

Dentex dentex (L.), 1758
Le denti



OBSERVATIONS ON *DENTEX DENTEX* (L., 1758) IN THE SPANISH MEDITERRANEAN

Just T. BAYLE-SEMPERE (1), Alfonso A. RAMOS-ESPLA (2) & Julio
MAS HERNANDEZ (3)

(1) Dept. de Ciències Ambientals i Recursos Naturals-Div. Biologia-Univ. d'Alacant.
POB 99. E-03080, Alacant, Spain.

(2) Inst. d'Ecologia Litoral. Ctra. de Benimagrell, s/n. Playa de Muchavista, E-03560, El
Campello, Alicante, Spain.

(3) Inst. Español de Oceanografía. Centro Costero de Murcia. Magallanes, 2, POB 22, E-
30747, Lo Pagan, San Pedro del Pinatar, Murcia, Spain.

ABSTRACT

Dentex dentex (L., 1758) is not an endangered species in the Spanish Mediterranean waters, although in some areas its population has decreased or is quite scarce. Its geographical distribution, however, is uneven, probably due to some environmental factors, being more plentiful in the Balearic region and on the south-eastern coast of Spain (between Cabo de Gata and Cabo La Nao). There might also be demographical fluctuations which could be the cause of these decreases in the stocks of *Dentex dentex*, and seasonal variations, mainly in the northern and southern areas (Alboran Sea and Catalonia).

As for measures of protection, the protection of the natural environment of this species, mainly the *Posidonia oceanica* (L.) Delle beds, would be the best and most effective solution.

RESUMEN

Dentex dentex (L., 1758) no es una especie en peligro en el Mediterraneo español, aunque en algunas zonas su población ha sufrido una disminución notable o es bastante raro. Su distribución geográfica, sin embargo, es desigual; probablemente debido a factores ambientales, siendo más abundante en las Islas Baleares y en el sector sureste del Mediterraneo español (entre Cabo de Gata y Cabo La Nao). Además, existen fluctuaciones poblacionales que causan disminuciones en los stocks de *Dentex dentex*, así como variaciones estacionales, más acentuadas en los sectores norte y sur (Mar de Alborán y Catalunya). Acerca de las medidas conservacionistas, la protección del medio ambiente natural de esta especie, principalmente la pradera de *Posidonia oceanica* (L.) Del., sería la solución más efectiva.

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INTRODUCTION

This article tries to give a synthesis of the present conditions for *Dentex dentex* (L., 1758) in the Spanish Mediterranean waters. It is based on bibliographic references and mainly on remarks, made by researchers and professional fishermen, which have been communicated to the authors with the subjectivity this implies.

It is necessary to emphasize the non-existence of official statistics about this species in spite of its commercial interest. This may be due to the fact that most catches are made by professional artisanal fishermen and sports fishermen, and often the sale of these catches doesn't follow legal commercial channels (fish markets, and so on) and, sometimes a catch of *Dentex dentex* is even sold as simply Sparidae without specifying it as *Dentex dentex*.

Finally, it is also necessary to emphasize the lack of studies on the biology of this species in spite of its high commercial interest and the significance it should have in the littoral trophic net.

GENERAL CHARACTERISTICS

The dorsal outline of a *Dentex dentex*'s head has a regular curve in young individuals, with a sharp face. The olds ones have a hump on the forehead, corresponding to the hypertrophied supraoccipital crest.

The dorsal fin has eleven spines and between eleven and twelve radii. On the anal fin are three spines and between seven and nine radius. The lateral line usually has between sixty-three and sixty-eight scales.

In the frontal part of the upper jaw, there are two pairs of canineform teeth, the external ones being the biggest in the mouth. In the lower jaw, are three pairs of canineform teeth. On the rest of every jaw, there is a succession of canineform teeth much smaller than the frontal ones.

Their colour varies depending on age. It may be from a greyish-blue in the young, with some blue motes on the back, to a wine-pink in the grown-ups. They can get to a 100 cm in height and can weigh more than 15 kg, but the most common are those of 35-50 cm.

GEOGRAPHICAL DISTRIBUTION AND COLLOQUIAL NAMES

Dentex dentex is an Atlantic-Mediterranean species. It may be found from the British Isles to Senegal, and it is quite common in the Mediterranean Sea (LOZANO-REY, 1930, 1952 ; HUREAU & MONOD (edit), 1974 ; WHITEHEAD *et al.* (edit), 1984 ; BAUCHOT & PRAS, 1987).

With regard to the Spanish Mediterranean (Fig. 1), *Dentex dentex* has been

mentioned in this zone (LOZANO-REY, 1930, 1952), and is considered relatively common. However, its presence and abundance are not homogeneous along these coasts.

Its colloquial name varies according to the place (LOZANO DE CABO, 1963) : capitán, capitol, corcoba, sama, pachán, dentón, sabia and tapia (south-Mediterranean area) ; dentón, dèntol or

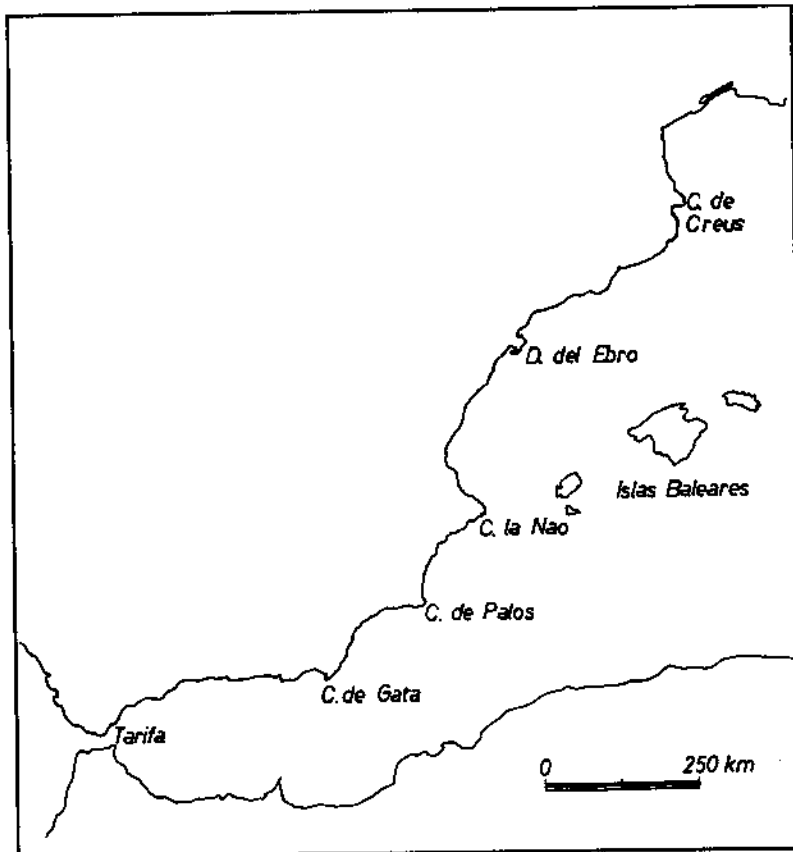


Figure 1 : Geographical studied area.

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dentol (South-eastern and eastern area) ;
dentón or dentut (Balearic region) ; cor-
covada, dèntol, dentó, rextet and somera
(northeastern area),

cites to *Dentex cetti* thinking it is a syno-
nymous of *Dentex dentex* and he consi-
ders it as a common species because it has
colloquial name.

HISTORICAL RECORDS

Dentex dentex is mentioned in most
considered works. In many of them, this
species is cited without excessive accura-
cy due to it is confused with the other
species of the same genus.

BARCELO (1868) places *Dentex
dentex* in Menorca, Ibiza and Mallorca
waters (Balearic region), without speci-
fying its abundance. GRAELLS (1869)
cites it in Catalonia and Valencia waters,
considering it as an abundant species
between June and July ; and as a mode-
rate species during the rest of the year. In
Barcelona, *Dentex dentex* is mentioned
by SANCHEZ-COMENDATOR (1904)
as *Dentex vulgaris*.

FAGE (1907) includes it in the ich-
thyofauna of the Balearic Isles, without
specifying its abundance. For some pla-
ces in the Spanish Mediterranean, on the
other hand, BORJA-GOYENECHÉ
(1920) cites to *Dentex dentex* being based
on the captures made with trawling
samples.

PEREZ-ARCAS (1921) mentions it
as *Dentex vulgaris* along the Spanish
Mediterranean coast and he gives infor-
mation about some fishing techniques
used to captured them. The same author

PRESENT SITUATION

In the South-Mediterranean sector
(from Tarifa to Cabo de Gata) REINA-
HERVAS (1987), having studied the
littoral ichthyofauna, classifies *Dentex
dentex* as an accidental species.

CAMIÑAS (per. com.) agrees with
this author since *Dentex dentex*'s captu-
res are quite rare in the commercial
caught (trawling and bottom-long-line)
of this region. Most fishermen agree with
this opinion and they also affirm that the
individuals captured are usually of large
size.

Between Cabo de Gata and Cabo La
Nao (Southeastern area), *Dentex dentex*
is regularly caught during all the year.
From Cabo de Gata to Cabo de Palos, the
captures of it seem to be more often than
in others parts of the Spanish Mediterra-
nean and there are statistics available at
the brotherhood of fishermen in some
localities (Mazarrón, San Pedro del Pina-
tar, Carboneras, Cartagena, etc) (Fig. 2).
In the Mar Menor (Murcia, SE Spain), a
littoral lagoon, *Dentex dentex* is conside-
red as an accidental species (PEREZ-
RUZAFÁ, 1989). RAMOS-ESPLA
(1985) places *Dentex dentex* in the Reser-
va Marina de Tabarca where it cannot be
considered as an abundant species but it

is regularly caught during all the year. Traditionally, *Dentex dentex* has been caught quite often in this area, and nowadays it is common between Springtime and Summertime.

About the Eastern area (between Cabo La Nao and Delta del Ebro) there is no up-date bibliographic information.

Anyway, fishermen and researchers from this area agree when they classify *Dentex dentex* as an uncommon species actually.

In the Balearic region, *Dentex dentex* is placed by LLORIS *et al.* (1984), without specifying its abundance. F. RIERA (per. com.) considers this species

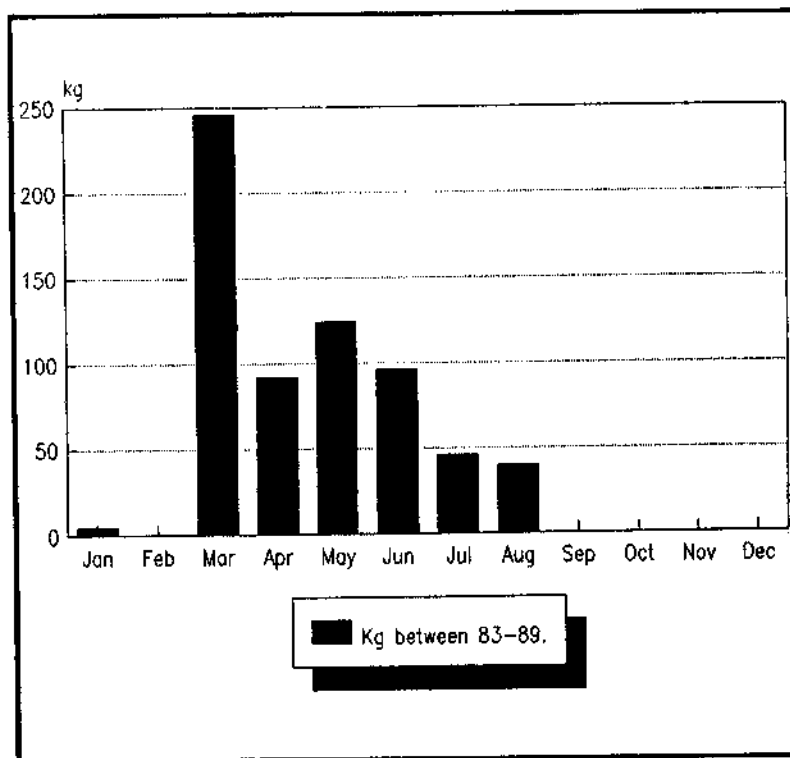


Figure 2 : Statistics of *Dentex dentex* (L., 1758) in the Brotherhood of Fishermen of San Pedro del Pinatar (Murcia, SE Spain). The chart show the seasonal nature of this species.

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as relatively abundant, quite common on rocky bottoms. The young individuals are more common in lightly eutrophic site, in *Caulerpa prolifera* (Forsk.) Lám. beds until 10 m in depth. Nowadays, at the Estació d'Aquicultura de Port Andratx (Mallorca) some fattening up and reproduction experiments in cages have been carried out with satisfactory results.

From Delta del Ebro to Port-Bou (north-eastern area) *Dentex dentex* is cited by MALLANAS & RUBIO (1979) in Blanes; by NADAL (1981) and CERRO & PORTAS (1984) in Garraf, and also by LLORIS *et al.* (1984). DEMESTRE *et al.* (1974) don't mention it in a study about the ichthyofauna of the littoral zone, but in personal communication, this author considers *Dentex dentex* as a very regressive species and scarcely captured, but the causes why this species decrease are not known yet. All these researchers agree that *Dentex dentex* is an uncommon species.

GARCIA & ZABALA (*per. com.*), in the Parc Natural de les Illes Medes, emphasizes the year 1985 from which on it was usual to see groups of individuals of this species of small and medium size. Nowadays, it is common to find groups of individuals of medium size, especially in summertime. Before 1985, *Dentex dentex* was a very rare species in this locality. In the peninsular coast, close to Medes Islands, *Dentex dentex* is very rare.

In Cabo de Creus (N Catalonia) and especially in summertime, it is relatively

frequent to find individuals of medium and large size (C. CHAUVET, *pers. com.*).

In all the areas studied, artisanal fishermen and researchers share the same opinion about the existence of cyclic fluctuations of *Dentex dentex*'s populations, reaching the point of having years without caught of this species. The particular cause is unknown.

It could be the overfishing (professional as well as sport-fishing), irregularities in its recruitment, the degradation of its natural environment, etc. The latter cause seems to be the main one since in protected areas (marine reserve, natural marine parks, etc) this species is usually quite common.

SEASONAL PRESENCE AND IN-DEPTH DISTRIBUTION

Artisanal fishermen and researchers agree that *Dentex dentex* is a littoral species mainly. It can be found from the shore to 200 m in depth, but it is more common within 15 and 50 m in depth (WHITEHEAD *et al.*, (edit), 1984).

LOZANO-REY (1930, 1952), for the Spanish Mediterranean waters, considers it more common in summertime, near the shore, where many young individuals are caught in the rocky bottoms and *Posidonia oceanica* beds. The older ones are in the rocky bottoms, about 30 m in depth. According to this author, the individuals

of this species return to the shore in summertime for breeding. This opinion is shared by the artisanal fishermen, who capture more individuals of *Dentex dentex* during this season and they also affirm that they have mature gonads at that time.

In winter, the older individuals go back to the rocky bottoms of major depth. The young ones are rarely seen at the seagrass beds in this season within 15 and 20 m in depth.

TECHNIQUES TO CAPTURE *DENTEX DENTEX*

Dentex dentex is mainly captured with artisanal techniques since its habitat -the rocky bottoms- does not allow to use the trawling samples. The fishing tackles used to capture them depend on the season, according to the biology of this species. In winter, *Dentex dentex* is mainly caught with bottom-long-line within 30 and 60 m in depth. They usually are large-size individuals, and in this season they are also caught with bottom-trawl-line.

In spring, the captures are mainly made with bottom-trawl-line, and the individuals caught are of large and medium size. The captures with nets are not very usual.

In summertime, *Dentex dentex* is more often caught with artisanal nets within 5 and 30 m in depth. In the rocky bottoms are captured the older speci-

mens ; and in *Posidonia* beds, the younger ones. In this season until October, they are also captured with surface-trawl-line in some places.

PRESENT LEGISLATION

Though *Dentex dentex* is considered as a species in regression in some localities, and unusual in others, the Spanish administration hasn't taken any measures to protect this species within the Spanish Mediterranean waters.

With regard to the central administration there is only one governmental order of 7 July 1962 about fishing-trawl regulations, appendix 3, concerning the minimum size of the captured fishes. For *Dentex dentex*, the minimum size is 16 cm at the south of parallel 36, in the Atlantic Ocean.

About the Autonomous Administration, only the Comunidad Autónoma de Murcia, by order of 28 June 1985, declared temporal close-season for *Epinephelus guaza* (L., 1758) and *Dentex dentex* for the recreational marine fishing.

CONCLUSION

According to the collected information, *Dentex dentex* cannot be considered as an endangered species in the Spanish Mediterranean waters, though in some areas its population has decreased due to some non-definitive

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reasons. One of the main causes could be the degradation of its natural environment.

It must be also considered the irregular geographical distribution and the fluctuations of its population which makes it quite rare, especially in the south and northernmost areas of the Spanish Mediterranean waters. On the other hand, its elusive behaviour contribute to do it even rare.

About protectionist measures, the control on the captures and the sale of small sized specimens would be ineffective for *Dentex dentex* since the sale would not follow the legal commercial ways.

The protection of this species' natural environments would be the best solution at short and long-term, especially the protection of breeding areas which would help to increase the recruitment of young individuals of this species.

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