Barilius ardens (Teleostei: Cyprinidae), a new species from the Western Ghats, India, with redescription of B. malabaricus and B. canarensis

J. D. MARCUS KNIGHT1,2, ASHWIN RAI2, RONALD. K. P. D’SOUZA3 & BALAJI VIJAYKRISHNAN4

1 Flat L’, Sri Balaji Apartments, 7th Main Road, Dhandeeswaram, Velachery, Chennai – 600 042. E-mail: jdmarcusknight@yahoo.co.in
2 Department of Fisheries Microbiology, College of Fisheries, Yekkur, Mangalore–575 002. E-mail: winrai@yahoo.com
3 Department of Applied Zoology, Mangalore University, Mangalagangothri, Manglore–574 199. E-mail: kevinroni@yahoo.com
4 15/21, Sambasivam Street, T.Nagar, Chennai – 600 017. E-mail: balaji.vijaykrishnan@gmail.com

Abstract

The identities of Barilius canarensis and B. malabaricus have hitherto been confused. An attempt to resolve their identities by examining fresh collections from their respective type localities, i.e., southern Karnataka and northern Kerala, yielded a new species, which is herein described as B. ardens. The new species differs from B. canarensis and B. malabaricus by the presence of a row of 7–9 large vertically elongate blotches on the flank, in large adults the first three blotches broken into a smaller row of intercalate spots (vs. two rows of spots: the first consisting of 9–11 oval spots, the second with 3–4 smaller spots); and 5+4+3 (vs. 5+4+2) pharyngeal teeth. The new species is distinguished from B. bakeri by having 5+4+3 (vs. 5+4+2) pharyngeal teeth; and the dorsal and anal fins margined with bright orange (vs. white). Barilius malabaricus (hitherto in the synonymy of B. canarensis) is shown to be a valid species distinguished from the latter by having 11½ (vs. 10½) branched dorsal-fin rays and 14½–15½ (vs. 13½) branched anal-fin rays; both species are redescribed.

Key words: Opsarius, bakeri, gatensis, Western Ghats, Canara, Kerala

Introduction

Opsarius canarensis Jerdon, 1849, was originally described from the streams flowing into Canara (now southwestern Karnataka) as a species with a ‘double row of green spots on the sides’ and fins margined with white. Day (1870), however, considered it to be a species similar to Barilius gatensis (Valenciennes, in Cuvier & Valenciennes, 1844: 309, pl. 503—type locality Mountains of Gates [=Ghats]), which is characterized by a row of narrow vertical bars along the length of the body. In the same work, Day (1870) also placed O. malabaricus, which Jerdon (1849) clearly stated had ‘round spots’, in the synonymy of B. gatensis, rendering the identity of both Barilius canarensis and B. malabaricus ambiguous. In addition, Day (1865) described Barilius bakeri, a similar species with a single row of spots along the sides, from southern Kerala, which he later (Day, 1878) speculated was a regional variant of B. canarensis. To add to the uncertainty, Day (1878) described and illustrated (p. 592, pl. 149, fig. 1) B. canarensis as a species with a single or double row of large, vertically-elongate spots on the body, and considered B. malabaricus a synonym of B. canarensis. As a result of this uncertainty, fishes identified as B. canarensis were reported from across the southern Western Ghats, ranging from the River Bhadra in Shimoga District, Karnataka, to Ernakulam District, Kerala (Ajithkumar et al., 1999; Beevi & Ramachandran, 2009; Shahnawaz et al., 2010; Venkateshwarlu et al., 2014) from both east- and west-flowing rivers. Moreover, the species represented as B. canarensis (Shaji & Easa, 2003; Manickam et al., 2014) variously had small round spots or vertically elongate spots on the flank, with the fins tipped either with white or orange.

Re-examination of the original descriptions of both Opsarius canarensis and O. malabaricus revealed that Jerdon (1849) had clearly distinguished the two species based on the differences in body markings, fin colours and meristics. In order to assess these nominal species more closely (no known type material survives), fresh collections were made at the type localities, southern Karnataka and northern Kerala and two species consistent
Acknowledgements

We gratefully acknowledge the support provided by K. Venkataraman, Director, Zoological Survey of India, Kolkata; K. Ilango (Officer in Charge) and Jayasree Thilak (Scientist-C), of the Southern Regional Centre, Zoological Survey of India, Chennai. We thank Andrew Rao, Nikhil Sood, Deepak Sathyanaranayanan for providing us with specimens used in this study and Tabrez Sheriff for the photograph of the male Barilius ardens. We also thank the staff and personnel of Aquatic Biosystems, Mangalore, who helped in the survey and collections from various rivers of south Canara, Karnataka; Natarajan and Mohanraj who helped in the survey and collections from the rivers of Uttarakhand. Finally, we thank two anonymous reviewers for extensive commentary that greatly helped to improve this paper.

References


http://dx.doi.org/10.1007/s10661-008-0729-0


http://dx.doi.org/10.1016/j.ympev.2010.05.021

