Abstract

Saurida undosquamis and Synodus saurus had ripe gonads all year round. The spawning season of S. undosquamis is from April to September. For S. saurus, the spawning season is from March to October.

Keywords: Demersal, Eastern Mediterranean, Fishes, Spawning.

The lizardfish, Saurida undosquamis (Richardson, 1848) has a wide Indo-Pacific distribution from Japan and the Philippines through to the Indian Ocean to the Red Sea [1]. The first report in the Turkish Seas was by Kossing (1951) [2]. Synodus saurus (Linnaeus, 1758) occurs in Madeira, the Canaries, Cape Verde, the Mediterranean, and off the Moroccan coast. In the western Atlantic, it is known from Bermuda and Lesser Antilles (the Leeward Islands) [3]. The objective of this research is to study the spawning season of these two species of lizardfish in Antalya Bay on the eastern Mediterranean coast of Turkey.

Fish specimens from the present study were randomly collected from the fish markets, bazaars and fishing port of Antalya on a monthly basis between April 2002 and August 2003, but some samples were obtained from the small fishing boats fishing by gillnets/longline due to the bottom trawl being forbidden in Antalya Bay from April to August. Length measurements were made by considering fork length (FL) and a 1 mm sensitivity fish measuring ruler was used. Also scales with 0.1 g and 0.01 g sensitivity were used in measuring whole body weight (W) and the gonads. Sex was established by macroscopic examination of gonads. To determine the spawning period a gonadosomatic index (GSI=(gonad weight (GW)/(the total fish weight (TW)-GW)*100) was calculated [3]. Temperatures of sea water values were obtained from the Republic of Turkey Ministry of Environment and Forestry and the Turkish State Meteorological Service. Of the total of 738 specimens of S. undosquamis that were dissected, 437 (59%) were females and 301 (42%) were males. In S. saurus 230 (42%) out of 546 sexed specimens were females and 316 (58%) were males. The spawning season of both species as indicated by the year-round GSI is long (Figure 1).

Fig. 1. Gonadosomatic index (GSI) variation of S. undosquamis and S. saurus during sampling period, with temperature of sea water.

The lizardfish had ripe gonads during the sampling period. The maximum values of GSI of S. undosquamis were found between April and September. For S. saurus, the maximum values of GSI were determined between March and October. In the present study, the spawning of S. undosquamis and S. saurus was affected negatively during winter when the temperature decreased in the Mediterranean, although both species had ripe gonads throughout the year [see figure 1]. The intensity of spawning in each month during the sampling period showed that most S. undosquamis spawn between April and September. The monthly gonado somatic index of S. saurus revealed that most of this species spawn between March and October. For S. undosquamis, the results of this study are similar to the results of many studies about the spawning season [1, 2, 4, 5, 6, 7]. Golani (1993) reported that the spawning season of S. saurus was from February to August on the Mediterranean coast of Israel. Sousa et al. (2003) found that the most intensive reproduction period of S. saurus was during Spring and Summer in the Azores, and this species had an asynchronous posture. The results of these studies are similar to the results of our study.

References