

Identification of quantitative trait locus (QTL) linked to dorsal fin length from preliminary linkage map of molly fish, *Poecilia* sp.

ABSTRACT

A preliminary linkage map was constructed by applying backcross and testcross strategy using microsatellite (SSR) markers developed for *Xiphophorus* and *Poecilia reticulata* in ornamental fish, molly *Poecilia* sp. The linkage map having 18 SSR loci consisted of four linkage groups that spanned a map size of 516.1 cM. Association between genotypes and phenotypes was tested in a random fashion and QTL for dorsal fin length was found to be linked to locus Msb069 on linkage group 2. Coincidentally, locus Msb069 was also reported as putative homologue primer pairs containing SSRs repeat motif which encoded hSMP-1, a sex determining locus. Dorsal fin length particularly in males of *Poecilia latipinna* is an important feature during courtship display. Therefore, we speculate that both dorsal fin length and putative hSMP-1 gene formed a close proximity to male sexual characteristics.

Keyword: Quantitative trait loci; Linkage map; *Poecilia latipinna*; Dorsal fin length; Male courtship display