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## ***Pethia aurea* (Teleostei: Cyprinidae), a new species of barb from West Bengal, India, with redescription of *P. gelius* and *P. canius***

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### **Abstract**

Fishes currently assigned to *Pethia gelius* Hamilton from West Bengal are shown to belong to a closely-related group of three species: *P. gelius*, its erstwhile synonym *P. canius* Hamilton and a new species, *P. aurea*. The three species are distinguished from all other species of *Pethia* by having the lateral line incomplete, with 3–4 pored scales; 20–26 scales in lateral series on body;  $\frac{1}{2}$ – $5\frac{1}{2}$ – $3\frac{1}{2}$  scales in transverse line on body; 8–9 predorsal scales; barbels absent and by a unique colour pattern consisting of two or three black blotches on the body (which, however, fade on preservation), the first behind the opercle, the second beneath the origin of the dorsal fin, extending to the mid-lateral region, and the third above the origin of the anal fin. A black spot is also present at the base of the dorsal and anal fins. Additionally, *P. gelius* is distinguished by having the last unbranched dorsal-fin ray thick, straight, serrated, with 20–25 serrae on its posterior margin; a snout length of 6.1–8.4 % standard length (SL); a body depth of 32.6–37.7 % SL; and a dorsal-fin height of 19.4–22.8 % SL. *Pethia canius* is additionally distinguished by having a snout length of 8.9–11.8 % SL; a body depth of 28.1–32.2 % SL; and dorsal-fin height of 26.9–32.8 % SL. *Pethia aurea*, new species, is additionally distinguished from all its congeners by having  $\frac{1}{2}$ – $5\frac{1}{3}$ – $3\frac{1}{2}$  scales in transverse line on body; 9 pre-dorsal scales; and last unbranched dorsal-fin ray slender, serrated, with 19–22 serrae on posterior margin.

**Key words:** *Puntius*, Cyprinid, Assam, West Bengal, *P. phutunio*, *P. ornata*, biodiversity, taxonomy

### **Introduction**

*Cyprinus gelius* Hamilton, 1822, currently assigned to the genus *Pethia* (Pethiyagoda *et al.* 2012) was originally described from the ponds and ditches of the north-eastern parts of Bengal. The species has a wide range along the eastern lowlands of peninsular India, to Tamil Nadu in the south (Knight, 2010). Hamilton (1822) also described another ‘red diaphanous’ fish very similar to *P. gelius*, which he named *C. canius*. Subsequently, Day (1878) placed *P. canius* in the synonymy of *P. gelius*, which action has been followed by some authors (e.g., Menon, 1999), and overlooked by others (e.g., Talwar & Jhingran 1991; Jayaram 1999). Though Hamilton (1822) did not publish an illustration together with the original descriptions of either species, drawings of both species from his collection were reproduced by McClelland (1839) in his work on Indian Cyprinidae. Examination of these drawings shows that *P. canius* has a quite different appearance from *P. gelius*, and could indeed be a valid species. In order to resolve this ambiguity, fresh collections were made at the type locality (north-eastern parts of Bengal) of *P. gelius* and *P. canius*. In addition to these two species, the resulting collection contained a further species of *Pethia* that superficially resembled *P. gelius*. This is here described as *P. aurea*. *Pethia gelius* and *P. canius* too, are redescribed here so as to stabilise their identity.

### **Material and methods**

Specimens were collected from the eastern and north eastern part of West Bengal, fixed in 10% formalin and subsequently preserved in alcohol. The specimens examined in this study are registered in the collections of the Southern Regional Centre, Zoological Survey of India, Chennai (ZSI/SRC), India, and the collection of J. D.