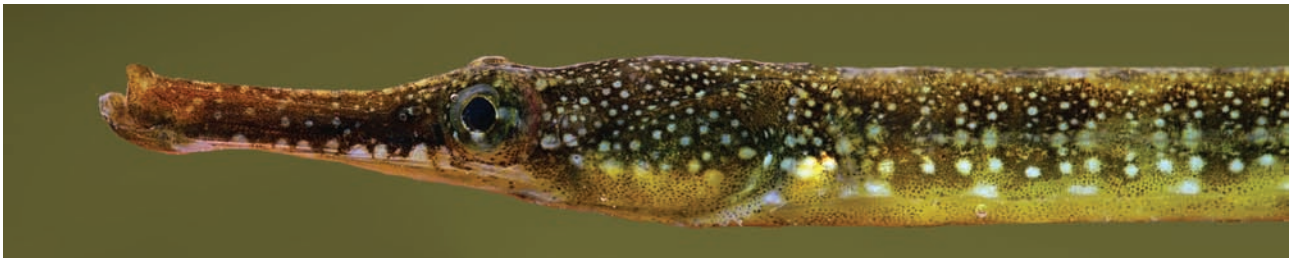
Family Syngnathidae

Pipefishes

Syngnathidae is characterised by an elongate body covered by a series of bony rings, a small mouth at the extremity of a long and slender snout, and the absence of pelvics (and caudal, dorsal, and anal) fins in some species. The best-known members of the family are probably the marine sea horses (*Hippocampus*). The family includes approximately 220 species, mostly found in tropical marine waters. Several species enter estuaries and coastal lagoons, while others are strictly freshwater inhabitants. The trunk rings begin with the ring bearing the pectoral base and end with the ring bearing the anus (which usually bears the anal fin). The predorsal rings end with the ring bearing the first dorsal ray. The caudal rings begin with the first ring situated posterior to the anus and end with the penultimate ring. The terminal ring bears the caudal fin.

Syngnathus nigrolineatus and *S. caspius* regularly enter freshwater habitats in West Asia. Three additional species have been recorded to enter brackish waters of estuaries and coastal lagoons and may find their way into freshwater. These species can be distinguished using the key below. The diversity of the genus *Syngnathus* in the Mediterranean basin is significantly underestimated. Molecular studies indicate that several species may be confused under *S. abaster*. A critical review is required to ascertain the diversity and distribution of Mediterranean pipefishes. It is proposed that *S. abaster* be restricted to the coastal habitats of Spain, France, Corsica, and Sardinia. The Italian coastal species is identified as *S. agassiz*, described from Trieste, the freshwater species in the Black Sea basin as *S. nigrolineatus*, and the Caspian species as *S. caspius*. The well-defined molecular group found in Tunisia could be identified as *S. algeriensis* or *S. flavescens* in the future. From these, only *S. algeriensis*, *S. caspius*, and *S. nigrolineatus* regularly occur in freshwaters, while other species are restricted to marine or estuarine habitats. *Syngnathus agassiz* is expected to be found along the coast of the Eastern Mediterranean, but more research is needed to understand its distribution. The morphological characteristics that distinguish these different pipefishes have yet to be studied; thus, a definitive diagnosis cannot be provided. **Further reading.** Dawson 1985; Kuiter 1998; Wilson et al. 2010; Sanna et al. 2013 (molecular diversity).



Syngnathus nigrolineatus; lower Danube, Romania; ~120 mm SL.

Key to species of Syngnathidae in fresh and brackish waters in West Asia

1a - Caudal, pectoral and anal absent.
……*Nerophis ophidion*
1b - Caudal, pectoral and anal present.
……2

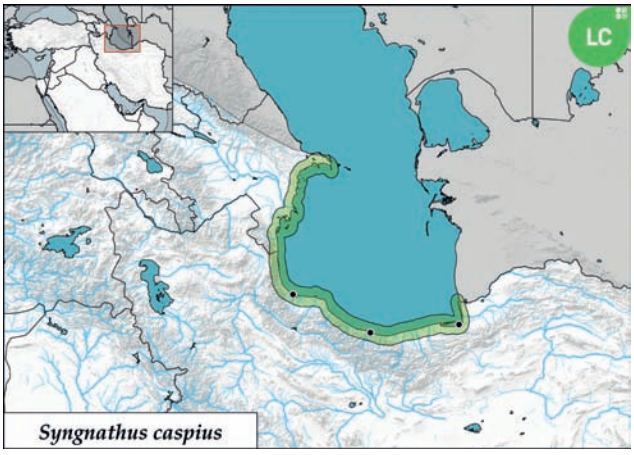
2a - Anterior trunk rings not fused ventrally; snout compressed, anterior part deeper than head; up to 350 mm SL.
……*Syngnathus typhle*
2b - Anterior trunk rings ventrally fused; snout cylindrical.
……3

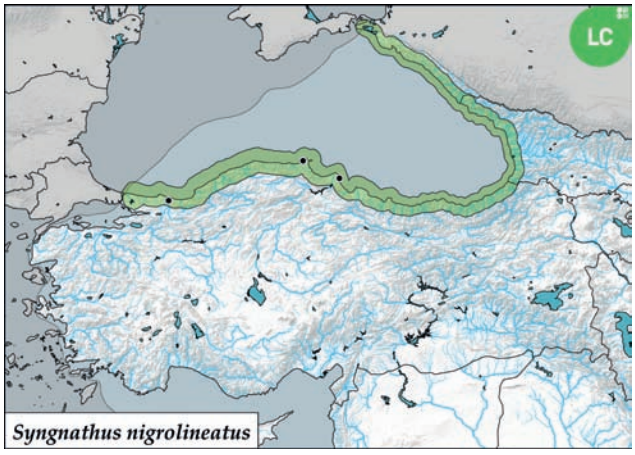
3a - An elongated bump on top of head behind eye.
……*Syngnathus acus*
3b - No elongated bump on top of head behind eye, dorsal profile of head almost linear.
……*Syngnathus caspius / S. nigrolineatus*

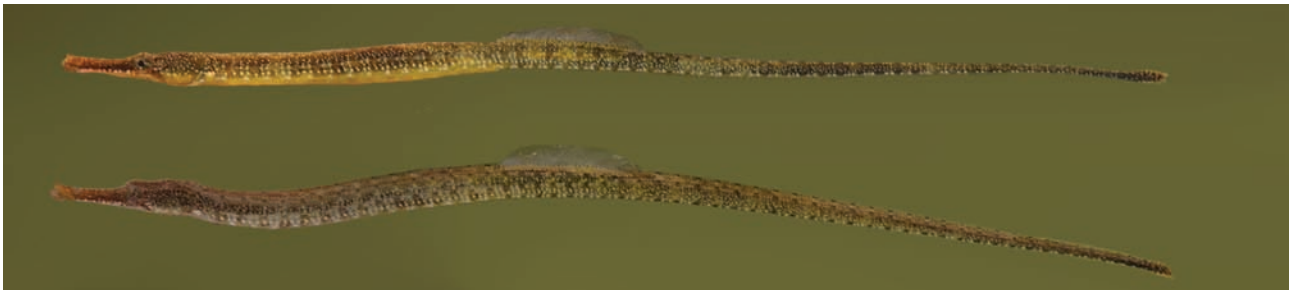
https://doi.org/10.1515/9783111677811-036

Syngnathus caspius; Gorgan Bay, Iran; male with egg pouch under tail, 110 mm SL. © R. Patimar.

Syngnathus caspius
Common name. Caspian pipefish.
Diagnosis. Characters to distinguish this species from other species of *Syngnathus* have yet to be worked out. Size up to 190 mm SL.
Distribution. Caspian basin.
Habitat. Many marine, brackish, and freshwater habitats are mostly associated with dense submerged vegetation.
Biology. No data.
Conservation status. LC.
Further reading. Berg 1949b (description).







Syngnathus nigrolineatus; lower Danube, Romania; ~120 mm SL.

Syngnathus nigrolineatus
Common name. Black Sea pipefish.
Diagnosis. Characters to distinguish this species from other species of *Syngnathus* have yet to be worked out. Size up to 190 mm SL.
Distribution. Coastal habitats and lower reaches of rivers in Black Sea basin; in Danube reaching Romanian-Hungarian border; in Dniepr reaching Kyiv. Introduced in middle and lower Volga reservoirs with mysids brought from Don estuary, now spreading and already south of Moscow.
Habitat. A wide range of marine, brackish, and freshwater habitats are usually associated with dense submerged vegetation and are also on open, muddy bottoms.
Biology. Lives up to 4 years. First spawns at 1 year, in April–October. Female lay 10–60 eggs in a brood pouch on ventral surface of male's tail. Male fertilise eggs as they enter pouch. Eggs incubate for 20–32 days.
Conservation status. LC.
Further reading. Svetovidov 1964 (description, as *S. nigrolineatus*); Silva et al. 2006a, b (reproduction).