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Prey Selection of the Corallivorous Gastropod Drupella cornus in Jeddah Coast, Saudi Arabia

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Abstract : Drupella is found on coral reefs throughout the tropical and subtropical shallow waters of the Indo-Pacific region. Drupella is muricid gastropod, obligate corallivorous and their population outbreak can cause significant coral mortality. Belt transect surveys were conducted at two sites (Bohairat and Baydah) in Jeddah coast, Saudi Arabia to assess prey preferences for D. cornus with respect to prey availability through resource selection ratios. Results revealed that there are different levels of prey preferences at the different age stages and at the different sites. Acropora species with a caespitose, corymbose and digitate growth forms were preferred prey for recruits and juveniles of Drupella cornus, whereas Acropora variolosa was avoided by D. cornus because of its arborescent colony growth form. Pocillopora, Stylophora, and Millipora were occupied by Drupella cornus less than expected, whereas massive corals genus Porites were avoided. High densities of D. cornus were observed on two fragments of Pocillopora damicornis which may because of the absence of coral guard crabs genus Trapezia. Mean densities of D. cornus per colony for each species showed significant differentiation between the two study sites. Low availability of Acropora colonies in Bayadah patch reef caused high mean density of D. cornus per colony to compare to that in Bohairat, whereas higher mean density of D. cornus per colony of Pocillopora in Bohairat than that in Bayadah may because of most of occupied Pocillopora colonies by D. cornus were physical broken by anchoring compare to those colonies in Bayadah. The results indicated that prey preferences seem to depend on both coral genus and colony shape, while mean densities of D. cornus depend on availability and status of coral colonies.

Keywords : prey availability, resource selection, Drupella cornus, Jeddah, Saudi Arabia
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