

Two New Blennioid Fishes from Japan

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While examining blennioid fishes from deep-waters around Japan and adjacent regions taken by motor trawlers, we found two interesting species not previously recorded from Japan. Upon careful examination of these specimens, they were found to represent new species, and described herein as *Lumpenus macrops* and *Lumpenella nigricans* respectively.

The counts and measurements were made in same manner as the senior writer has utilized in his previous studies on the Japanese deep-sea fishes. The expenses for the investigations of the deep-sea fishes were defrayed by the research fund of the Ministry of Education and Viscount Keizo SHIBUSAWA.

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Lumpenus macrops, new species

Medama-ginpo (New Japanese name)

Holotype.—No. 11201 (the numbers refer to MATSUBARA'S Fish Collection, in which each specimen bears a separate number), male, 140.5 mm in standard length (157.5 mm in total length), off Kanaiwa, south western part of Noto Peninsula, Ishikawa Prefecture, muddy bottom, depth 200 meters, April 3, 1949.

Paratypes.—29 specimens, 11191-11200 and 11202-11220, 109.8-153.8 mm (125.0-173.0 mm), date the same as holotype.

DESCRIPTION.—D. LVI; A. I, 35; P. 13; V. 1,3. Branchiostegal rays 6. Scales 123 in a longitudinal series, 15 in predorsal, and 25 in a transverse series counted obliquely upward and forward from origin of anal to dorsal fin. Gill-rakers on first arch 5+14=19. Pyloric coeca. 4.

Head 4.88 in standard length; greatest depth 9.24; distance from origin of pelvic fin to anal fin 3.09. Greatest body width 2.74 in head; snout 4.97; maxillary 3.13; eye diameter 3.13; interorbital space 13.71; postorbital length of head 1.95; depth of caudal peduncle 4.97; pectoral fin 1.46; pelvic fin 7.20; pelvic fin spine 11.52; first dorsal spine 7.58; second dorsal spine 6.13; third dorsal spine 4.97; fourth dorsal spine 4.80; longest dorsal spine 4.06; anal spine 8.73; longest anal ray 3.20; caudal fin 1.58. Longest gill-raker on first arch 6.13 in eye diameter.

Body moderately high and compressed, a little higher than 1.4 times the width of body. Head compressed, its length slightly greater than one-fifth the body length, the upper profile roundly convex. Eye round, very large, its diameter equal to the upper jaw length and about 1.6 times as long as snout; interorbital space shallowly concave and slightly narrower than one-fourth the diameter of eye. Two nostrils on each side, the lower one with a moderately long tube; the rim of the upper nostril

slightly elevated. No tentacle on head. Mouth oblique; lower jaw included when mouth is closed; lips thickened; maxillary extending slightly beyond the anterior margin of pupil. Teeth small, villiform; those in upper jaw irregularly in 4 series anteriorly, in 3 series posteriorly, the outer ones much larger than the others; teeth in lower jaw in a single series except anteriorly where they are irregularly in 2 series; palatine with 2 small teeth; vomer toothless. Gill-openings continue forward to below posterior margin of pupil, the membranes narrowly joined to isthmus. Gill-rakers short, more or less triangular in shape, their tips pointed. Opercle large, the posterior margin extending slightly beyond the pectoral base.

Dorsal fin inserted slightly before the pectoral base, the spines slender, pungent and not flexible; the anterior spines never appreciably shorter, but the fin increases gradually in height toward the middle part of the fin; the longest spine is longer than length of snout; the membrane of the last spine joins base of upper caudal rays. Anal fin inserted under 21st dorsal spine, with 1 small pungent spine (1 or 2 in paratypes); the rays are all branched, increasing gradually in height posteriorly, the longest one longer than the longest dorsal spine, the last rays joining base of lower caudal rays by a low membrane. Caudal fin rounded, twice as long as the diameter of eye. Pectoral fin rounded, slightly longer than twice the diameter of eye, the middle rays the longest, scarcely reaching half way to vent; the lower 6 pectoral rays simple and thickened. Pelvic fin small, consisting of 1 spine and 3 simple rays, its length about 2.3 times in diameter of eye; pelvic fin spine inserted before a vertical from pectoral base by a distance equal to the length of snout.

Lateral line indistinct, running along middle of body from upper angle of gill-opening to base of middle caudal rays. Scales small, smooth and apparently imbricated; cheeks with a small but elongate patch of minute scales along their anterior margins, the scales can hardly be seen without an aid of lens; other parts of the head naked except for the nuchal region; fins naked except for the basal parts of both pectoral and caudal.

Color in formalin light yellowish brown, with a row of 11 large indefinite dark brown blotches on sides of body; the first blotch is immediately behind the head and the last on base of caudal fin; a small but similar blotch is present between each from fifth to tenth; a small indefinite blotch is present on preorbital region; tip of snout blackish. Caudal fin with 4 broad dark brown cross bars. Dorsal fin with 11 indefinite large elongate light brown blotches, the anteriormost much darker than the others; pectoral, ventral and anal pale.

The above description and illustration are prepared from the holotype. The counts and proportional measurements of the paratypes vary rather extensively except for the number of pectoral rays, pyloric coeca and vertebrae. See Table 1 which is based upon 17 males and 12 females. The number of anal spines is not constant in this species, since 14 types have a single spine and the others with 2 spines. The pelvic fins constantly have 1 spine and 3 soft rays

REMARKS.—The present new species rather closely resembles *Lumpenus medius*

(REINHARDT) at least in having the dorsal and anal fins joined to base of caudal fin, but these species can be separated by the following characteristics:

Table 1. Counts and proportional measurements in paratypes of
Lumpenus macrops, new species.

Items	Males			Females		
	No.	Range	Average	No.	Range	Average
Dorsal spines	17	52-55	54.47	12	52-55	53.83
Anal spines	17	1-2	1.41	12	1-2	1.75
Anal soft rays	17	32-55	34.00	12	32-35	33.50
Pectoral rays	17	12-13	12.88	12	12-13	12.91
Scales in a long. series	17	114-123	119.00	12	112-121	116.58
Scales in a trans. series	17	22-27	24.41	12	22-26	24.58
Predorsal scales	17	12-15	13.05	12	11-15	13.16
Gill-rakers on upper limb	17	5-6	5.52	12	4-6	5.58
Gill-rakers on lower limb	17	14-16	15.00	12	14-17	15.17
Total gill-rakers	17	19-22	20.52	12	19-23	20.75
Pyloric coeca	13	4-6	4.23	9	4	4.00
Vertebrae	1	61	61.00	6	60-61	60.50
In standard length:						
Head length	17	4.56-5.07	4.80	12	4.55-4.95	4.74
Depth of body	17	8.26-10.39	9.44	12	8.13-10.22	9.25
Dist. from origin of pelvic to anal	17	2.57-3.28	3.14	12	2.98-3.28	3.09
In head length:						
width of body	17	2.57-3.84	3.15	12	2.53-3.33	2.84
Snout length	17	4.80-5.68	5.12	12	4.48-5.79	5.05
Maxillary length	17	2.86-3.32	3.05	12	2.91-3.39	3.14
Eye diameter	17	2.95-4.06	3.17	12	2.93-3.33	3.11
Interorbital space	17	13.85-17.78	15.94	12	14.10-17.06	15.70
Postorbital length of head	17	1.82-2.02	1.90	12	1.83-2.07	1.94
Depth of caudal peduncle	17	4.76-6.10	5.25	12	4.79-5.67	5.23
Pectoral fin length	17	1.41-1.66	1.55	12	1.36-1.55	1.45
Pelvic fin length	17	4.55-7.95	6.58	12	4.96-7.32	6.12
Pelvic spine	17	9.72-15.24	11.87	12	9.92-13.81	12.27
1st dorsal spine	17	5.76-11.39	7.88	12	6.32-11.08	8.22
2nd dorsal spine	17	4.97-7.02	5.89	12	4.90-6.90	5.91
3rd dorsal spine	17	4.18-5.70	4.81	12	4.47-5.82	5.07
4th dorsal spine	17	3.92-4.86	4.39	12	4.13-5.35	4.60
Longest dorsal spine	17	3.13-3.95	3.56	12	3.20-3.89	3.64
1st anal spine	15	6.95-10.39	9.07	11	6.93-11.73	9.07
2nd anal spine	17	5.88-8.82	7.45	9	5.71-8.42	7.11
Longest anal ray	17	2.93-3.35	3.12	12	3.08-3.48	3.25
Caudal fin length	17	1.47-1.68	1.58	12	1.49-1.74	1.62
In eye diameter:						
Longest gill-raker	17	4.94-6.67	5.58	12	4.94-7.54	5.85

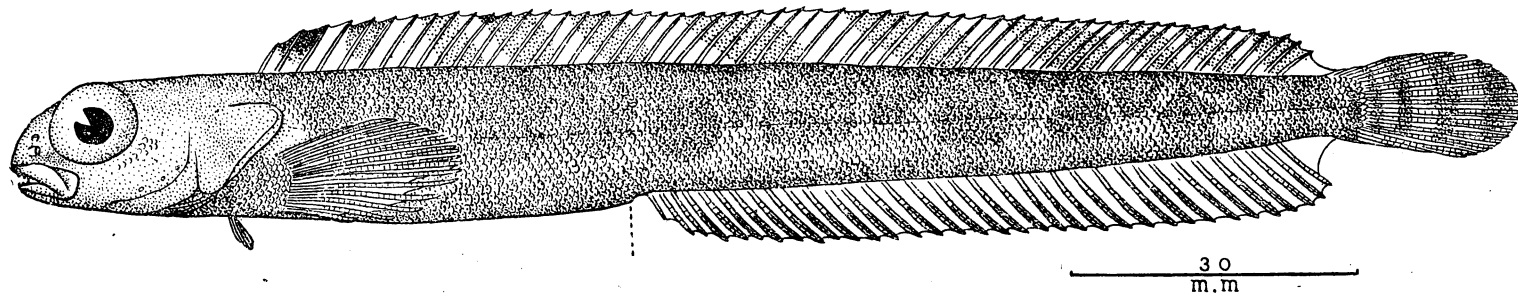


Fig. 1. *Lumpenus macrops*, new species. holotype. Drawing by K. MATSUBARA.

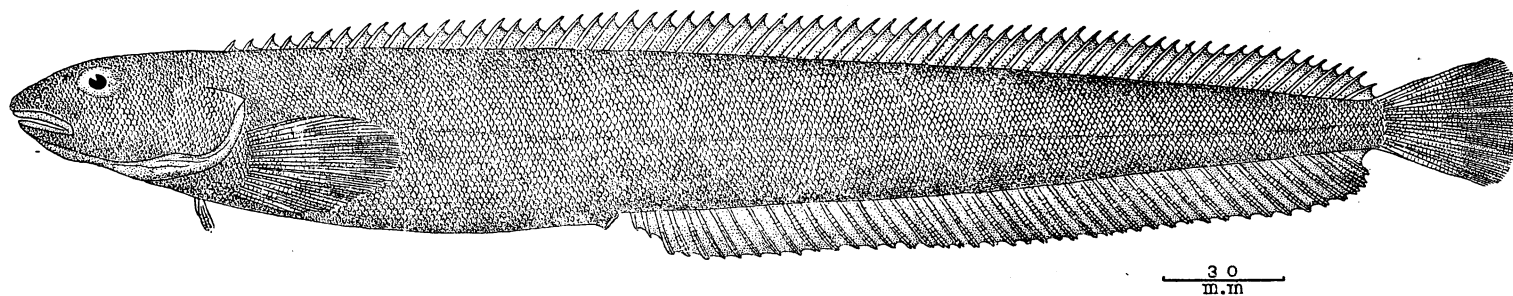


Fig. 2. *Lumpenella nigricans*, new species. holotype. Drawing by K. MATSUBARA.

Lumpenus medius

1. Dorsal spines 61 to 65.
2. Soft anal rays 39 to 43.
3. Pectoral rays 13 to 15.
4. Anal rays very low in front.
5. Head 6.0 into body length.
6. Ventrals longer, 3.33 into head.
7. Gill-rakers 17 on first arch.
8. Body uniformly pale olivaceous.

L. macrops

1.52 to 56.
2.32 to 35.
3.12 to 13.
4.not very low in front.
5.4.55 to 5.07 in body length.
6.shorter 4.55 to 7.95 into head.
7.19 to 23 on first arch.
8.with indefinite dark brown blotches on sides of body.

Concerning *Lumpenus medius*, TARANETZ (1937: 157) commented in Russian "in this species another form is found, which is not well known, but can be distinguished from it in having round eye, fewer dorsal spines and other characters." Agreement of our new species with this unnamed form is evident in characteristics of eye and dorsal fin, but they must be compared in other important features.

Lumpenella nigricans, new species

Nezumi-ginpo (New Japanese name)

Holotype.—No. 4946 (MATSUBARA'S Fish Collection), female, 340.0 mm in standard length (374.0 mm in total length), off Kushiro, southern coast of Hokkaido, March 13, 1938.

Paratypes.—40 specimens, Nos. 7916-7932, 7634-7945, 7947-7956 and 10009, 236.0-338.0 mm (258.0-374.0 mm), date the same as holotype.

DESCRIPTION.—D. LXVI; A. II, 42; P 14; V. I, 3. Branchiostegal rays 6. Scales 190 in a longitudinal series, and 37 in a transverse series counted obliquely upward and forward from origin of anal to dorsal fin. Gill-rakers on first arch 4+16=20. Pyloric appendages 4.

Head 5.78 in standard length; greatest depth 7.31; distance from origin of pelvic fin to anal fin 3.21. Greatest body width 2.06 in head; snout 3.30; maxillary 3.72; eye diameter 5.03; interorbital space 4.98; postorbital length of head 1.94; depth of caudal peduncle 4.29; pectoral fin 1.47; pelvic fin 5.76; pelvic fin spine 10.31; first dorsal spine 14.70; second dorsal spine 14.00; third dorsal spine 10.50; fourth dorsal spine 10.69; longest dorsal spine 3.95; first anal spine 11.76; second anal spine 7.95; longest anal ray 3.30; caudal fin 1.72. Longest gill-raker on first arch 5.09 in eye diameter.

Body stout, compressed and moderately high, a little higher than 1.6 times the width of body. Head compressed and moderately large, the upper profile slightly convex above eye. Snout long, about 1.5 times as long as eye diameter. Eye elongate, moderately large, but much shorter than upper jaw length. Interorbital space slightly convex and about as wide as eye diameter. Two nostrils on each side, closed together, the anterior one very small, with a short tube and scarcely visible without an aid of lens; the posterior one much larger than anterior one, bearing a moderately long and broad nasal tube. No tentacle on head. Mouth rather small, horizontal; lower jaw included under the closed mouth; lips rather thickened; upper jaw length about equal

to half the length of snout plus eye, its posterior extremity ends slightly before the anterior margin of eye. Teeth small, villiform and in jaws only; no teeth especially enlarged; those in the upper jaw irregularly in 2 series; the teeth in lower jaw in 2 series anteriorly and in a single series posteriorly. Gill-openings continue forward to below middle of eye, the membranes narrowly joined to isthmus. Gill-rakers short, compressed and pointed. Opercle extending posteriorly a vertical through pectoral base.

Dorsal fin inserted above midway between tip of opercle and upper anterior end of gill-opening; the spines short, stout and pungent, its anterior 5 or 6 rays very short, then the fin increases gradually in height posteriorly to opposite middle of anal fin base, then decreases gradually to the posterior end, the longest spine is longer than eye diameter, but shorter than snout length; the tips of the spines always naked; the membrane of the last spine joins base of upper caudal rays. Anal fin inserted under the base of 23rd dorsal spine, with 2 pungent spines (in paratypes 31 with 2 spines and the others with 3 spines, but no specimens were found to exist with 4 or more anal spines); the rays are all branched, increasing gradually in height posteriorly, the longest ray much longer than the longest dorsal spine; the membrane behind the last anal ray never reaches to base of lower caudal rays. Caudal fin nearly truncated, longer than half the length of head and about 3 times as long as the diameter of eye. Pectoral fin rounded, longer than 3 times the diameter of eye, the middle rays the longest, scarcely reaching half way to vent, the lower 2 rays (2 or 3 rays in paratypes) simple and more or less thickened. Pelvic fin small, consisting of 1 small pungent spine and 3 longer soft rays, its middle ray is branched; pelvic fin inserted before a vertical from lower pectoral base by a distance equal to the eye diameter.

Lateral line distinct, running along middle of body from upper angle of gill-opening to base of middle caudal rays. Scales small, smooth and imbricated; head wholly covered with small scales except for lips and branchiostegal membrane; dorsal fin membrane scaly except for the distal area; basal part of caudal and pectoral fin also scaly; other fins naked.

Color in formalin dark brown throughout body and fins, but the belly, lips, branchiostegal membrane and the fins except for dorsal darker.

The above description and illustration are prepared from the holotype. As given in Table 2 rather remarkable variations are found to exist in paratypes in counts and proportional measurements except for the number of dorsal fin spines, anal and pectoral fin rays and that of vertebrae.

REMARKS.—The present new species closely resembles *Lumpenella longirostris* (EVERMANN et GOLDSBOROUGH) known from Alaska to Nanaimo [EVERMANN and GOLDSBOROUGH, 1906 (1907): 340, fig. 115; HUBBS, 1926 (1927): 378; SOLDATOV and LINDBERG, 1930: 474; TARANETZ, 1933: 75; SCHULTZ, 1936: 193; TARANETZ, 1937: 157], but these species can be distinguished by the following characteristics:

Table 2. Counts and proportional measurements in paratypes of
Lumpenella nigricans, new species.

Items	Males			Females		
	No.	Range	Average	No.	Range	Average
Dorsal spines	4	64-67	66.25	36	65-68	66.50
Anal spines	4	2-3	2.50	36	2-3	2.19
Anal soft rays	4	40-43	41.50	36	41-44	42.08
Pectoral rays.....	4	13-14	13.50	36	13-14	13.08
Scales in a long. series.....	4	182-192	187.25	36	180-210	194.47
Scales in a trans. series	4	33-40	36.25	36	33-42	37.41
Gill-rakers on upper limb.....	4	3-4	3.75	36	3-5	3.47
Gill-rakers on lower limb.....	4	13-16	14.75	36	13-18	15.30
Total gill-rakers	4	17-20	18.50	36	17-23	18.77
Pyloric coeca	4	5	5.00	36	3-6	4.94
Vertebrae	-	-	-	15	73-75	73.46
In standard length:						
Head length	4	5.74-5.97	5.87	36	5.51-6.48	6.00
Depth of body.....	4	7.42-8.68	8.12	36	7.22-9.34	8.58
Dist. from origin of pelvic to anal	4	3.27-3.42	3.36	36	3.15-3.49	3.34
In head length:						
Width of body.....	4	2.06-2.60	2.27	36	1.91-2.60	2.27
Snout length.....	4	3.06-3.41	3.17	36	2.90-3.41	2.97
Maxillary length	4	3.52-4.27	3.87	36	3.37-4.45	4.15
Eye diameter	4	4.90-5.20	5.05	36	4.68-5.42	5.17
Interorbital space	4	5.43-5.79	5.61	36	4.68-6.34	5.54
Postorbital length of head ..	4	1.89-2.07	1.98	36	1.85-2.08	1.99
Depth of caudal peduncle.....	4	4.17-4.69	4.38	36	3.11-5.22	4.42
Pectoral fin length	4	1.44-1.46	1.45	36	1.23-1.63	1.41
pelvic fin length	4	5.00-5.96	5.48	36	4.45-6.65	5.94
Pelvic spine.....	4	8.33-9.96	9.33	36	8.48-13.21	10.35
1st dorsal spine	4	11.97-15.83	14.25	36	11.63-18.87	14.34
2nd dorsal spine	4	10.26-12.57	11.82	36	9.27-15.13	11.77
3rd dorsal spine	4	8.33-11.31	10.21	34	7.43-12.09	9.64
4th dorsal spine	4	8.00-9.50	8.77	34	6.50-10.58	8.92
Longest dorsal spine	4	3.30-4.03	3.73	36	3.19-4.65	3.82
1st anal spine	4	10.00-11.88	11.21	36	7.90-14.36	10.72
2nd anal spine.....	4	6.45-9.19	7.53	36	5.78-9.65	7.07
Longest anal ray.....	4	2.86-3.92	3.30	36	2.90-3.60	3.26
Caudal fin length	4	1.63-1.68	1.65	36	1.27-1.83	1.66
In eye diameter:						
Longest gill-raker	4	4.41-6.57	6.15	36	3.72-7.47	5.13

Lumpenella longirostris

1. Anal spines 3 to 5, but mostly 4.
2. Caudal rounded.
3. Dorsal fin gradually increases in height to opposite front of anal fin.
4. Dorsal fin begins immediately above upper end of gill-opening.
5. Head long, 5.25 in body length.
6. Back and upper side light olivaceous with dark brown blotches.

L. nigricans

- 1.....2 or 3, but 2 in most examples.
- 2.....nearly truncated.
- 3.....gradually increases in height to opposite middle of anal fin base.
- 4.....begins above midway between tip of opercle and upper end of gill-opening.
- 5.....shorter, 5.50 to 6.50 in body length.
6. Body dark brown throughout

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