

ABSTRACT

FORAGING BEHAVIOR AND ECOLOGY OF THE DOG WHELK *NASSARIUS PULLUS* (LINNE, 1758) ON GARBAGE-IMPACTED BEACHES OF TALIMBAY, BATANGAS

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Sandy intertidal habitats in the Philippines have received little attention in terms of the ecology of organisms particularly surface-dwelling macrofauna. Alternatively, most studies in this type of environment in the global context investigated chronic and acute effects of oil spills, coastal fisheries, industrial sewage and heavy-metal contamination. Other environmental problems such as the effects of non-biodegradable garbage deposition (offshore litter) to intertidal faunal communities has not been commonly investigated. This study focused on the relative abundances and foraging behavior of the commonly occurring sandy intertidal-dwelling gastropod *Nassarius pullus* in Talim Bay, Batangas which is periodically inundated by offshore garbage. Spatio-temporal analyses on relative abundances of foraging *N. pullus* indicate that it was uniformly distributed on sandflat areas but there were differences of abundances among the monsoon seasons. Mean relative abundance was lowest during the southwest (SW) monsoon season at approximately 0.22 individuals/m² (in contrast during the summer with 1.25 individuals/m²) wherein plastic garbage cover was highest (mean= 2.12% per m²) in impacted sandflat areas. Depth of the oxygenated layer of the sand was the only significant correlate of relative abundances among other measured physico-chemical parameters (i.e. garbage-debris cover, beach slope) but only on the least garbage-impacted beach during the SW monsoon and summer seasons. *In situ* baiting experiments were successful in determining and quantifying some aspects of foraging behavior of this gastropod (e.g. travel rate, orientation to bait, total number of arriving individuals to bait, feeding response upon arrival, etc.) in relation to different plastic litter cover treatments (i.e. 0%, 25%, 50% and 75%). Results from these experiments indicated that efficiency in locating and movement towards food item generally decreased as plastic cover increases over their foraging grounds. Several interesting behavioral responses were documented and quantified such as the high tendency to bury itself when the foraging ground is covered with increased plastic litter cover and abandonment upon arrival to food item when search and travel is prolonged.