

Family Engraulidae

Anchovies

Anchovies are one of the most important families of marine fishes from an ecological and commercial perspective. Most are marine, but some tolerate low salinities, and several species migrate into rivers to spawn in brackish or freshwaters. Few are confined to freshwater habitats. Most anchovies are plankton filter feeders and are major prey species in the marine food chains. They are usually small (mostly 80–150 mm SL), and many species school in such numbers that they form the basis of some of the world's most important fisheries. The Peruvian anchoveta *Engraulis ringens* has yielded greater catches than any other single wild fish species worldwide, with annual harvests varying between 4.2 and 8.3 million tonnes (2008–2012), almost all used for making fishmeal. Often, catches in Mediterranean and Black Seas are dominated by anchovy *Engraulis encrasicolus* (200,000 to 393,500 tonnes in the Black Sea). This species accounts for almost all of the commercial catches. Most of the harvest is used for the fishmeal industry, primarily to

feed fish in aquaculture. Superficially similar silversides (Atherinidae) have two dorsals (vs. one in anchovies). *Thrissina mystica* and *T. whiteheadi* have been recorded in the Persian Gulf from the Shatt al Arab and the Hammar Marsh. The genus *Thrissina* is restricted to the Indo-Pacific, where 38 species are actually recognised. *Thrissina* can be distinguished from other anchovies accidentally entering freshwaters and brackish estuaries by the upper pectoral ray not extending into a long filament (vs. long pectoral filament present in *Setipinna*), 31–45 branched anal rays (less than 25 in *Encrasicholina* and *Stolephorus*) and the anal isolated from the caudal (vs. joined in *Coilia*). The taxonomy of *Thrissina* is not yet settled, and the thrissas of the northern Persian Gulf are only tentatively identified. Other species might occur and should be identified using the key provided. **Further reading.** Carpenter et al. 1997 (identification, distribution); Hata et al. 2020 (*T. serena*); Hata et al. 2023 (as *T. malabarica*); Hata et al. 2025 (*Thrissina mystica*). Hata & Motomura 2020 (*T. serena*). Many thanks to Harutaka Hata (Japan) for reviewing this chapter.

Key to species of *Thrissina* in West Asia

1a - Maxilla short, not reaching to edge of gill cover; scutes covering abdomen less than 18.

.....*T. baelama*

1b - Maxilla long, reaching to edge of gill cover; scutes covering abdomen 20 or more.

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2a - Maxilla reaching posteriorly beyond pectoral-fin insertion.

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2b - Maxilla not reaching to pectoral-fin insertion.

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3a - Maxillary reaching much beyond pectoral-fin base; 17–19 gill rakers on lower limb of first gill arch.

.....*T. dussumieri*

3b - Maxilla reaching to pectoral-fin base; 21–23 gill rakers on lower limb of first gill arch.

.....*T. serena*

4a - 25–26 scutes covering abdomen; 18–21 gill rakers on lower limb of first gill arch; 39–43 branched anal rays.

.....*T. whiteheadi*

4b - 26–30 scutes covering abdomen; 13–16 gill rakers on lower limb of first gill arch, 34–40 branched anal rays.

.....*T. mystica*



Thrissina mystica; Kuwait Bay; 142 mm SL. © J. Randall, Bishop Museum.

Thrissina mystica

Common name. Balam.

Diagnosis. Distinguished from *T. whiteheadi* by: ● 3–16 gill rakers on lower limb of first gill arch / ● 34–40 branched anal rays. Size up to 270 mm SL.

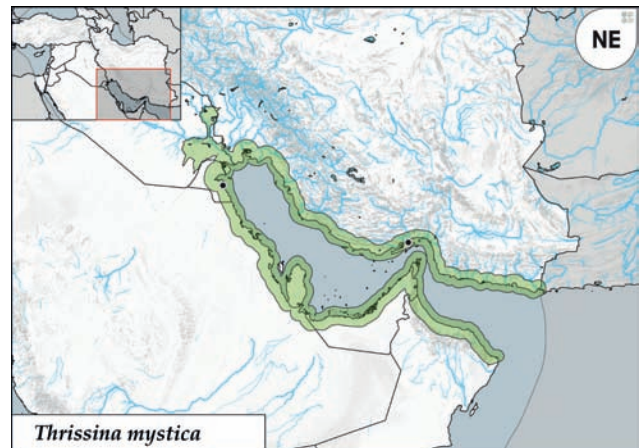
Distribution. From Persian Gulf east to south India. In Shatt al Arab/Arvand, Hammar Marsh, and up to Nasiriyah on Euphrates.

Habitat. Pelagic in coastal waters, entering freshwaters.

Biology. Spring visit to Hammar Marsh and presence of juveniles suggest spawning in brackish waters. Two spawning peaks, one in December–January and one in March–April. Feeds on a wide variety of planktonic invertebrates, fish larvae, and small fish.

Conservation status. LC.

Remark. Usually identified as *T. hamiltonii*, or as *T. malabarica*. *Thrissina malabarica* occurs in East Asia.



Further reading. Carpenter et al. 1997 (identification, distribution); Hata et al. 2021 (redescription). Hata et al. 2023 (*T. malabarica*); Hata et al. 2023 (as *T. malabarica*); Hata et al. 2025 (*Thrissina mystica*).



Thrissina whiteheadi; Dammam, Saudi Arabia; 205 mm SL. © J. Randall, Bishop Museum.

Thrissina whiteheadi

Common name. Persian Gulf thryssa.

Diagnosis. Distinguished from *T. mystica* by: ● 18–21 gill rakers on lower limb of first gill arch / ● 39–43 branched anal rays. Size up to 205 mm SL.

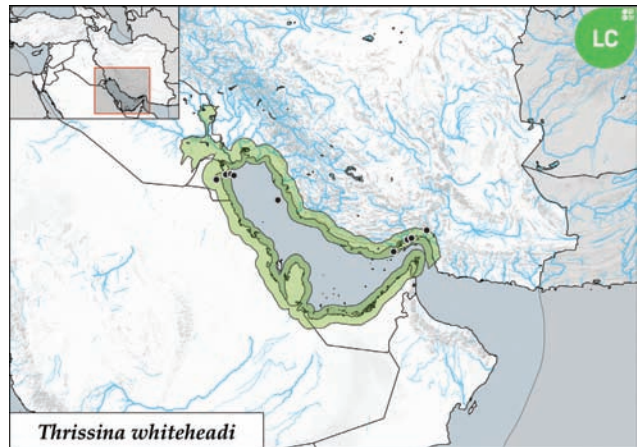
Distribution. Endemic to Persian Gulf. In Shatt al Arab/ Arvand, Hammar Marsh and Lake Hawizah, widespread in sea.

Habitat. Pelagic in coastal waters, entering freshwaters.

Biology. No data.

Conservation status. LC

Further reading. Carpenter et al. 1997 (identification, distribution); Hata et al. 2021 (redescription).



The Caspian Sea is habitat of a great diversity of Clupeiform fishes in West Asia.