Revision of taxonomy of barnacles in deep-sea chemosynthetic environments

*Hiromi Kayama WATANABE¹, Benny K. K. Chan²

1. Japan Agency for Marine-Earth Science and Technology, 2. Academia Sinica, Taiwan

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 eolepidid 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 relica 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.

Keywords: Biodiversity, morphology, molecular phylogeny