in Herzegovina are exposed from Livno in the north to Metković in the south, and west and east of the river Neretva. They occur in folded structures as isolated patches within Cretaceous rocks and in a hanging-wall of bauxite deposits. Their outcrops are NW-SE oriented and tectonically deformed. Their northern part is exposed in the southern slopes of the Čabulja and Velež Mountains, the eastern part along the Neretva, and the southern part in the south and central Herzegovina with bauxite deposits (Hrvatović, 2006, Jungwirth, 2001). In Herzegovina, the authors have a long experience in the study of large foraminifers, especially alveolinas and nummulites, conical foraminifers, large miliolides, planktonic foraminifera and nannoplakton (Slišković et al., 1978, Babić et al., 1985, Drobne & Šikić, 1986, Sakać et al., 1987). Research localities with a rather complete succession of beds were chosen from initiation of deposition to deepening and overlying by flysch beds. A special role was played by alveolinas that were traced from the NW part of Paleogene Adriatic carbonate platform. They appear separately in two phylogenetic lines as *Alveolina histrica* > *Alv. septentrionalis* > *Alv. rakoveci*, only in Cuisian (Up.Ypresian) E1 = Lower Eocene, in the northern part of the platform. The second line belongs to *Alveolina levantina* > *Alv. croatica* > *Alv. hottingerina* from Mid. Cuisian to Low. Lutetian, in the southern part to Greece. Their assemblage is quite uniform in the whole western part of the Central Tethys. We established in selected profiles: 1. Start of sedimentation: in the north and east of Neretva in Paleocene, and in southern Herzegovina in Cuisian - E1. 2. Alveolinas from the *Alv. histrica* line only in the northern arc, and alveolinas of the *Alv. levantina* line only in the southern part. 3. Gradual passages from platform regime to flysch occurred first in the north already in E1 after Ilerdian in Cuisian time, later in the southern part in E2 in Mid. or Up. Lutetian. In view of the common paleontological, stratigraphical and facial characteristics of strata on platforms, the model of BioZ 1-5 biosedimentary zones was introduced (Drobne et al. 2009). It enables a chronological zonation of the uniform platform into distinct units, their spatial delimitation, origin and subsidence through deepening. The model was applied for SW Slovenia and NE Italy. Accordingly it can be established in Herzegovina BiosZ 1 – in the north in the POTOČANI traverse with nannoplakton proving Paleocene, Selandian-Thonetian (after Ćorić), BiosZ 2 – in the north GORANCI traverse, east of Neretva GUBERAČA, PODVELEŽJE (Paleocene and Ilerdian), followed by flysch in the Cuisian, BiosZ 3 – in the north DOBRINJ, GRABOVA Draga and east of Neretva Stolac – HRGUD and Metković – SJEKOŠE traverses (Paleocene, Ilerdian and Cuisian), following by the flysch at the end of the Cuisian and in the Lower Lutetian (Charvet, 1978, Drobne et al., 1986, Trutin et al., 2000), and BiosZ 4 – in the southern part, at KADIM, POSUŠJE with surroundings and ZAMAČE traverses (Mid. Cuisian to Mid. Lutetian), carbonates, followed by the transition to flysch are of Up. Lutetian and partly Bartonian age. With these BiosZ zones the Herzegovina Paleogene can be connected to the Dalmatian region and Adriatic islands toward Istria and Slovenia, and belongs to the common Paleogene Adriatic carbonate platform (PgAdCP), marked A on the tectonic map by Hrvatović (2006), being exotic part of the Dinaric carbonate platform.

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