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**Seasonal composition of zooplankton communities**

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**Abstract**

Information on zooplankton abundance is essential to evaluate the health of marine ecosystems. Seasonal plankton survey was performed at Arasaki, Yokosuka, Japan. Cyclopoid nauplii and bivalve larvae (veliger spp.) were more abundant in spring and summern.

**Key words:** zooplankton; community; diversity; seasonality; coastline; Arasaki

**Introduction**

Arasaki, Yoksuka Japan, is situated on the northwestern coast of Miura Peninsula (Abe et al. 1984).

The seasonal abundance and composition of which were dominated by copepods (Families Calanidae, Paracalanidae, Corycaeidae, and Acartiidae) at Kanagawa, Arasaki area in Yokohama was explored.

**Materials and Methods**

**Sampling sites**

Arasaki is located offshore of Kanagawa Prefecture (Fig. 1).

**Environmental data**

Environmental parameters such as water temperature (°C), dissolved oxygen (DO, mg/L), pH, chlorophyll-*a* (Chl-*a*, μg/L), and salinity were measured.

**Field sampling and preservation of zooplankton**

Monthly zooplankton sampling was carried out from April 2020 to March 2023 at the sampling station using a plankton net.

**Statistical analysis**

The Shannon diversity index (Shannon 1951) was used to summarize plankton diversity.

**Results**

**Environmental parameters**

Environmental parameters are summarized in Table 1.

**Taxonomic composition**

A total of 13 zooplankton species were identified f(Fig.2).

**Variation in abundance and diversity index**

Zooplankton abundance is presented in Fig. 2.

**Discussion**

In these two months, similarities were also observed in autumn (November) and winter (March) and harpacticoid copepods (Harpacticoida spp. 3–4), which were not abundant, concordant of results reported by Choi et al. (2021).

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**References**

Abe, N., Honma, Y., Kitami, T. (1984). Species composition fluctuation of plankton commu-nities in Tassha Bay of Sado Island. Rep. Sado Mar. Biol. Stat., Niigata University 14: 1–21.

Choi, J. Y., Kim, S. K. (2021). The use of winter water temperature and food composition by the copepod *Cyclops vicinus* (Uljanin, 1875) to provide a temporal refuge from fish predation. Biology 10: 393.

Figure legends

Fig. 1. Map showing plankton sampling location at Arasaki, Kanagawa, Japan.

Fig. 2. Species composition of plankton collected during April 2022 to March 2024.