



## ***Betadevario ramachandrani*, a new danionine genus and species from the Western Ghats of India (Teleostei: Cyprinidae: Danioninae)**

P. K. PRAMOD<sup>1</sup>, FANG FANG<sup>2</sup>, K. REMA DEVI<sup>3</sup>, TE-YU LIAO<sup>2,4</sup>, T.J. INDRA<sup>5</sup>,  
K.S. JAMEELA BEEVI<sup>6</sup> & SVEN O. KULLANDER<sup>2,7</sup>

<sup>1</sup>Marine Products Export Development Authority, Sri Vinayaka Kripa, Opp. Ananda shetty Circle, Attavar, Mangalore, Karnataka 575 001, India. E-mail: pramodmohan@yahoo.com

<sup>2</sup>Department of Vertebrate Zoology, Swedish Museum of Natural History, POB 50007, SE-104 05 Stockholm, Sweden  
E-mail: fang.kullander@nrm.se; teyu.liao@nrm.se; sven.kullander@nrm.se

<sup>3</sup>Marine Biological Station, Zoological Survey of India, 130, Santhome High Road, Chennai, India

<sup>4</sup>Department of Zoology, Stockholm University, 106 91 Stockholm, Sweden

<sup>5</sup>Southern Regional Station, Zoological Survey of India, 130, Santhome High Road, Chennai, India

<sup>6</sup>Department of Zoology, Maharajas College, Ernakulam, India

<sup>7</sup>Corresponding author. E-mail: sven.kullander@nrm.se

### **Abstract**

*Betadevario*, new genus, with the single species *B. ramachandrani*, new species, from Karnataka, southwestern India, is closely related to *Devario* but differs from it in having two pairs of long barbels (vs. two pairs of short or rudimentary barbels, or barbels absent), wider cleithral spot which extends to cover three scales horizontally (vs. covering only one scale in width), long and low laminar preorbital process (vs. absent or a slender pointed spine-like process) along the anterior margin of the orbit, a unique flank colour pattern with a wide dark band along the lower side, bordered dorsally by a wide light stripe (vs. vertical bars, or stripes narrow and usually in greater number).

**Key words:** Karnataka, endemism, *Devario*, *Danio*, cytochrome *b*, rhodopsin, phylogeny

### **Introduction**

The tribe Danionini within the cyprinid subfamily Danioninae comprises about 70 species in eight genera, mainly distributed in South and Southeast Asia (Fang *et al.* 2009; Fang & Kullander 2009; Kullander & Fang 2009). Most taxa belong to one of the genera, *Danio* Hamilton, with 16 species (Kullander & Fang 2009), or *Devario* Bleeker, with 39 species (Fang & Kullander 2009). Species of *Devario* occur in lowlands and low hills in nearly all areas of South and Southeast Asia (Fang Kullander 2001). With the exception of *Danio rerio* (Hamilton), which is widespread in India, Nepal, and Bangladesh (Engeszer *et al.* 2007; Spence *et al.* 2006), the species of *Danio* occur mainly in Myanmar and adjacent parts of neighboring countries, occupying smaller lentic or lotic water bodies in both lowlands and hilly regions (Fang Kullander 2001). The genera *Danionella* Roberts, *Microdevario* Fang *et al.*, and *Microrasbora* Annandale, are also mainly distributed in Myanmar (Britz 2009; Kottelat & Witte 1999). *Chela* Hamilton is confined to India and Bangladesh, and *Esomus* Swainson and *Laubuca* Bleeker are found over much of Sri Lanka, India, Bangladesh, Myanmar, and Thailand (Pethiyagoda *et al.* 2008; Ahl 1923). Phylogenetic analyses show that *Devario*, *Microdevario*, *Microrasbora*, *Chela* and *Laubuca* form a monophyletic group, sister group of *Danio*, and with *Esomus* as sister group of *Danio* or positioned as a basal danionin lineage, whereas the position of *Danionella* varies between analyses (Fang *et al.* 2009).

Recently, the senior author discovered a highly distinctive danionin species in the Western Ghats of India. It combines characters of *Danio*, such as two pairs of very long barbels and a dark stripe on the anal fin, together with characters of *Devario*, such as a well-developed skin groove on the supraorbital shelves, a