ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

16. Applications

1991 MS Classification:

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The oscillation of lateral asymmetry in scale-eating fish

Scale-eating cichlids in Lake Tanganyika exhibit lateral asymmetry polymorphism in their mouth-opening. Frequency of left- and right-handed phenotypes of two scale-eaters oscillates around unity in 5-year period. This phenomena is analyzed by a time-delay differential equation model. If the frequencies of polymorphisms do not oscillate, one of the phenotypes will be eventually lost by random genetic drift. If the frequency dependence of the selectionn force is large, oscillation of the frequency emerges, which prevents the fixation of one phenotype in either species.