

## Revision of taxonomy of barnacles in deep-sea chemosynthetic environments

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Barnacle is one of the abundant animals associated with deep-sea hydrothermal vent in the northwestern Pacific, Indian and Southern Oceans. Currently each of four suborders of thoracican barnacles is reported from deep-sea hydrothermal vent fields, although recent molecular phylogenetic analyses on the barnacles in deep-sea chemosynthetic environments provided new insights into barnacle phylogeny. Molecular phylogenetic analyses showed; 1) molecular phylogeny of the stalked eolepadid barnacles was not correlated to genus-level taxonomy, 2) hydrothermal vent barnacles of genus *Neoverruca* is not belong to the lineage of suborder Verrucomorpha, and 3) the solitary brachylepadomorph, *Neobrachylepas relicha* is not consist a monophyletic clade, but consist a part of scalpellomorph, as same as the genus *Neoverruca*. Shell morphology, that is important morphological characters of barnacles, is not always appropriate characters for taxonomy, because it is variable according to density of the population.

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