

MORPHOLOGICAL STUDY AND APPLICATION OF MULTIVARIATE ANALYSIS FOR THE MUD CRAB GENUS *SCYLLA* IN KLONG NGAO MANGROVE, RANONG PROVINCE, THAILAND

Kanchana Jirapunpipat¹ Charatsee Aungtonya² and Seiichi Watanabe³

¹Department of Fisheries, Chatuchak, Bangkok 10900, Thailand

²Phuket Marine Biological Center, P.O. Box 60, Phuket 83000, Thailand

³Faculty of Marine Science, Tokyo University of Marine Science and Technology, Tokyo 108-8477, Japan

ABSTRACT: Mud crab samples of the genus *Scylla* were collected from Klong Ngao mangrove, Ranong Province, Thailand, for identification purposes and to determine the most useful characters for discriminating between the mud crab species. A morphological study with the use of a key to the species of *Scylla* indicated that four species can be recognized from the area: *Scylla olivacea*, *S. paramamosain*, *S. tranquebarica*, and *S. serrata*. The results of Canonical Variate Analysis (CVA) show clear separation of the clusters for *Scylla olivacea* and *S. paramamosain*, but the clusters of *S. tranquebarica*, and *S. serrata* were not well defined. The results of Discriminant Analysis (DA) in this study agree and disagree in various details with the previous results of these four species in the literature. The results support the proposition that the ratio of the inner carpus spine (ICS) and outer propodus spine (OCS) is the main character to distinguish *S. olivacea* and *S. paramamosain* from *S. tranquebarica* and *S. serrata*. However, it is difficult to apply only morphometric data to identify the species of *Scylla* in Klong Ngao. In the present study, the phenotypic characteristics as well as the color of the carapace and chelae of the crab specimens are recommended as good characters to distinguish the four species encountered in the area. In particular, the coloration and pattern of chelae and swimming legs are especially useful in discriminating between adult *S. tranquebarica* and *S. serrata*.

Key words: morphological study, Canonical Variate Analysis, Discriminant Analysis, *Scylla*, Klong Ngao, Ranong Province, Thailand
