Taxonomic composition, biomass and productivity of zooplankton community in Kuroshio as a key for Kuroshio Paradox

Toru **Kobari**, Takahiro Kawabuchi, Wataru Makihara, Kie Sato and Gen Kume

Aquatic Sciences, Faculty of Fisheries, Kagoshima University, 4-50-20 Shimoarata, Kagoshima 890-0056, Japan. Email: kobari@fish.kagoshima-u.ac.jp

For the half century, it has been believed that biological productivity of plankton community is low in the oligotrophic Kuroshio where is western boundary current of subtropical gyre. Contrary to our expectation, many migratory fishes show the risky life history strategies which their reproduction and recruitment are taken place in the Kuroshio waters even under the low food availability (i.e., Kuroshio Paradox). Here we report the regional comparison of taxonomic composition, biomass and productivity of zooplankton community among the Kuroshio and its neighboring waters (inshore and offshore sides). Calanoid copepods were the most predominant group and copepod nauplii, poecilostomatoid copepods and gelatinous zooplankton were the next throughout the stations. Spatial variability was greater for protein synthetase (AARS: aminoacyl-tRNA synthetase) activity of zooplankton community compared with those of their abundance, biomass and production rate. No significant difference was found for zooplankton standing stocks (abundance and biomass) and productivity (weight-specific growth rate and AARS) in the Kuroshio waters compared with those in the neighboring waters. We suggest that standing stock and productivity of zooplankton community are not always low in Kuroshio and its neighboring waters and supported by small copepods and gelatinous zooplankton.