

Two New Species of Sciaenid Fishes *Johnius elongatus* and *Johnieops macrorhynus* From India

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Abstract

Two new species of sciaenid fishes *Johnius elongatus* and *Johnieops macrorhynus* are described with figures. These fishes form a fishery along the Indian coast. Their morphometric characters, standard deviation and percentage of coefficient of variations are tabulated.

While collecting sciaenid fishes along the coast of India for biological and taxonomic studies, two new species of sciaenids belonging to the genera *Johnius* Bloch and *Johnieops* Mohan were collected. These two species form a fishery along the north-west coast and south-east coast of India and contribute about 15% of the sciaenid fish catches along the north-west coast of India.

Johnius elongatus, sp. nov.

(Fig. 1A)

MATERIAL: Holotype: CMFRI No. 187, 200 mm (S.L.), ♂, Veraval, 2-11-72, trawl nets. Paratypes: CMFRI No. 188/1-7; 160, ♀ 168, ♀ 190, ♂ 205, ♀ 111, ♂ Veraval, 2-11-72; 107, ♀ Mangalore; 20-11-72; 165, ♀ Bombay, 27-11-72; all of standard length and in millimeter.

DIAGNOSIS: Mouth inferior, snout swollen, second anal spine weak 19-32% (31%) in head length; lower jaw teeth not enlarged; uniformly villiform; gas bladder 'johnius type' with anterior lateral expansions and 13-14 arborescent tubules; height 25.7-29.1% (27.0%), head 25.0-31.0% (31.0%) in standard length; lower jaw with two knob-like barbels posteriorly at the inner mental pores. D.X-XI (X), 1.25-2.9 (2.9); P. 1.6-1.7 (1.7); A. 1.1, 7; C. 1.7; L1.48-4.9 (4.9); Ltr. 6-7/1/11-14

(7/1/11); G.R. 4-5/1/6-7 (5/1/7). (Measurements in parenthesis are of the holotype).

DESCRIPTION: Body spindle shaped, elongate, head pointed, dorsal profile ascending gradually; mouth inferior, cleft of mouth reaching below middle of eye; snout prominent projecting beyond upper jaw, free margin deeply indented. Outer upper jaw teeth enlarged, inner row villiform, lower jaw with a band of villiform teeth; pharyngeal teeth poorly developed; preopercle serrated. Scales ctenoid on body, opercle, preopercle and cheeks. Lateral line scales with an unbranched tubule. Snout with three rostral pores and five marginal pores. Lower jaw with five well developed mental pores, median and inner mental pores rimmed by a fleshy margin, a pair of short solid mental barbels at posterior margin of inner mental pores (Fig. 1B). Gas bladder with anterior lateral expansions and 13-14 arborescent tubules on each side (Fig. 1C); sagitta (otolith) broad anteriorly and narrow posteriorly with a deep posterior groove. Second and third dorsal spines longest, membrane weak; caudal fin cunate; first ray of pelvic fins filliform. Gill rakers minute, stumpy with curved spines. Body grey dorsally, pale ventrally; upper 2/3 of first dorsal dark grey, axilla with dark blotch. See table 1 for additional data.

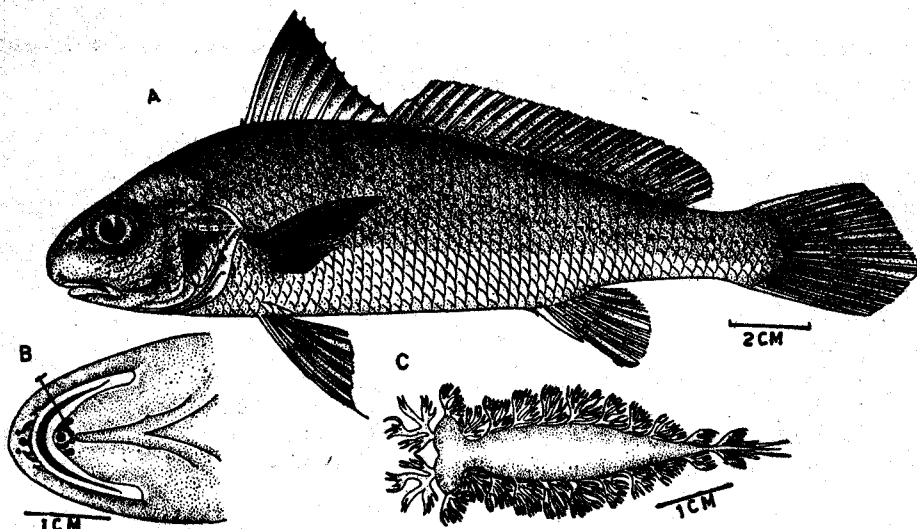


Fig. 1A. *Johnius elongatus*, sp. nov. Total length 225 mm; CMFRI No. 188/3; Veraval. B. Ventral view of head showing rostral, marginal and mental pores 1. Mental barbel; C. Gas bladder of a specimen 120 mm total length.

RELATIONSHIP: This species resembles *Johnius carouna* Cuvier in having inferior mouth, swollen snout and short gill rakers. However, it is distinct from all the known species of *Johnius* Bloch in having a pair of minute mental barbels on lower jaw.

ETYMOLOGY: The name is derived from its elongated body.

DISTRIBUTION: INDIA: Arabian Sea (Veraval, Bombay, Goa, Mangalore).

REMARKS: This species occurs along the west coast of India forming a fishery in Bombay and Gujarat coast. It is quite likely that this species is confused with other species like *Johnieops macrorhynchus*, n.sp.

***Johnieops macrorhynchus*, sp.nov.**

(Fig. 2A)

MATERIAL: Holotype: CMFRI No. 189, 156 mm (S.L.), ♂, Bombay, 7-12-72, trawl net. Paratypes: CMFRI No. 190/1-19; 107, (S.L.) ♂ 10-8-69; 168, ♀ 14-10-69; 143, ♂ 7-10-68; 175, ♀ 12-8-69; 136, ♂ 24-1-68; 151, ♂ 10-11-70; all from Mandapam; 131, ♀ 118, ♀ 100, ♂ 100, ♂ all from Calcutta collected on 15-11-68

from trawl nets; 163, ♂ Waltair, 3-12-68; 162, ♂ 158, ♀ 152, ♀ 143, ♂; all from Veraval collected on 2-11-72; 131, ♀ 134 ♂; 127 ♂ 168, ♀; all from Bombay collected on 29-10-72; all of standard length and in millimeter.

DIAGNOSIS: Mouth inferior, snout swollen; second anal spine weak, lower jaw with an inner row of enlarged teeth; gas bladder and sagitta 'johnius type'; height 26-31% in S.L. (29.4); eyes 20-27% (23.9); second anal spine 21-31% (26.0) in head length. (D.X, 1, 26-30 (29) P.16-17 (17); C.17; A.II, 7; L1.46-49 (47); Ltr. 5-7/1/10-12 (6/1/10); G.R. 3-5/1/5-8 (4/1/7). (Measurements in parenthesis are of holotype).

DESCRIPTION: Body spindle shaped, dorsal profile convex, lower jaw shorter than upper jaw, mouth inferior, cleft of mouth extending below middle of eyes, snout projecting beyond upper jaw; eyes large equal to snout; upper jaw with an outer enlarged teeth and an inner row of minute teeth; lower jaw with outer rows of about 4-5 villiform teeth and an inner row of enlarged teeth; pharyngeal teeth well developed. Preopercle serrated. Lateral line pores on

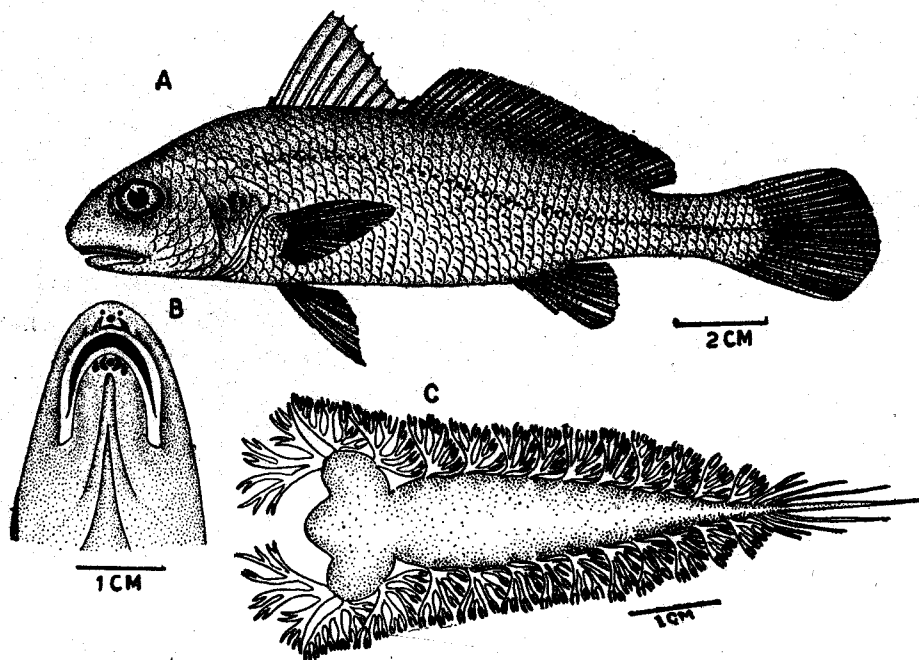


Fig. 2A. *Johnieops macrorhynus*, sp. nov. Total length 180 mm; CMFRI No. 189/14; Veraval. B. Ventral view of head showing rostral, marginal and mental pores; C. Gas bladder of specimen 160 mm total length.

snout and lower jaw well developed; median mental pore with a fleshy margin (Fig. 2B); lateral line extending to tip of caudal fin. Gas bladder with an anterior lateral expansion on each side and with 15-16 pairs of lateral arborescent tubules, the first arborescent tubules on each side extending anteriorly dividing into two branches, one extends below auditory region and the other to the branchial wall (Fig. 2C). Sagitta broad anteriorly and narrow posteriorly with a deep posterior groove; ctenoid scales on head and body; dorsal spines weak, first spine minute, second and third longest; first spine of second dorsal longer than last spine of first dorsal; caudal fin cunate; second anal spine short and weak; first ray of ventral fins filliform; base of second dorsal and anal fins with rows of minute scales. Gill rakers short, stumpy and dentate. See table 2 for additional data.

Fresh specimens with a golden tinge ventrally and pale brown dorsally; preserved specimens grey dorsally and hyaline ventrally; a steel blue ocellus on opercle; upper two-third of first dorsal

fin dark grey, second dorsal light grey along the margin; colour varies from golden yellow to pale grey.

RELATIONSHIP: *Johnieops macrorhynus* is closely related to *Johnieops osseus* Day, but differs from it in having more inferior mouth, shorter jaws and well developed snout pores. There are many apparent similarities between *Johnius elongatus*, n.sp., and *Johnieops macrorhynus*, n.sp., which may be due to their similar habitat. However, *Johnieops macrorhynus* can be easily distinguished from other species of the genus in having swollen snout, inferior mouth and shorter jaws.

ETYMOLOGY: The term '*macrorhynus*' refers to the swollen, protruding snout which is characteristic of the species.

DISTRIBUTION: INDIA: Arabian Sea and Bay of Bengal (Veraval, Bombay, Mandapam, Madras, Waltair, Calcutta).

REMARKS: It is obvious that *Johnius elongatus*, n.sp., and *Johnieops macrorhynus*,

n.sp., were identified as *Johnius dussumieri* (Cuvier) by the earlier workers (Sawant, 1963; Devadoss, 1973). *Johnius dussumieri* (Valenciennes) has a well developed mental barbel and cycloid scales on body whereas *Johnieops dussumieri* (= *Corvina dussumieri* Cuvier, 1839) has subterminal mouth with slightly enlarged teeth on lower jaw. *Johnieops dussumieri* does not form a fishery along the north-east coast of India.

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TABLE 2. MORPHOMETRIC CHARACTERS OF *Johnieops macrorhynchus*, sp. nov.
(MEASUREMENTS IN MM)

	1	2	3	4	5	6	7	8	9	10	11	12	13
Standard length ...	107	168	143	175	136	151	131	118	100	100	163	162	158
Ht. at D. origin ...	28	46	37	50	40	42	46	32	26	28	49	45	47
Ht. at A. origin ...	21	35	30	35	29	32	27	24	21	22	37	34	34
Ht. at C. peduncle ...	10	17	14	17	14	15	13	12	10	10	16	16	16
Head length ...	33	52	42	55	43	47	40	35	29	30	48	44	46
Predorsal length ...	35	53	48	55	46	48	41	36	33	35	54	52	55
Eye diameter ...	8	18	10	12	11	12	10	9	7	8	11	11	11
Snout length ...	8	13	10	14	10	12	10	10	7	8	12	10	11
Upper jaw length ...	12	18	15	20	16	17	14	12	10	10	16	17	17
Lower jaw length ...	8	13	11	14	12	12	10	9	7	7	11	14	15
Inter orb. space ...	8	13	10	13	11	12	9	8	7	7	12	11	12
Second D. spine ...	15	27	20	—	20	25	22	18	16	15	23	24	23
Third D. spine ...	16	22	21	—	20	23	22	17	16	16	23	23	23
Second A. spine ...	10	13	12	16	10	10	12	11	10	9	11	10	12
Pectoral fin ...	22	33	28	32	27	30	25	21	19	18	31	29	30
Caudal fin ...	24	33	27	32	29	31	—	23	23	20	31	33	35
Longest G.R. ...	0.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
Sex ...	M	F	M	F	M	M	F	F	M	M	M	M	F
Locality ...	MMM	MMM	MMM	MMM	MMM	MMM	CTA	CTA	CTA	CTA	WTR	VRL	VRL
CMFRI Reg. No. ...	190/1	/2	/3	/4	/5	/6	/7	/8	/9	/10	/11	/12	/13

*Variable; MMM=Mandapam; CTA=Calcutta; WTR=Waltair; VRL=Veraval; BMV=Bombay. †Holotype.

