

## SUMMARY

Segara Anakan Lagoon is one of the estuaries in Cilacap. Segara Anakan is a confluence of several major rivers: the Citanduy River, the Cikonde River, the Cibereum River, and seawater from the Indian Ocean. One fish found in Segara Anakan is the spotted scat fish or *Scatophagus argus* comes from the Scatophagidae Family. This fish has the characteristic of having black spots on its body. *S. argus* includes demersal fish or fish that live on the bottom of the water and are euryhaline so that they can live in various water salinities, from fresh, brackish water to salty sea coasts and almost all of this commodity is wild-captured from their natural habitat. Trend data on the reproductive status of this fish is essential information for fisheries management. The objectives of this study are to find out the growth characteristics of *S. argus* in Segara Anakan Cilacap and to discover characteristics of reproductive biology, including Gonad Maturity Level (GML) and Gonad Maturity Index (GMI) of *S. argus* in Segara Anakan Cilacap.

This research used a survey method. Samples of *S. argus* were taken using a purposive random sampling technique in Karangasalam Waters, Segara Anakan Cilacap. The variables observed include the length-weight relationship, GML, and GMI. The parameters are the total body length of the fish, the weight of the fish, and the weight of the entire gonad. Measurement data, including total body length and fish weight, were analyzed using correlation regression, and the GML and GMI of the fish were analyzed descriptively and comparatively.

The length-weight relationship between male and female spotted scat fish can be written as follows:  $y = 1.67x - 149.28$  and  $y = 1.134x - 80.746$ . This fish has a negative allometric growth pattern and it has a positive correlation coefficient direction. GML I and GML II dominated male spotted scat fish. GML I dominates female spotted scat fish. Male spotted scat fish have a Gonad Maturity Index between 0.02% and 0.61%, whereas females have an index between 0.03% and 12.15%. This indicates that the weight of the ovaries is greater than the weight of the testes. The GMI value of fish will increase along with the increasing GML until it reaches the peak of spawning.

**Keywords:** gonad maturity index, gonad maturity level, length-weight relationship, *Scatophagus argus*, Segara Anakan Cilacap.