the year. Carbon content did not show seasonal variation and ranged from 28.0 to 43.8% of dry weight. Range of nitrogen content was 0.64 to 5.10%. Nitrogen and phosphorus content of the leaf in the upper part of thallus varied seasonally, being higher in winter and spring. Maximum nitrogen content was ca. 3 to 4% in open coasts, and ca. 4 to 5% in an enclosed bay. Phosphorus content of thallus collected in the three areas was not as different as nitrogen contents, and range of phosphorus contents was from 0.033 to 0.331%. Nitrogen and phosphorus contents of leaf in the lower part of the thallus, main branch, and stem were relatively constant through the year. Data on the biomass and the carbon, nitrogen and phosphorus contents estimated that the maximum quantities of carbon, nitrogen and phosphorus stored in each sargassacean species were 211 to 1105 g C/m², 12.3 to 79.2 g N/m², and 0.63 to 4.47 g P/m², respectively.

(京都府立海洋センター業績 No.160)

Differences in growth of young Japanese flounder Paralichthys olivaceus in two semi-enclosed bays of the Sea of Japan, Kyoto
Koji Takeno, Yuichi Hamanaka and Isao Okano

In order to clarify the growth of young Japanese flounder Paralichthys olivaceus (ca. 2 months to 15 months post-hatch, size ca. 9 to 40 cm TL) in semi-enclosed waters, we examined their somatic growth and condition factor in two bays, Kumihama Bay and Aso Bay. Specimens sampled from Kumihama Bay showed lower growth rates and condition factor values compared to those from Aso Bay. The stomach content analysis revealed that most of the flounder preyed extensively on fish throughout the year in Aso Bay, whereas approximately half of the fish sampled in spring and summer showed stomach contents of the flounder had changed their diet from fish to crustaceans in Kumihama Bay. Although there were no significant differences in the mean stomach contents indices used as an index of feeding intensity between the two bays, these indices for fish that fed on crustaceans were significantly lower than those that fed on fish. These results indicate that the inferior growth of young flounder in Kumihama Bay was due to the low availability of small fish prey such as Japanese anchovy and gobies during the high growing season in spring and summer.

(京都府立海洋センター業績 No.161)

雑誌などに掲載されたが業績集に収録されない論文などの目録

123 西谷 豪, 長井 敏, 坂本篤子, 紐 泰蘭, Chang Kyu Lee, 氏 良介, 齊藤義昭, 櫻田清成, 杉原志貴, 中西克之, 西川哲也, 藤原正夢, 村田圭助, 林 芳弘, 山崎純之, 長副 聡, 板倉 茂, 山口峰生. 2008. マイクロサテライト多型による有害赤潮藻 Cochlodinium polykrikoides の個体群構造解析. DNA 多型, 16: 140-144.
In order to clarify the growth of young Japanese flounder Paralichthys olivaceus (ca. 2 months to 15 months post-hatch, size ca. 9 to 40 cm TL) in semi-enclosed waters, we examined their somatic growth and condition factor in two bays, Kumihama Bay and Aso Bay. Specimens sampled from Kumihama Bay showed lower growth rates and condition factor values compared to those from Aso Bay. The stomach content analysis revealed that most of the flounder preyed extensively on fish throughout the year in Aso Bay, whereas approximately half of the fish sampled in spring and summer showed stomach contents of the flounder had changed their diet from fish to crustaceans in Kumihama Bay. Although there were no significant differences in the mean stomach contents indices used as an index of feeding intensity between the two bays, these indices for fish that fed on crustaceans were significantly lower than those that fed on fish. These results indicate that the inferior growth of young flounder in Kumihama Bay was due to the low availability of small fish prey such as Japanese anchovy and gobies during the high growing season in spring and summer.

(京都府立海洋センター業績 No.161)