

Freshwater crabs, Somanniathelphusa bangkokensis, collected from Nakornphatom and Phatumthanee and Somanniathelphusa germaini collected from Nakornsawan and Nakornnayok, 20 samples from each location, were studied. Their eleven metabolic enzymes (ACP, ADH, ALDOX, AKP, EST, G-6-PDH, HBDH, ODH, 6-PGD, SOD and XDH) were analyzed by starch-gel electrophoretic-technique. Genetic variation between the two species from the four localities was inferred from the variations of those enzymes, and it was found that the average proportions of observed heterozygosity and polymorphic loci of S. bangkokensis were 0.181 and 0.315, and those of S. germaini were 0.151 and 0.289, respectively, whereas the average genetic differentiation (G_{ST}) value of S. bangkokensis was 0.0016 and S. germaini was 0.0141

The calculated genetic similarity (I) and the genetic distance (D) of S. bangkokensis were 0.9976 and 0.0023, and those of S. germaini were 0.9892 and 0.0107, respectively. Also the interspecific relationship between S. bangkokensis and S. germaini was shown by the values of I and D.

The calculated genetic similarity and genetic distance values showed that S. bangkokensis from Phatumthanee was genetically most similar to S. germaini from Nakornsawan (I = 0.9995, D = 0.0004).