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ABSTRACT

The genetic variations of the giant freshwater prawn (Macrobrachium rosenbergii de Man) found in Thailand and The Union of Myanmar were studied for a fundamental information in genetic improvement. The samples of the giant freshwater prawn were collected from natural water resources in Thailand: Moei River in Mae Sod district of Tak province, Tapi River in Suratthani province, Ubonrattana Reservoir: Khon Kaen province and also Myanmar : Salawin River between Mae Hongson of Thailand and Sob Moei. The other samples were collected from prawn farms in Suphanburi, Kalasin, Suratthani and Ranong province. The morphological studies showed that the cephalon/abdomen ratios were 0.93-1.18 and lower margin of the rostrum dentate had 8–14 teeth. The DNA fingerprints amplified by 6 RAPD primer and analysed by NTSYS pc. Version 2 showed 921 reproducible RAPD fragments of 200–1,200 bp and 42 band positions with average 7 band positions per primer. The percentage of polymorphic DNA bands of the giant freshwater prawn from Kalasin, Suratthani, Suphanburi, Ubonrattana Reservoir, Tapi river, Ranong, Mae sod and Myanmar were 2.95, 3.71, 9.53, 12.91, 17.40, 30.00, 33.34 and 34.29 % respectively. The genetic distance (D) with in population were 0.00–0.19 and among population were 0.00–0.41. The value of similarity index (S) obtained from dendrograms constructed by arithmatic mean UPGMA showed 2 main population groups (S = 0.65). The first group included all prawn of natural water resources from Myanmar, Mae sod, Tapi River and prawn farm in Suratthani. The second group consisted of prawn farms in Suphanburi, Kalasin, Ubonrattana Reservoir and Ranong. The present data show that prawns from natural water resources had higher degrees of genetic variation than the prawn from farm population.