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GARRA ROTUNDINASUS, A NEW SPECIES OF CYPRINID FISH (PISCES: TELEOSTEI) FROM THE UPPER IRRAWADDY RIVER BASIN, CHINA

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ABSTRACT. **–** *Garra rotundinasus*, a new cyprinid species from the upper Irrawaddy River basin in Yunnan, China, is herein described. It shares with *G. gravelyi* the presence of a snout having a poorly developed proboscis represented by a truncate area in front of the nostrils, a character distinguishing both from all other Southeast Asian and Chinese congeners. The two species are distinct in coloration, morphometric and meristic characters. The sympatrically occurring *G. tengchongensis* is very similar to *G. rotundinasus* in possessing 36-37 perforated lateral line scales, 5 or 6 scales between the anus and anal-fin origin, and an anterior position of the anus (anus to anal distance 32.1-51.8% of pelvic to anal distance). *Garra rotundinasus* can be differentiated from *G. tengchongensis* in having a more slender caudal peduncle, a larger disc and no dark central band on the dorsal fin.

KEY WORDS. **–** *Garra*, new species, upper Irrawaddy River basin, China.

INTRODUCTION

There are four species of the cyprinid genus *Garra* recognized from the upper Irrawaddy River basin in Yunnan, South China, viz. *G. gravelyi* (Annandale, 1919); *G. kempi* Hora, 1921; *G. orientalis* Nichols, 1925; and *G. qiaojiensis* Wu & Yao 1977 (Chu & Cui, 1987, 1989; Zhang et al., 2000). Of these, the first three species were wrongly identified. Zhang & Chen (2002) showed that *G. kempi* reported from the upper Irrawaddy River basin in Yunnan represents an undescribed species, and named it as *G. tengchongensis*. Zhang (2005) revealed that *G. orientalis* reported from the same basin consisted of two distinct species. One is conspecific with *G. salweenica* Hora & Mukerji, 1934, a species currently known only from the Salween River basin (Kottelat, 2000). The other is not identifiable with any of the currently-recognized species of *Garra* in China and Southeast Asia, and was named as *G. bispinosa* Zhang, 2005. This present paper also reveals that the *G. gravelyi* identified by all Chinese authors from the upper Irrawaddy River basin in Yunnan had been misidentified.

Garra gravelyi was originally described by Annandale (1919) from the Inle Lake and He-Ho stream, southern Shan States, Myanmar. It is currently considered to be occurring in the Salween River basin in southern Shan States, Myanmar (Menon, 1964; Talwar & Jhingran, 1991) and the Manipur River basin in India (Vishwanath, 1993). In China, Chu & Cui (1987) first reported on the occurrence of *G. gravelyi* in the upper Irrawaddy River basin in Yunnan. Following Chu & Cui's identification, Zhang et al. (2000) provided a description of the species on the basis of Chinese specimens. Our recent comparison revealed that *G. gravelyi*, as currently understood, consists of two distinct species. *Garra gravelyi* s. str. has its type locality in the Salween River basin, but is also represented in the Manipur River basin. Hence the material from the upper Irrawaddy River basin in China represents an undescribed species, herein described as *G. rotundinasus*.

MATERIALS AND METHODS

Measurements were taken point to point with digital calipers and data recorded to the nearest 0.1 mm. All measurements and counts were made on the left side of individual whenever possible, following Kottelat (2001). Additional measurements, i.e. predorsal, prepectoral, prepelvic and preanal length, are the body lengths measured from the tip of the snout to the dorsal-, pectoral-, pelvic- and anal-fin origins, respectively. Other additional measurements are as follows: disc width is the distance between the base of two maxillary barbels; disc length is taken between the anterior mid-point of the anterior margin of the mental disc and the posterior mid-point of the posterior margin of the mental disc; pelvic to anal distance is measured from the pelvic-fin insertion to the anal-fin origin; anus to anal distance is taken from the anus to the anal-fin origin; head depth is measured from the midline at occiput vertically downward to the ventral contour of the breast; head width is the widest dimension when

opercles are closed (normal position). The abdominal vertebra and caudal vertebra counts were made from radiographs following the method outlined by Roberts (1989). The Weberian complex and urostylar complex are included in the count of the abdominal vertebrae and caudal vertebrae, respectively. The number of specimens exhibiting a given meristic count is indicated in parentheses. Values for the holotype are indicated by asterisks in the text. The anus to anal distance is expressed as a proportion of the pelvic to anal distance. Measurements of parts of the head are given as percentages of the head length. The head length and measurements of other parts of the body are presented as proportions of the standard length unless otherwise stated.

The genus *Garra* possess a modified lower lip forming a mental adhesive disc. The terminology used for description of this disc follows Zhang et al. (2002). The local Chinese toponymy is utilized for the distribution data and the international English toponymy, if available, is also given in the bracket next to the local Chinese river name whenever it appears in the present paper. The Chinese part of three Asian rivers, the Irrawaddy, Salween and Mekong River, are known locally as the Yiluowadi Jiang, Nu Jiang and Lancang Jiang, respectively.

The specimens examined for the present study are deposited in the Academy of Natural Sciences of Philadelphia, USA (ANSP); the collection of Maurice Kottelat, Cornol, Switzerland (CMK); the Institute of Hydrobiology, Wuhan, PRC (IHB); and the Kunming Institute of Zoology, Kunming, PRC (KIZ). Abbreviations here used are: HL, head length and SL, standard length.

TAXONOMY

Garra rotundinasus, new species
(Figs. 1, 2)

Garra gravelyi (non Annandale, 1919): Chu & Chui, 1987: 96 (Daying Jiang in Yunnan); Zhang et al., 2000: 243 (Ying Jiang in Jiuchen, Yunnan); Zhang & Chen, 2002: 462 (upper Irrawaddy River basin in Yunnan).

***Material examined*. –** Holotype - IHB 78IV1162, 161.5 mm SL; Daying Jiang in Tengchong (Houqiao), Yiluowadi Jiang (upper Irrawaddy River) basin, Yunnan Province, China; W. X. Li, Apr.1978.

Paratypes. **–** IHB 90IV0137-8, 2 ex., 146.2-184.5 mm SL; Daying Jiang in Tengchong, Yiluowadi Jiang (upper Irrawaddy River) basin, Yunnan Province, China; Y. F. Chen, Apr. 1990. IHB 78IV1163, 1 ex., 81.2 mm SL, same data as holotype. IHB 78IV1664-5, 2 ex., 111.0- 125.1 mm SL; Daying Jiang in Yingjiang (Tongbiguan), Yiluowadi Jiang (upper Irrawaddy River) basin, Yunnan Province, China; W. X. Li, Apr., 1978.

Non-types. – IHB uncatalogued, 5 ex., 53.6-106.1 mm SL, Daying Jiang in Yingjian, Yiluowadi Jiang (upper Irrawaddy River) basin, Yunnan Province, China; S. Z. Wang, Jun. 2001.

Diagnosis. – *Garra rotundinasus* is distinct from all other Southeast Asian and Chinese congeners except for *G. gravelyi* in possessing a snout with a poorly developed proboscis that is represented by a truncate area in front of the nostrils. *Garra rotundinasus* differs from *G. gravelyi* in having 36-37 (vs. 32-34) perforated lateral line scales, $2^1/_2$ (vs. $3^1/_2$-$4^1/_2$) scales above the lateral line, 10-11 (vs. 8-9) predorsal scales, a broadly rounded (vs. relatively pointed) snout, and absence of black spots at the base of the branched dorsal-fin rays (vs. presence). A colour pattern consisting of an indistinct mid-lateral band with a few incomplete narrow longitudinal stripes above and below the mid-lateral band, more distinct on the caudal peduncle; a black spot at the dorsal of the gill opening.

Garra rotundinasus is distinct from other sympatrically occurring Chinese congeners, except for *G. tengchongensis*, in having 36-37 (vs. 32-35) perforated lateral line scales, 5 (vs. 3-4) scales between the vent and anal-fin origin, and a wider gap between anus and anal fin origin (anus to anal distance 32.1-51.8% pelvic to anal distance, vs. 16.8-30.6), and from *G. tengchongensis* in having absence of a dark central band on dorsal fin, a smaller caudal peduncle (depth 10.8- 11.8% SL vs. 12.0-13.2), and a larger disc (width 68.8-82.3% HL vs. 43.3-56.0, and length 46.8-60.8 % HL vs. 36.1-42.5).

Description. – Measurements taken from six specimens (81.2-184.5 mm SL) are presented in Table 1. General appearance

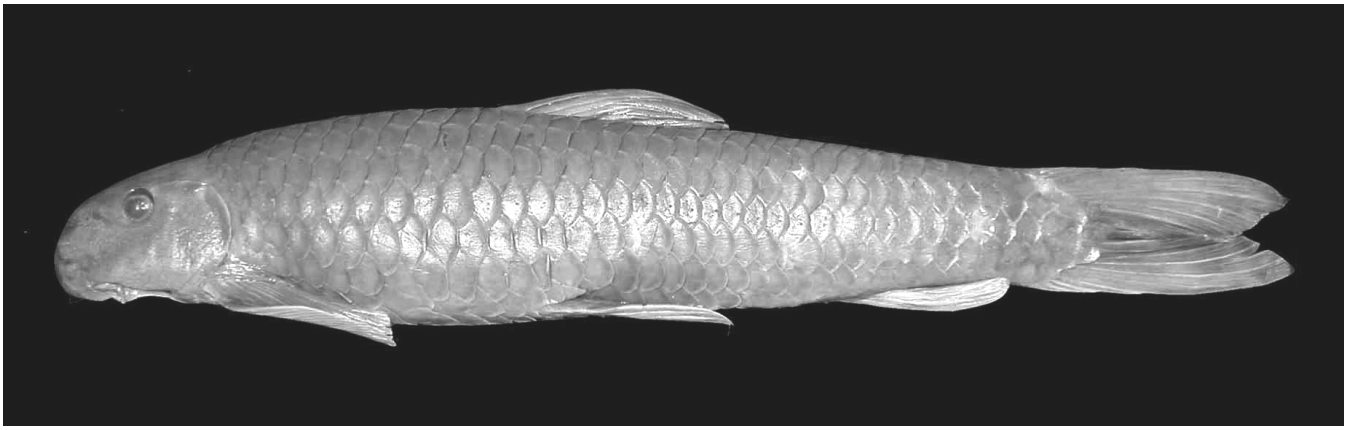

Fig. 1. *Garra rotundinasus*, holotype, 161.5 mm SL (IHB 78IV1162), China, Yunnan Province, Yiluowadi Jiang basin: Daying Jiang in Tengchong; lateral view.

Table 1. Morphometric characters for *Garra rotundinasus*.

Morphometrics	***G. rotundinasus***				
	Holotype	Paratypes (n = 5)			
		Min	Max	Mean	SD
SL (mm)	161.5	81.2	184.5		
In % SL					
Body depth	20.6	18.5	21.0	20.2	1.0
Head length	19.7	19.9	21.7	20.8	0.9
Head height	13.9	12.5	14.4	13.3	0.9
Head width	17.2	15.8	18.5	16.8	1.1
Dorsal-fin length	21.2	21.6	24.2	23.3	1.0
Pectoral-fin length	19.6	17.6	21.1	19.6	1.4
Pelvic-fin length	19.2	16.5	19.9	18.8	1.4
Anal-fin length	18.1	15.9	17.9	17.0	0.9
Length of caudal peduncle	14.3	14.6	16.1	15.6	0.6
Depth of caudal peduncle	11.5	10.8	11.8	11.4	0.3
Predorsal length	47.1	45.5	48.0	46.6	0.9
Prepectoral length	18.8	18.5	21.2	20.0	1.4
Prepelvic length	50.4	50.1	53.9	51.5	1.5
Preanal length	78.6	77.8	81.2	79.7	1.3
In % HL					
Snout length	51.5	47.2	58.6	52.1	4.5
Eye diameter	15.7	13.8	18.6	16.6	2.3
Interorbital width	47.3	44.8	56.9	50.1	4.7
Disc length	45.2	46.8	60.8	53.0	5.1
Disc width	69.0	68.8	82.3	74.1	5.3
In % pelvic-anal distance					
Anus-anal distance	38.1	32.1	39.2	35.4	2.6

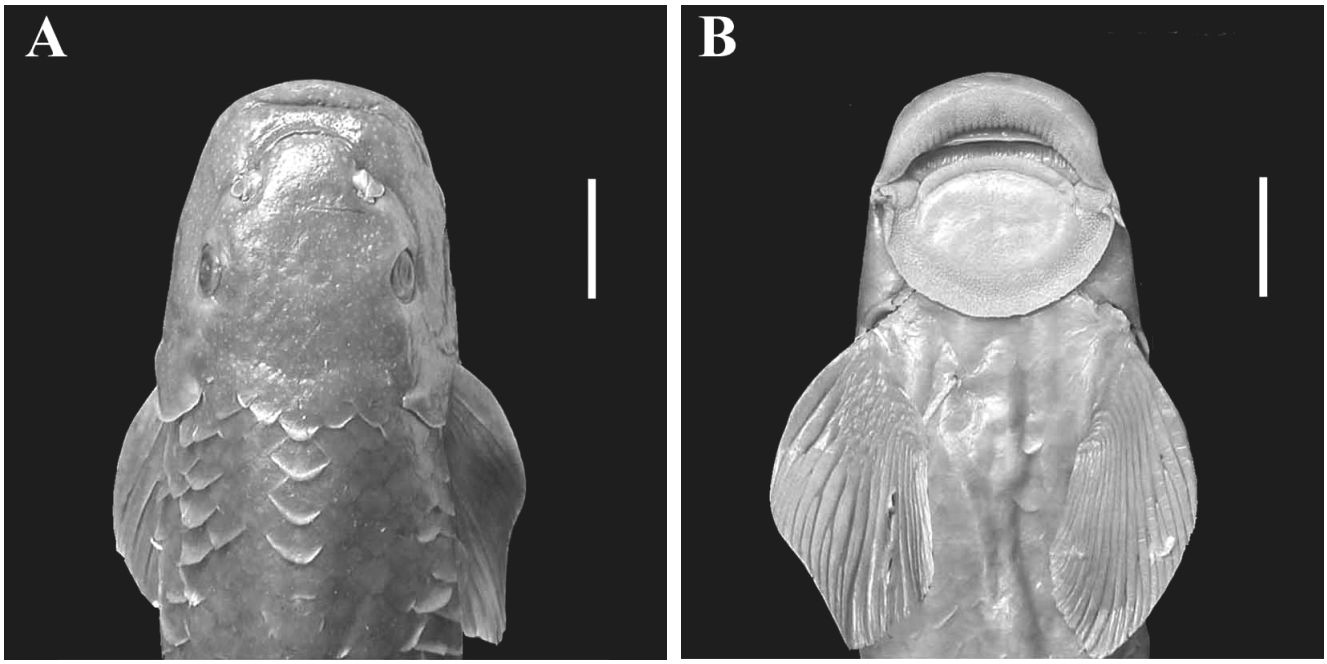

Fig. 2. *Garra rotundinasus*, paratype, 125.1 mm SL, (IHB 78IV1665), China, Yunnan Province, Yiluowadi Jiang basin: Daying Jiang in Tongbiguan, Tengchong. A, dorsal view of head; B, ventral view of disc. Scale bar = 1 cm.

Table 2. Comparison of morphometric and meristic characters between *Garra rotundinasus* and *G. gravelyi*. Parameters of each character as follows: range followed by mean in parentheses. a: data from Menon (1964).

Morphometrics	***G. rotundinasus***	***G. gravelyi*[a]**
In SL		
Body depth	4.76-5.39 (4.94)	3.88-4.74 (4.22)
Head length	4.62-5.08 (4.85)	4.55-5.00 (4.78)
Predorsal length	2.08-2.20 (2.14)	2.11-2.31 (1.21)
In HL		
Head width	1.14-1.28 (1.23)	1.39-1.48 (1.44)
Head depth	1.85-2.11 (1.97)	1.26-1.41 (1.36)
Snout length	1.85-2.11 (1.97)	1.78-2.17 (1.93)
Eye diameter	5.52-7.10 (6.28)	3.60-4.45 (4.11)
Interorbital width	1.99-2.18 (2.06)	1.95-2.45 (2.21)
Disc length	1.92-2.12 (1.98)	2.53-3.54 (2.87)
Pectoral-fin length	1.01-1.14 (1.06)	0.95-1.03 (0.99)
Length of caudal peduncle	1.23-1.48 (1.34)	1.15-1.33 (1.23)
In disc width		
Disc length	1.35-1.53 (1.42)	1.08-1.29 (1.21)
In length of caudal peduncle		
Width of caudal peduncle	1.25-1.43 (1.35)	1.24-1.50 (1.39)
In pelvic to anal distance		
Vent to anal distance	2.55-3.12 (2.80)	3.50-4.80 (4.08)
Meristics		
Dorsal-fin rays	iv, 8	iv, 7
Anal-fin rays	iii, 5	iii, 5
Pectoral-fin rays	i, 13-15	i, 13
Pelvic-fin rays	i, 8	i, 8
Lateral line scales	36-37	32-34
Scales above lateral line	$2^1/_2$	$3^1/_2$-$4^1/_2$
Scales below lateral line	$2^1/_2$-3	$3^1/_2$
Predorsal scales	10-11	8-9
Circumpeduncular scales	12	–
Scales between vent and anal-fin origin	5	–

of body is illustrated in Fig. 1, and morphology of the head dorsum and mental adhesive disc are shown in Figs. 2A-B, respectively.

Body elongate, anteriorly cylindrical and posteriorly slightly compressed laterally. Head moderately large and depressed with a somewhat convex dorsal profile; height less than width and width less than head length. Snout broadly rounded with a groove across its tip to form a transverse lobe and a poorly developed proboscis represented by a truncate area before nostril, deflected downward against snout and pointed forwards. Eye small, placed dorsolaterally in posterior half of head, with a broad and flat interorbital space. Two pairs of barbels; rostral pair located anterolaterally, shorter than eye diameter, and maxillary barbels hidden at corner of mouth, shorter than rostral barbels. Dorsal profile of body slightly convex from tip of supraoccipital process to dorsal-fin origin. Dorsal-fin base almost straight, sloped posteroventrally. Profile from posterior end of dorsal fin-base to caudal-fin ray straight or somewhat concave. Ventral profile of body straight or somewhat convex from pectoral- to pelvic-fin origin, and straight from pelvic- to anal-fin origin. Anal fin base nearly straight, posterodorsally inclined. Profile between posterior end of anal-fin base to caudal-fin ray slightly concave.

Rostral fold well-developed, pendulous and greatly crenulated with a papillated distal margin, separated from upper jaw by a deep groove and laterally continuous with lower lip. Upper lip absent and upper jaw entirely covered by rostral fold, with a thin horny sheath edge. Lower lip modified into a mental adhesive disc. Disc elliptical, shorter than wide; anterior margin modified to form a transverse, fleshy and crescentic skin fold covered by numerous tiny papillae, anteriorly

separated from lower jaw by a deep groove running along lower jaw and posteriorly bordered in a deep groove with central callous pad; lateral and posterior margins surrounding central callous pad, papillated and free; posterior-most margin reaching beyond vertical of posterior margin of eye.

Many minute tubercles present on transverse lobe of snout, anterior portion of lachrymal and anterior margin of proboscis in small specimens (81.2-111.0 mm SL); in large specimens (125.1-184.5 mm SL), tubercles are more prominent and larger on the transverse lobe of snout and anterior portion of proboscis.

Lateral line complete; scales 33 (2) or 34(4*) plus 3 on caudal-fin base; longitudinal scale rows above lateral line $2^1/_2$ (3*) or 3 (3) and below lateral line $2^1/_2$ (3*) or 3 (3). Circumpeduncular scales 12 (6*). Predorsal scales 10 (3) or 11 (3*), regularly arranged. Chest and belly scaled. Long axillary scale present at base of pelvic fin, reaching beyond base of last pelvic-fin ray.

Dorsal fin with 4 simple and 8 (6*) branched rays, last ray split to base; last simple ray longer than or equal to HL; distal margin slightly concave; origin closer to snout tip than to caudal-fin base. Pectoral fin with 1 simple and 13 (1), 14 (4) or 15 (1*) branched rays, reaching about two-thirds of distance to pelvic-fin origin; its length less than or equal to HL. Pelvic fin with 1 simple and 8 (6*) branched rays, reaching beyond midway to anal-fin origin and surpassing anus; its length less than HL; origin closer to anal fin origin than to pectoral-fin origin, situated vertically at base of 2nd or 3rd branched dorsal -fin ray. Anal fin with 4 simple and 5 (6*) branched rays, last ray split to base, reaching beyond ventral origin of caudal-fin rays; distal margin almost truncate; origin of anal fin closer to caudal-fin base than to pelvic-fin origin. Vent placed closer to anal fin origin than to pelvic-fin origin, separated from anal-fin origin by width of five scale rows. Caudal fin forked, its longest rays less than 2 times as long as its shortest rays.

Vertebrae 23 + 12 = 35 (2), 24 + 11 = 35 (1*), 24 + 12 = 36 (2), 24 + 13 = 37 (1). Pharyngeal teeth triserial, 5, 3, 2 / 2, 3, 5 (2), with pointed, slightly curved and compressed tips. Air bladder bipartite, anterior chamber oval and posterior chamber very small. Gill rakers small and sparse.

Coloration. **–** In formalin-preserved specimens, body brown dorsally and laterally, grey ventrally. In small specimens (81.2-111.0 mm SL), an inconspicuous dark longitudinal stripe along lateral line on side of body. Pectoral and pelvic fins with a blackish dorsal surface of outside rays; caudal fin with a black distal margin.

Distribution. **–** *Garra rotundinasus* is known from the Yiluowadi Jiang (upper Irrawaddy River) basin in Yunnan Province, China.

Etymology. **–** The name is made from the Latin *rotundus* (round) and *nasus* (snout), in allusion to having a broadly rounded snout in this species. Name used as a noun in apposition.

DISCUSSION

The original description of *Garra gravelyi* is based solely on a single specimen from the Inle Lake and He-Ho stream, southern Shan States, Myanmar, and thus vague, without mention of the proboscis on the snout. Hora (1921) examined the type specimen of *G. gravelyi*, and discovered that the snout possesses an indistinct proboscis. Menon (1964) treated *G. gravelyi* s. str. as valid in his monograph of the cyprinid fishes of *Garra*, pointing out that it has a snout with a poorly developed proboscis represented by a truncate area in front of the nostrils, a character that can be utilized to distinguish it from all other congeners. This character was also highlighted by Talwar & Jhingran (1991). *Garra rotundinasus* shares the same proboscis with and has been often wrongly identified as *G. gravelyi* s. str. But both species differ in coloration, morphometric and meristic characters (Table 2). Although no specimens of *G. gravelyi* s. str. were available for this study, a detailed description of the species was provided by Menon (1964) based on five specimens including the type material from Myanmar. The color pattern exhibited by *G. gravelyi* s. str. are as follows: an indistinct mid-lateral band with a few incomplete narrow longitudinal stripes above and below it, more distinct on the caudal peduncle, a black spot at the dorsal opening of the gill, and a series of indistinct black spots at the base of the branched dorsal-fin rays, all of which are not represented in *G. rotundinasus*.

Garra rotundinasus is distinct from *G. gravelyi* s. str. in having more perforated lateral line scales (36-37 vs. 32-34); more predorsal scales (10-11 vs. 8-9); fewer scales above the lateral line ($2^1/_2$ vs. $3^1/_2$-$4^1/_2$); broadly rounded snout (vs. slightly pointed); a shallower body (depth 4.76-5.39 in SL vs. 3.88-4.74), a wider and more depressed head (width 1.14-12.8 in SL vs. 1.39-1.48 and depth 1.85- 2.11 in SL vs.1.26-1.41), a smaller eye (diameter 5.52-7.10 in HL vs. 3.60-4.45), a longer disc length (1.92-2.12 in HL vs. 2.53-3.54), a greater ratio of the disc length to width (1.35-1.53 vs. 1.08-1.29) and an more anterior position of the anus (anus to anal distance 2.55-3.12 in pelvic to anal distance vs. 3.50-4.80).

Garra rotundinasus is found in the Yiluowadi Jiang (upper Irrawaddy River) basin in Yunnan, China, where four other *Garra* species have been reported, viz. *G. bispinosa*, *G. qiaojiensis*, *G. salweenica* and *G. tengchongensis* (Zhang & Chen, 2002; Zhang, 2005). *Garra rotundinasus* shares with *G. tengchongensis* the presence of 36-37 perforated lateral line scales, 5-6 scales between the vent and anal-fin origin, and an anterior position of the anus (anus to anal distance 32.1-51.8% pelvic to anal distance), all characters that can be utilized to separate both from the three sympatric *Garra* species. These three species possess 33-35 perforated lateral line scales, 3-4 scales between the vent and anal-fin origin, and a posterior position of the anus (anus to anal distance 19.0-30.6% pelvic to anal distance). See the earlier diagnosis for the differences between *G. rotundinasus* and *G. tengchongensis*.

Garra rotundinasus is further distinct from *G. bispinosa* and *G. salweenica* in possessing a unilobed (vs. bilobed in *G.*

bispinosa or trilobed in *G. salweenica*) proboscis on the snout, no black spots at the base of the branched dorsal-fin rays (vs. presence), no longitudinal stripes on the posterior portion of the body (vs. presence), a broadly rounded snout (vs. slightly pointed in *G. bispinosa* and blunt in *G. salweenica*), a larger disc (width 68.8-82.3% HL vs. 53.9-62.8) and a smaller caudal peduncle (depth 10.8-11.8 % SL vs. 12.4-14.9). *Garra rotundinasus* is distinct from *G. bispinosa* in lacking two large uniscupid, acanthoid tubercles on the anterior margin of the proboscis on the snout and having a shorter head (length 19.7-21.7% SL vs. 22.6-24.6). *Garra rotundinasus* differs from *G. salweenica* in having a shallower body (depth 18.5-21.0% SL vs. 22.4 -25.3).

Garra rotundinasus, with 12 circumpeduncular scales and a broadly rounded snout having a single lobed proboscis, is similar to *G. qiaojiensis*, but differs from it in having a shorter head (length 19.7- 21.7% SL vs. 21.8-23.9), a shallower body (depth 18.5-21.0% of SL vs. 21.6-25.6) and an anterior position of the anus (anus to anal distance 32.1-39.2% pelvic to anal distance vs. 22.8-28.3).

In addition to *G. graveyli* s. str. and *G. salweenica,* there are nine additional species of *Garra* from the Salween (or Nu Jiang in Chinese) and Mekong River (or Lancang Jiang in Chinese) basins, namely *G. cambodgiensis, G. cyrano*, *G. fasciacauda, G. fuliginosa*, *G. imberbis*, *G. mirofrontis*, *G. notata*, *G. orientalis* and *G. theunensis* (Rainboth, 1996; Kottelat, 1998, 2000, 2001; Zhang et al., 2000). *Garra rotundinasus* is separated from them by the following combination of characters: a broadly rounded snout, 36-37 perforated lateral line scales, a scaled breast and belly, 10-11 predorsal scales, two pairs of barbels and no band or stripe on the side of the body. *Garra rotundinasus* has 36-37 perforated lateral line scales vs. 48-50 in *G. theunensis*, 44-45 in *G. imberbis*, or 29-35 in the remaining species. *Garra imberbis*, as described by Menon (1964), differs from *G. rotundinasus* in having no barbels (vs. two pairs) and more predorsal scales (16 vs. 10-11). *Garra notata*, according to Menon (1964), differs from *G. rotundinasus* in possessing a series of black spots at the base of the branched dorsal-fin rays (vs. absence) and a scaleless breast and belly (vs. scaled). *Garra orientalis*, as described by Zhang (2005), is distinct from *G. rotundinasus* by having a slightly pointed (vs. broadly rounded) snout with a trilobed (vs. unilobed) proboscis and 5-6 indistinct longitudinal stripes on the posterior part of the body (vs. absence). *Garra rotundinasus* lacks the color pattern elements of the following species: a black mid-lateral band on the body in *G. cambodgiensis*; a brown to black body with 6 indistinct longitudinal stripes on the posterior portion in *G. cyrano*; a black mid-lateral band on the body and a distinct black submarginal stripe along each caudal-fin lobe in *G. fasciacauda*; a black blotch on the caudal-fin base and a dark brown body with 5-6 indistinct longitudinal stripes on the posterior portion in *G. fuliginosa*; 5-6 indistinct longitudinal stripes on the posterior portion of the body in *G. mirofrontis*; body and fins are plain dark brown in *G. theunensis*, sometimes with 6-8 longitudinal fairly distinct stripes.

Comparative material. **–** *Garra fuliginosa*: ANSP58006, holotype, 178.0 mm SL, Metang River in northern Thailand [photograph examined]. *Garra orientalis*: IHB 9805001-13, 13 ex., 71.9-103.7 mm SL, Lancang Jiang (Mekong River) basin in Yangbi, Yunnan Province. *Garra qiaojiensis*: IHB 78IV1051, 90IV0121, 90IV0998, 90IV0119, 90IV029, 90IV1051-2, 60.542 (holotype), 90IV0288- 9, 90IV0076-8, 12 ex., 92.3-162.4 mm SL, Daying Jiang of the Yiluowadi Jiang (upper Irrawaddy River) basin in Tengchong, Yunnan Province. *Garra salweenica*: IHB 78IV1546, 78IV1549, 78IV1541, 78IV1536, 78IV1521, 78IV1530, 6 ex., 114.7-174.0 mm SL, Daying Jiang of the Yiluowadi Jiang (upper Irrawaddy River) basin in Yingjiang, Yunnan Province; CMK 14675, 3 ex., 71.6-88.9 mm SL; Mae Nam Moei, Tak Province, Thailand; KIZ 20007303, 1 ex.,115.1 mm SL, Nu Jiang (Salween River) basin in Liu Ku, Yunnan Province. *Garra tengchongensis*: IHB 90IV0189-90, 90IV0237-43, 9 ex., 51.3-87.0 mm SL, KIZ 839420, 839439, 830433, 830406, 839430, 5 ex. 64.2-70.8 mm SL, Daying Jiang to the Yiluowadi Jiang (upper Irrawaddy River) basin in Tengchong, Yunnan Province.

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