

THE TAXONOMIC POSITION OF *CORVINA AXILLARIS*  
CUVIER, 1830 (SCIAENIDAE—PISCES)

By P. K. TALWAR AND ASHA JOGLEKAR\*  
*Zoological Survey of India, Calcutta*

CUVIER (1830) described *Corvina axillaris* from the Malabar coast of India. Subsequently the species has been described from various parts of the Indo-Pacific by all recent authors but placed under different genera : Day (1876) referred *C. axillaris* under *Sciaena*, Jordan and Starks (1917) under *Bola*, Fowler (1933) and Munro (1955) under *Johnius*, Weber and de Beaufort (1936), Tang (1937) and Misra (1959) under *Pseudosciaena*, and Chu, Lo and Wu (1963) under *Wak*.

The basis for this uncertainty of the generic position of *Corvina axillaris* Cuvier is the inadequacy of morphological characters in sciaenid systematics. Trewavas (1962) and Chu *et al.* (1963) classified the sciaenid fishes into major groups or genera emphasising the taxonomic value of the air bladder structure. This has completely altered the classification of the Sciaenidae from the past when the structure of the air bladder was ignored in favour of trophic adaptations which have turned out to be convergent (Trewavas, 1965). In the light of the above excellent works, a study of the air bladder structure has shown that the assignment of *Corvina axillaris* Cuvier to any of these genera is most inappropriate. *Corvina axillaris* has the simplest Pseudotolithine type of air bladder. The genera to which *C. axillaris* was earlier assigned have either the Otolithine or Sciaenine type of air bladder. *Corvina axillaris* has an air bladder similar to *Larimus* Cuvier, 1830, a genus of the Western tropical Atlantic Ocean and is also similar to the type species of *Larimus* in the general shape etc. Geography, however, is against its inclusion in the genus *Larimus* (Trewavas, 1965). A new genus is, therefore, proposed with *Corvina axillaris* Cuvier as type species. The geographical distribution and synonymy of this species are discussed by Fowler (1933), Weber and de Beaufort (1936) and Chu *et al.* (1963).

*Dhoma* gen. nov.

Type species : *Corvina axillaris* Cuvier

Sciaenidae, Pseudotolithini, with a simple air bladder having a pair of short, simple appendages extending from the anterior end into the head below the base of the occipital region. Snout not overlapping the jaws, the latter of about equal length anteriorly ; mouth terminal. Teeth villiform, with an outer anterior row of a few distant enlarged teeth in the premaxillaries, the inner row of the lower jaw is twice as strong as the remainder. No pores on snout ; a median pore below mandibular symphysis followed by two slit-like pores on each side. No mental process. Lateral line tubules arborescent posteriorly.

---

\* Published with the kind permission of the Director, Zoological Survey of India, Calcutta.

The present species is an important one from the economic point of view and commonly known as 'Dhoma' in India and hence the name is adopted for the new genus.

**Dhoma axillaris (Cuvier)**

- Corvina axillaris*; Cuvier, 1830. *Hist. nat. Poiss.*, **5** : 113.  
*Corvina axillaris*; Bleeker, 1853. *Verh. Batav. Gen.*, **25** : 36.  
*Corvina axillaris*; Günther, 1860. *Cat. Fish. Brit. Mus.*, **2** : 302.  
 ? *Pseudotolithus bleekeri*; Steindachner, 1866. *Verh. zool. bot. Ges. Wien.*, **16** : 773, pl. 14, fig. 4.  
*Sciaena axillaris*; Day, 1876. *Fish. India*, : 188, pl. 43, fig. 6.  
*Sciaena axillaris*; Ruther, 1897. *Proc. Acad. Nat. Sci.*, Philadelphia : 76.  
*Corvina papuensis*; Hase, 1914. *Jen. Ztschr. Naturw.*, **51** : 531.  
*Bola axillaris*; Jordan & Starks, 1917. *Ann. Carnegie Mus.*, **11** : 452.  
*Sciaena axillaris*; Hora, 1923. *Jour. nat. Hist. Soc. Siam.*, **6** : 177.  
*Johnius axillaris*; Fowler, 1927. *Proc. Acad. Nat. Sci.*, Philadelphia, **79** : 285.  
*Johnius papuensis*; Fowler, 1928. *Mem. Bernice P. Bishop Mus.*, **10** : 235.  
*Johnius axillaris*; Fowler, 1933. *Bull. U.S. Nat. Mus.*, **100**, **12** : 397.  
*Pseudosciaena axillaris*; Herre, 1934. *Notes Fish. Zool. Mus. Stanford Univ.*, **57**.  
*Pseudosciaena axillaris*; Weber & de Beaufort, 1936. *Fishes Indo-Australian Archipelago*, **7** : 511.  
*Pseudosciaena axillaris*; Tang, 1937. *Amoy. Mar. biol. Bull.*, **11** (2) : 66.  
*Johnius axillaris*; Munro, 1955. *Marine and Freshwater Fishes Ceylon*, : 155.  
*Pseudosciaena axillaris*; Misra, 1959. *Rec. Indian Mus., Calcutta*, **59** : 267.  
*Wak axillaris*; Chu, Lo & Wu, 1963. *Monograph. Fishes China Pub. Shanghai Fish Inst.*, : 33.

*Material examined* :

- No. 969. 1, 86 mm., Orissa, ca. 1868, F. Day, Original of pl. 43, fig. 6.  
 No. 967. 1, 85 mm., Orissa, ca. 1868, F. Day.  
 No. 12200-12210. 11, 82-92 mm., Orissa, ? , 'Investigator'.  
 No. 500/2. 5, 39-62 mm., Orissa, ? , B. Prasad.  
 No. 501/2. 1, 49 mm., Orissa, ? , B. Prasad.  
 No. 5784/2. 3, 75-78 mm., Calicut (Kerala) 7-1-1965, K. V. Rama Rao.  
 ——— 5, 66-94 mm., Madras, 5-11-1966, K. Reddiah.

**Description :**

D X + I 26-28 ; deeply notched, base of spinous dorsal somewhat less than  $\frac{1}{2}$  length of soft dorsal ; spines moderately strong, 4th and 5th longest,  $\frac{1}{2}$  higher than dorsal rays.

A II 7-8 ; commencing below 13th-14th dorsal ray, 2nd spine rather stout, longer than eye diameter,  $\frac{2}{3}$  in the first ray. Base of anal 3.5-4.0 in the soft dorsal base. Pectoral 17-18, somewhat longer than head without snout. Pelvic I 5, pointed, nearly equal postorbital length ; first ray filamentous. Caudal wedge-shaped. Gill rakers on first arch 9-11+1+21-22, lanceolate.

Depth of body 32.5-38.7 ; length of head 33.67-38.46 ; length of snout 8.16-10.58 ; diameter of eye 9.07-11.29 ; interorbital width 10.85-14.28 ; postorbital length 18.88-24.00 ; length of maxillaries 15.11-18.36 ; length of pectoral fin 26.53-29.41 ; length of pelvic fin 20.40 24.44 ; length of second dorsal fin base 37.76-44.89 ; length of anal fin base 10.46-12.24 ; length of 2nd anal spine 12.82-16.32 ; all in percentage of standard length. Length of snout 22.22-30.00 ; diameter of eye 26.66-31.81 ; interorbital width 30.00-38.88 ; length of maxillaries 43.33-50.00 ; length of 2nd anal spine 34.82-45.45 ; in percentage of head length.

Body oblong, compressed ; dorsal profile more convex than ventral profile. Mouth terminal, oblique, upper jaw not overhanging lower jaw. Rostral fold entire. Snout more or less blunt, not prominent. Maxilla reaches to below hind edge of eye ; its distal expansion truncate, shorter than diameter of eye. Interorbital area broad and convex, about 1.25 in eye diameter. Preopercle crenulate, opercle with two flat spines ; post-temporal entire. Skull with inconspicuous caverns. Pores—A median pore below the mandibular symphyseal knob and two slit-like pores on either side. No pores on snout. No mental process.

Scales—Rather large, cycloid on cheeks, suborbitals and opercles, and as far as the bases of the pectoral and ventral fins, dorsally they extend to below the middle of the first dorsal ; posterior to these places they are ctenoid. Scales are densely situated on the base of the soft dorsal and form a sheath for anal fin. 48-52 scales pierced by the lateral line (excluding caudal fin), 5-6 between the origin of dorsal and lateral line, 9-10 below the lateral line.

Teeth—Villiform with an outer curved row of rather strong ones in the premaxillaries, the inner row in the lower jaw is twice as strong as the remainder.

Air bladder (Text-fig. 1)—Pseudotolithine, a simple air bladder extending the whole length of the body cavity to the anal fin, the anterior rectangular part tapers gradually to posterior end which is pointed. Anterio-laterally two short unbranched horn-like processes originate extending from the anterior end into the head below the base of the occipital region.

Colour in alcohol—Drab above, whitish below with silvery hue. Upper two-thirds of spinous dorsal black and upper half of the soft dorsal dusky ; fins greyish. A black spot on the pectoral axil which extends considerably above base of pectoral.

Remarks : As stated earlier, *Dhoma axillaris* (Cuvier) has an air bladder similar to *Larimus*, a genus of the Western tropical Atlantic. Further, it resembles

*Larimus breviceps* Cuvier, the type species, in the oblique mouth, small teeth, even more numerous lanceolate gill rakers and general appearance. *Dhoma axillaris* has the least elaborate of the Pseudotolithini air bladder. Probably *Dhoma* is the nearest relation of the tropical West African species of Pseudotolithini.

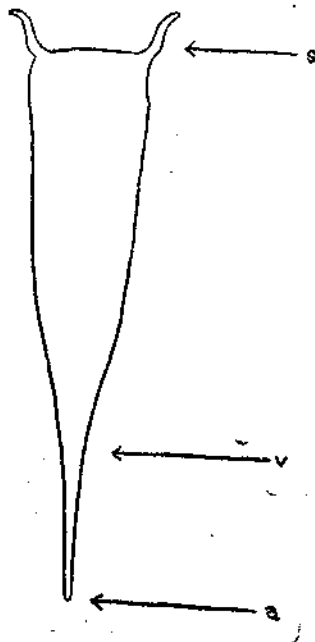


FIG. 1. Air bladder of *Dhoma axillaris* (Cuvier) in ventral view (Diagrammatic). s. position of septum transversum; v. position of vent; a. position of second anal spine.

Fowler (1933) was the first worker to give the gill raker count of *Dhoma axillaris* (Cuvier). He, however, gave the erroneous number 7+4. This was followed by Munro (1955) and Chu *et al.* (1963). In the specimens examined (including Day's figured specimen and topotypes) the gill raker count is 9-10+1+21-22. Fowler's count may probably be a misprint.

#### ACKNOWLEDGEMENTS

The authors are extremely grateful to Dr. A. P. Kapur, Director, Zoological Survey of India, Calcutta, for his sustained encouragement and interest during the course of this study.

#### SUMMARY

*Corvina axillaris* Cuvier, 1830, was first described from the Malabar coast of India. This species has subsequently been recorded from the various parts of the Indo-Pacific by Day (1876), Jordan and Starks (1911), Fowler (1933), Weber and de Beaufort (1936), Tang (1937), Misra (1959), and Chu, Lo and Wu (1963) but was placed under different genera. The genera to which the species has been assigned

are most inappropriate. A new genus viz., *Dhoma* is proposed to accommodate this species. Detailed description of the new genus and its type species with remarks on its relationships are given in this paper.

## REFERENCES

- CHU, Y. T., LO, Y. R. AND WU, H. L. 1963. A study on the classification of the Sciaenoid fishes of China, with description of new genera and species. *Monograph on Fishes of China*. Shanghai Fisheries Institute, China : 33-34.
- CUVIER, G. 1830. In Cuvier and Valenciennes, *Hist. Nat. Poiss.*, 5 : 113-114.
- DAY, F. 1876. *The Fishes of India*. Williams and Norgate, London : 188.
- FOWLER, H. W. 1933. The Fishes of the Philippine Seas and adjacent waters. *Bull. U.S. Nat. Mus.*, (100) 12 : 392-397.
- GÜNTHER, A. 1860. *Catalogue of the Acanthopterygian fishes in the collection of the British Museum*. London, 2 : 302.
- JORDAN, D. S. AND STARKS, E. C. 1917. Notes on a collection of fishes from Ceylon with description of new species. *Ann. Carnegie Mus.*, 11 : 452.
- MISRA, K. S. 1959. An aid to the identification of the common commercial fishes of India and Pakistan. *Rec. Indian Mus.*, Calcutta, 59 (1-4) : 267.
- MUNRO, I. S. R. 1955. *The marine and freshwater fishes of Ceylon*. Canberra : 155.
- \*TANG, D. S. 1937. A study on Sciaenoid fishes of China. *Amoy. Mar. biol. Bull.*, 2 (2) : 47-88.
- TREWAVAS, E. 1962. A basis for classifying the Sciaenid fishes of tropical West Africa. *Ann. Mag. nat. Hist.*, London (13) 5 : 167-176.
- . 1965. Review of article by Chu, Lo and Wu (1963) 'A study of the classification of the Sciaenoid fishes of China, with description of new genera and species.' *Copeia*, (2) : 253-254.
- WEBER, M. AND DE BEAUFORT, L. F. 1936. *The Fishes of the Indo-Australian Archipelago*. Leiden, 7 : 511-513.

---

\* Not consulted in original.