

Preliminary studies for the habitat conditions of the Asian hard clam *Meretrix* spp. in Tamsui estuary, Taiwan

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Abstract

Asian hard clam is an important economic shellfish species in Taiwan. Tamsui river estuary of northern Taiwan used to be the major producing area for wild clam seeds. However, as the estuary environmental changes and farming activities became more common, the production of clams from Tamsui river estuary is decreasing year by year. Due to mass-cultured with a long history of aquaculture, Taiwan's cultivated Asian hard clams were difficult to confirm the correct species. The aim of this study is to identify the correct species of Asian hard clams in Tamsui river estuary and to investigate the suitable habitat for Asian hard clams. We analyses of mitochondrial cytochrome oxidase I (COI) sequences from 30 *Meretrix* spp. collected from Tamsui river estuary and confirmed that all samples were *M. lusoria*. The abundance of young clams was the highest at the Bali station of Tamsui river estuary about 46.27%, the next was at Mangrove station was about 45.35% , and the lower the abundance of *M. lusoria* was toward to the river month of estuary was about 8.38%. The distribution density of juveniles was higher in the upper reaches of the Tamsui river estuary. The sediment size survey showed that the particle size structure of each month was similar, and there was no significant difference.