

# On the presence of the Hill stream garra, *Garra surinbinnani* Page, Ray, Tongnunui, Boyd et Randall 2019 from the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province, Western Thailand (Teleostei Cyprinidae)

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## ABSTRACT

In the present paper, Hill stream garra, *Garra surinbinnani* Page, Ray, Tongnunui, Boyd et Randall 2019 (Teleostei Cyprinidae) is newly recorded from hill stream of Pachi Basin, in the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province, Western Thailand.

## KEY WORDS

Hill stream garra; *Garra surinbinnani*; Cyprinidae; Suan Phueng; Ratchaburi Province.

Received 27.06.2023; accepted 19.10.2023; published online 30.12.2023

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## INTRODUCTION

Hill stream garras are freshwater fishes of the genus *Garra* Hamilton, 1822. This genus of freshwater fish is a very large one comprising more than 200 species in the world, being distributed in Asia, Eurasia and Africa (Stiassny & Getahun, 2007; Zhang & Chen, 2002). In Thailand more particularly, 9 species of Hill stream garras were recorded, namely *G. fuliginosa* Fowler, 1934, *G. fluviatilis* Kangrang, Thoni, Mayden et Beamish, 2016, *G. fisheri* (Fowler, 1937), *G. nasuta* (Mc-

Clelland, 1838), *G. salweenica* Hora et Mukerji, 1934, *G. waensis* Lothongkham, Arbsuwan et Musikasinthorn, 2014, *G. mirofrontis* Chu et Cui, 1987 *G. surinbinnani* Page, Ray, Tongnunui, Boyd et Randall, 2019, *G. theunensis* (Doi, 1997; Vidthayanon, 1997; Vidthayanon, 2012; Lothongkham et al., 2014; Vilasri et al., 2014; Punnatut et al., 2016; Lothongkham & Ratmuangkhwang, 2018; Page et al., 2019). In natural freshwater ecosystems, Hill stream garras are important and fundamental components. The fishes are highly susceptible to environmental changes





Figure 1. Habitats of *Garra surinbinnani* in the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province: Boa Wee waterfall.



Figure 2. Habitats of *Garra surinbinnani* in the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province: Landa Yai hill stream.





Figure 3. Habitats of *Garra surinbinnani* in the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province: Kao Chan waterfall.

and can be used as indicators of good water sources.

Hill stream fish of the genus *Garra* are different from other genus of family Cyprinidae due to the combination of the following morphological characters: a) lower lip is expanded to its posterior rim to form a round or oval sucking pad; b) reduced or lost vomero-palatine organ; c) elongated or narrow cleithrum; d) supraethmoid is wider than long (Stiassny & Getahun. 2007).

In Mae Khlong Basin Western Thailand, freshwater fish genus *Gara* comprise four species (Punatut et al., 2016; Page et al., 2019) including *G. surinbinnani* Page, Ray, Tongnunui, Boyd et Randall 2019; *G. fluviatilis* Kangrang, Thoni, Mayden et Beamish 2016; *G. fuliginosa* Fowler, 1934 and *G. cambodgiensis* (Tirant, 1883). *Garra surinbinnani* is an endemic species in Mae Khlong Basin, currently, it has been found only in Kanchanaburi and Tak provinces. In a survey project in the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province, Western Thailand, during March 2022–January 2023, the authors found several specimens of *G. surinbinnani* in the

hill stream and waterfall ecosystems of Pachi Basin, Suan Phueng District, Rachburi Province, Western Thailand, which is a new record of *G. surinbinnani* in this region.

## RESULTS

### *Systematics*

Classis TELEOSTEI

Ordo CYPRINIFORMES

Familia CYPRINIDAE Rafinesque, 1815

Subfamilia LABEONINAE Bleeker, 1859

Genus *Garra* Hamilton, 1822

***Garra surinbinnani*** Page, Ray, Tongnunui, Boyd et Randall 2019

This species is reported only in Mae Khlong basin (Kanchanaburi and Tak Province). In Kanchanaburi Province, this species is recorded only in Khayeng Creek, Paousa Creek village, Song Thai River behind Maharaja field station in Thung



Figure 4. *Garra surinbinnani* from Landa Yai hill stream, the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province (photo by Athipat Wusilpakit).



Figure 5. Bilobed proboscis, the diagnosis character of *G. surinbinnani*.

Yai Wildlife Sanctuary, and Li Chia River, Thong Pha Phum District; Song Karia River, Sangkhla Buri District; Phachi River, Dan Makham Tia District; Mae Nam Noi Creek, Sai Yok District; Lamun River, Si Sawat District. In Tak Province, this species is recorded only in Nam Khiao Creek,

Umphang District and Khwae Yai River at Ban Mae Khlong Kee, Umphang District (Page et al., 2019). In a survey project of freshwater fishes at the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province, Western Thailand, carried out in March 2022–January 2023, we found many specimens of *G. surinbinnani* at hill stream and waterfall ecosystems. In the study areas, we found many specimens in Landa Yai hill stream, Boa Wee waterfall and Kao Chan waterfall (Figs. 1–3).

This report is important for faunistic and ecological aspects, considering that Hill stream garras are good ecological indicators. Particularly, *G. surinbinnani* were found in upstream mountainous areas or waterfall of Pachi Basin, Ratchaburi Province, where water is of high-quality, the stream is transparent and running fast, on average about less than 1 m deep and the stream ground is made of rough sand and large stones.

The diagnosis characters of *G. surinbinnani* are combination of the following morphological (Figs. 4, 5): a) bilobed proboscis; b) large transverse lobe separated from the rest of the snout; c) 28–31 lat-



eral-line scales; d) 12–13 circumpeduncular scales (Page et al., 2019).

## ACKNOWLEDGEMENTS

The authors are grateful to Office of the Royal Development Projects Board (ORDPB) for financial support. A special thanks to the Royal Initiative Natural Science Park Project Suan Phueng, Ratchaburi Province and Save Wildlife Thailand society (SWT) for supporting the field survey and a special thanks to reviewers for reviewing this manuscript.

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