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### **Biodiversity in soft-sediments of mud volcanoes in the eastern Mediterranean Sea**

Biodiversity in coastal ecosystems of the Mediterranean Sea have a long history of intense studies but investigations in deep-sea habitats are scarce. In collaboration with the (E/V) *Nautilus*, we examined the Anaximander Seamounts, located in the south of Turkey, at the junction of the Hellenic and Cyprus arcs. Five mud volcanoes (Amsterdam, Kula, Thessaloniki, Kazan, Athina; depths 1250–2300 m) and a non-seep site (Anaximenes Ridge, 818-m depth) were sampled in July/August 2012 and quantitative, soft-sediment cores (6-cm diameter, 10-cm deep) were collected for community analyses and DNA barcoding of organisms. Actively seeping fluid (14°C) containing methane was present at several volcanoes. The seabed was heterogeneous, consisting of soft-sediments interspersed with carbonate crusts harboring mussels and tubeworms. Varying colors of patchy, superficial microbial mats were the most common methane seep habitat. We characterized the distribution and community structure of macro- and meiobenthos in these reduced sediments. Specific questions addressed include: Do community composition and diversity differ: A. from one mud volcano to another (spatial scale of km), B. from communities in non-seep sediments, and C. at different locations/depths on mud volcanoes (spatial scale <1 m to km)? How unique and diverse are these communities compared to those in similar habitats elsewhere?

Key words: meiobenthos, macrobenthos, mud volcano, DNA barcoding, Turkey