Current status and ecological characteristics of the Chinese temperate bass Lateolabrax sp., an alien species in the western coastal waters of Japan

Abstract

A total of 263 adult and preadult Chinese temperate bass Lateolabrax sp. caught at 20 locations in the coastal waters of western Japan from October 1999 to September 2008 were used for age, growth and maturity examinations. Examination of marginal increments of transverse sections of otoliths showed that rings (opaque zones) were formed once a year from spring to summer. According to the number of rings and the sampling month, ages were assigned to individuals. For males, we obtained the following von Bertalanffy growth equation: L(t) = 618{1 - e-0.420 (t + 0.273)}. Females attain sizes over 600 mm SL mainly after 5 years of age and attain sizes of 850-1,000 mm SL at 8-10 years and over 1,100 mm SL about 15 years. Based on histological examinations of gonads and seasonal changes in gonadosomatic indices, potential spawning period was confirmed during mid-October to late January. In males, the minimum size and age at first maturity were estimated as 380 mm SL and 2 years old, respectively, though most males reach sexual maturity at 3-4 years old. Furthermore, female specimens at the mature or developing stages were over 470 mm SL and 4 years old.