

## Research Notes

### **First record of the elusive Freshwater snapper *Lutjanus fuscescens* (Valenciennes, 1830) in Palawan, Philippines**

**Edgar D. Jose, Jonah van Beijnen and Solomon Calago**

Centre for Sustainability,

Sta. Lucia, Puerto Princesa City, Palawan, Philippines

Corresponding Author: [edgar@centreforsustainability.org](mailto:edgar@centreforsustainability.org)

[jonah@centreforsustainability.org](mailto:jonah@centreforsustainability.org)

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The Freshwater snapper (*Lutjanus fuscescens*) is a large species of snapper that inhabits freshwater and brackish water habitats (Martinez-Andrade, 2003). Unlike other snapper species, the complete lifecycle of the species takes place in freshwater habitats. The Freshwater snapper is known to grow up to 40 cm, making it one of the largest species of snapper (Allen 1985), and it is thought to act as a top predator feeding on different smaller fishes. Despite its large size, the species remains understudied and little is known about it. The species is known from Southeast Asia where it has been found in Papua New Guinea, Indonesia, the Solomon Island, Timor-Leste and the Philippines (Miller and Cribb 2007; Polhemus et al. 2008; Larson et al. 2007). Within the Philippines, the species is mainly known from the island of Mindanao, which is in the southeast of the archipelago.

As part of their work for a proposed conservation project in Cleopatra's Needle mountain range, two local biologists trekking upstream along the Langogan River on the northern border of Puerto Princesa City encountered the Batak Tribe on 24 February 2015 with their newly caught fishes from the river. The Langogan River is one of the largest rivers which originated from the Cleopatra's Needle forest (Figure 1) in the north eastern part of Puerto Princesa City (van Beijnen and Jose in press).

Five large fish locally called "Magaragan" caught by the Batak Tribe in Langogan River were noted among others. They described the behavior of the fish as aggressive and none of the hunters dared to spearfish in its known habitat. They explained further that ever since they have not caught this species in the lower downstream of the river.



Figure 1. View of Cleopatra's Needle from the west coast of Palawan (left) and aerial shot of the upper portion of the Langogan River (Photo credits: Jonah van Beijnen).

The species approximately weighs between 5-25 kg and the total lengths ranged between 30 and 90 cm (Figure 2). Besides being a freshwater species, the fish has a truncated caudal fin with a prominent dark spot on the body right below the second dorsal fin, greyish-brown back and side colors, whitish on belly and bisected by lateral line below its anterior soft dorsal rays which are characteristics resembling that of *Lutjanus fuscescens*. The coloration of the freshwater snapper is lighter compared to Mangrove Jack (*Lutjanus argentimaculatus*) which is likewise known to reach lower freshwater habitats (Allen 1985). The identification of the species was further confirmed by fish experts in the Philippines. Lastly the Batak noted that their snapper species catch in this trip were medium sizes, as fully grown individuals can reach the same size as the stretch length of their two arms (approximately 120 – 140 cm), much higher than the reported 40 cm maximum length (Allen 1985). This was an opportunistic observation of the two local biologists so no actual measurements were made and no specimens were collected.

The species status has not yet been assessed by IUCN while there are no official records in the province of Palawan. The fish could be easily overexploited by outsiders because of its limited distribution and large size. Additional threats to the population in Langogan River include illegal gold mining activities in the area and a proposed paved provincial road along the river to cross the island from the east coast to the west coast, which most probably would mean the end of this local fish population. Additionally a hydropower project is proposed at the upstream portion of the Langogan River which needs to be planned well as a recently published study shows



Figure 2. Lateral view of the Freshwater snapper (left) and a local biologist holding an individual which approximately measures 90 cm total length (right).

that about 1/3 of the world's freshwater fish species are under threat due to hydropower development (Nam et al. 2016). Furthermore, there have been unconfirmed reports of Freshwater snapper in the upper portions of the Iwahig River in central Puerto Princesa that should be further investigated to get more clarity on the distribution of the species within Palawan. To further understand its biology and ecology, as well as its economic potential for fisheries in the province, it is highly recommended to obtain specimen/s of the species for further scientific studies and purposes while further researches and assessments of the species in this newly recorded geographical range and in the whole province of Palawan are necessary. Lastly, this new record of the species together with several new other discoveries for the area should provide sufficient arguments to enthruse the local government to provide the whole Cleopatra's Needle Mountain Range with an official protective status.

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