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Libro degli Abstract

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FEEDING HABITS OF *OPHIDIASTER OPHIDIANUS* (LMK.) (ASTEROIDEA) IN MEDITERRANEAN ROCKY REEFS

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The thermophilic Atlanto-Mediterranean purple starfish, *Ophidiaster ophidianus*, is a species protected under the EU's Habitats Directive which is expanding its distribution in the northern Mediterranean areas as a consequence of global warming. The ecology of the species is largely unknown, specially for the diet. To cover this gap, the feeding habits of *O. ophidianus* have been studied in two different Mediterranean rocky reef areas: the southern Tyrrhenian Sea (Ustica Island, sampled in 2009) and the eastern Adriatic Sea (Molunat, sampled in 2014) by both field observations and $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ stable isotope analysis (SIA). SCUBA divers collected data by turning adult starfish downside-up and collecting photographs of the prey. Prey items of fifty individuals were identified to the lowest possible taxonomic level in each location by analysing the images taken. No significant differences were detected in the field, *O. ophidianus* fed mainly on encrusting coralline algae (*Lithophyllum* spp.), keratose sponges (*Ircinia* sp.), other encrusting organisms and sedimentary organic matter (SOM). Isotopic signatures significantly differed between the two areas: $\delta^{15}\text{N}$ was significantly higher in *O. ophidianus* collected at Molunat than at Ustica. Mixing models showed that *O. ophidianus* collected at Ustica fed on *Lithophyllum* spp. (68.1%), *Ircinia* sp. (15%), SOM (16.3%) and bryozoans (*Schizoporellidae*, 3.7%), whereas at Molunat the starfish fed on *Lithophyllum* spp. (79.9%), *Peyssonnelia* spp. (7.9%), keratose sponges (*Scalispongia scalaris*, 7.4%) and SOM (4.8%). Coupling field survey with SIA we argued that *O. ophidianus* feeds as a grazers, selecting algae and few other animal organisms in Mediterranean rocky reefs.