Studies on reproductive biology of Knife fish, *Chitala ornata* (Osteichthyes, Notopteridae) an exotic carnivorous fish in the Bolgoda river system , Western Province, Sri Lanka.

BY

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Abstract

Clown knife fish, *Chitala ornata* (Family Notopteridae) has been accidentally introduced to Sri Lankan water bodies in the recent past through ornamental fish industry. It is well established in the Bolgoda lake system and there is a threat of further spreading. Fishermen have complained that the catches of indigenous species have declined in the Bolgoda lake system. Fish species indigenous and endemic to Sri Lanka, could also be affected by knife fish due to competition and predation.

During the present study, the fecundity, sex ratio, mean size at maturity, breeding season and the frequency of spawning was studied. The rate of spreading from initially recorded places was also recorded.

The fecundity varied from 2132 to 3412 in fish ranging in total length from 57 cm to 56.6 cm. Their weight ranged from 1167 g to 1625 g. The sex ratio was found to be 1:1. The mean size at maturity for males and females were 50 cm and 48.5 cm respectively. The main breeding season was found to be from June to August. The egg diameter distribution pattern indicated that this fish spawns 2-3 times during a spawning period. Around 300 eggs are laid at a time.

In the Bolgoda lake system the fish were initially recorded in August 1999, in Panape ela at Bandaragama. However, it has spread south and around the Kalu river and established itself in slow flowing streams in Welikala Kongoda and Gamagoda which are 6 km and 8 km away from the initially recorded place.

This fish was not observed in rapid flowing streams during the present study .The established populations of knife fish are recorded only in slow flowing and stagnant waters with dense vegetation.

The environmental conditions in natural water bodies in Sri Lanka, especially those with slow flowing and stagnant waters and large amount of aquatic macrophytes, appear to be highly favourable for this species.

The knife fish may be restricted only to the Kalu river basin by prohibiting by law, the selling of live fish and rearing them in aquaria. This will prevent further spreading it to other river basins of Sri Lanka.

Further, catching of this species for food may also be encouraged. In addition, since this species breeds in muddy bottoms with dense aquatic vegetation, clearing of vegetation in slow flowing or stagnant water bodies where this species live may also reduce its reproductive potential.