Rhamdia quelen (Silver Catfish or Blind Catfish)

Family: Heptapteridae (Naked Catfish)
Order: Siluriformers (Catfish)
Class: Actinopterygii (Ray-finned Fish)

Fig. 1. Silver catfish, *Rhamdia quelen*.

[http://www.scotcat.com/factsheets/rhamdia_quelen.htm, downloaded 25 May 2015]

TRAITS. A catfish characteristically identified for having variable eye formation, and barbels of a similar length to the body. Its colour can range from dark grey to grey to spotted. Some are even pigment free, in the Oropouche cave (referred to as the blind form), but regain colour once exposed to illumination. Some feature a prominent black stripe along the lateral line (Kenny, 1995) (Fig. 1). Its barbel length varies, with the tip extending beyond the caudal fin, while in the blind form found in the Oropouche cave they may be shorter (Kenny, 1995). Caudal fin lobes can either be unequal or equal with its pectoral fin spines serrate (meaning they look saw-like). The overall length is up to about 375mm (Planet Catfish, 2014). It can reach a weight of 600-800g in captivity, grows well in warm water, and can survive cold winter months (Pereira et al., 2006). Its head is moderately depressed, eyes small, mouth wide and terminal (Scotcat, 2015). The male is larger than the female. These fish lack scales, and the family are known as naked catfish for this reason.

DISTRIBUTION. Commonly found in the fresh waters of the island of Trinidad but not located in Tobago. This fish exists in streams, rivers and canals of flowing water, to the south of the Northern Range (Kenny, 1995). They are particularly abundant in the valley streams which run up the southern side of the Northern range. They seem to like the drains and canals especially the hiding places of abutments of bridges. The blind *Rhamdia quelen* was located in the Oropouche Cave (Kenny, 1995) (Fig. 2). This species is also found in Central and South American freshwaters, in Venezuela, Peru, coastal rivers of Guyana and Brazil (Planet Catfish, 2014).

HABITAT AND ACTIVITY. *Rhamdia quelen* live mainly in freshwater of rivers; they are predominantly nocturnal, carnivorous bottom feeders. During the day they can be observed hiding under debris, or in the cavities at the sides of undercut banks. *Rhamdia quelen* prefer waters which have a depth of approximately 2m rather than deeper waters. However they will tend to position themselves into a warmer layer of water if they find themselves in deep water, characteristic of having enough plant cover and places to hide. This usually occurs in the uppermost 0.5m of the body of water, otherwise they can be found at the bottom of shallow waters. They can cover a distance from 3-40m/hour. They exist in water which has a pH of 6.0-8.0 and can tolerate temperatures of 18-28^{o}C. They are tolerant to different salinities and turbidity, and can be found in the estuarine (brackish water) rivers. Temperature and change in flood waters triggers a migratory reaction, as well as a physical change in the gonads, which can lead to spawning. In a vertical column of water *Rhamdia quelen* prefer positions which possess a higher concentration of oxygen, temperature and food, with lots of hiding places and shade (Schulz and Leuchtenberger, 2005).

FOOD AND FEEDING. *Rhamdia quelen* are described as carnivorous, scavenging, macrophagous and occasionally ichthyophagous (Kenny, 1995). They feed on crustaceans, fish, insects and some plants. This includes, shrimp (*Palaemonetes argentines*), and isopods such as *Telotha henseli*. Its main food source being that of fishes e.g. *Parapimelodus nigribarbis* when in streams, but feeding strategy changes to molluscs (snails) as their main source of food when located in canals. There are no differences between the diets of males and females (Kütter, 2008). Juveniles feed on zooplankton and algae, but progress to crustaceans such as *Cladocera* as they grow (Brandão-Gonçalves and Sebastien, 2012).

POPULATION ECOLOGY. *Rhamdia quelen* is an opportunistic, epigean (meaning bottom feeding) carnivorous fish, whose behaviour became more aggressive as it evolved into a cave-dwelling form. Its aggressive behaviour increased due to the scarcity of food. Such cave-dwelling fish are K-selected, having a longer lifespan, a stable population which fluctuates at the carrying capacity of the environment, and are slow to mature (Bichuette and Trajano, 2005). In an enclosed system, this species tend to form schools, when there is a low food source. They cover large distances during the night but will return to familiar protected areas, during the day. To spawn females prefer sandy bottoms with lots of leaf litter for hiding.

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Fig. 2. Blind form of *Rhamdia quelen* from the Oropouche Cave.

[From Kenny (1995)]