

The Fossil Records of Brachyura, Balanidae (Crustaceans) and Fish (Osteichthyes + Chondrichthyes) from the Under Pliocene Kueichoulin Formation Taoyuan Daxi of the Northwest Region of Taiwan

Shih-Wei Lee

National Museum of Marine Science & Technology, Taiwan

Crustacean fauna of Taiwan is abundant, composed of taxa of lobsters, crayfishes, shrimps, krill, woodlice as well as more than 500 species crabs and 120 species of barnacles. However, fossil records are limited to mainly crab, there are huge number of fossil materials to be available and mostly well preserved. Comparable, barnacle fossils are rare. On the other side of vertebrate, fossil records fish's are extremely rare in Taiwan. To this day, only the teeth of small sharks, fossil fish otoliths, fish scales, spine and whole small fish's bodies have been identified—mostly from the Under Pliocene Kueichoulin Formation Taoyuan Daxi and Chia-Yi Liuchungchi Formation of Taiwan. Daxi Fossil Lagerstätte shows clearly a marine sediment environment, abundant also in Mollusca, Echinoidea especially Sea urchins. The fossil record of whale and the symbiosis are reports, and is to days not its habitat.

A collection from the past 30 years archived in the National Museum of Marine Science and Technology (NMMST), Academia Sinica, and Chia-Yi Municipal Museum. This precious collection has not been classified scientifically, and a preliminary assessment indicated that the specimens fall under four to six species. The research was conducted on the Under Pliocene Kueichoulin Formation of Taoyuan Daxi, Chia-Yi Liuchungchi Formation and Keelung Nun-Nun Formation of Taiwan.

The aim of this brief report is to present research on the barnacle fossil, including its basic morphology, taxonomy, geological strata and age, distribution, etc., and to facilitate follow-up in-depth study. The report also initiates discussions about the regional, ecological and environmental changes.

Key words: fossil record, Balanidae, Whale, Symbiosis, geological time

Biography:

Shih-Wei Lee has received a bachelor's in biology at Tunghai University in Taichung, Taiwan; a master's in Zoology at the University of Göttingen, Germany; and a Ph.D. in Geology and Paleontology at the University of Tübingen, Germany. He worked as a researcher in the State Museum of Natural History in Stuttgart, Germany. His research interests include Arthropoda (insects and crustacea) biology, evolutionary paleontology and phylogenetic systematics. Currently working at the Research and Collection Division at the National Museum of Marine Science and Technology and teaching at the National Taiwan Ocean University. Working also in popular science theme.