



Research Article

A New Record of the *Pseudolaguvia nubila* (Siluriformes: Erethistidae) from Baandhkhola (Stream) in Central Nepal

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Abstract

In this study, we describe a miniature sisorid catfish of the family Erethistidae, as a new distributional record of *Pseudolaguvia nubila* from the Baandhkhola (stream), a tributary of Narayani River in Central Nepal. *Pseudolaguvia nubila* shows its distribution to Nepal is distinguished from its congeners by combination of characters, such as- two broad and distinct yellowish vertical bands at the origin of dorsal fin and anal fin, smooth outer edge of the dorsal fin spine, dorsal fin spine length 13.23-17.60 % SL, pectoral fin length 24.89-26.27 % SL, pectoral fin spine length 18.39-19.48 % SL and body depth at anus 17.22-18.69 % SL.

Keywords: Taxonomy; freshwater fish; Baandhkhola; stream; Central Nepal

Abbreviations: SL= standard length; HL= head length; MSUMNH= Manonmaniam Sundaranar University Museum of Natural History, Alwarkurichi, India; CMA= collections of M. Arunachalam; CAR= collections of Asha Rayamajhi.

Introduction

Members of the Genus *Pseudolaguvia* (Sisorids) are miniature catfishes, typically under 35 mm standard length shows their distribution in stream and rivers of the Ganges and Brahmaputra in Nepal, India and Bangladesh, Ayeyarwady and Sittang River drainages in east central Myanmar and in the rivers of Western Ghats, peninsular India (Ng, 2006; Ng and Lalramliana, 2010; Radhakrishnan

et al., 2010). Among the seventeen valid species of *Pseudolaguvia*, originally *Pseudolaguvia nubila* was reported from type locality of Sala River a tributary of the Kaladan River in the vicinity of Lungpuk Village, Mizoram (Ng *et al.*, 2013; Ng and Tamang, 2012) northeastern India and additionally fourteen more species have been reported from India (Radhakrishnan *et al.*, 2010; Britz *et al.*, 2013). Further, two species, *Pseudolaguvia tenebricosa* (Britz and

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Ferraris, 2003) from Pathe Chaung, lower Myanmar and *Pseudolaguvia tuberculata* (Prashad and Mukerji, 1929) from Indawgyi in upper Myanmar) were also reported (Rayamajhi *et al.*, 2016). Until now from Nepal, *Pseudolaguvia assula* from Reu River near confluence with Rapti River, central Nepal (Ng and Conway, 2013) is reported including *Pseudolaguvia ribeiroi* and *Pseudolaguvia kapuri* which were also listed earlier (Shrestha, 2008; Rajbanshi, 2012). During current study we provide new records for 1 species of the genus *Pseudolaguvia* captured during ichthyological explorations in Nepal that are not included in the previous compilations of the fishes known to occur in the country. Therefore, the aim of the present work is to contribute in discovery of additional fish species record from the Baandhkhola, a tributary of Narayani River in Nepal.

Materials and Methods

Measurements were made point to point with digital calipers and measurements were made on the left side of specimens whenever possible and measurements following Ng and Kottelat, (2013) and Ng *et al.*, (2013). Subunits of the head are presented as proportions of head length (HL).

Head length and measurements of body parts are given as proportions of standard length (SL). Captured fish samples were preserved in 5% formalin solution. Voucher specimens examined in this study are deposited in the Fisheries Research Division Fish Museum (FRDFM) Kathmandu, Nepal [FRDFM 5 (ex 1) and CAR 2(ex 2)] Physico-chemical parameters; temperature (°C), pH, dissolved oxygen (mg/l), conductivity (ms) and TDS (ppt) were taken. GPS co-ordinates and altitudes were taken using GPS recorder (Model Oregon).

Results

Pseudolaguvia nubila

Non-types. FRDFM 5 (ex 1), 22.04 mm SL; Nepal: Baandhkhola/stream (Khola=stream in Nepali) (a tributary of Narayani River), village Argoili-5, Amaltari Village Development Committee, Nawalparasi district, about 3 km north from Baandhkhola/stream junction near Danda stream, in the vicinity of buffer zone of Chitwan National Park, Chitwan, (lati. N 27°34'462" and long. E 084°06' 903") with 122 msl, collected by Asha Rayamajhi, 23 February 2014.

Table 1: Morphometric measurement of *Pseudolaguvia nubila* (n=3) from the Baandhkhola= stream, a tributary of Narayani River, Nawalparasi, Chitwan, Central Nepal

Morphometric measurements	FRDFM 5, CAR 2 (n=2)	Mean ± SD	<i>Pseudolaguvia nubila</i> (Ng <i>et al.</i> , 2013) (n=13)
Standard length (mm)	22.04-24.04		24.8-32.5
% of Standard length			
Predorsal length	41.74-42.63	42.22±0.45	36.6-40.6
Preanal length	69.15-71.51	69.96±1.34	65.8-69.6
Prepelvic length	52.72-55.99	54.30±1.64	49.5-52.3
Prepectoral length	23.38-24.68	23.94±0.67	22-24.9
Dorsal fin base length	15.06-15.98	15.43±0.49	15.1-17.3
Dorsal fin spine length	13.23-17.60	15.62±2.22	16.4-19.3
Anal fin base length	14.25-14.98	14.63±0.37	15.6-19.7
Pelvic fin length	14.52-16.92	15.92±1.25	15.8-18.5
Pectoral fin length	24.89-26.27	25.49±0.71	24.1-26.4
Pectoral fin spine length	18.39-19.48	19.11±0.63	18.1-22
Caudal fin length	24.25-26.72	25.64±1.27	20.3-25.3
Adipose fin base length	13.73-14.36	14.10±0.33	14.2-15.9
Dorsal to adipose distance	15.77-17.18	16.66±0.77	13.1-16.8
Post adipose distance	13.77-16.38	15.30±1.37	13.9- 16.7
Caudal peduncle length	16.07-17.14	16.77±0.61	15.7-20.2
Caudal peduncle depth	8.40-9.66	9.15±0.67	9.1-11.1
Body depth at anus	17.22-18.69	18.20±0.85	13.9-17.1
Head length	30.26-31.32	30.87±0.55	29-32.4
Head width	21.53-23.34	22.73±1.04	19.7-21.7
Head depth	18.64-19.51	19.14±0.45	15.3-18.9
Body depth at pre dorsal	23.91-25.92	24.62±1.12	
Dorsal fin length	18.60-20.55	19.47±0.99	
Anal fin length	20.42-21.71	21.26±0.73	
% of Head length			
Snout length	47.01-53.66	49.54±3.60	44-53.1
Inter orbital distance	27.49-29.82	28.64±1.17	25.6-31.8
Eye diameter	12.57-12.88	12.76±0.16	10.8-14
Nasal barbel length	9.86-16.96	13.37±3.55	8.6-20.9
Maxillary barbel length	72.25-83.00	76.65±5.63	60-4-84.4
Medial (inner) madibular length	30.85-38.51	35.89±4.37	24.2-42.0
Lateral (outer) mandibular barbel length	57.77-63.16	60.07±2.78	44-63

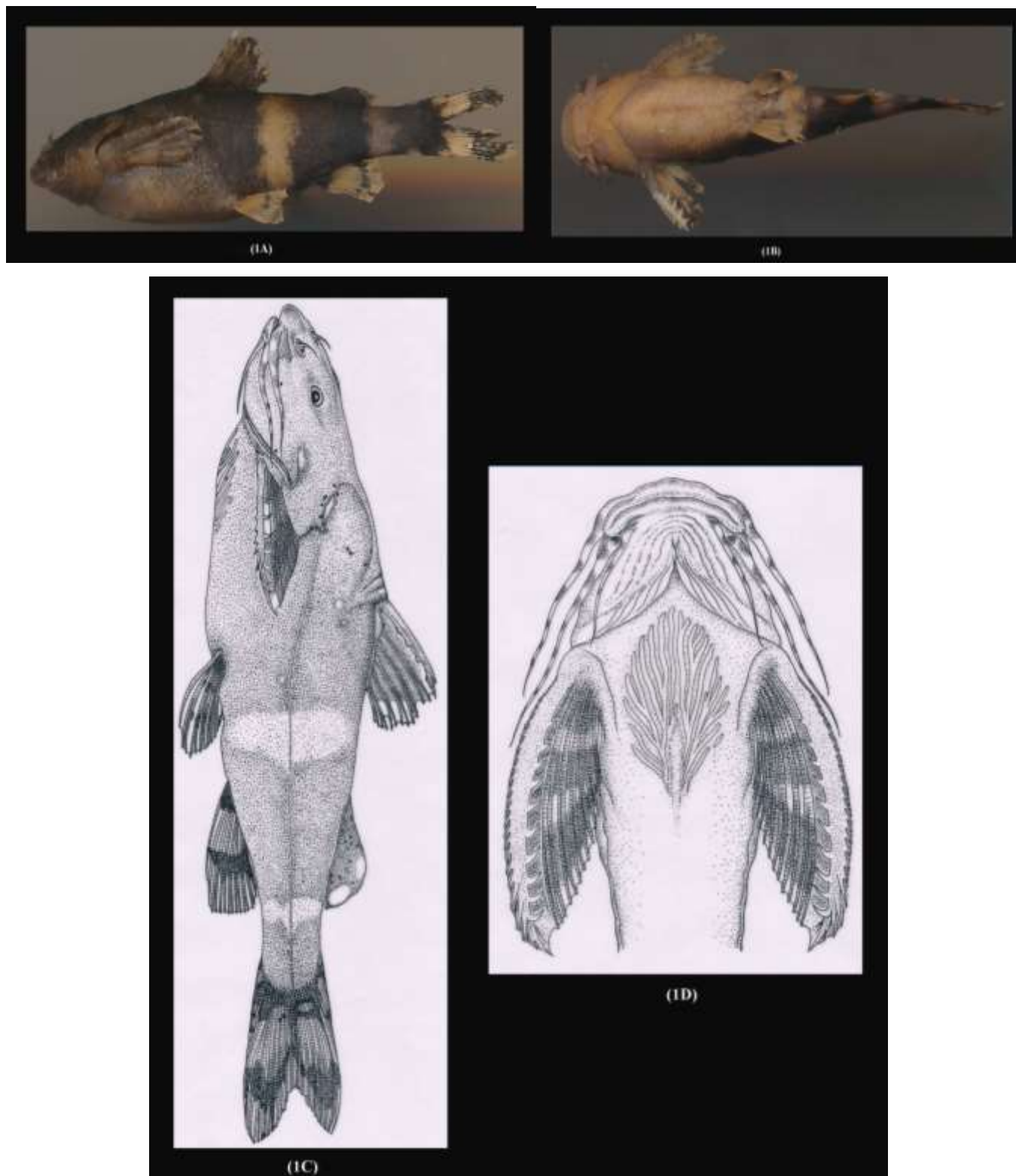


Fig. 1: *Pseudolaguvia nubila*: 22.04 mm SL from Baandhkhola=stream (a tributary of Narayani River), boundary of Chitwan and Nawalparasi district, buffer zone of CNP, 23 February, 2014. (1A) lateral view, (1B) ventral view: (1C) Line drawings of ventral view and (1D) Line drawings of ventral view adhesive apparatus

Non types. CAR 2 (ex 2), 24.04 and 23.46 mm SL; data as above mentioned.

Diagnosis

Pseudolaguvia nubila differs from its congeners except *Pseudolaguvia viriosa* (Ng and Tamang, 2012), *Pseudolaguvia specula* (Ng and Lalramliana, 2010),

Pseudolaguvia virgulata (NG and Lalramliana, 2010), *Pseudolaguvia kapuri* (Ng and Lalramliana, 2010), *Pseudolaguvia tenebricosa* (NG and Lalramliana, 2010) and *Pseudolaguvia inornata* (Ng, 2005) in having a deeper caudal peduncle (8.40-9.66 %SL vs. 5-8.2 %SL) (Tables 1, 2, 3 and 4). *Pseudolaguvia nubila* can be diagnosed from

Pseudolaguvia kapuri (Ng and Lalramliana, 2012), *Pseudolaguvia ribeiroi* (Hora, 1921), *Pseudolaguvia muricata* (Ng, 2005), *Pseudolaguvia tenebricosa* (Britz and Ferraris, 2003), *Pseudolaguvia flavida* (Ng, 2009) and *Pseudolaguvia virgulata* (Ng and Lalramliana, 2010) in having anterior edge of the dorsal spine smooth (vs. serrated) (Table 5) and distinct from *Pseudolaguvia specula* (Ng and Lalramliana, 2010), *Pseudolaguvia viriosa* (Ng and Tamang, 2012), *Pseudolaguvia inornata* (Ng, 2005) and *Pseudolaguvia austrinia* (Radhakrishnan et al., 2010) in having yellowish vertical bands on blotchy brown body (vs. pale vertical bands in *Pseudolaguvia spicula*, one or more pale bands encircling body in *Pseudolaguvia viriosa*, pale mid-dorsal stripe and without any pale patches in *Pseudolaguvia inornata* and uniform pale brown body in *Pseudolaguvia austrinia*) (Figs. 1A, 1C). *Pseudolaguvia nubila* is distinguished from *Pseudolaguvia foveolata* (Ng, 2005) and *Pseudolaguvia lapillicola* (Britzet. al., 2013) in having longer thoracic adhesive apparatus extending to midway of distance between base of last pectoral-fin ray

and pelvic-fin origin (vs. reaching to middle of pectoral-fin base in *Pseudolaguvia foveolata* and rhomboidal adhesive disc extending posterior middle of pectoral-fin base in *Pseudolaguvia lapillicola*) (Figs. 1B, 1D). *Pseudolaguvia nubila* is distinguished from *Pseudolaguvia tuberculata* (Britz & Ferraris, 2003) in having longer pelvic fin (14.52-16.92 vs. 13.3 %SL), pectoral fin (24.89-26.27 vs. 18.3 %SL) and caudal peduncle length (24.25-26.72 vs. 18.3 %SL), (Tables 1, 3) and from *Pseudolaguvia ferruginea* (Ng, 2009) in having longer head (30.26-31.32 vs. 27.7-29.6) and larger eyes (12.57-12.88 vs. 9-12) (Tables 1, 3). *Pseudolaguvia nubila* is distinguished from *Pseudolaguvia ferula* (Ng, 2006) in having greater predorsal distance (41.74-42.63 vs. 36.3-40.4 %SL) and dorsal fin base (15.06-15.98 vs. 7.9-11.9 %SL) (Tables 1, 3) and distinguished from *Pseudolaguvia shawi* (Ng, 2005a, Tamang et al., 2006) in having 2-3 serrations on the posterior edge of dorsal fin (vs. weak to no serrations/roughened) (Table 5) and shorter predorsal distance (41.74-42.63 vs. 45 %SL) (Table 4).

Table 2: Proportional measurements of *P. muricata*, *P. foveolata*, *P. nubila*, *P. specula*, *P. virgulata*, and *P. tenebricosa* (characters 1-24 expressed as % SL and characters 25-30 expressed as % HL)

No	Morphometric measurements	<i>P. muricata</i> n-28; including holotype (Ng, 2005a)	<i>P. foveolata</i> n-1; hotlotype (Ng., 2005)	<i>P. nubila</i> n-13; including holotype (Ng. et al., 2013)	n-4 ex. MSUMNH	<i>P. spicula</i> n-30; including holotype (Ng and Lalramliana, 2010)	n-2 ex. MSUMNH	<i>P. virgulata</i> n-7; with holotype (NG & Lalramliana, 2010)
% of SL								
1	Standard len.	20.9-22.6	30	25.9-29.3	23.23-26.5	23.5-31.1	23.66-25.47	19.9-28.8
2	Predorsallen.	40.9-47.4	38.7	36.6-40.6	39.48-41.77	37.4-40.4	40.68-41.17	39.6-42.9
3	Preanallen.	65.0-73.0	66.6	65.8-69.6	69.52-71.09	66.0-69.9	70.79-71.18	64.5-66.7
4	Prepelviclen.	50.6-57.2	49.7	49.5-52.3	49.32-52.11	46.7-50.7	52.87-55.79	47.9-50.6
5	Prepectorallen.	20.6-28.8	22.7	22.0-24.9	21.24-25.21	21.0-25.0	25.87-26.63	21.9-24.9
6	Dorsal fin base len.	14.7-18.0	15.3	15.1-17.3	14.82-15.76	13.2-15.9	13.94-15.77	17.2-19.8
7	Dorsal fin spine len.	21.2-26.7	11.3	16.4-19.3	14.34-15.33	11.6-14.3	13.10-13.84	21.5-24.0
8	Anal fin base len.	14.3-17.7	11.3	15.6-19.7	14.47-15.67	14.3-17.7	12.84-13.61	14.6-16.5
9	Pelvic fin len.	13.6-15.8	19	15.8-18.5	15.50-16.94	14.6-17.1	16.23-16.76	14.6-16.2
10	Pectoral fin len.	28.4-38.1	27.3	24.1-26.4	23.42-24.84	19.9-23.0	24.09-25.60	28.1-28.8
11	Pectoral fin spine len.	26.8-35.7	21.3	18.1-22.0	22.94-24.41	15.7-17.4	18.85-18.47	23.6-26.2
12	Caudal fin len.	23.3-29.7	21.3	20.3-25.3	22.69-24.04	24.2-27.5	22.06-24.15	28.8-30.0
13	Adipose fin base len.	12.3-16.1	24	14.2-15.9	14.59-16.49	14.7-17.1	13.31-14.68	12.9-15.0
14	Dorsal-adipose dis.	-	-	13.1-16.8	17.69-18.72	13.9-17.9	15.94-18.51	14.5-17.0
15	Post adipose dis.	-	-	13.9-16.7	15.25-16.70	13.2-18.1	13.82-16.74	17.6-18.7
16	Caudal ped. len.	12.6-15.7	20.7	15.7-20.2	15.11-16.92	15.4-17.9	17.08-18.68	18.2-20.2
17	Caudal ped. dep.	6.1-8.1	5	9.1-11.1	8.56-9.04	7.9-9.6	7.27-7.85	7.8-9.7
18	Body dep. at anus	11.7-16.5	11	13.9-17.1	17.85-18.44	12.8-16.8	14.58-16.22	14.5-17.4
19	Head len.	29.6-32.7	26.7	29.0-32.4	28.27-30.91	26.0-28.8	28.87-29.37	28.8-32.2
20	Head width	20.6-24.0	20	19.7-21.7	20.23-20.98	19.2-22.6	22.23-22.93	21.2-24.4
21	Head depth	16.7-19.5	14.3	15.3-18.9	17.85-18.73	15.6-19.1	20.02-21.43	16.6-19.4
22	Dorsal fin len.	-	-	-	-	-	-	-
23	Dorsal fin depth	-	-	-	20.87-23.68	-	19.19-19.91	-
24	Anal fin len.	-	-	-	-	-	-	-
% of HL								
25	Head width	-	-	-	67.89-74.18	-	-	-
26	Head depth	-	-	-	70.09-73.75	-	-	-
27	Snout len.	50.0-57.1	52.5	44.0-53.1	51.65-52.47	48.6-51.9	-	48.0-54.9
28	IOW	31.4-36.7	28.8	25.6-31.8	27.59-31.33	28.2-32.1	-	29.3-35.2
29	OD	11.4-15.1	10	10.8-14.0	13.80-15.98	10.6-13.9	-	12.0-14.9
30	NBL	13.5-26.1	23.8	8.6-20.9	13.64-16.55	14.6-23.3	-	10.8-18.3
31	MBL	63.9-92.2	72.5	60.4-84.4	86.88-88.52	61.1-85.4	-	60.0-74.6
32	MML	32.9-55.9	42.5	24.2-42.0	4.23-47.62	27.4-51.4	-	32.0-38.6
33	LML	58.8-83.8	67.5	44.0-63.0	60.81-71.51	39.3-72.6	-	47.7-67.5

Sl= standard length, HL= head length, len.=length, dist=distance, dep.=depth, Lateral mandi. len.=Lateral mandibular length, Inter-orbital width= IOW, Orbit diameter=OD, Nasal barbel length= NBL, Maxillary barbel length= MBL, Medial mandibular length= MML, Lateral mandibular length= LML, ped.= peduncle

Table 3: Proportional measurements of *Pseudolaguvia inornata*, *P. ferruginea*, *P. flavida*, *P. tuberculata*, *P. austrina*, *P. ferula* (characters 1-24 expressed as %SL and characters 25-30 expressed as % HL).

No	Morphometric measurements	<i>P. inornata</i>	<i>P. ferruginea</i>	<i>P. flavida</i>	<i>P. tuberculata</i>	<i>P. austrina</i>	<i>P. ferula</i>	<i>P. tenebricosa</i>
		n-4; including holotype (Ng, 2005)	n-18; including holotype (Ng, 2009)	n-1; Holotype (Ng, 2009)	n-1, (Britz & Ferraris, 2003)	(Radhakrishnan et al., 2010)	n-15; including holotype (Ng, 2006)	n-14; with holotype (Britz & Ferraris, 2003)
% of SL								
1	Standard length	25.2-27.4	22.6-28.9	24.6	30	25.3-35.6	19.6-25.4	26.3-31.5
2	Pre dorsal length	41.7-43.8	35.3-40.8	39.4	-	37.9-46.4	36.3-40.4	41.4-44.8
3	Pre anal length	64.3-67.5	62.8-67.3	63.8	-	72.6-79.6	64.9-70.1	67.3-70.7
4	Pre pelvic length	46.4-52.9	45.1-49.6	45.9	-	-	49.2-53.6	-
5	Pre pectoral length	23.0-26.4	18.3-24.5	19.5	-	20.1-27.9	21.4-25.2	20.6-23.0
6	Dorsal fin base length	12.0-15.1	14.9-17.3	16.7	-	-	7.9-11.9	-
7	Dorsal fin spine length	18.6-21.7	13.0-16.6	17.9	-	-	17.3-18.7	-
8	Anal fin base length	11.9-15.9	13.7-17.7	15.4	-	-	13.2-14.9	-
9	Pelvic fin length	13.5-15.5	11.4-16.0	10.2	13.3	16.0-20.9	13.0-14.7	12.8-14.9
10	Pectoral fin length	20.6-26.0	19.5-22.6	22.4	18.3	26.0-34.3	24.1-27.5	18.5-24.9
11	Pectoral fin spine length	20.4-23.3	16.3-18.8	17.9	-	-	20.2-24.3	-
12	Caudal fin length	27.8-29.8	21.8-26.2	22	26.7	25.7-43.9	21.7-26.6	25.4-30.4
13	Adipose fin base length	13.6-16.4	11.4-14.8	11	-	12.7-16.1	11.5-13.0	-
14	Dorsal-adipose distance	-	14.2-17.3	16.3	-	29.5-32.7	-	-
15	Post adipose distance	-	14.1-19.2	14.6	-	-	-	-
16	Caudal peduncle length	16.3-19.0	16.5-20.0	17.9	18.3	8.8-14.7	18.2-19.4	15.4-17.5
17	Caudal peduncle depth	7.7-8.5	6.5-8.1	6.5	10	10.3-14.7	6.9-7.8	8.5-11.5
18	Body depth at anus	13.9-16.1	10.5-12.4	11	23.3	19.2-25.1	12.1-13.8	17.1-23.7
19	Head length	28.5-30.6	27.7-29.6	27.6	30	23.6-31.1	26.4-28.5	26.6-29.6
20	Head width	20.1-22.2	20.1-22.2	22	26.7	24.2-27.0	17.1-19.1	23.2-25.1
21	Head depth	15.9-17.9	14.5-15.8	16.3	15	-	13.7-16.5	12.5-14.6
22	Dorsal fin length	-	-	-	-	23.3-29.1	-	12.6-14.3
23	Dorsal fin depth	-	-	-	20	-	-	13.7-19.7
24	Anal fin length	-	-	-	-	17.9-27.8	-	12.5-14.6
% of HL								
25	Head width	-	-	-	88.9	-	-	82.5-87.5
26	Head depth	-	-	-	50	-	-	44.9-50.0
27	Snout length	49.4-54.1	46-50	43	55.6	42.6-55.7	44.3-50.7	44.7-50.6
28	Inter-orbital width	30.4-34.2	27-31	32	27.8	36.0-42.7	25.4-31.7	28.8-32.1
29	Orbit diameter	12.7-14.9	9-12	12	11.1	4.4-8.1	8.6-11.7	8.8-11.8
30	Nasal barbel length	12.2-15.2	6-15	12	-	26.7-46.8	7.2-11.7	-
31	Maxillary barbel length	78.4-83.3	53-71	43	-	77.2-100	68.6-76.7	-
32	MML	37.8-41.1	26-35	15	-	36.7-67.7	21.4-29.9	-
33	LML	55.4-62.8	43-54	34	-	52.5-82.3	35.7-49.3	-

Sl= standard length, HL= head length, Lateral mandi. len.=Lateral mandibular length, Medial mandibular length= MML, Lateral mandibular length= LML

Description

Pseudolaguvia nubila from Nepal shows similarities in morphometric and meristic characters with the original description of *Pseudolaguvia nubila* (Ng et al., 2013). Body depth at anus 17.22-18.69 (18.20±0.85) %SL and at caudal peduncle region 8.40-9.66 (9.15±0.67) %SL. Head depth at occiput 18.64-19.51 (19.11±0.45) %SL and its width 21.53-23.34 (22.73±1.04) %SL. Eye ovoid, its width 12.57-12.88 (12.76±0.16) % HL and inter orbital width 27.49-29.82 (28.64±1.17) % HL. Barbels are in four pairs. Nasal barbel

short and extended anterior orbital margin and its length is 9.86-16.96 (13.37±3.55) %HL. Maxillary barbel extended up to base of pectoral fin spine and its length 72.25-83.00 (76.65±5.63) % HL (Figs. 1C, 1D and Table 1). Outer mandibular barbel extends to base of pectoral-fin spine and its length 57.77-63.16 (60.07±2.78) % HL. Inner mandibular barbel reaching vertical through middle of orbit; its length 30.85-38.51 (35.89±4.37) % HL. Skin tuberculated with conical tubercles and mostly prominent on dorsal third of head and body. Lateral line complete and positioned at mid laterally. The adhesive apparatus

extending midway of distance between base of last pectoral fin ray and pelvic fin origin (n=3) (Figs. 1B, 1D).

Fin counts are: dorsal fin ii-5 (3); anal fin iii-5 (2) and iii-6 (1); pelvic fin i-5 (3); pectoral fin i-7 (1) and i-8 (2) caudal fin i77i (3) including principal rays. Distance from tip of snout to pre dorsal 41.74-42.63 (42.22±0.45) %SL and pre pelvic distance 52.72-55.99 (54.30±1.64). Dorsal fin with straight margin; its length 18.60-20.55 (19.47±0.99) %SL and its base length is 15.06-15.98 (15.43±0.49) %SL. Length of dorsal spine 13.23-17.60 (15.62±2.22) %SL. Anterior edge of dorsal fin spine smooth and posterior margin with low asperities; 2 (1 and 3) and 3 (2) serrations. Pectoral fin long, its length 24.89-26.27 (25.49±0.71) %SL and length of pectoral fin spine 18.39-19.48 (19.11±0.63).

Anterior edge of pectoral fin spine with 9 serrations+granules (1), 8 serrations (2), 10 serrations (3) and its posterior edge with 6 (3) serrations (Table 5). Pelvic fin length, 14.52-16.92 (15.92±1.25) %SL with straight margin; originated vertically opposite at base of last dorsal-fin ray; tip of adpressed fin not reaching anal fin origin. Adipose fin, short 13.73-14.36 (14.10±0.33) %SL; located opposite of anal fin base. Anal fin length, 20.42-21.71 (21.26±0.73) %SL; its anterior and posterior margins straight. Caudal fin deeply forked less shorter than head length, length of caudal fin 24.25-26.72 (25.64±1.27) %SL; both lobes pointed and equal in length but lower lobe is slightly broader than upper. Caudal peduncle short 16.07-17.14 (16.77±0.61) %SL and moderately deep, 8.40-9.66 (9.15±0.67) %SL (Table 1).

Table 4: Proportional measurements of *Pseudolaguvia shawi*, *P. assula*, *P. ribeiroi*, *P. kapuri*, *P. viriosa*, *P. lapillicola* (characters 1-24 expressed as %SL and characters 25-30 expressed as %HL).

No	Morphometric measurements	<i>P. shawi</i>	<i>P. assula</i>	<i>P. ribeiroi</i>	<i>P. kapuri</i>	<i>P. viriosa</i>	<i>P. lapillicola</i>
		Tamang <i>et al.</i> , 2006. In: (Ng, 2005a)	n-6; including holotype (Ng and Convey, 2013)	Tamang <i>et al.</i> , 2006. In: (Ng, 2005)	(Ng and Lalramliana, 2010)	n-14; including holotype (Ng and Tamang, 2012)	n-4; including holotype (Britz <i>et al.</i> 2013)
% of SL							
1	Standard len.	23.1	20.2-23.5	24.6	-	23.1-27.2	21.8-27.2
2	Pre-dorsal len.	45	41.2-46.1	45.5	-	41.1-47.1	39.5-41.8
3	Pre-anal len.	69.7	64.2-69.3	70.3	-	67.7-71.9	64.2-68.0
4	Pre-pelvic len.	51.9	51.5-54.2	51.2	-	52.3-56.9	47.0-49.1
5	Pre-pectoral len.	25.5	21.5-26.8	23.6	-	23.8-28.6	23.7-25.5
6	Dorsal fin base len.	13.4	12.3-18.4	16.7	-	14.6-18.0	16.1-16.7
7	Dorsal spine len.	14.3	20.3-24.8	15	14.0-15.5	23.4-29.0	15.7-18.0
8	Anal fin base len.	13.9	14.2-18.4	15.9	-	13.4-17.7	13.9-15.5
9	Pelvic fin len.	16	14.2-18.9	15.4	-	13.1-15.6	16.9-18.2
10	Pectoral fin len.	24.2	27.6-32.5	22.4	-	29.2-36.6	25.8-28.0
11	Pectoral fin spine len.	18.6	23.3-28.3	18.3	-	26.9-32.9	18.3-20.1
12	Caudal fin len.	19.5	28.2-33.2	26	-	26.5-32.4	28.6-30.3
13	Adipose fin base len.	17.7	13.1-17.2	13	17.1-18.9	12.5-15.4	21.2-23.9
14	Dorsal-adipose dist.	-	10.7-16.2	-	-	11.7-15.4	29.2-30.1
15	Post adipose dist.	-	14.7-18.8	-	-	14.6-18.6	16.6-20.3
16	Caudal peduncle len.	16	15.4-17	17.9	-	14.8-17.7	14.8-17.9
17	Caudal peduncle dep.	7.4	7-8.3	6.9	7.3-9.2	7.4-9.8	7.5-8.2
18	Body depth at anus	14.3	13.7-16.2	14.6	-	16.9-19.0	16.5-17.2
19	Head len.	6.8	29.4-32.4	7.2	-	28.5-33.1	28.5-31.6
20	Head width	-	21.7-24.8	-	23.4-24.0	21.5-23.5	24.6-25.9
21	Head depth	-	16.2-17.6	-	-	16.0-20.8	19.4-20.7
22	Dorsal fin len.	-	-	-	-	-	23-24.1
23	Dorsal fin dep.	-	-	-	-	-	12.5-15.9
24	Anal fin len.	-	-	-	-	-	23.4-24.7
% of Head length							
25	Head width	77.9	-	77.8	-	-	-
26	Head depth	60.3	-	62.5	-	-	-
27	Snout length	51.5	49-55	55.6	-	50-54	34-42
28	Inter-orbital width	32.4	29-36	34.7	-	35-38	30-33
29	Orbit diameter	13.2	9-13	9.7	-	11-15	14-15
30	Nasal barbellens.	-	-	-	-	11-16	25-27
31	Maxillary barbellens.	-	-	-	-	55-81	99-106
32	Medial mandibular len.	-	-	-	-	33-43	44-47
33	Lateral mand. Len.	-	-	-	-	44-65	60-66

Sl= standard length, HL= head length, len.=length, dist=distance, dep.=depth, Lateral mandi. len.=Lateral mandibular length, Inter-orbital width= IOW, Orbit diameter=OD, Nasal barbel length= NBL, Maxillary barbel length= MBL, Medial mandibular length= MML, Lateral mandibular length= LML, ped.= peduncle

Table 5: Comparative meristic characters.

<i>Pseudolaguvia</i> species	Dorsal spine at ant. edge	Dorsal spine at post. edge	Pectoral spine at ant. edge	Pectoral spine at post. edge
<i>P. muricata</i> (Ng, 2005)	8-12	6-10	14-18	9-13
<i>P. foveolata</i> (Ng, 2005)	sm	2 ss	5 ss	6 ls
<i>P. nubila</i> (Ng. <i>et al.</i> , 2013)	sm	ls	7-8	6-7
<i>P. nubila</i> (FRDFM 5 (ex 1), CAR 2 (ex 2), (n=3)	sm	2-3 ls	8-10	6
<i>P. spicula</i> (Ng & Lalramliana, 2010)	sm	3-5	9-15	5-7
<i>P. virgulata</i> (NG & Lalramliana, 2010)	9-17 ss	3-5 ls	11-17 ss	6-8 ls
<i>P. tenebricosa</i> (Britz & Ferraris, 2003)	not known	weak serration	serration	5-7
<i>P. inornata</i> (Ng, 2005)	sm	4-6 ss	16-18	8-9 ls
<i>P. ferruginea</i> (Ng, 2009)	sm	3-4	8-14	5-8
<i>P. flavida</i> (Ng, 2009)	6	single	10	8
<i>P. austrina</i> (Radhakrishnan <i>et al.</i> , 2010)	granulated	24 ss	17-19 strong s	7-11 strong s
<i>P. ferula</i> (Ng, 2006)	sm	4-5 ss	11-15	5-7
<i>P. shawi</i> (Tamang <i>et al.</i> , 2006)	sm	roughened	vms	7
<i>P. assula</i> (Ng and Convey, 2013)	sm	4-6 ss	12-19 s	9-12 s
<i>P. viriosa</i> (Ng & Tamang, 2012)	sm	7-11	13-27	8-11
<i>P. lapillicola</i> (Britz <i>et al.</i> 2013)	sm	3 m+2 sms	granulate	7-9s
<i>P. kapuri</i> (Ng and Lalramliana, 2010)	serrated	-	-	-
<i>P. ribeiroi</i> (Hora, 1921)	serrated	-	serrated	8

sm=smooth, eg=except granulation, s=serration, ss=small serration, ls=large serration, ant.=anterior, post.=posterior, ls= Low asperities, vms=very minute serration, m=serration at middle of spine, sms=more proximal serration

Distribution and Habitat

Pseudolaguvia nubila (new record) were collected from Central Nepal, from Baandkhola = stream, a tributary of Narayani River confluences with Ganges River (Fig. 3). The type locality was a shallow stream with low flow running, clear water. River width and depth were 15 m and 0.3048 m (30.48 cm) respectively and the substrate was observed to have pebbles, sand, small boulders and logs. Some aquatic vegetation such as water hyacinth, and submerged plants were observed. During fish collection at site, air temperature was 26°C, water temperature 23°C, pH 7.1, dissolved oxygen 7.4 mg/l, conductivity 0.01ms and total dissolved solids 0.2 ppt as well as weather was shiny. Fish species collected from this area are; *Barilius vagra*, *Osteobrama cotio cotio*, *Chagunius chagunio*, *Puntius conchonius*, *Puntius sophore*, *Garra mullya*, *Mystus bleekeri*, *Macroglythys pancalus*, *Mastacembelus armatus* and *Pseudolaguvia nubila* (new record for Nepal).

Discussion

Pseudolaguvia nubila was originally described from Sala River, a tributary of the Kaladan River, Mizoram from north eastern India (Ng *et al.*, 2013) and there was no record since its description from the type locality. Senior author collected specimen from Baandh stream, a tributary of Narayani River from Nepal. *Pseudolaguvia nubila* from Nepal showed almost similar characters with the original description except having 6 serrations on anterior edge of the pectoral spine (vs.7-8 serrations). In original description, diagnosis was mainly based on a mottled brown

body with yellowish bands, feebly projecting snout, absence of Y-shaped pale marking on head, smooth edge of anterior spine of dorsal fin and combination of morphometric measurements and above mentioned characters has almost all similarity with specimens (n=3) from Nepal. The *Pseudolaguvia* community is apparently entirely unique and it seems to have more species representation to this point there is practically no information available on the biology of any *Pseudolaguvia* species.



Fig. 3: Type locality of *Pseudolaguvia nubila* (new record) collected from Baandkhola=stream (a tributary of Narayani River), Central Nepal

Comparison Material Examined

Pseudolaguvia ferruginea: Data from Ng, 2009.

Pseudolaguvia spicula: MSUMNH 107 (1 ex.) 25.47 mm SL; CMA 50 (1 ex.) 23.66 mm; from Kajaldoba Anthora stream, Jalpaguri, West Bengal; Collected by M.

Arunachalam, 27 November, 2012 and also data from Ng and Lalramliana, 2010.

Pseudolaguvia shawi: Data from Tamang *et al.*, 2006

Pseudolaguvia virgulata: Data from Ng and Lalramliana (2010).

Pseudolaguvia ferula: Data from Ng, 2006.

Pseudolaguvia tenebricosa: Data from Britz and Ferraris (2003); Ng & Lalramliana, 2010)

Pseudolaguvia nubila: MSUMNH 112 (1 ex.) 26.50 mm SL, CMA 53 (2 ex.) 23.23-25.71mm SL; Kajaldoba Anthojora stream, Jalpaguri, West Bengal. Collector; M. Arunachalam and its team, 27 November and also data from Ng *et al.*, 2013.

Pseudolaguvia kapuri: Data from Ng and Lalramliana, 2010

Pseudolaguvia muricata: Data from Ng, 2005a.

Pseudolaguvia inornata: Data from Ng, 2005.

Pseudolaguvia lapillicola: Data from Britz and Raghavan, 2013.

Pseudolaguvia assula: Data from Ng and Conway, 2013.

Pseudolaguvia ribeiroi: Data from Tamang *et al.*, 2006. In: Ng, 2005

Pseudolaguvia foveolata: Data from Ng, 2005.

Pseudolaguvia flavida: Data from Ng, 2009.

Pseudolaguvia viriosa: Data from Ng and Tamang, 2012.

Pseudolaguvia assula: Data from Ng and Conway, 2013.

Pseudolaguvia austrina: Radhakrishnan *et al.*, 2010.

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