

THE RELATION OF REPRODUCTIVE MODES TO POPULATION
GENETIC DIFFERENTIATION IN MARINE BIVALVES AND
GASTROPODS

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ABSTRACT

The purpose of this review is to determine if mode of reproduction in marine bivalves and gastropods is correlated with the pattern of population genetic differentiation. Two modes of reproduction, namely planktic (PT) and non-planktic development (NPT), have been defined. I compared the amount of genetic differentiation (F_{st}) among conspecific subpopulations over geographic distances between these two different reproductive modes. F_{st} was recalculated using allele frequencies from 47 references, comprising 21 PT-bivalve, 15 PT-gastropod, and 11 NPT-gastropod species. The result is consistent with the hypothesis that PT species, which have the potential for greater gene flow, will show less differentiation among subpopulations (equal to low F_{st}). Conversely, NPT will increase the divergence among subpopulations (equal to high F_{st}). In addition, the linear discriminant function calculated by using both F_{st} and geographic distance gives a possibility to predict mode of reproduction of a given species.