

Dragonets

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Three Callionymid Species (Dragonets) Inhabit the Wadden Sea

Dragonets belong to the most colourful fishes living in the German Bight and North Sea. However, only a few people may have the chance to see some of them: biologists and fishermen using small meshed nets. Whoever else wants to see their colours should look into the books, e.g. Muus & Nielsen (1999). The species are comparatively small, live mostly on the bottom and seem to be not very abundant in our waters. They are also prey of cod and other predatory fish, which are now rare in our waters. May be that is the reason,

latus almost vertical parallel, which is not, i.e. wrongly reflected in Muus & Nielsen (1999). They are therefore easily confused.

The German „Atlas der Fische im schleswig-holsteinischen Wattenmeer“ (Vorberg & Breckling 1999) contains two species: *C. lyra* and *C. maculatus*, but the sketch of the latter one is clearly showing *C. reticulatus*. It may be the first hint that this third species, which has never been reported so far east of Helgoland, lives in the Wadden Sea as well. For *C. maculatus*, which is more frequently caught during other surveys in north-westerly, deeper waters off the Wadden Sea islands, the areas reported by Vorberg & Breckling (1999) seem rather remote, though the sizes mentioned fit the species size distribution.

Thorough checks of callionymid fish specimen, caught during DYFS campaigns in recent years, ap-

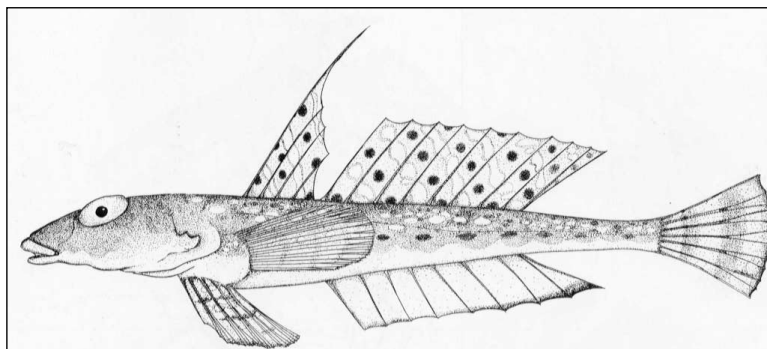
plying morphological different features as well have revealed that *C. reticulatus*, that has never been reported from the German Wadden Sea region, is indeed present there. Besides coloration and morphometric differences the presence (*C. maculatus*) or absence (*C. reticulatus*) of the fourth, though small preopercular spines, pointing forward on the opercula, helped to recognise the third species and gave a true and new regional record. A scientific paper is accepted and will be published soon in the Journal of Applied Ichthyology.

References

- Muus & Nielsen, 1999. Die Meeresfische Europas. Kosmos Naturführer, ISBN 3-440-07804-3.
Vorberg, R. & P. Breckling, 1999. Atlas der Fische im Schleswig-Holsteinischen Wattenmeer. Schriftenreihe des Nationalparks Schleswig-Holsteinisches Wattenmeer, Heft 10.

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Figure of *Callionymus maculatus* (which shows *C. reticulatus*) from Vorberg and Breckling (1999).



while they seem to occur more often in the hauls of the demersal young fish survey program (DYFS) of the German Fisheries Research Centre.

Many of the older reference books show only two species, while the recent one mentioned above contains now three for the North Sea out of approx. 130 species inhabiting the oceans: Dragonet (*Callionymus lyra*, max. length 30 cm, living in shallow waters down to 200m on muddy to sandy grounds), Spotted Dragonet (*Callionymus maculatus*, max. length 14 cm, preferring slightly deeper waters down to 300m and sandy bottom) and the Reticulated Dragonet (*Callionymus reticulatus*, max. length 10 cm, preferring clean sandy grounds down to 40m). As only the males show distinct, bright colours and patterns, while the females are smaller and exhibit a less structured and brownish appearance, it is sometimes a problem to distinguish between the species especially between small specimens. Another problem among the males of *C. maculatus* and *C. reticulatus* are their spots on the second dorsal fin. Both have them, though with a different pattern: *C. maculatus* horizontally parallel, *C. reticu-*