

Morphological and genetic analysis of *Oithona attenuata* (Copepoda, Cyclopoida) populations in the coastal waters of Southeast Asia, Japan and Pacific Ocean

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Abstract

*Oithona attenuata* is a widely distributed species of cyclopoid in coastal and oceanic waters of tropical and subtropical regions. They occur in the coastal areas with dimorphic populations (large and small forms). Morphological differences between the forms are seen in the length/width ratio of the prosome and the length ratio of prosome/urosome. We analyzed the sequence variation of mitochondrial DNA of 12s rRNA and nuclear DNA of 28s rRNA regions of the two size forms (typical and stocky) and geographic variety (coastal vs. oceanic) of the *Oithona attenuata* occurring across the Southeast Asia from the Philippines, Vietnam, Thailand, Malaysia, Japan and Pacific Ocean. The small and large forms co-occurred in the coastal waters of Malaysia (Port Dickson, Kuala Lumpur), while only the large form was commonly observed in the coastal waters of the Philippines, Thailand, Vietnam and the Oceanic Pacific. The intraspecific and geographic variations that we observed suggest existence of cryptic species in *Oithona attenuata*.

Keywords: Molecular-genetic, morphological variants, *Oithona attenuata*, Southeast Asia, Japan, Pacific Ocean