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PONTIC OCCURRENCE OF THE BLUNTNOSE SIXGILL SHARK, *HEXANCHUS GRISEUS* (BONNATERRE, 1788) (CHONDRICHTHYES: HEXANCHIDAE)

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ABSTRACT

On 19 November 2004, one male specimen of Hexanchus griseus of 300 cm TOT and weighing 250 kg was captured by a commercial gill-netter nearly 3 miles off the coast of Amasra (SW Black Sea, western Anatolian coast). This single capture extends the Mediterranean distribution of H. griseus to the Black Sea and confirms its pontic occurrence.

Key words: *Hexanchus griseus*, sixgill shark, hexanchidae, Black Sea, distribution

PRESENZA PONTICA DI SQUALO CAPOPIATTO *HEXANCHUS GRISEUS* (BONNATERRE, 1788) (CHONDRICHTHYES: HEXANCHIDAE)

SINTESI

Il 19 novembre 2004 un esemplare maschio di Hexanchus griseus, di 300 cm di TOT e 250 kg di peso, è stato catturato con una rete commerciale per piccoli pesci cartilaginei, tre miglia al largo della costa di Amasra (Mar Nero sud-occidentale, costa anatolica occidentale). Questa singola cattura estende al Mar Nero la distribuzione mediterranea di H. griseus e conferma la sua presenza pontica.

Parole chiave: *Hexanchus griseus*, squalo capopiatto, Hexanchidae, Mar Nero, distribuzione

INTRODUCTION

Hexanchus griseus (Bonnaterre, 1788) is a wide ranging species in temperate and tropical seas, including Mediterranean and adjacent waters, living at depths from the surface to at least 1875 m (Boeseman, 1984; Compagno, 1984; Bauchot, 1987; Capape *et al.*, 2003). Occurrence of the bluntnose sixgill shark in the Black Sea has always been a point of discussion. In a very old and questionable record by Geldiay (1969, in Bilecenoğlu *et al.*, 2002), the author reported on the presence of *H. griseus* from the Black Sea, without giving any information on the fishing locality of the examined specimen, or the name of the institution, where the specimen is preserved for further inspection. Due to the lack of adequate information, Bilecenoğlu *et al.* (2002) considered this pontic recording of *H. griseus* by Geldiay (1969) as 'questionable' and requiring confirmation. In the monumental works by Slastenenko (1956) and Akşiray (1987), the authors did not report on the presence of bluntnose sixgill shark from the Black Sea. In a recent study by Kabasakal (2004), the author reported on a capture of a single specimen of *H. griseus* in the prebosphoric Black Sea waters, where their physical conditions are practically under the influence of the Marmaric current. Because of this reason, Kabasakal (2004) emphasized the necessity of further research in order to reveal whether the pontic distribution of *H. griseus* extends throughout the entire Black Sea.

In this short communication paper, new data on the capture of a bluntnose sixgill shark off the Anatolian coast of the southwestern Black Sea is presented and its pontic distribution discussed.

MATERIAL AND METHODS

This study is part of an extensive ongoing research, which was launched in 2002, in order to investigate the distribution of *Hexanchus griseus* in Turkish waters. Data have been collected from the following sources: 1) fishing logs of commercial vessels; 2) records of local fish markets; 3) field surveys; and 4) notes appearing in daily newspapers, fishing magazines, etc. The author was informed about the capture of a specimen of *H. griseus* off the coast of Amasra (SW Black Sea) on 19 November 2004, after reading an article in a local newspaper. Although the sixgill shark was immediately eviscerated and sold at a local fish market, the fisherman provided a photograph of the captured specimen taken from its left side. Identification of this specimen was made on the basis of this photograph, now kept in the author's personal archive. The species identification follows Compagno (1984). Total length (TOT) and weight data were provided by the fisherman.



Fig. 1: Male specimen of *Hexanchus griseus* of 300 cm TOT and weighing 250 kg, captured off the coast of Amasra (SW Black Sea).

Sl. 1: Samec šesteroškrgarja *Hexanchus griseus*, 300 cm celotne iztegnjene dolžine in težak 250 kg, ujet v mrežo slabe 3 milje od obale Amasre (JZ Črno morje).

RESULTS AND DISCUSSION

On 19 November 2004, one male specimen of *Hexanchus griseus* of 300 cm TOT and weighing 250 kg (Fig. 1) was captured by a commercial gill-netter nearly 3 miles off the coast of Amasra (SW Black Sea, western Anatolian coast; Fig. 2). On the photograph taken of the specimen (Fig. 1), 6 gill slits are clearly visible on the left side of the head, which enabled the author to identify the captured specimen as *H. griseus*. Unfortunately, as the sixgill shark was immediately eviscerated and sold at a local fish market, no biometrical measurements of this pontic specimen could be made.



Fig. 2: Map showing the capture localities of prebosphoric (●) and Amasra specimens (▲) of *H. griseus*.

Sl. 2: Zemljevid z lokalitetami ujetih prebosporskih primerkov vrste *H. griseus* (●) in primerka, ujetega v bližini Amasre (▲).

Although, *H. griseus* can penetrate to shallow areas and even rise to surface waters, particularly at night (Boeseman, 1984; Dunbrack & Zielinski, 2003), it normally inhabits deep water over the continental shelf and upper slope to at least 1875 m (Compagno, 1984). Regarding the chemical properties of sea water in bathyal zone of the Black Sea, the water column below 200 meter is contaminated with hydrogen sulphur (Prodanov *et al.*, 1997), a toxic substance which kills any marine organism depending aerobic conditions. Therefore, it is possible to suppose that in the Black Sea, bluntnose sixgill shark can not survive at depths below 200 metres

due to the anaerobic conditions prevailing in the bathyal pontic waters. This circumstance seems to be a critical factor, which can restrict the depth distribution of *H. griseus* in the Black Sea to a significantly shallower zone than other seas of the world. For the moment, no adequate data is available to validate the hypotheses that the bluntnose sixgill shark inhabits a narrow depth range from the surface to 200 metres in the Black Sea. However, this single capture extends the Mediterranean distribution of *H. griseus* to the Black Sea and confirms its pontic occurrence.

ŠESTEROŠKRGAR *HEXANCHUS GRISEUS* (BONNATERRE, 1788) (CHONDRICHTHYES: HEXANCHIDAE), UJET V JUGOZAHODNIH VODAH ČRNEGA MORJA

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POVZETEK

Dne 19. novembra 2004 se je skoraj 3 milje od obale Amasre (JZ Črno morje, zahodna obala Anatolije) v stoječo mrežo nekega poklicnega ribiča ujel samec šesteroškrjarja *Hexanchus griseus* (celotna iztegnjena dolžina 300 cm, teža 250 kg). Ta edini primerek potrjuje pojavljanje te vrste v Črnem morju in hkrati podaljšuje njegovo sredozemsko razširjenost do črnomoških voda.

Ključne besede: *Hexanchus griseus*, šesteroškrjar, Hexanchidae, Črno morje, razširjenost

REFERENCES

- Akşiray, F. (1987):** Türkiye Deniz Balıkları ve Tayin Anahtarı. 2nd Edition. Publications of Istanbul University, no. 3490, İstanbul, 811 pp.
- Bauchot, M. -L. (1987):** Requins. In: Fischer, W., M. Schneider & M. -L. Bauchot (eds.): Fiches FAO d'identification des espèces pour les besoins de la pêche. (Révision 1). Méditerranée et mer Noire. Zone de pêche 37. Vol. II. Vertebres. FAO, Roma, p. 767–843.
- Bilecenoğlu, M., E. Taskavak, S. Mater & M. Kaya (2002):** Checklist of the marine fishes of Turkey. Zootaxa 113. Magnolia Press, Auckland, 194 pp.
- Boeseman, M. (1984):** Hexanchidae. In: Whitehead, P. J. P., M. -L. Bauchot, J. -C. Hureau, J. Nielsen & E. Tortonese (eds.): Fishes of the North-eastern Atlantic and the Mediterranean. Vol. I. UNESCO, Paris, p. 72–75.
- Capapé, C., O. Guélorget, J. Barrull, I. Mate, F. Hemida, R. Seridji, J. Bensaci & M. N. Bradai (2003):** Records of the Bluntnose six-gill shark, *Hexanchus griseus* (Bonnaterre, 1788) (Chondrichthyes: Hexanchidae) in the Mediterranean Sea: A historical survey. Annales Ser. Hist. Nat., 13(2), 157–166.
- Compagno, L. J. V. (1984):** FAO species catalogue. Vol. 4. Sharks of the world. An annotated and illustrated catalogue of shark species known to date. Part 1. Hexanchiformes to Lamniformes. FAO Fish. Synop., 125(4), 1–249.
- Dunbrack, R. & R. Zielinski (2003):** Seasonal and diurnal activity of sixgill sharks (*Hexanchus griseus*) on a shallow water reef in the Strait of Georgia, British Columbia. Can. J. Zool., 81(6), 1107–1111.
- Geldiay, R. (1969):** Important fishes found in the Bay of Izmir and their possible invasions. Monographs. Ege University, Faculty of Sciences, Izmir, 135 pp.

Kabasakal, H. (2004): Preliminary observations on the reproductive biology and diet of the Bluntnose sixgill shark, *Hexanchus griseus* (Bonnaterre, 1788) (Chondrichthyes: Hexanchidae), in Turkish Seas. Acta Adriat., 45(2), 197–206. (in press)

Prodanov, K., K. Mikhailov, G. Daskalov, C. Maxim, A. Chaschin, A. Arkhipov, V. Shlyakhov & E. Özdamar

(1997): Environmental management of fish resources in the Black Sea and their exploitation. Studies and Reviews. General Fisheries Council for the Mediterranean. No. 68. Rome, FAO, 178 pp.

Slastenenko, E. (1956): Karadeniz Havzası Balıkları (The Fishes of the Black Sea Basin). Et ve Balık Kurumu Yayınlarından, İstanbul, 711 pp. (in Turkish)