

The taxonomy and biogeography of macrofaunal annelids, with focus on the abyssal benthic Pacific fauna relevant to the CCFZ

Polychaetes are an important group in marine habitats, and is often one of the most abundant groups in benthic samples from all depths. Despite this, there are not many records of described polychaete species from the abyssal Pacific region. From the Challenger Expedition, reports were made mainly of large animals or animals inhabiting large tubes since they used trawls. They had worms from the polychaete families Terebellidae, Ampharetidae, Polynoidae and Aphroditidae as the most common groups. On later expeditions samples were taken using e.g. box-corers which collect smaller infaunal species as well as the larger animals. Among those samples the most dominant polychaete families are instead Spionidae, Paraonidae, Cirratulidae, Syllidae, Sabellidae and Acrocirridae. Most early samples were collected in formalin and identified using morphology only, but during the Kaplan project samples were collected also for molecular analyses, which yielded many cryptic species among the polychaetes as well as shorter than expected distribution ranges for many of the species. Important external morphological characters for all polychaetes are e.g. head appendages, branchiae, form of parapodia and chaetae, and appendages further along the body such as dorsal and ventral cirri and pygidial cirri. However, the morphological diversity among polychaetes is huge so this talk will mainly focus on important characters to separate the most dominant families in the region from each other.