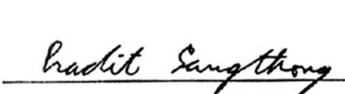
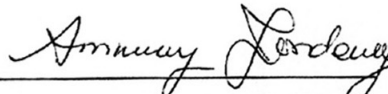


Pradit Sangthong 2006: Sequence Divergence of Mitochondrial DNA among Mud Crabs, *Scylla* spp. Doctor of Philosophy (Genetics), Major Field: Genetics, Department of Genetics. Thesis Advisor: Associate Professor Amnuay Jondeung, Dr. Phil.
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Mud crab in genus *Scylla* (195 specimens) were collected from different coastal areas of Thailand (Trat, Surat Thani and Ranong Provinces), and also from Myanmar. They were classified into four morphs, "black", "green", "violet" and "white" morph, based on morphological characters including carapace color, polygonal pattern areas, frontal spine shape and colour of chelipeds. Fifty-one morphometric characters were measured from 183 male specimens and the variations were analyzed using canonical variate analysis (CVA). Scattering plot of CVA presented four separated clusters which closely correlated to their morphological characters. Seventy-four specimens were randomly chosen from different morphs and sampling areas for nucleotide divergence analysis of $tRNA^{Ser(UCN)}-ND1-tRNA^{Leu(CUN)}$ fragment of mitochondrial genome. The average genetic distances within and between morphs were in the range of 0.001 – 0.003 and 0.110 – 0.226, respectively, of which "green" and "white" were closely related. Genetic distance results suggested that gene flows between crab morphs are limited. This was also confirmed by complete separation of evolutionary lineage between crab morph as shown in the phylogenetic trees. The morphological differences, morphometric character variations and nucleotide divergences between the four crab morphs suggested that the genus *Scylla* in Thailand composed of at least four species. Scientific names of "black", "green", "violet" and "white" were, therefore, designated as *S. olivacea*, *S. serrata*, *S. tranquebarica* and *S. paramamosain*, respectively.


Student's signature


Thesis Advisor's signature

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