

Observations on the feeding habits of *Gyrineum natator* (Gastropoda: Tonnoidea: Ranellidae) in Singapore

G.W.K. Neo, L.M. Chou & K.S. Tan



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The diets of ranellid gastropods are little studied. Of several species whose diets have been investigated, most are carnivorous, feeding on a wide variety of invertebrates, but *Gyrineum natator* is an exception in being omnivorous. In this study, field observations, gut content analysis and aquarium studies were done to determine the diet of *G. natator*. Field observations were made during daytime low tides over a period of three months between July 1999 and October 1999, and again during July 2000. Of a total of 360 individuals observed in the field, none were seen to be feeding, suggesting that these gastropods do not feed during low tide. However, analyses of stomach and rectal contents revealed a high proportion of algae (47 %), sponges (43.5 %) and hydroids (31.2 %), with occasional occurrences of broken polychaete setae and barnacle cirri (both <20%) in a total of 210 samples examined. Aquarium observations also showed that *G. natator* feeds on macroalgae, sponges and possibly bivalves, but not on serpulids, gastropods, echinoids and holothurians. These results confirm the observations of a previous study that *G. natator* is an atypical ranellid that consumes mainly algae and sponges, unlike other members of the same family whose diets consist of gastropods, echinoderms, ascidians, cirripeds and sedentary polychaetes. Nonetheless, *G. natator* shares with other ranellids in possessing, large, highly developed, acid-secreting salivary glands, whose purpose and function remain enigmatic in the light of the above mentioned observations.

G.W.K. Neo and K.S. Tan. Tropical Marine Science Institute, National University of Singapore, 10 Kent Ridge Crescent, Singapore 119260.

E-mail K.S. Tan: tmstanks@nus.edu.sg

L.M. Chou. Department of Biological Sciences, National University of Singapore, Blk S2, 14 Science Drive 4, Singapore 117543.