

**Rock-associated Cryptofauna in Seagrass Beds in Taklong Island National
Marine Reserve, Guimaras, Philippines**

By

CHRISTIAN M. CAMACHE
BS Biology (SN 2011-65553)

A Paper Presented to

MARIE FRANCES J. NIEVALES (Adviser)

in Partial Fulfillment of the Requirements in Biology 199 (Special Problem)

Bachelor of Science in Biology Program

Division of Biological Sciences

College of Arts and Sciences

UPVISAYAS Miagao, Iloilo

June 2015

ABSTRACT

It has been suggested that cryptofauna makes up the bulk of marine ecosystems. Little is known of the ecology of cryptofauna and the few studies conducted about them stress their importance in the ecology of marine systems. This study was conducted to assess the biodiversity of rock-associated cryptofauna in seagrass beds in the Taklong Island National Marine Reserve (TINMR) and to correlate their abundance and diversity to the rugosity of the substrate. Rock samples were collected from three seagrass beds, namely: Calaparan, Kalirohan, and Bagatnan. The cryptofauna inhabiting the rock samples were extracted using forceps and were then sorted into major taxonomic groups and identified. The density of each taxonomic group, the diversity and similarity indices of and among sites, and the rugosity and volume of the rock samples were calculated. A total of 2,255 individuals were collected belonging to 97 OTUs and eight major taxonomic groups, with a mean density of 1.13 ± 0.51 indiv/mL. Foraminiferans and crustaceans were the most prominent organisms observed in all sites while polychaetes showed significant density variations. Cryptic fauna diversity was low in all sites. Kalirohan had the highest diversity index ($H' = 0.86 \pm 0.119$) while Calaparan had the lowest ($H' = 0.67 \pm 0.125$). All sites showed low similarity coefficients with Kalirohan and Bagatnan showing the highest value (31% similarity). No significant correlation was found between the rugosity of rock substrates and density of cryptofauna contrary to expected trend. This suggests that rugosity may not be a key determinant of cryptofaunal abundance and diversity in rock substrates in these seagrass beds.