

THE SYSTEMATIC STATUS OF *OTOLITHES*  
*VERSICOLOR* CUVIER (PISCES, SCIAENIDAE)

By

P. K. TALWAR AND ASHA JOGLEKAR

*Zoological Survey of India, Calcutta*

(With 1 text-figure)

CONTENTS

	PAGE
I—INTRODUCTION ... ..	163
II—DESCRIPTION OF THE SPECIES ... ..	163
III—REMARKS ... ..	164
IV—SUMMARY ... ..	166
V—ACKNOWLEDGMENTS ... ..	166
VI—REFERENCES ... ..	166

I—INTRODUCTION

It is clear from recent literature on the sciaenid fishes of the Indo-Pacific region that considerable uncertainty exists about the status and identity of *Otolithes versicolor* Cuvier. Cuvier (1829) erected *Otolithes versicolor* based on the description and figure of 'Potee Kanasah' of Rüßell (1803) having the dorsal formula  $X + 1.21$ . Since Rüßell's original discovery of an *Otolithes* with  $D. X + 1.21$  from Visakhapatnam (India), no specimen with the same dorsal count has been obtained by subsequent workers.

During our studies on the sciaenid fishes of the Indian seas, two specimens of *Otolithes* collected from the Maharashtra coast on 22nd November, 1955 were found having the same dorsal formula as Rüßell's 'Potee Kanasah' (i.e. *Otolithes versicolor* Cuvier). The present study indicates that *Otolithes versicolor* Cuvier is a distinct species and not conspecific with *O. lateoides* Bleeker. Since no adequate description of *O. versicolor* is available, a redescription is given below.

II—DESCRIPTION OF THE SPECIES

*Otolithes versicolor* Cuvier

1829. *Otolithes versicolor* Cuvier, *Regne Animal*, 2, p. 173 (on 'Potee Kanasah' Russell, 1803, *Fishes of Coromandel*, 2, p. 7, pl. 109).

*Material*—2 exs., 80 mm. and 95 mm. in standard length; Alibag (Maharashtra, India), 22.11.1955, Dr. K. K. Tiwari Coll., Zoological Survey of India, Reg. No. F. 5873/2.

*Description*.—D. X + 1.20-21; A 11.7; P 15-16; LI 48-51; Gill rakers 5+12.

Depth of body 28.4—31.2; length of head 32.5—34.3; diameter of eye 10.5—11.2; snout 8.9—10.0; length of pectoral fin 23.1; length of ventral fin 20.0; snout to pectoral 31.0—33.7; snout to ventral 35.7—37.5; pectoral to dorsal 20.0; base of second dorsal 34.3—34.7; base of anal 9.3—10.5; depth of caudal peduncle 8.4—8.7; all in percentages of the standard length.

Body compressed, not much elongate. Snout pointedly convex with three pores. Mouth terminal, strongly oblique, maxillary concealed, its distal expansion truncate; lower jaw prominent, on both sides below symphysis two small pores. Preopercle rounded, denticulate; opercle with two blunt weak spines; post-temporal fimbriate. Two rows of teeth in both jaws, the outer row enlarged, anteriorly with three to four canines of moderate size. Scales cycloid on head and below pectorals, elsewhere ctenoid.

Spinous dorsal deeply notched with weak spines. Base of anal 4.5 in base of soft dorsal. Origin of anal below the tenth dorsal ray. Caudal slightly rhomboidal. Gas-bladder typical Otolithine type (Text-fig. 1) (Trewavas, 1962) with nineteen pairs of hollow arborescent appendages on each side of the main bladder. No sonific muscles in the male specimen dissected.

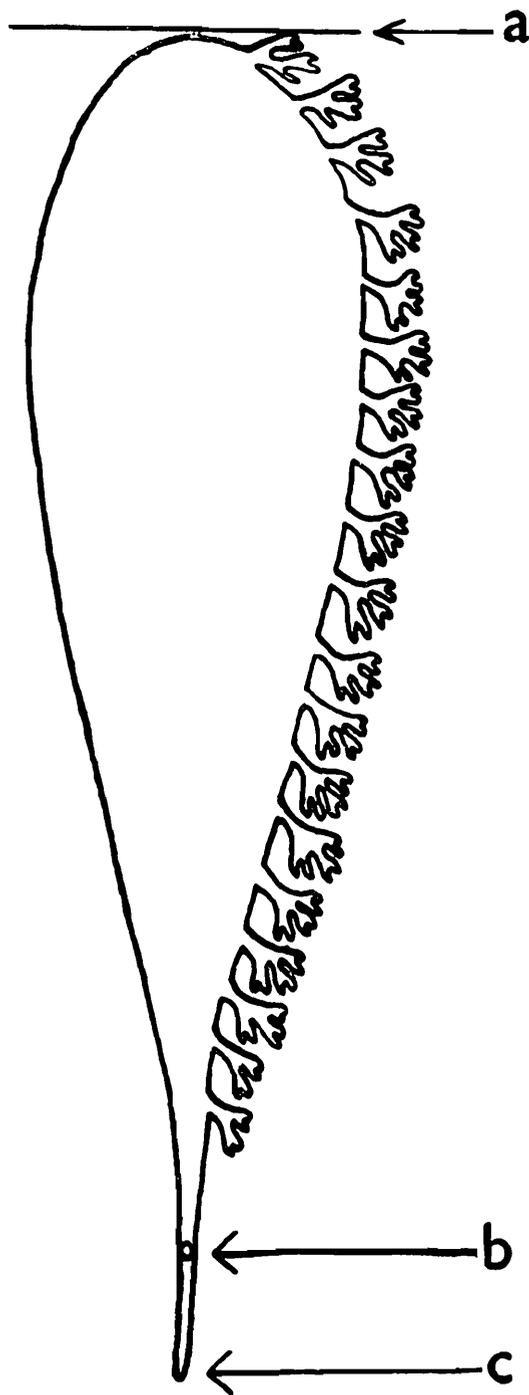
*Colour in alcohol*.—Head and back greyish brown, below and on sides silvery; tips of dorsal, caudal, and pectoral axil dusky; a dark blotch on operculum.

### III—REMARKS

Cantor (1849) doubtfully referred a specimen with a dorsal count of X + 1.25 from Penang to *Otolithes versicolor* Cuvier. Bleeker (1850) treated this as a new species viz., *O. lateoides*. Günther (1860) and Day (1876) considered *O. versicolor* as a dubious species. Fowler (1933) synonymised *O. lateoides* Blkr. with *O. versicolor* Cuvier and gave its distribution as India, Penang and the East Indies. Weber and de Beaufort (1936) treated *O. versicolor* as described by Cantor (*l.c.*) and Fowler (*l.c.*) as synonyms of *O. lateoides* and stated that “as neither Day nor any other author on Indian fishes has neither *versicolor* nor *lateoides* reported in India, it is, therefore, safer not to use the dubious name *versicolor*.” Trewavas (1967—personal communication) carefully looked into the question of *O. versicolor* and compared its description and figure with *O. lateoides* and concluded that it was an ‘unidentifiable species.’

Since the time of the original description of *Otolithes versicolor* Cuvier, no specimen of this fish has been known which could definitely be assigned to this species. It is on the number of soft dorsal rays

that the discrepancy between Cuvier's description of *O. versicolor* and subsequent accounts has been noted. Cuvier (*loc. cit.*) gives the number



TEXT-FIG. 1. Gas-bladder of *Otolithes versicolor* in ventral view with appendages shown on one side only. a. Position of septum transversum. b. Position of vent. c. Position of base of first anal spine.

of soft dorsal rays in *O. versicolor* as 21. The range of the dorsal rays in *O. lateoides* is usually given as 24-27.

*Otolithes versicolor* may be distinguished from *O. lateoides* in addition to the character enumerated above, by the following meristic counts and proportional measurements: fewer gill rakers in the lower

arm (12 versus 14), lesser number of scales in the lateral series (48—51 versus 54—60), depth of body-in-standard length value (3.2—3.5 versus 4.0—4.4), head length-in-standard length value (2.9—3.0 versus 3.7—4.0) and eye diameter-in-head length value (3.0—3.1 versus 4.6—5.6). Further, the anal fin originates below the tenth dorsal ray in *Otolithes versicolor* against eighth ray in *O. lateoides*. Although absence of intergradation is not proof in itself of the distinctness of species, its presence is regarded as an indication that the forms under consideration are conspecific. No intergradation between *O. versicolor* and *O. lateoides* is known. It, therefore, seems reasonable to conclude that both are distinct species, the former probably restricted to the Indian coast and the latter species to the East Indies.

#### IV—SUMMARY

Data establishing the validity of *Otolithes versicolor* Cuvier are presented. It is shown that *O. versicolor* and *O. lateoides* Blkr. are not conspecific.

#### V—ACKNOWLEDGMENTS

We are extremely grateful to Dr. A. P. Kapur, Director, Zoological Survey of India, Calcutta for encouragement and helpful criticism of the manuscript. We are also thankful to Dr. E. Trewavas, British Museum (Natural History), London and Dr. A. G. K. Menon, Zoological Survey of India for their valuable suggestions.

#### VI—REFERENCES

- BLEEKER, P. 1850. Fauna Ichthyologicae. Javæ insularumque adjacentium Genera et species novae.—*Natuurk. Tijdschr. Ned. Indie*, Batavia, 1, pp. 98-108.
- CANTOR, T. 1849. Catalogue of Malayan Fishes. *J. Asiat. Soc. Bengal*, Calcutta, 18, (II), pp. xii+(983-1443).
- CUVIER, G. 1829. *Le Règne Animal*, (Ed. 2), 2, 173 pp. Paris (Fortin, Massion Et Cie, Libraries).
- DAY, F. 1876. The Fishes of India, (2nd Part), p. 197—London (Williams & Norgate).
- FOWLER, H. W. 1933. The fishes of the Philippine Seas and adjacent waters. *Bull. U.S. nat. Mus.*, Washington, (100) 12, pp. 354-55.
- GÜNTHER, A. 1860. Catalogue of the Fishes in the British Museum, 2, p. 311.—London.
- RÜSSELL, P. 1803. Description and figures of two hundred fishes collected at Vizagapatnum on the coast of Coromandel. 2, p. 7, pl. 109.—London (Bulmer & Co.).
- TREWAVAS, E. 1962. A basis for classifying the sciaenid fishes of tropical West Africa. *Ann. Mag. nat. Hist.*, London, (13) 5, pp. 167-176.

WEBER, M. AND L. F. DE BEAUFORT, 1936. The fishes of the Indo-Australian Archipelago, 7, pp. 488-490—Leiden (E. J. Brill).