



ISSN
Online 0974–7907
Print 0974–7893

OPEN ACCESS

Comments on *Hypselobarbus pulchellus* part of the articles by Knight et al. (2013a,b) published in JoTT

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Comments on Knight et al. 2013a; 5(13): 4734–4742.

The authors reported that they have observed *Hypselobarbus pulchellus* specimens with a lateral line scale count (Llsc) of 32–35+1–2, which means that the Llsc varied between 32 and 37, with the highest count (37) being clearly observed in Image 3, Fig. A as reported by Knight et al. (2013a). As against this, the Llsc observed in the same species, *Barbodes (Barbus) pulchellus* by Day (1870, 1878) is only 30–32, never more than 32. Scores of *H. pulchellus* specimens (collected during several surveys from the Tunga and Bhadra rivers and Anjanapura reservoir, which are the major natural habitat of this spp.) observed by us (images of *P. pulchellus* attached) indicate that the Llsc is consistently 30–31 which is in conformity with that described by Day and the same can be found in the report of Shrivana (2013). The range of Llsc is 5 (37–32) which seems to be not a typical taxonomic characteristic for this species since Llsc is an important quantitative trait heritable from parent to offspring as reported by Nenashev (1970) in common carp (a cyprinid) and hence is under genetic control rather than environmental control. Hence it should not show that much variation within a species. Jayaram (1999) observed a Llsc of 27–32 and inferred that *P. pulchellus*, *P. dobsoni* and *P. jerdoni* are synonymous. Devi & Ali (2011) have also expressed similar opinion. It is not clear as to how many specimens were used in their study and why no specimens from other repositories were compared.

The local name, i.e., ‘Haragi’ or ‘Hullu gende’ (also) is referred to *H. pulchellus* as reported earlier (Anonymous

2002). But the grass carp is known by the name, Hullu gende. Certainly, ‘Katladi’ never finds a mention in the published literature on *H. pulchellus*. The English translation of Hullu gende is grass carp which is given to *H. pulchellus* due to its preference to feed on aquatic vegetation, including terrestrial grass (David et al. 1970; David & Rahman 1975, 1982). The captive stock of *H. pulchellus* maintained in our college farm is being fed with napier grass which is very well accepted apart from artificial (floating) feed.

Day (1878) had placed *P. pulchellus* and *P. dobsoni* as separate species. Since *H. pulchellus* (described in Shrivana’s report) and *H. dobsoni* have identical fin formula and Llsc and distribution, they are known to be synonyms (David 1963).

The pinkish-white (or somewhat black) lateral band that runs from the eye/opercula to the caudal fin of Day’s specimen (*P. pulchellus*) is found only in wild adult male, but not in female which exhibits silvery-white colour (images attached). The Llsc also remains same, i.e., 30–31.

There is also no record of collection of *H. pulchellus* from the South Canara region since 1940 (Rema Devi & Ali 2011). However, it has been reported from the west-flowing Kali and Sharavathi rivers and east-flowing Krishna and its tributaries (David et al. 1969; David et al. 1970; David & Rahman 1975, 1982).

Since most of the morphological characters described by the authors do not match with those of *H. pulchellus*, that species is unlikely to be *H. pulchellus*.

It will be great if this taxonomic ambiguity is resolved soon.

Comments on Knight et al. 2013b; 5(17): 5194–5201.

The paper reports that the authors have rediscovered *Hypselobarbus pulchellus* based on the specimens collected from Sita River, South Canara, Karnataka. But the scepticism still remains as one major identifying character, apart from others, does not match with that of the previously described fish is lateral line scale count (Llsc), with the authors reporting the presence of 32–34+1–2 Llsc, while the scale count of the image (1A) shows 37, which is confounding and contradictory (Knight et al. 2013b). On the other hand, the Llsc observed by Day (1870, 1878) is only 30–32, never more than 32. Jayaram (1999) recorded a Llsc of 27–32 in *P. pulchellus*, while Jayaram et al. (1982), as quoted by the authors, found 30–35 scale count, contradicting Day’s observations. It is

DOI: <http://dx.doi.org/10.11609/JoTT.o3899.5417-8>
Date of publication: 26 January 2014 (online & print)
Manuscript details: Ms # o3899 | Received 01 January 2014
Citation: Basavaraja, N. (2014). Comments on *Hypselobarbus pulchellus* part of the articles by Knight et al. (2013a,b) published in JoTT. *Journal of Threatened Taxa* 6(1): 5417–5418; <http://dx.doi.org/10.11609/JoTT.o3899.5417-8>
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unlikely that the Llsc will show a wide variation (32–37) within one population collected from Sita River. Even in the dry specimen of Day, it is only 30–31 (Image 1D) and no scales appear to have been lost as against the authors' assumption that some scales might have been lost during handling. Hence, only the Day's description may be considered as authentic and the same should be the basis for resolving the taxonomic ambiguity. Moreover, the authors have given description of specimen pertaining only to Sita River, per se they have collected specimens from Tunga and Netravati rivers. Surprisingly, the description of specimens collected from Tunga River is not presented. It would have been better if the authors had presented a specimen with 32 Llsc.

Another key character that shows anomaly is the shape of lateral line and the size of scales. Whereas the Day's specimen shows a slightly curved lateral line and larger scales, the image 1A depicts a near straight lateral line with much smaller scales.

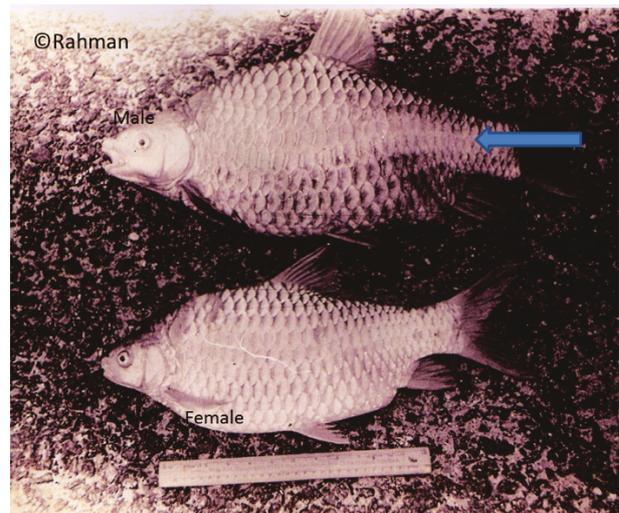
The presence of the lateral band is another important key that helps in species identification. The pinkish-white lateral band that runs from the opercle to the caudal fin is very prominent in Day's specimen, but is not conspicuous (though live specimen) in the fish described in the paper. Similar band is also a characteristic feature of adult male of *P. pulchellus* as described earlier (David & Rahman 1975, 1982; David et al. 1969, 1970) from the Tungabhadra River, but not in female which exhibits silvery-white colour with the Llsc being 30–31 (images of male and female *P. pulchellus* attached). This means a fish with a lateral band, curved lateral line and 30–31 Llsc has better chances of being included under *H. pulchellus* rather than the one without a band, but with 32–37 lateral line scales. The authors claim that the lateral band is absent in *H. dobsoni* and *H. jerdoni*.

The morphometric, meristic and other data furnished (Table 1) is only secondary. In view of the absence of such data for *P. pulchellus* described by Day, this data is useful to differentiate between the three species of *Hypselobarbus*, but not for the rediscovery of *H. pulchellus* (an enigmatic barb).

In view of the lack of clarity on the identity of *H. pulchellus*, the authors need to take a relook at the paper on rediscovery of *H. pulchellus* and provide more concrete information to substantiate their claim.

References

- Anonymous (2002).** *Freshwater and Marine Fishes of Karnataka*. Society for Advancement of Aquaculture, Bangalore, 214pp+40 pls.
- David, A. (1963).** Studies on fish and fisheries of the Godavary and Krishna river systems - Part I. Proceedings of the National Academy of



Sciences, Section- B, 33 : 263-286.

- David, A. & M.F. Rahman (1975).** Studies on some aspects of feeding and breeding of *Puntius pulchellus* (Day) and its utility in culturable waters. *Journal of Inland Fisheries Society of India* (7): 225–238.
- David, A. & M.F. Rahman (1982).** Experimental observations on feeding of *Puntius pulchellus* (Day) and utility of the species possible eradication of aquatic plants. *Mysore Journal of Agricultural Sciences* 16: 85-95.
- David, A., N.G.S. Rao & M.F. Rahman (1970).** A note on the herbivorous feeding of *Puntius pulchellus* (Day). *Journal of Inland Fisheries Society of India* (2): 159–160.
- David, A., B.V. Govind, K.V. Rajagopal, P. Ray & R.K. Banerjee (1969).** Limnology and fisheries of the Tungabhadra Reservoir. CICFRI, Barrackpore. Bulletin 13: 188pp.
- Day, F. (1870).** Notes on some fishes from the western coast of India. *Proceedings of the Scientific Meetings of the Zoological Society of London* 2: 369–374.
- Day, F. (1878).** *The Fishes of India; Being a Natural History of the Fishes Known to Inhabit the Seas and Fresh Waters of India, Burma, and Ceylon*. Quaritsch, London, i-xx, 553–778, pls. 139–195.
- Devi, K.R. & A. Ali (2011).** *Hypselobarbus pulchellus*. In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.1. <www.iucnredlist.org>. Downloaded on 30 October 2013.
- Jayaram, K.C. (1999).** *The Freshwater Fishes of the Indian Region*. Narendra Publishing House, New Delhi, 551pp.
- Jayaram, K.C., T. Venkateswarlu & M.B. Ragnathan (1982).** *A Survey of the Cauvery River System with a Major Account of its Fish Fauna*. Records of the Zoological Survey of India, Occasional Paper No. 36. 115pp+12pls.
- Knight, J.D.M., A. Rai & R.K.P. D'souza (2013a).** Re-description of *Hypselobarbus lithopidos* (Teleostei: Cyprinidae), based on its rediscovery from the Western Ghats, India, with notes on *H. thomasi*. *Journal of Threatened Taxa* 5(13): 4734-4742; <http://dx.doi.org/10.11609/JoTT.o3602.4734-42>
- Knight, J.D.M., A. Rai & R.K.P. D'souza (2013b).** Rediscovery of *Hypselobarbus pulchellus*, an endemic and threatened barb (Teleostei: Cyprinidae) of the Western Ghats, with notes on *H. dobsoni* and *H. jerdoni*. *Journal of Threatened Taxa* 5(17): 5194–5201; <http://dx.doi.org/10.11609/JoTT.o3686.5194-201>
- Nenashev, G.A. (1970).** Heritability of some morphological (diagnostic) traits in Ropsha carp. In: Kirpichnikov, V.S. (ed.). *Selective breeding of Carp and Intensification of Fish Breeding in Ponds*. Israel Programme for Scientific Translations, Jerusalem, Israel.
- Shrivana, R. (2013).** A ray of hope for rare fish. Deccan Herald (Spectrum Statescan) dated 18 June 2013.

