

Research Article

GLYPTOTHORAX PASIGHATENSIS, A NEW SPECIES OF CATFISH (TELEOSTEI: SISORIDAE) FROM ARUNACHAL PRADESH, NORTHEASTERN INDIA

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ABSTRACT

A new species of the Genus *Glyptothorax*, *Glyptothorax pasighatensis* sp. nov., is described from the Siang River of Arunachal Pradesh, India. The new species can be distinguished from its congeners by the following combination of characteristics: a distinct linear series of 6-8 mid-line neural spines between the dorsal and adipose fins and 3-5 in between the posterior adipose dorsal fins to origin of caudal fin, a serrated dorsal spine; its length 16.5-18.9% SL, caudal peduncle depth 7.3-9.3% SL, body depth at anus 13.5-15.9% SL, a long nasal barbel 26.0-31.8% SL, a long maxillary barbel 91.1-108.7% HL and elongated oval shape of thoracic apparatus.

Keywords: Sisorid, Siang River, Arunachal Pradesh

INTRODUCTION

The catfishes of the genus *Glyptothorax* are among the most species rich and widely distributed members of the Sisoridae. They range from the Black sea basin in the Northern Turkey, the Tigris and Euphrates River drainages eastwards to the Yangtze River drainage and Southwards to Southern India (Coad, 1981; Coad & Delmastro, 1985; Kullander *et al.*, 1999; Ferraris & Britz, 2005; Ferraris, 2007; Ng & Rainboth, 2008 and Ng & Freyhof, 2008, Jiang *et al.*, 2010, 2012). They are treated as a monophyletic group (Jiang *et al.*, 2011). These catfishes typically inhabit fast-flowing hill streams and stretches of rivers, and are distinguished by their distinctive thoracic adhesive apparatus, comprising of an elliptical field of radiating, folded, oblique pleats of skin, a detached distal portion of the premaxilla; and long and slender lateral arms of the vomer extending underneath of entire length of the particular process of the lateral ethmoid (de Pinna, 1996), and easily distinguished from other sisorid catfishes in having a thoracic adhesive apparatus with grooves parallel or oblique to the longitudinal axis of the body (Thomson & Page, 2006).

Karamkar (2000) reported on the distribution of 16 *Glyptothorax* species in the Himalayan drainage system (Eastern Himalaya, North Eastern Himalayan, Central Himalaya and North-western Himalaya). The ichthyofauna of Arunachal Pradesh was firstly mentioned by McClelland (1839) and followed by various workers like Chaudhuri (1913), Hora (1921), Jayaram (1963), Jayaram & Mazumdar (1964), Srivastava (1966), Chaudhury & Sen (1977), Dutta & Burman (1985) Sen (1999) Nath & Day (1977), Tamang *et al.*, (2007), Bagra *et al.*, (2009), Bagra & Das (2010). Talwar & Jhingran (1991) and Jayaram (2006) reported 30 and 32 nominal species of *Glyptothorax* from India respectively. The taxonomy of the Indian *Glyptothorax* is poorly understood

(Ng, 2005). Kosygin & Vishwanath (2005) stated the validity and redescription of *Glyptothorax manipurensis* and recorded *G. sinense* from India. Anganthoibi and Vishwanath (2010a, b; 2013), Darshan *et al.*, (2015), Menon (1954), Ng and Lalramliana (2012a,b; 2013), Premananda *et al.*, (2015) Rameshori & Vishwanath (2012a, b, c; 2014), Tamang and Chaudhry (2011) and Vishwanath & Linthoingambi (2005, 2007) describe species of *Glyptothorax* from the northeastern India. A collection of fishes from Siang River at Pasighat, a tributary of the Brahmaputra of *Glyptothorax* were obviously distinguished from its congeners and described herein as a new species.

MATERIALS AND METHODS

The specimens were preserved in 10% formalin and deposited in the Manipur University Central Museum (MUCM) with accession no. 44/NH/MUM. Measurements were made point to point with dial calliper and data recorded to nearest 0.1mm. Subunits of the head are presented as proportions of head length (% HL). Head length itself and measurement of body parts are given as proportions of standard length (% SL).

RESULTS

***Glyptothorax pasighatensis* sp. nov. (Figures. 1 a-c).**

Type material

Holotype: 44/NH/MUM, 100 mm SL; India: Arunachal Pradesh, Siang River at Pasighat, East Siang District, 28°05'17" N 95°19'54"E, 149 altitude in meter, collected by G.SK Sharma, 7 Dec. 2008.

Paratypes: Five specimens, 90-95.4 mm SL; data as for holotype.

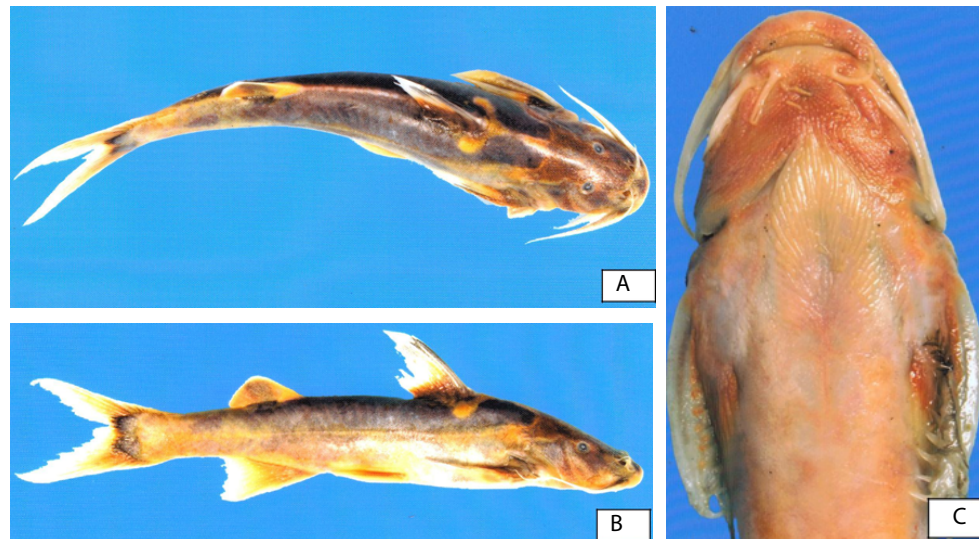


Figure 1. *Glyptothorax pasighatensis* sp.nov., (a) Dorsal view, (b) Lateral view, (c) Ventral view of thoracic adhesive apparatus.

Diagnosis: *Glyptothorax pasighatensis* sp. nov. with a distinct linear series of 6-8 mid-line neural spines between the dorsal and the adipose fins and 3-5 between the posterior adipose and origin of caudal-fins, serrated dorsal spine; its length 16.5-18.9% SL, caudal peduncle depth 7.3-9.3% SL, body depth at anus 13.5-15.9% SL, a long nasal barbel 26.0-31.8% HL and a long maxillary barbel 91.1-108.7%

HL, thoracic adhesive apparatus with a median depression and longer than width, its width 64.0-70.4% its length and adipose fin with a grey blotch.

Description: Biometric data in Table 1. Head depressed body sub-cylindrical, minutely tuberculated. Dorsal profile rising evenly from tip of snout to origin of dorsal fin to end

Character	Holotype 44/NH/MUM	Paratypes Range 44/NH/MUM (No.=5)	Mean	± SD
Standard length (SL) in mm % of SL	100	90-120.2		
Predorsal length at ray in origin	35.8	34.0-36.0	34.7	1.1
Predorsal length at adipose fin origin	69.7	68.0-68.7	68.3	1.6
Preanal length	66.6	65.6-66.1	65.9	1.6
Prepelvic length	45	43.9-46.2	45.4	1.3
Prepectoral length	21.4	17.9-23.6	20.8	0.9
Length of dorsal fin base	12.6	11.5-13.4	12.5	0.7
Length of adipose fin base	10.3	10.3-12.6	11.4	0.6
Dorsal spine length	16.6	16.5-18.9	17.3	0.8
Length of anal fin base	11.6	11.6-15.1	13.9	0.7
Pelvic fin length	18	13.0-16.7	15.4	0.7
Pectoral fin length	24.7	22.2-27.7	24.8	0.9
Pectoral spine length	21.7	20.0-23.6	21.8	0.9
Caudal fin length	28	22.2-30.2	30.1	1
Length of adipose-fin base	12.6	10.3-15.3	11.4	0.6
Dorsal-to-adipose distance	21.3	19.2-21.0	22.9	0.9
Post adipose distance	19.9	19.2-21.0	20.3	0.9
Length of caudal peduncle	21.1	21.0-21.6	21.4	0.9
Depth of caudal peduncle	7.4	7.3-9.3	8.2	0.5
Body depth at dorsal ray-fin origin	17.7	15.7-17.8	17.1	0.8
Body depth at anus	13.5	13.6-15.9	14.8	0.7
Head length	24.6	22.7-24.8	23.6	0.9
Head width	16.4	13.7-16.4	15.4	0.7
Head depth	13.4	12.2-14.0	13.4	0.7
Body width at dorsal ray-fin origin	13.9	14.0-15.7	14.8	0.7
Body width at anal fin origin	10.5	7.3-9.7	9	0.6
Thoracic adhesive apparatus length	16.7	15.1-16.2	15.7	0.9
Thoracic adhesive apparatus width	10.8	9.6-10.7	10.4	0.8
% of Head Length (HL)				

Snout length	49.6	46.6-50.7	48.5	1.3
Interorbital distance	21.1	22.6-27.1	24.3	0.9
Eye diameter	11.8	11.8-17.7	13.8	0.7
Nasal barbel length	26.4	26.0-31.6	29.3	1
Maxillary barbel length	93.8	91.2-108.7	98.5	1.9
Inner mandibular barbel length	26	25.4-33.8	29.7	1
Outer mandibular barbel length	43.2	42.8-48.3	45.6	1.3
Thoracic adhesive apparatus length	67.8	64.7-66.7	65.7	1.6
Thoracic adhesive apparatus width	44	42.6-45.6	43.9	1.3

Table 1. Biometric data of *Glyptothorax pasighatensis* sp. nov.

of caudal peduncle. Ventral profile flat to anal-fin base then sloping gently dorsally from anal-fin base to end of caudal peduncle. Anus and urogenital openings closed to the origin of anal-fin. Posterior ray of ventral-fin just reacting this opening. Lateral line complete, mid-lateral in position. Head longer than width. Anterior and posterior nares separated only by base of nasal barbel. Gill openings broad, extending from directly beneath post-temporal to isthmus. Bony elements of dorsal surface of head covered with minute tubercles Nuchal plate distinct. Occipital process not reaching anterior tip of nuchal plate of dorsal fin. Eyes small, ovoid and dorso-laterally located. Barbels in 4 pairs, including one pair of nasal barbels, one pair of maxillary barbels and two pairs of mandibular barbels. Maxillary barbel long, supported by flap of skin, extending posterior ray of pectoral fin base. Nasal barbel slender, arising from internarial septum and extending to or close to anterior orbital margin. Inner mandibular barbel short and extending to anterior isthmus or origin of thoracic adhesive apparatus and longer than horizontal length of eye. Outer mandibular barbel originating posterolateral of inner mandibular barbel, reaching the origin of pectoral spine base. Mouth inferior, upper jaw longer than lower, premaxillary tooth band partially exposed when mouth closed. Oral teeth small and villiform. Premaxillary teeth in single crescentic or semilunate shaped band. Palate edentate. A thoracic adhesive apparatus with narrow folds of skin (form by 15-16+15-16=30-32 ridges), elongate chevron shaped, with median depression and extending from just behind gill opening to two by third to the base of pectoral fin.

Dorsal fin with I, 6 rays, inserted nearer to snout tip than to caudal fin origin fin margin truncate; spine pungent, smooth on anterior and minutely serrated the posterior margin. Adipose fin straight and angular on posterior margin. Caudal fin forked with 16 rays and lobes are equal in length. Anal fin with i, 8 rays, originated slightly ahead of vertical opposite of adipose-fin origin and straight anterior margin. Pectoral fin with I, 9-10 rays, not extending past dorsal fin base, not reaching pelvic fin origin, anterior spine margin smooth, posterior margin with 8-12 serrae. Pelvic-fin with i, 5 rays; straight margin; tip of addressed fin not reaching the origin of anal fin. Adipose fin base length shorter than branched dorsal fin rays.

Colouration: Body clayish, one bean shaped cream colour spot on either side of the dorsal fin origin. Dorsal fin with blackish band upto second rays, its base dark grey. Centre of adipose-fin with light to dark black blotch. Bases of fins are dark grey. Upper and lower lobe bases of caudal fin

with two separate distinct black patches. Tip ends of fins with pale yellowish colour.

Distribution: So far this species is only known for its type locality, the Siang River, a tributary of the Brahmaputra River basin of north-eastern India.

Etymology: The species is named after its type locality.

Habitat and Ecology: The type locality at the time of capture had swift, moderate and turbid running water consisting of various substrates such as graved, cobbles or large boulders and sand particles. The following is a list of ichthyofaunal species collected syntopically with this new species: Cyprinidae: *Raiamas bola*, *Cabdio morar*, *Amblypharyngodon mola*, Cobitidae: *Lepidocephalichthys guntea*, Siluridae: *Ompok pabo*, Schilbeidae: *Clupisoma garua*, *Eutropiichthys vacha*, Mastacembelidae: *Mastacembelus armatus*, *Macrognathus* sp. etc.

DISCUSSION

Twenty-seven species of *Glyptothorax* are known from the three major river basins of northeastern India including *G. pasighatensis* and shown in Table 2. The species of the sisorid catfish *Glyptothorax* has large numbers of valid species distributed over a vast geographical area. However, in view of the fact that the distribution of these rheophilic species is restricted to a particular region and they are not likely to occur outside it (Ng & Rachmatika, 2005), the new species has been compared only with the congeners of the Brahmaputra basin.

Glyptothorax pasighatensis sp. nov. is distinguished from *G. alaknandi* in having more branched rays of pectoral fin (9 -10 Vs. 7), origin of the dorsal fin (not equal equidistant Vs. equal) between the tip of snout and the origin of adipose fin, base of adipose dorsal is slightly (shorter Vs. equal) than that of the ray dorsal fin, length of caudal peduncle is (more than two Vs. just two times) its height. Data of Tilak (1969) for *G. alaknandi* were used for comparison.

Glyptothorax pasighatensis sp. nov. is also distinguished from *G. botius* in having more unbranched dorsal-fin rays (II VS. I), dorsal spine (serrated VS. non-serrated), thoracic adhesive apparatus (with narrow folds of skin and with median depression VS. with broader folds of skin and without median depression) longer dorsal spine (16.5-18.9 VS. 12.1-14.5% SL), shorter anal-fin base (11.6-15.1 VS. 16.2-18.5% SL), longer pectoral fin (22.2-27.7 VS. 18.2-21.9% SL), longer pectoral spine (20.0-23.6 VS. 13.6-16.4% SL), shorter adipose-fin base (10.3-12.6 VS. 12.0-16.4% SL)

	Bb	Cb	Kb
<i>G. ater</i> Anganthoibi & Vishwanath, 2011	-	-	+
<i>G. botius</i> (Himilton-Buchanan, 1822)	+	-	-
<i>G. brevipinnis</i> (Hora, 1923)	+	-	-
<i>G. caudimaculatus</i> Nongmaithem & Vishwanath, 2011	-	-	+
<i>G. cavia</i> (Himilton-Buchanan, 1822)	+	-	+
<i>G. chintuipuiensis</i> Anganthoibi & Vishwanath, 2010	-	-	+
<i>G. chindwinica</i> Vishwanath & Linthoingambi, 2007	-	+	-
<i>G. churamani</i> Rameshori & Vishwanath, 2012.	-	-	+
<i>G. clavatus</i> Rameshori & Vishwanath, 2014	+	-	-
<i>G. dikrongensis</i> Tamang & Chaudhry, 2011	+	-	-
<i>G. granulus</i> Vishwanath & Linthoingambi, 2007	-	+	-
<i>G. indicus</i> Talwar, 1991	+	-	-
<i>G. jayarami</i> Rameshori & Vishwanath, 2012	-	-	+
<i>G. maceriatius</i> Ng and Lalramliana, 2012	+	-	-
<i>G. manipurensis</i> Menon, 1954	+	-	-
<i>G. mibangi</i> Darshan <i>et al</i> , 2015	+	-	-
<i>G. ngapang</i> Vishwanath & Linthoingambi, 2007	-	+	-
<i>G. pantherinus</i> Anganthoibi and Vishwanath, 2013	+	-	-
<i>G. radiolus</i> Ng and Lalramliana, 2013	+	-	-
<i>G. scorbiculus</i> Ng and Lalramliana, 2012	+	-	-
<i>G. senapatiensis</i> Premananda <i>et al</i> , 2015	-	+	-
<i>G. sinense</i> Mukerji, 1933	-	+	-
<i>G. striatus</i> (McClelland, 1842)	+	-	-
<i>G. telchitta</i> (Himilton-Buchanan, 1822)	+	-	+
<i>G. ventrolineatus</i> Vishwanath & Linthoingambi, 2005	-	+	-
<i>G. verrucosus</i> Rameshori & Vishwanath, 2012	-	-	+
<i>G. pasighatensis</i> sp. nov.	+	-	-

Table 2. Distribution records of *Glyptothorax* species in the three river basins of Northeastern India. (Note: Bb=Brahmaputra basin, Cb=Chindwin basin, Kb=Koladyne basin, + = present and – = Absent).

deeper caudal peduncle (7.3-9.3 VS. 3.1-4.2% SL), shorter snout (46.6-50.7 VS. 50.9 VS. 10.6-12.3% SL), larger eye diameter (11.8-17.7 VS. 10.4-12.4% HL), longer nasal barbel (26.0-31.8 VS. 14.5-19.9% HL), longer maxillary barbel (91.2-108.7 VS. 66.7-79.1% HL) and colouration (absence of saddle VS. presence of saddles on body). Data of Ng (2005) for *G. botius* were used for comparison.

Glyptothorax pasighatensis sp. nov. is distinguished from *G. brevipinnis* in having more unbranched dorsal-fin rays (II VS. I), less ratios of head length by eye diameter (5.7-8.5 VS. 15.1) and interorbital width by eye diameter (1.3-2.3 VS. 3.9) respectively and in having shorter adipose-fin base (10.3-12.6 VS. 14.8-15.6) and a ventrally unplaited VS. Plaited pectoral-fin ray. Data of Pandey *et al.*, (2011) and Anganthoibi & Vishwanath (2010a) for *G. brevipinnis* were used for comparisons.

Glyptothorax pasighatensis sp. nov. differs from *G. cavia* in lacking (VS. presence) of a pit on the thoracic adhesive apparatus. Data of Vishwanath & Linthoingambi (2007) for *G. cavia* were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. clavatus* in having absence of distinct light cream mid-lateral and mid-dorsal stripes running along entire length of the body VS. present. Data of Rameshori and Vishwanath (2014) were used for comparison.

Glyptothorax pasighatensis sp. nov. further differs from *G. dikrongensis* by lacking unculiferous ridges of thoracic adhesive apparatus extending anteriorly onto gular region VS. Presence of it. Data of Tamang & Chaudhry (2011) were used for comparisons.

Glyptothorax pasighatensis sp. nov. differs from *G. garhwali* in having more branched rays of pectoral fin (9-10 Vs. 8-9), shorter head (22.7-24.8 Vs. 25.6-26.3% SL), slender body depth (13.6-13.9 Vs. 19.8-20.2% SL), length of dorsal fin (not equal Vs. equal) to the height of body, slender depth of caudal peduncle (34.5-43.6 Vs. 56.5-80.6) in its length, dorsal spine (minutely serrated Vs. smooth), origin of the adipose dorsal fin is (not advanced Vs. advance) of the anal fin. Data of Tilak (1969) for *G. garhwali* were used for the comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. indicus* in having shorter pre-dorsal (34.0-36.0 Vs. 36.8 - 38.0 % SL), longer dorsal spine (16.5-18.9 Vs. 11.9-14.6% SL), longer pectoral fin (22.2-27.7 Vs. 18.3 - 19.1% SL), longer pectoral spine (20.0 -23.6 Vs. 14.3-14.9% SL), longer caudal fin (22.2-30.2 Vs. 20.4-24.6% SL), shorter adipose fin base (10.3-12.6 Vs. 13.6-15.3% SL), shorter head (22.7-24.8 VS. 26.4-27.6% SL), narrower head (13.7- 16.4 Vs. 18.8 -20.5% SL), larger eye (11.8-17.7 Vs. 4.5-5.9% HL), shorter nasal barbel (26.0-31.6 Vs. 31.9-39.2% HL) and shorter outer mandibular barbel (42.8-48.3 Vs. 52.9 – 64.0% HL)

respectively. Data of Lalramliana and Vanlalhriata (2010) were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. maceriatius* in having less numbers of anal fin rays (8 Vs. 11-13), minutely serrated posterior edge of dorsal spine Vs. smooth, narrower inter-orbital distance (22.6 -27.1 Vs. 27.0-31.4% HL). Data of Ng and Lalramliana (2012) were used for comparison.

Glyptothorax pasighatensis sp. nov. also further differs from *G. manipurensis* by having lesser interorbital distance (21.1-27.1 VS. 28.0-33.1% HL), lesser depth of caudal peduncle (34.5-43.6 VS. 45.4-48.0% its length), longer thoracic adhesive apparatus (64.7-67.8 VS. 56.0-63.5% HL), lesser body depth (15.7-17.8 VS. 18.9-23.7% SL), shorter prepelvic (43.9-46.2 VS. 48.2-49.8% SL), lesser depth of head at occiput (53.9-59.9 VS 66.0-72.0% HL), lesser head width (60.3-70.6 VS. 79.0-84.3% HL) and lesser width of thoracic adhesive apparatus ((64.0-70.4 VS. 73.7-78.9%) as a proportion of its length. Data of Vishwanath & Linthoingambi (2007) for *G. manipurensis* were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. mibangi* in having longer pre-anal (65.6-66.1 Vs. 59.8-64.9% SL), longer head (22.7-24.8 Vs. 21.4-22.6% SL), narrower head (13.7-16.4 Vs. 16.3-17.8 % SL), longer dorsal spine (16.5-18.9 Vs. 15.1-15.3%SL), longer pectoral spine (20.0-23.6 Vs. 15.1-15.3%SL), deeper body depth at anus (13.6-15.9 Vs. 10.4-13.5%SL), shorter snout (46.6-50.7 Vs. 52.9-58.6% HL), larger eye (11.8-17.7 Vs. 8.7-11.1% HL) and inner mandibular barbell (longer Vs. lesser) than horizontal length of eye respectively. Data of Darshan *et al* (2015) were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. pantherinus* in having longer pre dorsal (34.0-36.0 Vs. 31.3-33.3% SL), longer pre anal (65.6-66.6 VS. 58.4-62.5% SL), shorter caudal fin (20.0 – 30.2 Vs. 29.7-33.6% SL), shorter caudal peduncle (21.0 – 21.6 Vs. 23.3 -25.7 % SL), longer post adipose (19.2-21.0 Vs. 10.7-15.2% SL), longer head (22.7-24.8 Vs. 20.9 -22.2 %SL), longer and wider thoracic adhesive apparatus (15.1-16.7 Vs. 13.4-14.8% SL, 9.6-10.8 Vs. 8.8 - 9.4 % SL), lesser head depth (12.2 -14.0 Vs. 15.3 -16.3 % SL), longer snout (46.6 -50.7 Vs. 10.4-12.0% HL), larger eye diameter (11.8-17.7 Vs. 8.5-9.7% HL), and shorter outer mandibular barbel (42.8-48.3 Vs. 46.8-60.1%HL) respectively. Data of Anganthoibi and Vishwanath (2013) were used for comparison. *Glyptothorax pasighatensis* sp. nov. differs from *G. radiolus* in having less number of anal fin rays (8 Vs. 13), deeper body depth at anus (13.6-15.9 Vs. 11.2-11.4% SL), longer pectoral fin (22.2-27.7 VS. 21.4-22.8% SL), longer dorsal spine (16.5-18.9 Vs. 11.6-13.9%SL), shorter dorsal to adipose distance (19.2-21.0 Vs. 26.6-26.8% SL), shorter pelvic fin (13.0-16.7Vs. 16.5-18.3% SL), narrower head (13.7-16.4 Vs. 18.8-19.1% SL), longer pectoral spine (20.0-23.6 Vs.15.4-15.9% SL), larger eye (11.8 - 17.7 Vs. 6.6 -7.4% HL) and posteriorly serrated dorsal spine Vs. smooth respectively. Data of Ng and Lalramliana (2013) for *G. radiolus* were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G.*

scrobiculus by lacking a furrow running along the entire length of ventral surface of the pectoral spine, predorsal (34.0-36.0 Vs. 31.6-34.3% SL), shorter preanal length (65.6-66.1 Vs. 68.7-70.5% SL), shorter prepelvic (43.9-46.2 Vs. 46.1-48.7% SL), longer dorsal spine (16.5-18.9 Vs. 11.3-14.4% SL), longer pectoral fin (22.2-27.7 Vs. 20.6-22.6% SL) longer pectoral spine (20.0-23.6 Vs. 15.0-18.4% SL), shorter dorsal to adipose distance (19.2-21.0 Vs. 15.0-16.9%SL), longer caudal peduncle (21.0-21.6 Vs. 16.8-18.8% SL), deeper body depth at anus (13.5-15.9 Vs. 10.9-13.7% SL), shorter head length (22.7-24.8 Vs. 25.0-26.6% SL), narrower head (13.7-16.4 Vs. 18.8-20.7% SL), larger eye (11.8-17.7 Vs. 7-8% HL) and less number of pectoral serrae (8-12 Vs. 10-18). Data of Ng and Lalramliana (2012) for *G. scrobiculus* were used for comparison.

Glyptothorax pasighatensis sp. nov. further differs from *G. striatus* in having a ventrally unplaited VS. plaited pectoral fin ray, a lesser number of pectoral-spine serrae (8-12 VS. 13-20), a longer dorsal-fin base (100.0-121.9 VS. 82.7-90.9%) as a portion of its adipose-fin base length, longer dorsal spine (16.5-18.9 Vs. 10.3-15.7% SL), shorter dorsal to adipose distance (19.2-21.3 Vs. 24.9-27.9% SL), longer caudal peduncle (21.0-21.6 Vs. 18.4-20.7% SL), narrower head (13.7-16.4 Vs. 19.4-20.9% SL), shorter snout (46.6-50.7 Vs. 51.8-54.7% HL), and larger eye (11.8-17.7 Vs. 8.7-11.5% HL). Data of Anganthoibi & Vishwanath (2010) and Ng & Lalramliana (2013) for *G. striatus* were used for comparison.

Glyptothorax pasighatensis sp. nov. differs from *G. telchitta* in having more unbranched dorsal-fin rays (II VS. I), dorsal spine (serrated VS. non-serrated), longer dorsal spine (16.7-18.9 VS. 11.8-14.7% SL), longer pectoral-fin (22.2-27.7 VS. 17.1-20.4% SL), longer pectoral spine (20.0-23.6 VS. 12.3-17.0% SL), longer preanal (65.6-66.6 VS. 61.5-64.2% SL), deeper caudal peduncle (7.3-9.3 VS. 4.7-5.9% SL), deeper body depth at anus (13.5-15.9 VS. 9.9-13.3% SL), larger eye (11.8-17.7VS. 8.5-10.8% HL), longer nasal barbel (26.0-31.8 VS. 12.3-20.5% HL), longer maxillary barbel (91.2-108.7 VS. 49.7-66.2% HL) and longer mandibular barbel (42.8-48.3 VS. 34.6-41.1% HL). Data of Ng (2005) for *G. telchitta* were used for comparison.

The thoracic adhesive apparatus of *Glyptothorax pasighatensis* is longer than breadth. So, it belongs to *G. manipurensis* group according to Hora (1923). Ng and Rachmatika (2005) divided the Southeast Asian members of the genus *Glyptothorax* into two groups *viz.*, deep bodies (17.3-20.9% SL) and slender bodies (12.0-15.8% SL). Therefore, *G. pasighatensis* sp. nov. belong to deep bodies in having body depth at dorsal-fin origin (15.7-17.8%SL). Tamang & Chaudhry (2011) divided two groups of congeners for this genus *viz.*, the Ganga-Brahmaputra congeners and the Salween congeners. Due to the lacking of body banding pattern and type locality of the new species, *G. pasighatensis*, belongs to the Ganga-Brahmaputra congeners.

The structures of thoracic apparatus, plicae of pectoral and pelvic fins, skin texture, body depth, colouration and distribution are important identifying characters of *Glyptothorax* (Hora, 1923; Ng & Kottelat, 2008; Viswanath & Linthoingambi, 2007; Tamang and Chaudhry, 2011 and Ng

& Rachmatika, 2005). On the other hand, species of this genus *Glyptothorax* may be group into two types viz., type I) visible of dorso-neuro-spines and type II) non-visible of dorso-neuro-spines. The new species, *Glyptothorax pasighatensis* fall in the type I. The present concept is that freshwater fishes are distributed in a particular river basin. So, *Glyptothorax pasighatensis* sp. nov. differs from the distinct fish species of this genus found in the Chindwin basin of north-eastern India (Table 1 & 2).

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