DETERMINANTS OF DECISION MAKING IN CLIMBING PERCH (ANABAS TESTUDINEUS BLOCH), A FRESHWATER FISH

ABSTRACT

The ability of climbing perch (Anabas testudineus, Bloch,) to take a decision in conflicting situation and the influence of external and internal factors on the decision making ability was analysed using behavioural assays: shoal selection and the propensity to take a risky decision.

The results reveal that familiarity, the focal internal factor, has a determining role in the decision making ability of this species. Normally, this fish prefer larger shoal to smaller shoal. However, they can acquire familiarity with conspecifics and heterospecifics, and the familiarity thus developed can bias the shoaling decision. Climbing perch recognizes and prefers familiar conspecifics and heterospecifics to shoal with. The acquisition of familiarity with conspecific is depended on visual characteristics of the stimulus fish and only the heterospecifics with a shape similar to that of conspecific was able to induce familiarity based decision bias in this species.

The propensity to take a risky decision (boldness) in climbing perch was found to be consistent in different situations. Development from the egg stage to adult in a homogenous habitat failed to influence the boldness of this species. Biologically significant fear evoking factors like predator, aquatic and aerial predators, predator odour, skin extract of conspecific, failed to affect the boldness of climbing perch. However, a microhabitat with a substratum composed of cobbles and the presence of an eyespot were found to inhibit the climbing perch from taking risky decisions.