



## Short Communication

# First record of *Thryssa stenosoma* Wongratana (Clupeiformes: Engraulidae) from Chilika Lagoon, Odisha, East Coast of India

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## Abstract

Two specimens belonging to species i.e., *Thryssa stenosoma* Wongratana have been collected from Balugaon fish landing centre of Chilika lagoon, Odisha for the first time. A systematic account of the species and comparison of the same with all other species of the genus is provided. Distribution of *Thryssa* species along coastal waters of India is also presented.

**Keywords:** Chilika, Distribution, First Record, Odisha, *Thryssa stenosoma*

## Introduction

The genus *Thryssa* Cuvier, 1829 (Clupeiformes: Engraulidae) comprise of 24 species worldwide, and represented by only 16 species in Indian waters (Whitehead *et al.*, 1988). Among the species known from India, five species, viz., *Thryssa gautamiensis* Babu Rao, *T. kammalensis* (Bleeker), *T. kammalensoides* Wongratana, *T. spinidens* (Jordan and Seale) and *T. stenosoma* Wongratana, are recorded from east coast of India only (Table 1). The Slender thryssa, *T. stenosoma*, is known to have distributed in northern Bay of Bengal along the coasts of India, Bangladesh and Myanmar (Whitehead *et al.*, 1988). Indian records of *T. stenosoma* are limited to the Ganges estuaries of West Bengal and Godavari estuaries of Andhra Pradesh (Talwar and Jhingran, 1991).

*Thryssa stenosoma* has not been reported from Odisha coast earlier (Barman *et al.*, 2007; Mishra *et al.*, 2010; Seth and Sahoo, 2013, 2014; Ray *et al.*, 2014; Behera *et al.*, 2015). Mohapatra *et al.*, (2013, 2014) recorded two species, *Acanthurus triostegus* (Linnaeus) and *Monodactylus kottelati* Pethiyagoda from Chilika lagoon as new to coastal waters of Odisha. Mohanty *et al.*, (2015) updated the list of fishes from the Chilika lagoon, Odisha and enlisted 317 species of fishes. The present report forms first record of *Thryssa stenosoma* Wongratana (Fig. 1) from the Chilika Lagoon and Odisha coast as well. With the report of *T. stenosoma*, Odisha coast is now

known to harbour a maximum of 13 numbers of *Thryssa* species in India (Table 1).

## Material and Method

During a recent survey, two specimens of *Thryssa stenosoma* have been collected from the Chilika lagoon at Balugaon fish landing centre 19°44'24"N, 85°12'37"E, Odisha. An inquiry reveals the specimen was captured in the central sector of the Chilika lagoon. The specimens were directly preserved in ethanol. After identification, they were deposited with Fish Division, Zoological Survey of India, Kolkata. The identification was carried out with the help of standard literature, especially Whitehead *et al.*, (1988) and Talwar and Jhingran (1991). A systematic account of the species based on the specimens collected is given hereunder.

## Systematic Account

Class ACTINOPTERYGII  
Order CLUPEIFORMES  
Family ENGRAULIDAE Gill, 1861  
Genus *Thryssa* Cuvier, 1829

*Thryssa stenosoma* Wongratana, 1983

1983. *Thryssa (Scutengraulis) stenosoma* Wongratana, *Jap. J. Ichthyol.*, 29 (4): 404, Fig. 23 (Type locality: Godavari estuary, Andhra Pradesh, east coast of India).

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1988. *Thryssa stenosoma*: Whitehead *et al.*, *FAO Fish Synop.*, 125 (7) 2: 444.

1991. *Thryssa stenosoma*: Talwar and Jhingran, *Inland fishes of India and adjacent countries*, 2: 147.

**Material examined:** ZSI F 11607/2, 2 ex., 120-128 mm SL, Chilika Lagoon, Balugaon, 07-04-2016, collected by S.S. Mishra and party.

**Diagnosis:** Body elongate, laterally compressed; relatively slender, its depth 23.4-24.2 percent of Standard Length (SL); head length 18.0-19.2 percent of SL; snout 23.9-24.0 percent of Head Length (HL); belly with 16 prepelvic and 10 postpelvic keeled scutes, total 26 scutes; tip of snout at about above the level of eye-centre; maxilla long, reaching to pectoral fin base; first supra-maxilla very small and oval; teeth on lower jaw slightly enlarged; a prominent pre-dorsal spine present; dorsal fin with iii, 11 rays; anal fin with iii, 41-43 rays; pectoral fins with i, 12 rays; pelvic fin with i, 6 rays; gill rakers 13 on upper arm plus 18-19 on lower arm of first arch, serrae not clumped; brownish on back, flanks and belly silvery; mid-dorsal line with a pair of dark pigmented line; pectoral fins dusky; indistinct or no dark blotch behind upper part of gill opening.



**Figure 1.** *Thryssa stenosoma* Wongratana, 1983 collected from the Chilika Lagoon.

**Distribution:** Known only from northern part on the Bay of Bengal, India: Godavari estuary, Andhra Pradesh and Hooghly estuary, West Bengal; Bangladesh and Myanmar (Whitehead *et al.* 1988).

## Discussion

By having a long maxilla that reaching pectoral fin base, *Thryssa stenosoma* is closely similar to only four other species, viz., *Thryssa adelae*, *T. dayi*, *T. mystax* and

**Table 1.** Distribution of different *Thryssa* species in Indian waters

Species	AN	WB	OD	AP	TN	KL	KT	MH	GJ
<i>Thryssa baelama</i> (Forsskal, 1775)	+	--	--	--	--	--	--	--	--
<i>Thryssa dayi</i> Wongratana, 1983	--	--	--	--	+	+	+	+	--
<i>Thryssa dussumieri</i> (Valenciennes, 1848)	--	+	+	+	+	+	+	+	+
<i>Thryssa encrasicoloides</i> (Bleeker, 1852)	+	--	--	--	+	--	--	--	--
<i>Thryssa gautamiensis</i> Babu Rao, 1971	--	+	+	+	--	--	--	--	--
<i>Thryssa hamiltoni</i> (Gray, 1835)	+	+	+	+	+	+	+	+	+
<i>Thryssa kammalensis</i> (Bleeker, 1849)	--	+	+	--	--	--	--	--	--
<i>Thryssa kammalensoides</i> Wongratana, 1983	--	--	+	+	--	--	--	--	--
<i>Thryssa malabarica</i> (Bloch, 1795)	+	+	+	+	+	+	+	+	+
<i>Thryssa mystax</i> (Bloch & Schneider, 1801)	+	+	+	+	+	+	+	+	+
<i>Thryssa polybranchialis</i> Wongratana, 1983	--	--	+	+	+	--	+	+	--
<i>Thryssa purava</i> (Hamilton, 1822)	--	+	+	+	+	+	+	+	+
<i>Thryssa setirostris</i> (Broussonet, 1782)	+	--	+	+	+	+	+	+	+
<i>Thryssa spinidens</i> (Jordan & Seale, 1925)	--	+	--	--	--	--	--	--	--
<i>Thryssa stenosoma</i> Wongratana, 1983	--	+	+	+	--	--	--	--	--
<i>Thryssa vitrirostris</i> (Gilchrist & Thomp., 1908)	--	+	+	+	+	+	+	+	+
Total (16)	6	10	13	11	10	7	9	9	7

*T. vitrirostris*. *Thryssa dussumieri* and *T. setirostris* have longer maxilla that reaches at least halfway along pectoral fin or beyond. In all other species of *Thryssa*, maxilla is shorter, not reaching pectoral fin base. Branched anal fin rays usually less than 40 in *T. adela*, *T. mystax* and *T. vitrirostris* (41-45 in *T. stenosoma*) and a distinct dark blotch behind gill opening present in all these three species (indistinct or absent in *T. stenosoma*). Further, gill rakers on lower arm of first arch more (mostly 20-24) in *T. adela* and *T. vitrirostris* (17-19 in *T. stenosoma*). Although, maxilla length, number of branched anal fin rays, and lower gill rakers overlap in *T. dayi* and *T. stenosoma*, the former have a deeper body (more than 26 percent of SL vs 23 to 27 percent in *T. stenosoma*) and first ray of pectoral fin usually filamentous in *T. dayi*. From distribution point of view, *T. dayi* is known from west coast of India including southern part of Tamil Nadu coast, but yet to be collected from the Bay of Bengal. These observations led us to identify our specimens as *T. stenosoma*. Although Talwar and Jhingran (1991) stated the number of pectoral fin branched rays as 12, our specimens have only 11 rays. That may be attributed to geographical variation.

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All earlier records of this species are from estuaries and similar estuarine condition prevails in the Chilika lagoon. Although, Talwar and Jhingran (1991) stated that the species may presumably occur in inshore waters, it requires further confirmation. Possibly this species was earlier confused with *Thryssa purava* in Chilika lagoon and other estuaries in Odisha and Andhra Pradesh.

The present report forms its first record from the Chilika Lagoon and Odisha coast as well. With this report, the total number of *Thryssa* species known from Odisha coast is now thirteen (Table 1). Apart from *T. dayi*, known from west coast of India, *T. encrasicholoides*, known only from coral reef areas and *T. spinidens*, currently known from West Bengal and north-eastern Bay of Bengal, have not reported from Odisha coast.

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