

## **Abyssal Pacific Mollusca, with particular emphasis on the Clarion-Clipperton Fracture Zone**

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Abyssal mollusks of the Pacific have been moderately sampled and poorly studied. The *H.M.S. Challenger* expedition in the mid-19<sup>th</sup> century yielded many mollusk specimens from depths greater than 2,000 m and many new species. The bivalves of this expedition were notably described by E. A. Smith, with the gastropods and scaphopods covered R. B. Watson. Around the turn of the 20<sup>th</sup> century the U.S. *Steamer Albatross* expedition greatly expanded Pacific abyssal sampling. W.H. Dall published numerous accounts of the Mollusca of this expedition, most notably his description of 215 new species in a 1908 Harvard University publication.

There was an explosion of Pacific abyssal benthic sampling in the mid-late 20<sup>th</sup> century, but surprising few deep-water molluscan monographs were published. A prominent exception were papers by J. Knudsen on the results of the *Galathea II* expedition of the 1950's. Knudsen not only described many new species of abyssal mollusks, but also provided anatomical details of poorly known families. In the late 20<sup>th</sup> century deep-sea benthic research diverted to hot vent and cold seep environments, leaving the fauna of the monotonous Pacific abyssal plains to languish. The frequent French South Pacific expeditions, from the late 20<sup>th</sup> century to present, have produced 27 volumes of Tropical Deep-Sea Benthos monographs, including extensive treatments of some molluscan families.

From the beginning of the 21<sup>st</sup> century, knowledge of deep Pacific mollusks, in particular bivalves, has greatly expanded through extensive monographic treatments. E. Coan and P. Valentich-Scott in 2000 and 2012 published two books covering the bivalves from Arctic Alaska to northern Peru. From these treatments one can find many bivalve species that might occur in the Clarion-Clipperton Fracture Zone (CCFZ). However, in both of those volumes the depths of the CCFZ are sparsely covered.

In all likelihood many new species of mollusks will be collected in the CCFZ, and this workshop should assist in delineating many of the new taxa, as well as previously unknown species distributions in the region.