



Morphometric and molecular analysis of mackerel (*Rastrelliger* spp) from the west coast of Peninsular Malaysia

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ABSTRACT. Mackerel (Scombridae; *Rastrelliger*) are small commercially important pelagic fish found in tropical regions. They serve as a cheap source of animal protein and are commonly used as live bait. By using a truss morphometrics protocol and RAPD analysis, we examined morphological and genetic variation among 77 individual mackerel that were caught using long lines and gillnets at 11 locations along the west coast of Peninsular Malaysia. Nineteen morphometric traits were evaluated and genetic information was estimated using five 10-base RAPD random primers. Total DNA was extracted from muscle tissue. Morphometric discriminant function analysis revealed that two morphologically distinct groups of *Rastrelliger kanagurta*

and a single group of *R. brachysoma* can be found along the west coast of Peninsular Malaysia. We also found that the head-related characters and those from the anterior part of the body of *Rastrelliger* spp significantly contribute to stock assessment of this population. RAPD analysis showed a trend similar to that of the morphometric analysis, suggesting a genetic component to the observed phenotypic differentiation. These data will be useful for developing conservation strategies for these species.

Key words: Genetic variation; RAPD; Multivariate analysis; Morphometric; *Rastrelliger* spp