

New Data on the Sighting of Rare Fish Species of Mediterranean Origin in Romanian Black Sea Waters <i>(Nicolae C. Papadopol, Veronica Antone, Adrian Bilba)</i>	“Cercetări Marine” Issue no. 46 bis Pages 4-9	2016
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------	-------------

NEW DATA ON THE SIGHTING OF RARE FISH SPECIES OF MEDITERRANEAN ORIGIN IN ROMANIAN BLACK SEA WATERS

Nicolae C. Papadopol, Veronica Antone, Adrian Bilba

*Natural Sciences Museum Complex, 255 Mamaia Blvd., Constanta Romania
E-mail: office@delfinariu.ro*

INTRODUCTION

The need for continuously updating and enriching the array of species hosted by the Constanta Aquarium, section of the Natural Sciences Museum Complex of Constanta, grants the opportunity of a thorough monitoring of changes in the structure of the fish fauna of Romanian marine waters. This monitoring is mainly achieved by closely cooperating with fishermen and fishery enterprises located in the Cape Midia - Vama Veche sector of the Romanian coast.

The summer-autumn season of 2016 was characterized by a prolonged drought in Dobrogea and in the entire Danube catchment area, resulting in a decrease of river inputs in the Romanian marine area, more strongly in its central and southern part. The persistence of these marine waters and the drop in pollution by reduced river inflows allowed for the re-occurrence of fish species of Mediterranean origin, which were sighted sporadically in regional fish catches.

This paper covers the re-occurrence, in the autumn of 2016, of such allochthonous fish species, with great information gaps in the past 15-20 years.

Key-Words: rare fish species, Mediterranean origin, *Dicentrarchus labrax*, *Umbrina cirrosa*, *Diplodus puntazzo*

RESULTS AND DISCUSSIONS

Reporting rare fish species

During September - October 2016, at the fishing point in Agigea, Constanta, known as “Pescaria lui Matei/Matei’s Fishery”, the occurrence of isolated individuals belonging to species of Mediterranean-Atlantic origin was reported, in pound net catches, species which have not been reported for a long time in Romanian marine waters. We owe these sightings to Mr. Alin Matei Datcu, as well as the good will of Mr. Romeo Barbulescu, who was kind to provide the ichthyological material needed.

In such a context, the re-occurrence of the following species is reported:

***Dicentrarchus labrax* (Linnaeus,1758): European seabass**

The European seabass (*Lavrac/Lup de mare*, as it is known by Romanian fishermen) (Fig. 1) is a marine fish of the species *Dicentrarchus labrax* (Linnaeus, 1758), Family Moronidae, Order Perciformes, Class Osteichthyes.



Fig. 1. European seabass caught on 16 September 2016 in Agigea.
(Photo: www.facebook.com/Pescaria-lui-Matei).

It is widely distributed in the Atlantic Ocean, from Norway to Senegal, also in the Mediterranean and Black Seas (Klimaj & Rutkowicz, 1970; Cautis et al., 1973; Fischer et al., 1981; Bacchella, 2005; Otel, 2007; Radu et al., 2008; Baltachev & Karpova, 2012). The European seabass was considered an occasional presence in Romanian coastal waters (Carausu, 1952; Vasiliu, 1959; Banarascu, 1964), with no recent information (Otel, 2007; Radu et al., 2008).

In the Atlantic, the seabass reaches up to 100 cm/12-15 kg, but usually up to 50 cm (Fischer et al., 1981; Otel, 2007; Baltachev & Karpova, 2012). In the Pontic basin, younger individuals, up to 20-25 cm, were reported (Radu et al., 2008).

On 16 September 2016, in Agigea an adult individual with the following somatometric and gravimetric characteristics was caught: L - 83 cm, H - 18 cm, W - 6.5 cm, D1- IX, D2- I 12, A III 11.

According to Vasiliu (1950), Klimaj & Rutkowicz (1970), Fischer (1973), Fischer et al. (1981), Radu et al. (2008), the radial formulae of this species range within the following limits: DI VIII- X, D2 12-14, AIII 10-12. The specimen caught at the Romanian coast frames within these limits, also having the two typical rudimentary spines at the opercular angle (Banarascu, 1964; Radu et al., 2008).

The individual caught in Agigea exceeded the average size, yet with a modest weight, given the relative emptiness of the digestive tube. The gonads (sexual arrest, stage II-III), revealed that the fish was not during the spawning period, which usually occurs during May-August in the Black Sea area (Otel, 2007; Radu et al., 2008).

Seabass fishing is occasional in the Black Sea and catches are not reported, being capitalized discretely by fishermen. In recent years, its presence has been reported during summer by amateur divers harvesting *Rapana venosa*.

The European seabass has become popular due to imports from Greece and supermarkets sell small individuals, up to 30 cm.

According to the available information, it is a species common in mariculture farms in Greece, Turkey, Italy, Spain and Egypt (Baltachev & Karpova, 2012). The meat has excellent gourmet qualities, being appreciated for commercial purposes.

***Umbrina cirrosa* (Linnaeus, 1758): Shi drum**

The shi drum (*Umbrina cirrosa*, Linnaeus, 1758) - Family Sciaenidae, Order Perciformes, Class Osteichthyes - was reported in the same fishing point “Pescaria lui Matei/Matei’s Fishery”, in Agigea, where three individuals were caught on 3 October 2016 (Fig. 2).



Fig. 2. Shi drums caught on 3 October 2016 in Agigea
(Photo: www.facebook.com/Adrian-Bilba).

Shi drums are widely distributed in the Atlantic, from the Gibraltar to Angola, as well as in the Mediterranean (Fischer et al., 1981/1987). According to Cautis,

Papadopol et al. (1973), the species can also occur along Iberian coasts.

Similarly to the seabass, the shi drum is rare in Black Sea waters, and especially at the Romanian coast (Carausu, 1952; Banarascu, 1969; Vasiliu, 1959; Cautis, Papadopol et al., 1975; Otel, 2007; Radu et al., 2008; Baltachev & Karpova, 2012). Whilst they were never present in large numbers, shi drums have not been reported in the predeltaic sector waters since the 1980s (Otel, 2007). Occasional catches have been reported in Agigea in 2006 (verbal notification Nicolaev, Papadopol, Maximov, 2006).

The following meristic characteristics describe the three specimens caught:

D₁ IX, D₂ 22, A II-7, L = 37 cm, W = 620 g;

D₁ IX, D₂ 22, A II-7, L = 28 cm, W = 270 g;

D₁ IX, D₂ 22, A II-7, L = 27.5 cm, W = 260 g;

Unfortunately, we received the specimens after evisceration, which was made by fishermen immediately after weighing the fish.

The radial formula for each individual frames within the limits of Fischer et al., 1981: D₁ IX- X; D₂ I 22-25; AII 7-8.

For the shi drum, bibliographic sources report sizes of 30-40 cm, maximum 100 cm, and 30 kg (Radu et al., 2008; Otel, 2007). The Russian authors Baltachev & Karpova (2012) suggest that this species could reach 1.5 m and 32 kg.

***Diplodus puntazzo* (Cetti, 1777): Sharp snout seabream**

Along with the three shi drums, on 3 October 2016, in Agigea, a sharp snout seabream (*Diplodus puntazzo*) was caught, 17.7 cm in length and weighing 120 g (Fig. 3).



Fig. 3. Sharp snout seabream caught on 3 October 2016 in Agigea
(Photo: www.facebook.com/Adrian-Bilba).

The sharp snout seabream *Diplodus puntazzo* (Cetti, 1777) (*hiena de mare*,

in Romanian) belongs to the Family Sparidae, Order Perciformes, Class Osteichthyes. A Mediterranean immigrant, the species is often encountered in the Mediterranean and the Atlantic, from France to South Africa (Cautis, Papadopol et al., 1973; Fischer et al., 1981). Both Radu et al., (2008) and Otel (2007), including Carausu (1952) and Banarascu (1969), considered that this species is rare in Romanian waters, and Otel (2007) reports it as absent in recent years. According to Baltachev & Karpova (2012), the sharp snout seabream occurs accidentally in the Black Sea, off the Crimean, Caucasus, Turkish, Bulgarian and Romanian coasts.

The size of *D. puntazzo* can reach 60 cm, more commonly 30 cm (Fischer et al., 1981; Radu et al., 2008).

According to Fischer et al. (1981), the species has on its sides 6-7 dark vertical stripes and a blackish spot on the caudal peduncle, with the following radial formula: D XI 12-15 and AIII 11-13. For this species, Radu et al. (2008) indicate the radial formula of the dorsal fin with X-XI spiny radii and 12-15 soft radii, and 7-9 dark stripes on the sides: Otel (2007) mentions 7-10 dark stripes on the sides and the caudal black spot.

The specimen caught in Agigea had the radial formula DXI 13 and AIII 12. Seven dark stripes and a caudal black spot were identified.

Especially in the southern African part, south of Senegal, *D. puntazzo* can be easily mistaken with a related species, *Diplodus rangus*, more specifically *D. rangus capensis* (Bianchi et al, 1993), when young and small-sized.

CONCLUSIONS

The occasional seabass, shi drum and sharp snout seabream catches reported in the southern part of the Romanian coast are an indicative sign of an open Black Sea ecosystem, with the capacity to receive and support species which were considered extinct from its characteristic fish fauna. This phenomenon was undoubtedly favored by the improvement of environmental conditions.

Under such circumstances, it is very likely that other Mediterranean-Atlantic species could occur along the Romanian Black Sea coast, which calls for a careful monitoring of catches and strengthening the collaboration with sports and artisanal fishermen, as well as fishery enterprises.

REFERENCES

- Bacchella A. (2005), "*Pesci del Meditearaneo*", ed. Gribaudo, Roma, 239 pp.;
- Banarascu P. (1969), "Pisces-Osteichthyes", Fauna RPR, Ed. Academiei, Bucuresti, 959 pp.;
- Baltachev P.A. & Karpova P.E. (2012), "Morskie Ribi Krimskogo Palustova", Ed. Bisnes-Inform, Simferanal, 224 pp.;
- Carausu S. (1952), "Tratat de ihtiologie" Ed. Academiei, 802 pp.;
- Cautis Il. , Papadopol N., Maxim C., Dumitrescu V. (1973), "Pestii de la coasta Africana a Oceanului Atlantic", CNST- IRCM, Constanta, vol II: 230-399 p.;
- Fircher W., Bianche G., Scott B. W. (1981), "Fishes FAO d'identification des especes pour les besoires de la peche Atlantique Centre-Est (FAO 34, 47- en

- parte)", FAO Rome,, MPO- Ottama, vol. **III**, pp var.;
- Fircher W. (1981), *Fisches FAO d'identification des especes pour les besoins de la peche, Mediterranee et Mer Noire* (FAO 37), FAO-Rome;
- Maximov V. (2011), "Ghid multilingv al principalelor specii comerciale de pesti si nevertebrate", Ed. Boldas, Constanta, 272 pp.;
- Otel V. (2007), "Atlasul pestilor din Rezervatia Biosferei Delta Dunarii", Ed. Centrul de informare tehnica Delta Dunarii, Tulcea, 481 pp.;
- Radu Gh., Radu El., Nicolaev S., Anton E. (2008), "Atlas al principalelor specii de pesti din Marea Neagra: pescuitul marin romanesc" Ed. Virom Constanta, 212 pp.;
- Vasiliu D.G. (1995), " Pestii apelor noastre" Ed. Stiintifica, 131 pp.