Study on Environmental Factors and Abundance of Razor Clam 
(Solen corneus Lamarck, 1818) in Chumphon Province

Pamornpan Chutpoom1*, Sooksri Sumpawapol2, Suttino Limsurat3 and Siriporn Luchai chayakul2

1Samutsongkhram Coastal Fisheries Research and Development Center
2Chumphon Coastal Fisheries Research and Development Center
3Chumphon Provincial Fisheries Office

Abstract

Environment factors and abundance of razor clams (Solen corneus Lamarck, 1818) were studied at Ban Chengkra Moo 2, Tambon Wisai Nua, Amphoe Muang, Chumphon Province, in the coastal area approximately 500-1,500 meters distance from shore during January 2010 to February 2011. The soil composition was mostly sand with pH 6.57-8.60 and 0.12-2.31 percent organic content. Salinity, pH, dissolved oxygen and alkalinity of sea water were 18-35 ppt, pH 6.58 -8.50, dissolved oxygen 4.2-9.5 and alkalinity 89-173 mg/l, respectively. Total ammonia, nitrite and nitrate contents were 0.003-1.361, 0.000 -0.025 and 0.00 5-0.407 mg-N/liter, respectively.

From 9 sampling station surveyed, the razor clams were found at the density of 0-96 ind/m² with size ranging from 6.6-84.3 mm and the condition indices ranging from 10.82-14.73. The relationship between shell length (L, mm) and weight (W, g) was \( W = 0.00006 (L)^{2.779} \) indicating that their growth was allometric. The growth parameters analysis gave the result that the asymptotic length (L∞) was 95.49 mm and the growth coefficient (K) was 0.84. Total mortality coefficient (Z) was 6.16 with the fishing mortality (F) of 3.02 and natural mortality (M) was 3.14 per year. Generally, fishermen collected razor clams during low tide in March-September for about 8 days a month by dipping red lime into the clam’s holes. Average fishing duration per day was 3 hours with the total catch of 1.5 kg per hour for each fisherman. Size of collected razor clams ranged from 30-80 mm among which the majority (37.31%) was 60-65 mm Stock assessment of razor clam resource in the study area in 2010 yielded the production of 1,093.89 metric tons with their fishery exploitation of 0.49 which was considered equilibrium.

Key words : Razor Clams (Solen corneus Lamarck, 1818), Environmental Factors, Abundance

*Corresponding author : 135 Moo 11, Ladyai Sub-district, Muang District, Samutsongkhram Province 75000
Tel. 0-3475-6623 e-mail : pamornpan.chutpoom@gmail.com