Abstract

Anadara tuberculosa is one of the most important bivalves along the Western Pacific coast because of its commercial value. Nevertheless, the variability in growth, long-life span, natural mortality and reproductive parameters of this mangrove cockle has not yet been described. The aim of this study was to analyze these life-history traits in three areas of the Southern coast of Ecuador. Empirical and length-based methods were used to estimate these biological parameters. Body size data were collected from the commercial fishery between 2004 and 2011 in landing ports near to the Archipelago of Jambeli [Puerto Bolivar (PB), Puerto Jeli (PJ) and Puerto Hualtaco (PH)]. The von Bertalanffy growth parameters for combined sex were estimated between 70.87 to 93.45mm for L and 0.22 to 0.80/year for k. The growth indices (\') ranged from 3.17 to 3.85, while the overall growth performance (OGP) ranged from 5.03 to 5.82. The mean of long-life span (t max ), size and age at maturity (L 50% and t 50% ) were estimated in 7.71±2.53years, 39.13±2.24mm and 1.46±0.56years for PB; 9.51±2.85years, 37.78±1.95mm and 1.37±0.41years for PJ and 5.81±2.11years, 39.73±3.31mm and 0.94±0.41years for PH. Natural mortality (M) ranged from 0.46 to 1.28/year. We concluded that significant intra-specific variation was observed in \' and OGP indices as well as L 50% and M. Therefore, temporal changes in these life-history traits should be taken into account when assessing the status of the mangrove cockle fishery. Rev. Biol. Trop. 62 (2): 473-482. Epub 2014 June 01.

Keywords

Key words, Anadara tuberculosa, growth, life span, size/age of maturity, Archipelago of Jambeli, Ecuador.