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Highly diverse epifaunal bryozoans on the invasive alien species *Rugulopteryx okamurae* (Ochrophyta) in the Strait of Gibraltar area, with the description of a new species

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Abstract: The invasive brown alga *Rugulopteryx okamurae* (Ochrophyta) has undergone a rapid expansion in the Strait of Gibraltar since its introduction in 2015, significantly altering coastal habitats. This study focused on analyzing the composition and structure of epifaunal bryozoan assemblages associated with *R.*

okamurae

populations on infralittoral rocky bottoms in the Strait of Gibraltar and adjacent areas (southern Spain). Seven samples were collected, each from one sampling station, using scuba diving techniques. A total of 49 bryozoan taxa were recorded, 45 of which were identified at the species level. This level of biodiversity makes this area a hotspot for bryozoans. One cyclostomatid species, *Favosipora infrarockensis* Ramalho n. sp., is described here as new to science; three other species are recorded here for the first time in Spanish waters, and nine are newly recorded in the Strait of Gibraltar and the Alboran Sea. Multivariate analyses revealed the presence of two distinct sample groups, primarily influenced by the geographical location within the Strait of Gibraltar. The species richness per sample ranged from 4 to 29, showing a positive trend with the wet biomass of

R. okamurae

. Most species have a wide biogeographic distribution across the Atlantic and Mediterranean, while only 15.6% of them are endemic to the Mediterranean Sea. This study highlights the high diversity of epibiont bryozoans in the Strait of Gibraltar area, in this case associated with

R. okamurae

, which is an invasive species that represents a severe threat to local biodiversity and is causing profound changes to habitats and associated communities.

Keywords: epibionts, biofouling, Bryozoa, biodiversity, western Mediterranean Sea.