

Spreading of puffer *Sphoeroides cutaneus* Gunther, 1870 (Pisces, Tetraodontidae) in the Sicilian Channel. Is it an "exploding" population?

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Tetraodontidae, named puffers or swell-fishes after their ability to inflate the body, are circumtropical, littoral, medium sized fish present throughout the oceans (SHIPP, 1974).

Although some puffers are highly valued as a food delicacy, especially in Western Pacific (VIETMEYER, 1984), they can be deadly poisonous, due to their capacity to produce tetrodotoxin (HOAR & RANDALL, 1969).

Among the four species reported for the Mediterranean Sea *Ephippion guttiferum*, *Lagocephalus lagocephalus*, *L.spadiceus* and *Sphoeroides cutaneus* (FREDJ & MAURIN, 1987), the latter represents the most recent acquisition.

Recorded for the first time in the western basin (OLIVER, 1981), segnalations relative to the presence of this species followed one another, both in the western (e.g. CRESPO *et al.*, 1986) and in the central basin (e.g. VACCHI & CAU, 1986) of the Mediterranean; up to date *S. cutaneus* is not reported, for the eastern basin (FREDJ & MAURIN, 1987).

As far as concerning the Sicilian Channel, Mazara trawl fishermen were interviewed in order to get informations about the occurrence and abundance of this puffer and to gather some specimens for morphological studies. Furthermore, data collected during experimental trawl surveys from spring 1985 (see LEVI, 1990 for details on the program) were consulted.

These informations allow us to give a picture of the situation:

a) mazarese fishermen know *S. cutaneus* and caught it frequently (50-250 m depth range) in the southern side of the Sicilian Channel;

b) more than 100 specimens were received by fishermen (just a small fraction of a larger but unknown total catch);

c) first catches occurred about 60 n.mil. north off Tripoli (n° 1 in Fig.);

d) further records are in agreement with a northward dispersal, also supported by experimental surveys (puffers began to occur in the catches only from spring '90; see Fig.).

Since this species is discarded by fishermen and the wide size-range observed (10-40 cm; TL), it is likely that *S. cutaneus* in the Sicilian Channel is more abundant and earlier established than supposed on the base of literature available (VACCHI & CAU, 1986).

Present data support the introduction from Atlantic Ocean of the species which probably reached the Sicilian Channel following the southern north-east path current (Fig.).

Furthermore, the above picture might be the consequence of an "explosive" spreading of the species in the Central Mediterranean Sea, an hypothesis supported by recent records in Ligurian (FIORENTINO & ZANIBONI, 1990), Ionian (A. TURSI, pers. com.) and Adriatic Sea (C. PICCINETTI, pers. com.).

If the above picture and the "explosive" nature of spreading will be confirmed by further data, scientific and public communities must concern about the unforeseeable but worrying impact on the other demersal species and on the fisheries themselves since it is likely that more of the discarded puffers could survive.



Fig.- Records of *S. cutaneus* in the Mediterranean Sea (\*; 1 to 9 for the Sicilian Channel). Sources: 1 and 3 - interviews with mazarese fishermen; 2 - VACCHI & CAU (1986); 5 and 9 - spring '90 (IX trawl); 4, 6 and 8 - fall '90 (XI trawl); 7 - summer '91 (XIV trawl). Arrows indicate the main currents patterns.

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