



# First genetic linkage map for the mud crab (*Scylla paramamosain*) constructed using microsatellite and AFLP markers

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**ABSTRACT.** The mud crab (*Scylla paramamosain*) is of economic importance for the fisheries and aquaculture industry in China. In this study, we constructed the first genetic linkage map for this species using microsatellite and amplified fragment length polymorphism (AFLP) markers. The map consisted of 65 linkage groups, including 34 triplets and 9 doublets. A total of 212 molecular markers were mapped, including 60 microsatellites and 152 AFLP markers. The linkage groups ranged from 7 to 102.5 cM and covered 2746.4 cM in length. The mean length was 42.3 cM per linkage group, and the mean spacing was 18.68 cM. The genome size was estimated to be 5539.62 cM, with 50% coverage by the present map. Moreover, we reported 5 transcriptome-derived polymorphic microsatellite markers and characterized their polymorphism in a first-generation family. This study will facilitate

studies on high-density maps and molecular marker-assisted selection in *S. paramamosain* and related crustacean species.

**Key words:** Mud crab; Microsatellites; AFLP; Polymorphism; Genetic linkage map