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

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Received: 26 February 2014/Revised: 23 July 2014/Accepted: 27 July 2014/Published online: 10 August 2014
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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. Acanthomyysis thailandica, Notacanthomyysis hodgarii, Mesopodopsis orientalis, and Rhopalophthalmus hatusus were generally omnivorous, while R. orientalis tended to carnivory. Although both examined species, A. thailandica and N. hodgarii, showed no diel feeding rhythm, heavy feeding on surface copepods occurred at night. The largely mudflat species (A. thailandica, N. hodgarii, M. orientalis, and R. orientalis) showed significantly enriched mean δ13C values compared to the upper estuarine species, R. hatusus. The δ13C 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

Handling editor: K. W. Krauss

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