

Versatile mysids exploit multiple basal resources: implication of the benthic-pelagic habit in estuarine food webs

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Abstract Mysid feeding ecology was studied in a tropical mangrove estuary and adjacent coastal mudflat, using stomach content and stable isotope analyses. We tested the hypothesis that estuarine mysids are able to exploit the various basal food resources, while their benthic-pelagic habit related to nocturnal feeding explicates their important role as trophic intermediaries in estuarine food webs. Diet composition differed among species, between habitats and between day and night. *Acanthomysis thailandica*, *Notacanthomysis hodgarti*, *Mesopodopsis orientalis*, and *Rhopalophthalmus hastatus* were generally omnivorous, while *R. orientalis* tended to carnivory. Although both examined species, *A. thailandica* and *N. hodgarti*, showed no diel feeding rhythm, heavy feeding on surface

copepods occurred at night. The largely mudflat species (*A. thailandica*, *N. hodgarti*, *M. orientalis*, and *R. orientalis*) showed significantly enriched mean $\delta^{13}\text{C}$ values compared to the upper estuarine species, *R. hastatus*. The $\delta^{13}\text{C}$ values suggest that coastal species utilized carbon sources from phytoplankton and benthic diatoms, while estuarine species utilized more mangrove carbon. Since mysid shrimps can derive nutrition from all basal sources, they form an important link in the flow of trophic energy from source to the higher consumers of tropical estuarine ecosystems.

Keywords Feeding habits · Diel rhythm · Stomach content · Stable isotope · Marine crustaceans

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