



Received: 1 Dec. 2018  
Accepted: 4 Feb. 2019  
Editor: R. Causse

## Threatened fish

DD

# *Lentipes rubrofasciatus* Maugé, Marquet & Laboute, 1992 (Gobiidae)

by

Philippe KEITH & Marion MENNESSON (1)

### Common name

“Kikitu Kuà”; “Nez rouge des Marquises” (Marquesas Islands Red Nose).

### IUCN status

Data Deficient (DD).

### Identification

Body elongated, head large, inferior mouth with thick lips. Fins D-VI, I,10; A I,10; P 15-17; Pv I,5, C 11-18. Predorsal area, head, breast, belly and pectoral base naked. 7-19 lateral scales; cycloid scales are well developed on caudal peduncle and may extend anteriorly to between the second dorsal fin and the anal fin. Generally no ctenoid scales. 6-10 zigzag scales. Males with 2-6 recurved canine like teeth posterior to tricuspid teeth (10-20); females usually with no teeth posterior to tricuspid teeth (14-30). Teeth in lower jaw recurved; males with 2-6 canine like teeth, females usually without. Size: up to 40 mm (Keith *et al.*, 2015). Urogenital papilla in male with 2 pairs of bulbous lobes. In females urogenital papilla rectangular in appearance and retractable into a sheath-like groove. Males generally with the second dorsal fin and the part of the flanks held between the second dorsal fin and the anal fin red, as well as the anterior part of the snout. The rest of the body is blue-green (Fig. 1). The female is grey-yellow with small brown spots (Keith *et al.*, 2015).

### Biology and ecology

This species occurs in small, clear and oxygen rich streams. It lives in fast flowing currents from 50-80 m to 350 m in altitude, on rocky substrate. The species is amphidromous. The adults grow, feed and reproduce in rivers. After hatching the larvae drift downstream towards the sea where they spend two to three months. After this marine stage the post-larvae come back to rivers (when they reach 13 to 16 mm), they recruit in estuaries and migrate upstream to settle in the higher reaches (Keith *et al.*, 2006, 2013). With their sucker, they colonize the streams in high altitudes.

### Distribution

This species is endemic to the Marquesas Islands and it occurs only on the main islands (Keith *et al.*, 2015). However, a recent field mission in October 2017 has observed that some of the populations found 17 years ago (in 2000) have now disappeared. *Lentipes rubrofasciatus* is currently found in only few restricted catchment areas.

### Abundance

The populations are on the whole relictual.



Figure 1. – *Lentipes rubrofasciatus* (© E. Vigneux)

### Main threats

This species is closely linked to fast-flowing and well-oxygenated rivers in pristine forest. Deforestation is a threat to its sustainability. As a diadromous species, *Lentipes rubrofasciatus* migrates between fresh and marine waters. It is thus essential to allow it to move freely between upstream and downstream reaches for the larvae's downstream migration; and between downstream and upstream reaches for river colonisation by the post-larvae and the juveniles when they come back from the sea. To ensure the free circulation requires that there be no barriers (*e.g.* no dry dams) in the river that cannot be crossed both up and downstream. Any structure modifying the flow rate, degrading habitats or causing pollution should be avoided. Estuaries and river mouths must be preserved as they represent areas where the species transit (Keith *et al.*, 2013).

### Protection status

None

### Conservation measures implemented

None

### Conservation recommendations

Inventory and monitoring of the remaining stock in all the main islands. Protecting the last *Lentipes rubrofasciatus* habitats (natural reserves). Improving state and territory legislation to protect it. A large amount of basic biological and ecological information still needs to be collected, including details about the life cycle, habitat requirements and life history. According to the last field results, it is

(1) Unité Biologie des organismes et écosystèmes aquatiques (BOREA 7208), Muséum national d'Histoire naturelle, Sorbonne Université, Université de Caen Normandie, Université des Antilles, CNRS, IRD, CP26, 57 rue Cuvier 75005 Paris, France. [keith@mnhn.fr] [mmenesson@edu.mnhn.fr]

clear that *Lentipes rubrofasciatus* is really threatened and that the IUCN species status should be re-evaluated.

**Acknowledgments.** –The authors thank Jean-Yves Meyer and the Marquesas Islands mayors, and G. Marquet and E. Feunteun for their help during the last field trip.

#### REFERENCES

- KEITH P., LORD C. & VIGNEUX E., 2006. – *In vivo* observations on postlarval development of freshwater gobies and eleotrids from French Polynesia and New Caledonia. *Ichthyol. Expl. Freshw.*, 17: 187-191.
- KEITH P., G. MARQUET G., GERBEAUX P., LORD C. & VIGNEUX E., 2013. – Polynesian Freshwater Fish and Crustaceans: Taxonomy, Ecology, Biology and Management. 282 p. Paris: Société Française d'ichtyologie.
- KEITH P., LORD C. & MAEDA K., 2015. – Indo-Pacific Sicydiine Gobies: Biodiversity, Life Traits and Conservation. 256 p. Paris: Société Française d'ichtyologie.