

COMMUNITY STRUCTURE OF ACETES SHRIMPS IN THE GULF OF THAILAND
WITH NOTES ON INFLUENCE OF PREDATORY FISH *Secutor insidiator*
ON HABITAT SELECTION OF *Acetes japonicus*

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ABSTRACT: Spatiotemporal variation of the Acetes shrimp communities at Talet Yai Bay, Nakhon Si Thammarat Province, was studied from June 2010 to May 2011. Monthly samplings, day and night, were conducted in the 5 habitat types of the bay: seagrass bed, mudflat, coarse-sand flat, mangroves, and open water. Four species of *Acetes* were recorded during the period: *A. japonicus*, *A. erythraeus*, *A. vulgaris*, and *A. indicus*. The results indicated that more Acetes shrimps were collected at night compared to daytime. Mean abundance of *Acetes* showed highly significant difference between habitats ($p < 0.01$). Since few Acetes shrimps were collected in daytime, we only focused in the nighttime samples. At night, *Acetes* had highest abundance in coarse-sand flats, followed by mangroves, open water, muddy flats, and seagrass beds. In terms of temporal scale, the mean abundance of *Acetes* did not differ statistically among monsoon seasons ($p > 0.05$). *Acetes japonicus* was the predominant species in all habitats. The abundance of *A. japonicus* and *A. vulgaris* was found positively related to salinity and chlorophyll-*a*, while *A. erythraeus* and *A. indicus* showed no relationship to any of the environmental factors.

Experiments on effect of habitat structure and light condition on habitat selection of *A. japonicus* revealed that numbers of *A. japonicus* differed significantly among habitats in daylight, but not at night. In daylight, *A. japonicus* significantly preferred bare substratum to vertically structured habitats. Effect of a predator on habitat selection of *A. japonicus* was studied using mucus of the predatory fish *Secutor insidiator*. In daylight, *A. japonicus* changed its habitat selection from a preference for bare sand in the absence of a predator to seagrass bed when mucus from the predator was present. Effect of predator detection by means of vision was demonstrated. The visual presence of a predatory fish in daylight caused a change of habitat selection from a preference for bare sand to no preference. At night, the presence of a predator either visually or by the introduction of mucus did not change the habitat selection of *A. japonicus*.

Keywords: Acetes shrimps, habitat selection, predator avoidance, *Acetes japonicus*.
