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Vanmanenia maculata, a new species of hillstream loach from the Chang-Jiang Basin, South China (Teleostei: Gastromyzontidae)

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Abstract

Vanmanenia maculata, new species, is described from the middle and lower Chang-Jiang basin in Hubei, Hunan, and Jiangxi provinces, South China. This new species, along with *V. caldwelli*, *V. stenosoma*, and *V. striata*, is distinguished from all other Chinese species of the genus by lacking secondary rostral barbels. It is distinct from *V. caldwelli* and *V. striata* in anus placement, rostral lobule shape, and body coloration, and from *V. stenosoma* in having a larger scaleless area on the ventral surface of the body and a shallower caudal-peduncle. *Vanmanenia polylepis* should be removed from the synonymy of *V. pingchowensis* and regarded as valid.

Key words: *Vanmanenia*, new species, Chang-Jiang basin, South China

Introduction

The family Gastromyzontidae *sensu* Kottelat (2012) comprises small-sized fishes inhabiting the fast-flowing mountain streams throughout Southeast Asia including Sumatra, Java, and Borneo, and China. Presently, about 17 genera and 132 species have been placed in this family (Kottelat 2012; Eschmeyer & Fricke 2013). These fishes are well adapted to mountain streams by possessing depressed bodies with a flat ventral surface and laterally expanded pectoral and pelvic fins. The Gastromyzonidae is represented in China by 8 genera and roughly 51 species (Kottelat 2012). These fishes have been given a subfamilial ranking in Chinese literature (Tang & Chen 2000; Chen & Zhang 2006) with four tribes identified by Chen (1980): Parhomalopterini, Crossotomini, Beautortini, and Gastromyzonini. *Vanmanenia*, along with *Formosania*, is placed in Crossotomini, defined by having specialized rostral barbels and lips. *Vanmanenia* possesses a trilobated rostral fold and two pairs of rostral barbels, in contrast to 13 well-developed rostral barbels in *Formosania*.

Vanmanenia was established by Hora (1932) with *Homalosoma stenosoma* Boulenger 1901 as the type species. A total of 19 species have been recognized for the genus *Vanmanenia*. Two species occur in Laos, namely *Vanmanenia crassicauda* Kottelat 2000, and *V. serrilineata* Kottelat 2000, and eight species are known from northern Vietnam: *Vanmanenia caobangensis* Nguyen 2005, *V. microlepis* Nguyen 2005, *V. monofasciodorsala* Nguyen 2005, *V. mutiloba* Mai 1978, *V. nahangensis* Nguyen 2005, *V. tetraloba* Mai 1978, *V. trifasciodorsala* Nguyen 2005, and *V. ventrosquamata* Mai 1978. The remaining nine species occur in South China: *V. caldwelli* (Nichols 1925), *V. gymnetrus* Chen 1980, *V. lineata* (Fang 1935), *V. hainanensis* Zheng & Chen 1980, *V. homalocephala* Zhang & Zhao 2000, *V. pingchowensis* (Fang 1935), *V. stenosoma* (Boulenger 1901), *V. striata* Chen 1980, and *V. xinyiensis* Zheng & Chen 1980 (Zhang & Zhao 2000; Tang & Chen 2000; Zhou *et al.* 2010; Kottelat 2012). Kottelat (2012) commented that the validity of some species from *Vanmanenia*, especially those currently identified by Vietnamese workers, needs to be confirmed.

Vanmanenia pingchowensis is the most widely distributed Chinese species originally described in *Praeformosania* by Fang (1935) from Pingchow-hsien (now Pingtang County), South Kweichow (today's Guizhou Province), in mountain streams running into Si-Kiang or West River (Xi-Jiang in Chinese) of the Pearl River (Zhu-

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References

- Bertin, L. & Estève, R. (1948) *Catalogue des types de poissons du Muséum National d'Histoire Naturelle. 4e partie. Ostariophysaires (Cypriniformes)*. Muséum National d'Historie Naturelle, Paris, 1–117.
- Boulenger, G.A. (1901) Descriptions of new freshwater fishes discovered by Mr. F. W. Styan at Ningpo, China. *Proceedings of the Zoological Society of London* 1901, 1, part II, 268–271, Pls. 23–24.
- Chen, J.X. (1989) Fishes from Suoxiyu nature preserve area, Hunan, China. In: Li, S.H. (Ed.), *Hydrobiont in Wulingyuan Nature Preserve of Hunan Province*. Science Press, Beijing, pp. 122–127. [in Chinese]
- Chen, Y.Y. (1980) Systematic studies of the fishes of the family Homalopteridae of China II. Classification of the fishes of the subfamily Gastromyzoninae. *Acta Hydrobiologica Sinica*, 7, 95–120. [in Chinese]
- Chen, M. & Zhang, C.G. (2006) Gastromyzonidae. In: Zhou, J. & Zhang C. G. (Eds.), *Freshwater fishes of Guangxi, China (2nd edition)*. Guangxi People's Publishing House, Nanning, pp. 259–282. [in Chinese]
- Ding, R.H. (1994) *The Fishes of Sichuan, China*. Sichuan Science and Technology Press, Chengdu, 641 pp. [in Chinese]
- Eschmeyer, W.N. & Fricke, R. (2013) Catalog of Fishes, electronic version. Available from: <http://research.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (accessed 15 June 2013)
- Fang, P.W. (1935) Study on the crossostomoid fishes of China. *Sinensia*, 6, 44–97.
- Hora, S.L. (1932) Classification, bionomics and evolution of homalopterid fishes. *Memoirs of the Indian Museum*, 12, 263–330.
- Kottelat, M. (2000) Diagnoses of a new genus and 64 new species of fishes from Laos (Teleostei: Cyprinidae, Balitoridae, Bagridae, Syngnathidae, Chaudhuriidae and Tetraodontidae). *Journal of South Asian Natural History*, 5, 37–82.
- Kottelat, M. (2001a) *Fishes of Laos*. Wildlife Heritage Trust Publications, Colombo, 198 pp.
- Kottelat, M. (2001b) *Freshwater Fishes of Northern Vietnam*. World Bank, Washington, 122 pp.
- Kottelat, M. (2012) Conspectus cobitidum: an inventory of the loaches of the world (Teleostei: Cypriniformes: Cobitoidei). *The Raffles Bulletin of Zoology*, Supplement 26, 1–199.
- Mai, D.Y. (1978) *Identification of Freshwater Fishes of Northern Viet Nam*. Science & Technics Publishing House, Ha Noi, 339 pp. [In Vietnamese]. [Translation of selected chapters in Kottelat 2001].
- Nguyen, V.H. (2005) *Freshwater Fishes of Vietnam. Vol. 2*. Nhà Xuất Ban Nông Nghiệp [Agriculture Publishing House], Hanoi, 759 pp. [in Vietnamese]
- Nichols, J.T. (1925) *Homaloptera caldwelli*, a new Chinese loach. *American Museum Novitates*, 172, 1.
- Pan, J.H., Liu, C.H. & Zheng, W.B. (1983) Two new Homalopteridae fishes from the Beijiang River, Guangdong Province. *Journal of the Hua Nan Teacher's University*, 2, 105–109. [in Chinese]
- Tang, W.Q. & Chen, Y.Y. (2000) Study on taxonomy of Homalopteridae. *Journal of Shanghai Fisheries University*, 9, 1–9. [in Chinese]
- Yang, G.R. (1987) *The Fishes of Hubei, China*. Hubei Science and Technology Press, Wuhan, 242 pp. [in Chinese]
- Zhang, C.G. & Zhao, Y.H. (2000) A new species of the genus *Vanmanenia* from Guangxi, China. *Acta Zootaxonomica Sinica*, 25, 458–461. [in Chinese]
- Zhang, E., Liu, H.Z. & He, C.C. (1996) Study of fish fauna in Northeastern Jiangxi Province. *Chinese Journal of Zoology*, 31, 3–12. [in Chinese]
- Zheng, C.Y. & Chen, Y.Y. (1980) The homalopterid fishes from Guangdong Province, China. *Acta Zootaxonomica Sinica*, 5, 89–101. [in Chinese]
- Zheng, C.Y. (1989) *Fishes of the Zhujiang River*. Science Press, Beijing, 438 pp. [in Chinese]
- Zhou, W., Li, X. & Li, Y.N. (2010) Study on differentiation and morphological diversity from different populations of *Vanmanenia* in Yunnan, China. *Acta Zootaxonomica Sinica*, 35, 96–100. [in Chinese]
- Zhu, S.Q. (1995) *Synopsis of Freshwater Fishes of China*. Jiangsu Science and Technology Publishing House, Nanjing, 549 pp. [in Chinese]
- Xie, C.X., Yang, G.R. & Gong, L.X. (1984) The homalopterid fish from Hubei Province, China, with description of a new species and a new subspecies. *Journal of Huazhong Agricultural University*, 3, 62–68. [in Chinese]