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A checklist of Foraminifera of the Eastern Shelf of the Adriatic Sea

VLASTA ĆOSOVIĆ[1], DUŠAN ZAVODNIK[2], ADRIANA BORČIĆ[2],
JELENA VIDOVIĆ[1], SANDRA DEAK[1] & ALAN MORO[1]

[1]*Department of Geology, Faculty of Science, University of Zagreb, Horvatovac 102a, 10000 Zagreb, Croatia.*
E-mail: vcosovic@geol.pmf.hr
[2]*Institute Ruder Boskovic, Center for Marine Research Rovinj, Giordano Paliaga 5, 52210 Rovinj, Croatia*

Abstract

The updated and annotated checklist includes all literature records of foraminiferal species from the Eastern Adriatic coastal region and their geographic occurrences. A total of 599 recent (altogether 693 named and unidentified species) foraminiferal species were reported, classified into 232 genera according to the Lee *et al*. (2000) and Loeblich and Tappan (1987) classification system. In the Northern Adriatic, 536 species grouped into 211 genera are recorded, in the Central Adriatic 153 genera and 296 species are found, and in the Southern part, 272 species within 133 genera are reported. The number of lessepsian species colonizing the coasts is relatively low, implying that a) indigenous species are good competitors, and b) abiotic conditions like water temperature and substrate are unfavorable.

Key words: Foraminifera, Eastern Adriatic Sea, taxonomy, genera, species, synonyms

Introduction

Foraminifera are an important and diverse taxonomic category of amoeboid protists, which belong within the supergroup Rhizaria (Nikolaev *et al*. 2004). They are characterized by granuloreticulose pseudopodia that form a mobile network used in feeding, locomotion and other life processes. Foraminifera are distributed from the supralittoral to the abysses of the world oceans. The knowledge about their biodiversity has noticeably grown in the last 150 years. In 1846, Alcide d'Orbigny (1846) counted 68 modern foraminiferal genera and the World Register of Marine Species (WoRMS) database (http://www.marinespecies.org) holds 364 modern genera. In coastal studies, foraminifera have been employed in a number of investigations, as indicators of Quaternary sea-level changes for establishing coastal palaeoenvironments and sedimentary biofacies, as sedimentary transport indicators in tidal wave dominated environments and as monitors for coastal environmental pollutions. Foraminifera seldom live on beaches and their presence in such environment occurs due to post-mortem transport. Therefore, identified species with known ecology can act as indicators for transport processes.

Data on foraminiferal distribution in the Croatian part of Adriatic shelf (encompasses a great part of the Eastern Adriatic Sea coast) are scarce, indicating limited research interest about them. In spite of that, there is a long history of awareness of their presence. From the time of Deželić (1896) until the 1990s and the appearance of *Mediterranean Foraminifera* (Cimerman & Langer 1991) and Alfirević's (1998) monograph, the study of foraminifera included sporadic sampling from selected sites and during very short time intervals (Fornasini 1899; Schaudinn 1911; Stiasny 1911; Wiesner 1912, 1920; Vatova 1928; Alfirević 1964, 1969a, b; Meischner 1970; Haake 1977; Drobne & Cimerman 1984; Cimerman 1985; Jorissen 1987, 1988; Jorissen *et al*. 1992; Rađa & Milat 2002; Vidović *et al*. 2009), or seasonal sampling within geographically limited areas (Wiesner 1911a, b, 1913; Daniels 1970a, b). Zavodnik (1967, 1969) recorded live foraminiferan species settled on algal thalli, and on cidaroid sea urchin radioles. The only long-term research on foraminiferal assemblages in this region was carried out in the Mljet seawater lakes, peculiar natural environments in South Dalmatia (Cimerman *et al*. 1988; Cimerman & Langer 1991; Sokač & Bajraktarević 1995; Vaniček *et al*. 2000; Bajraktarević *et al*. 2000; Govorčin *et al*. 2001; Ćosović *et al*. 2002).

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