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The Mediterranean Spearfish in Ancient Greek and Latin

Konrad Tadjczyk - Krzysztof Tomasz Witczak

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ABSTRACT: The article discusses the problem of identifying a Mediterranean fish called γλαῦκος in Ancient Greek and *glaucus* in Latin. It was a big and well-known fish living in the Mediterranean Sea. It appears in numerous literary sources of the classical (Greek and Roman) world. After analyzing all preserved attestations of the Greco-Latin ichthyonym, the authors of the present article suggest that this fish should be identified with the Mediterranean spearfish (*Tetrapturus belone* Rafinesque, 1810). It is possible that the fish name γλαῦκος/*glaucus* referred to the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe, 1841) and also to the Atlantic white marlin (*Kajikia albida* Poey, 1860, syn. *Tetrapturus albidus* Poey, 1860).

KEYWORDS: animal terminology; etymology; Greek; ichthyonymy; Latin; Mediterranean spearfish; vocabulary – aguglia imperiale; etimologia; ittionimia; lessico; lingua greca; lingua latina; nomenclatura zoologica.

1. INTRODUCTION

The Mediterranean spearfish (*Tetrapturus belone* Rafinesque, 1810)¹ is a robust predatory fish, whose habitat is the pelagic zone. It is a fast swimmer which frequently springs above the water surface². The Mediterranean spearfish reaches 2.4 m in length and weighs up to 70 kg. It is widely harvested for, being valued for the exceptional flavor of its meat. Presently, due to a substantial decrease in its numbers, the species is of little commercial significance. While it does occur across the Mediterranean Sea (except the Black Sea and the Sea of Marmara), it is predominantly fished for in the Tyrrhenian Sea.

¹ Nakamura 1985, 43-44; Nikiforos 2002, 80, Tab. 12, No, 4; Papaconstantinou 2014, 165; Collette - Heessen 2015; Więcaszek *et al.* 2015, 161. We also use Fishbase 2021, i.e. a basic authoritative and up-to-date resource for the biological, ethological and other information on various fish taxa, see www.fishbase.org (on-line: 12.10.2021).

² Terofal - Militz 1983, 142-143, *s.v.* Langschnäuziger Speerfisch.

The Mediterranean spearfish is not the only member of the family Istiophoridae native to the western Mediterranean Sea. A very similar species is the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe, 1841), which lives in the eastern Atlantic (from the Canary Islands to the coastline of Portugal) and in the western part of the Mediterranean Sea (from Gibraltar to Sicily)³. The roundscale spearfish is brighter (whiter) in color than the Mediterranean spearfish and is usually smaller (up to 1.8 m long, weighing up to 21.5 kg). Occurring in the waters of the Mediterranean Sea (though less often) is also the Atlantic white marlin (*Kajikia albida* Poey, 1860, syn. *Tetrapturus albidus* Poey, 1860)⁴, which up until very recently was confused with the roundscale spearfish. Genetic tests run in 2001 proved beyond all doubt that these are two distinct members of the family Istiophoridae. The white marlin is a big fish, reaching 2.8 m in length and weighing up to 82 kg.

It is obvious that the ancient Greeks inhabiting the eastern part of the Mediterranean area only knew and fished for the Mediterranean spearfish⁵, while the Sicilian Greeks likely fished for all three species, but we cannot be sure if they could clearly distinguish between these fish, seeing as they are easy to confuse even today. For instance, telling the white marlin from the Mediterranean spearfish is possible thanks to a careful and thorough examination once they have been fished. While the Mediterranean spearfish is of slightly darker color, this particular distinctive feature only matters when both species have been fished at the same time. Consequently, the Mediterranean spearfish and the roundscale spearfish may have been the same fish to ancient Greeks and Romans. Therefore, it stands to reason that all these species were described with the same name.

In the present paper, we intend to prove that the Greek name γλαῦκος essentially referred to the Mediterranean spearfish (*Tetrapturus belone* Rafinesque). However, in Latin it could also denote the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe) and the white marlin

³ Nakamura 1985, 45-46.

⁴ Rutkowicz 1982, 500-501, No. 752; Nakamura 1985, 35-38; Vida - Kótai 2007, 336; Więcaszek *et al.* 2015, 161.

⁵ Zachariou-Mamalinga 1990, 371 (No. 57.1.1) notes the Mediterranean spearfish (*Tetrapturus belone* Rafinesque) in the waters of the Dodecanese (it is commonly called Τζαργανός or Τζαργανοφός in the island of Syme), whereas the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe, 1841) and the Atlantic white marlin (*Kajikia albida* Poey) are completely absent in the Greek waters. See also Papaconstantinou 2014. Of course, the modern presence of the Mediterranean spearfish in the Eastern Mediterranean Sea and in the Aegean Sea is very limited, see e.g. Da Sylva 1975, 121-131; Akyol *et al.* 2013, 925-926.

(*Kajikia albida* Poey). These three species – as it was earlier stressed – are characterized by a dark grey or dark blue back, light sides, and a whitish underside. The roundscale spearfish, which is common in eastern Atlantic but less common in the Mediterranean Sea, is of lighter (whiter) color than the Mediterranean spearfish, while the white marlin has the same color as the roundscale spearfish.

2. THE FISH CALLED γλαῦκος IN GREEK SOURCES

The fish γλαῦκος was well known and highly valued in classical antiquity. Thanks to Athenaeus of Naucratis, we know that the delicious flavor of its meat was praised by numerous Greek poets (including Epicharmus, Numenius, Archestratus, Antiphanes, Eubulus, Anaxandrides, Amphis, or Nausicrates)⁶. Comic poet Epicharmus of Kos (c. 540 - c. 450 BC) reports the *glaucus* is a fat fish⁷. According to Eubulus of Athens (4th c. BC), an eminent writer of middle comedy, the fish, when served as a meal, was «of lovely countenance» and was «more noble» than other dishes⁸. The whole fish was edible, but many poets emphasized that the most tasty parts were around its head⁹: according to Anaxandrides, a piece sliced off in this region was «large» (μέγα) and «sumptuous» (πολυτελής)¹⁰. Such a wording clearly hints at the large size of the fish. «The first cut of a grey-fish» (γλαύκου προτομή) was also eagerly eaten, as reported by Antiphanes in *Cyclops*¹¹. Additionally, we learn that the Athenians bought the finest specimens of this fish (especially heads) in Megara and Olynthus¹².

⁶ Ath. 295b-296c (Gulick 1957).

⁷ Ath. 295b: γλαῦκοι πιονες «fat grey-fish». See Gulick 1957, 322 (Greek text) and 323 (English translation).

⁸ Gulick 1957, 325.

⁹ Amphis, in his work *The Seven at Thebes*, extolls the virtues of the «grey-fish entire, and the meaty portions split from the head». A protagonist of *A True Friend*, another play of his, would like to eat the «heads of a grey-fish», see Gulick 1957, 325. Also Anaxandrides (see below, n. 8) and Archestratus (see below, n. 10) considered the head to be by far the tastiest part of the γλαῦκος.

¹⁰ The English translation of the surviving fragment of Anaxandrides's play *Nereus* reads, «He that was the first to discover the large, sumptuous sliced head of grey-fish, the carcass of the blameless tunny, and other foods out of the watery brine – Nereus, id the dweller in all this place», see Gulick 1957, 325.

¹¹ Gulick 1957, 327.

¹² Antiphanes, a writer of Middle Attic comedy, claimed that «Megarian grey-fish» (γλαῦκοι Μεγαρικοί) are the best, see Gulick 1957, 323. Archestratus, the author of the didactic work *Hedyphtheia*, praised the *glaucus*, addressing an unknown interlocutor,

Aristotle writes that the γλαῦκος is native to the pelagic zone¹³ and that for two months in the summer there are no sightings of it in the Greek waters¹⁴. He recognizes the culinary value of the *glaukos*, underlining that the taste of its meat is always good, regardless of the season, of whether the fish is pregnant, or of how old it is¹⁵. He was also aware that its intestine has a small number of appendages¹⁶.

Oppian of Cilicia (*Hal.* I 747) and Claudius Elianus of Praeneste (*NA* I 16) both report that the male fish takes care of the offspring, which, in the event of any danger, may hide in its mouth¹⁷. There is no doubt that a mature γλαῦκος is big enough not to be afraid of smaller sea predators. According to ancient writers, the *glaucaus* is an oviparous fish¹⁸, which usually protects its offspring.

The 4th-century magical-medical work *Kyranides* reports that «the *glaucaus* is a very big sea fish» (γλαῦκος ἰχθύς ἐστὶ θαλάσσιος μέγιστος)¹⁹. The modifier μέγιστος used to describe the *glaucaus* suggests that the fish in question belongs to a great marine species.

«Rather, buy me the head of a grey-fish in Olynthus or in Megara, for it is caught in lagoons of the august earth», see Gulick 1957, 323. Gullick's translation should be corrected just a little. The original text says that the «fine» (σεμνός) *glaucaus* is caught in the shallows (ἐν τενάγεσσιν).

¹³ Arist. *Hist. an.* 598a 13. «Deep-sea [i.e. pelagic] are sting-ray and the selachians and the white congers, channa, eruthrinus, *glaucaus*», see Balme 1991, 141.

¹⁴ Arist. *Hist. an.* 599b 32. Aristotle expresses the following opinion: «But some of the fishes hide during the summer too, for example *glaucaus*: this hides in summer for about sixty days», see Balme 1991, 153.

¹⁵ Arist. *Hist. an.* 607b 27. This is the English translation of the relevant fragment: «But grey mullet and basse and the scaly fishes are almost all in poor condition when pregnant. A few, such as *glaucaus*, are the same whether pregnant or not. Old fishes too are poor, in fact the tunny when old are poor even for pickling; for much of the flesh wastes away. The same happens in the other fishes too», see Balme 1991, 211.

¹⁶ Arist. *Hist. an.* 508b 20. Aristotle emphasizes that not all fish have intestinal appendages. «Some have them, but have only a few, e.g., the hepatos and the *glaukos*», see Balme 1991, 143.

¹⁷ Opp. *Hal.* I 747-755: «Others again protect their children by taking them into the mouth as it were into a house or nest; as, for example, the *Glaucaus* which loves its children beyond all other fishes that are oviparous (ᾠοτοκῆες). For it both remains sitting by until the young come forth from the eggs and always swims beside them; and when it sees them afraid of a strange fish it opens its gape and takes them into its mouth until the terror has withdrawn, and again ejects them from its throat», see Mair 1958, 277 and 279. The same information is repeated by Ael. *NA* I 16 (Scholfield 1958).

¹⁸ It has to be noted that Oppian counts the *glaucaus* among the oviparous fish (gr. ᾠοτοκῆες), see Opp. *Hal.* I 750.

¹⁹ *Cyran.* IV 9. See Kaimakis 1976, 249.

3. THE FISH CALLED «GLAUCUS» IN LATIN SOURCES

The *glaucus* is also mentioned by such Latin writers as Quintus Ennius, Ovid, Pliny the Elder, Apuleius of Madauros, and St. Isidore of Seville.

In his didactic work *Hedyphagetica*, Quintus Ennius, an eminent Roman poet of the early period, writes that the Roman enthusiasts of seafood used to buy the sturgeon in Surrentum and the *glaucus* in Cumae²⁰. Ennius's account proves that the *glaucus*, which was fished for in the Tyrrhenian Sea, was served as a gourmet dish, which was highly-valued and sought by the seafood connoisseurs. According to the poet, the tastiest specimens of this species of fish were caught near the Campanian town of Cumae (now Cuma in Italy)²¹.

Publius Ovidius Naso was another Roman author who mentioned the fish called *glaucus*. In his didactic poem *Halieutica*, he writes that during the summer the *glaucus* will not be seen in the Mediterranean²². We are citing the relevant fragment from the poem, together with its English translation:

*Ac nunquam aestivo conspectus sidere glaucus.*²³

and Blue-fish never seen under summer stars.²⁴

(translated into English by J.H. Mozley)

Pliny the Elder elaborates on Ovid's remark, adding that in the summer the *glaucus* disappears from the waters surrounding Greece and Italy for about 60 days²⁵. Of course, two Roman writers generally follow Aristotle's information.

²⁰ *Surrenti tu elopem fac emas glaucumque apo Cymes* (= Greek ἀπὸ Κύμης). E.H. Warmington's translation of this passage is as follows: «Make sure it's at Surrentum that you purchase your sturgeon, and from Cumae your blue shark», see Warmington 1961, 409. See Marzano 2013, 269.

²¹ Ennius' poem entitled *Hedyphagetica* seems to be essentially a Latin adaptation of Arcestratus' text. The Roman poet refers to the Roman places of catching fish, transposing the Greek data of the lost original onto the ground of Italia and Latium.

²² Some latinists believe that the poem on fishing (*Halieutica*) was not written by Ovid. In our paper we accept his authorship, following the newest edition by Mikołajczak 1997.

²³ Ovid. *Hal.* 117. See Mikołajczak 1997, 82; Saint-Denis 2003, 37.

²⁴ Mozley 1962, 319.

²⁵ Plin. *HN* IX 58: *Quidam rursus aestus impatientia mediis fervoribus sexagenis diebus latent, ut glaucus, aselli, auratae* «Some fish again being unable to endure heat hide for 8 or 9 weeks during the heats of midsummer, for instance the grayling (*glaucus*), the haddock and gilt-bream», see Rackham 1956, 203; *HN* XXXII 153: *glaucum aestate numquam apparere* «the *glaucus* never appears in summer», see Jones 1963, 559.

The account of Apuleius (*Apol.* 39) is of indirect significance only, since the writer quotes a long fragment from Quintus Ennius's didactic work *Hedyphagetica*, which acknowledges the existence of the fish called *glaucus* and its excellent taste.

St. Isidore of Seville, a late-antiquity encyclopedist and church father, points out that the name *glaucus* tallies with the color of the fish: it is white, and, referring to white things, the Greeks use the adjective *γλαυκός* (*glaucus a colore dictus quod albus sit; Graeci enim album γλαυκόν dicunt*)²⁶. This piece of information should be taken into account during the process of reviewing all the previous identifications of the fish (detailed in section 5), as well as suggesting a new equation.

4. CHARACTERISTIC FEATURES OF THE FISH CALLED *γλαῦκος*/GLAUCUS

Before we attempt to identify the fish, let us summarize all the information pertaining to the *γλαῦκος/glaucus* handed down by the ancient authors.

First, the *γλαῦκος* is a very big sea fish (*Cyran.* IV 9).

Second, the *γλαῦκος* occurs predominantly in the pelagic zone (*Arist. Hist. an.* 598a 13), but it is usually captured when it appears in the coastal areas (*Enn. Hed.* 6; *Apul. Apol.* 39).

Third, in the summer period, the *glaucus* disappears for a while from the fishing waters of Greece and Italy (*Arist. Hist. an.* 599b 32; *Ovid. Hal.* 117; *Plin. HN IX* 58; *XXXII* 153). Its absence was not explained by ancient writers²⁷.

Fourth, for some time, the male *glaucus* takes care of the offspring, which, in case of danger, hides in its mouth (*Opp. Hal.* I 747; *Ael. NA* I 16). This is compelling evidence that the *γλαῦκος* is an oviparous fish, and that a mature male reaches a considerable size.

Fifth, the *γλαῦκος* is a tasty, meaty, and fat fish, which was valued by Greeks and Romans (according to the accounts of Ennius, Athenaeus, and other authors).

²⁶ *Isid. Etym.* XII 6, 28. See Strömberg 1943, 24; Maltby 1991, 260; Valastro Canale 2014, 68.

²⁷ Theoretically, the presence or the absence of the fish called *glaucus* can be related to the specific conditions in the Italian and Greek waters (water temperature, currents, nutrient richness, reproduction and so on). We would like to thank one of the reviewers for useful zoological remarks.

Sixth, the *glaucus* was captured for in the Tyrrhenian Sea, especially near the ancient harbor settlement of Cumae. According to Ennius, the fish would become a gourmet meal during feasts of Roman connoisseurs. The Athenians most readily bought the *glaukos* caught near Megara and Olynthus.

Seventh, the *γλαῦκος* has the color corresponding to the adjective *γλαυκός*²⁸. In that context, Isidore of Seville writes that the fish is white, and he is positive that the Greek word *γλαυκός* denotes the color white.

This is a rather comprehensive set of information, which allows for both refuting all the existing identification theories (cf. section 5) and validating the hypothesis suggested in the present paper, i.e. for convincingly proving that ancient Greeks used the term *γλαῦκος* to refer to the Mediterranean spearfish, while Romans also applied it to the white marlin or the Atlantic spearfish (see section 7). In section 6, we discuss the semantics of the adjective *γλαυκός*, whose meaning, as we believe, has evolved over the years. We are of the opinion that the semantic change may have been partly connected with the fish called *γλαῦκος* in Greek and *glaucus* in Latin.

5. PREVIOUS IDENTIFICATIONS OF THE MEDITERRANEAN FISH *γλαῦκος*/GLAUCUS

Dominating in the relevant literature is the view that *γλαῦκοι* are big marine fish of uncertain identity which live in the Mediterranean Sea²⁹. A brief overview of the existing identification hypotheses seems called for at this point.

D'Arcy Wentworth Thompson, the author of a comprehensive dictionary of Greek ichthyonyms, is unable to identify this fish. However, he summarized all the previous theories and considers them less than certain. Let us review and comment upon his line of reasoning.

5.1. *γλαῦκος* = the blue shark (*Prionace glauca* L., 1758)

«Schneider and others take it to be the great Blue Shark *Carcharias glaucus* (as Linnaeus evidently did), which shark, however, is rare in the

²⁸ Isid. *Etym.* XII 6, 28; Strömberg 1943, 23-24.

²⁹ Thompson 1947, 48 («An oft-mentioned fish-name, but, like many such, impossible to identify»); Souter *et al.* 1968, 766, *s.v.* *glaucus*² («An unknown fish»); Marzano 2013, 64; 269 («an unidentified fish»); Witczak 2014, 231-232; Bartol 2020, 214 (an unidentified marine fish). According to A.W. Mikołajczak, 1997, 93, the *glaucus* is «a whitish Mediterranean fish whose identity is difficult to establish».

Mediterranean. On the other hand, Aristotle's statement (*Hist. an.* 508b 20) that γλαῦκος] has many pyloric caeca (ἀποφύδες) cannot apply to any selachian fish, for they have none»³⁰.

Commentary: Thompson rejects this identification proposition based on two arguments: the incidental occurrence of the blue shark in the Mediterranean Sea and the absence of pyloric caeca in the selachian fish from the family Carcharhinidae. Another three counterarguments may be adduced. First, the blue sharks are ovoviviparous and are of a significant size at birth: a single brood is more than 30 young fish, meaning that the adult blue shark would not be able to hide all of them in its oral cavity, as the adult male *glaucus* was believed to do so³¹. Second, blue sharks are extremely aggressive towards other sharks and often practice cannibalism³². Third, the meat of the blue shark does not taste well (according to Rutkowicz, «the meat is inedible and has a foul smell»³³) and would not have been a Greek or Roman delicacy. A fourth counterargument could be added: the blue shark's body is dark blue on the top, light blue on both sides, and whitish on the underside, whereas the *glaucus* was generally characterized as white (according to Isidore of Seville).

5.2. γλαῦκος = the pompano (*Trachinotus ovatus* L., 1758, syn. *Lichia glauca* L.)

«Rondelet (p. 252) identified it with *Scomber glaucus*, the *Lichia glauca* of Risso, a little fish some 18 inches long»³⁴.

Commentary: Thompson rejects this identification because of the pompano's small size, which is between 30 and 40 cm long on average, and not exceeding 70 cm (according to FishBase). More counterevidence may be adduced. The pompano is not a typical pelagic fish, occurring mostly in the shallow shelf waters³⁵. Its meat is edible and rather tasty, but it is difficult to imagine that such a small fish could be sliced into large and expensive pieces. Also, the fish is not white, but has a light silver body.

³⁰ Thompson 1947, 48. This hypothesis is taken up by other scholars, e.g. Saint-Denis 1947, 43; 2003, 60; Botte 2009, 58; Arena - Cassia 2016, 161.

³¹ It is worth noting that Peurière 2003, 58-59, n. 28, rejects the blue shark identification hypothesis (as he does any hypotheses suggesting other species of shark) based precisely on this argument.

³² Lopez *et al.* 2010, 747.

³³ Rutkowicz 1982, 139, No. 28.

³⁴ Thompson 1947, 48. In the text referenced, the author mentions two old monographs: Rondelet 1558, 252; Risso 1826, 454.

³⁵ Rutkowicz 1982, 338, No. 425.

5.3. γλαῦκος = the meagre (*Argyrosomus regius* Asso, 1801, syn. *Sciaena aquila* Cuvier, 1817)³⁶

«Belon (*Aquat*, p. 110) took it to be *Sciaena aquila* [...], and with this Cuvier is inclined to agree»³⁷.

Commentary: Thompson does not dispute this identification theory, merely stating that «there is no certainty to be found»³⁸. The meagre is a relatively large predatory fish, reaching an average length of 0.7-1 m (max. 1.5 m) and weight of 5-20 kg (max. 50 kg). Its meat is white, lean, and rather tasty. This identification theory should be rejected for the following reasons: (1) the meagre is a known cannibal which eats its offspring³⁹; (2) the meagre's meat is «rather tasty» but «stringy in older fish»⁴⁰, which is at odds with Aristotle's view that the meat of the γλαῦκος is exceptionally tasty regardless of the age of the fish; (3) the meagre is not white; it has a pearly-silver coloration.

5.4. γλαῦκος = the bluefish (*Pomatomus saltatrix* L., 1766, syn. *Pomatomus saltator* L., 1766)⁴¹

The bluefish is a predatory fish from the family Pomatomidae. It has an intensive blue back, blue-silver sides and a light blue or whitish under-side⁴², occurs in the pelagic zone, and travels long distances for different purposes (especially to feeding waters). Its average length is between 0.6 and 0.9 m (max. 1.2 m) and it may weigh up to 25 kg (but generally specimens heavier than 9 kg are exceptional). Its meat is «white, lean, and valued in Arab markets»⁴³. This identification hypothesis faces the following problems: (1) it is not an extremely large sea fish, whereas the γλαῦκος was claimed to be the biggest one (μέγιστος); (2) the bluefish

³⁶ Thompson 1947, 48. Recently, Peurière 2003, 59 supported the notion of identifying the glaucus with the meagre.

³⁷ In the fragment quoted, the author refers to Belon du Mans 1603, 110, as well as to later works of French zoologist Georges Cuvier (1769-1832). It is worth noting that Eugène de Saint-Denis firmly rejects the identification suggested, Saint-Denis 1947, 43.

³⁸ Thompson 1947, 48.

³⁹ Campoverde *et al.* 2017, 1-11.

⁴⁰ Rutkowicz 1982, 407, No. 561.

⁴¹ Dalby 1996, 68, n. 73; 2003, 56-57. This identification was also hinted at in Bartol - Danielewicz 2010, 562, n. 256.

⁴² Terofal - Militz 1983, 106, describe the color of the blue fish as follows: «Rücken blau [hence the German name *Blaubarsch* or *Blaufisch* – a note by the present authors]; Flanken aufhellend, silbrig glänzend, Bauchseite weißlich. Am Brustflossenansatz ein großer, schwarzer Fleck».

⁴³ Rutkowicz 1982, 326-327, No. 403.

does not take care of its offspring and has a proclivity for cannibalism⁴⁴; (3) the color of the bluefish, as the name suggests, is not white (and white is the basic color assigned to the fish *glaucus* by St. Isidore).

5.5. γλαῦκος = the pelagic stingray (*Pteroplatytrygon violacea* Bonaparte, 1832)⁴⁵

Commentary: the pelagic stingray is a predatory fish from the family Dasyatidae. It can reach a length of 1.3 m and a width of 0.59 m. Males weigh up to 12 kg and females up to 49 kg. The proposed identification may be questioned on the following counts: (1) the pelagic stingray is extremely rare in the eastern part of the Mediterranean Sea; (2) it does not possess a head as such, which virtually rules out «large and expensive pieces sliced off in the region of the head»; (3) the meat of the pelagic stingray is usually considered useless, although it is sometimes eaten in certain countries in the Far East (e.g. Indonesia); (4) the pelagic stingray is an ovoviviparous fish, whose single brood numbers a dozen or so young, and since the newborn fish are between 15 and 25 cm wide, they definitely could not hide in the father's mouth; (5) the fish is not white, but intense violet or blue-violet.

The available dictionaries of Ancient Greek do not provide any particular solution. The most recent Ancient Greek dictionary defines the term γλαῦκος rather generally ('gray-blue fish'⁴⁶). Other works suggest a similar definition: 'an eatable fish of grey color'⁴⁷; 'an eatable fish of blue color'⁴⁸, 'a marine fish of blue color'⁴⁹, 'un pesce grigio-azzurro'⁵⁰, 'an unknown fish'⁵¹. Maciej Kokoszko does not include or discuss the term γλαῦκος in his monograph⁵².

The authors of the excellent *Griego-español diccionario* suggest that the term γλαῦκος referred to two fish which differ in size⁵³. One is said

⁴⁴ Richards 1976, 523-525; Bell *et al.* 1999, 990-1000.

⁴⁵ Chronē-Vakalopoulos - Vakalopoulos 2008, 138.

⁴⁶ Montanari 2018, 432.

⁴⁷ Liddell - Scott 1996, 351.

⁴⁸ Abramowiczówna 1958, 468.

⁴⁹ Jurewicz 2000, 166.

⁵⁰ Montanari 1999, 447.

⁵¹ Glare - Stray 2012, 841.

⁵² Kokoszko 2005.

⁵³ It is worth emphasizing that Thompson 1947, 48 also suggested that the difficulty identifying the fish may have to do with the fact that the ichthyonym γλαῦκος referred to at least two different fish: «Two very different fishes seems to be included, if not more». However, it has to be emphasized that under the entry for γλαῦκος Thompson

to be some big predatory fish resembling a shark: either the blue shark (*Prionace glauca* L., 1758, syn. *Carcharias glaucus* L., 1758), the school shark (*Galeorhinus galeus* L., 1758), or the common smooth-hound (*Mustelus mustelus* L., 1758, syn. *Mustelus laevis* Linck, 1790, *Mustelus vulgaris* Cloquet, 1819), while the other is a smaller fish, probably the pompano (*Trachinotus ovatus* L., 1758, syn. *Lichia glauca* L., 1758, *Scomber glaucus* L., 1758) or possibly the meagre (*Argyrosomus regius* Asso, 1801, syn. *Sciaena aquila* Lacepède, 1803), i.e. a big predatory fish from the family *Sciaenidae*⁵⁴.

In sections 5.1-5.3, we discussed three identification hypotheses. The other two, suggested as the alternatives (the school shark and the common smooth-hound), concern the predatory fish from the family *Triakidae*. The doubts addressed in section 5.1 also apply to both these fish. They are ovoviviparous, whereas the *glaucus* was oviparous. They do not protect their progeny⁵⁵. The meat of the school shark is «not tasty and has a foul smell»⁵⁶, while the meat of the common smooth-hound is «not highly valued», although it is sometimes eaten in certain Mediterranean countries⁵⁷. Neither the school shark nor the common smooth-hound should be identified with the *glaucus*, whose meat was considered to be exceptionally tasty by ancient Greeks.

6. WHAT COLOR DID THE GREEK ADJECTIVE γλαυκός DENOTE?

Dictionaries of Ancient Greek tend to be consistent while defining the semantics of the Greek adjective γλαυκός, -ή, -όν. Georg Authenrieth's Homeric dictionary explains the entry γλαυκός as «leuchtend»⁵⁸. The most recent dictionary by Franco Montanari gives two basic meanings:

actually discussed two different terms: γλαῦκος (this word refers to a big, tasty fish) and γλαυκίσκος (some small marine fish). Saint-Denis adopted a much more prudent course, providing two separate entries: *glauciscus* and *glaucus*, see Saint-Denis 1947, 42-43. Also Dalby 2003, 57, s.v. Bluefish, notes that the «Greek glaukiskos, diminutive of glaukos, is the name of a different fish, wholly unidentified».

⁵⁴ Adrados 1994, 817.

⁵⁵ The (male) *glaukos* was assumed to take care of its offspring, which was known to hide in its mouth in the event of any danger (Opp. *Hal.* I 747; Ael. *NA* I 16). No ovoviviparous shark can give this sort of protection to its progeny, which is of significant size already at the moment of birth (e.g. the female white shark gives birth to 30 young, each of which measures between 36 and 40 cm).

⁵⁶ Rutkowicz 1982, 138-139, No. 25.

⁵⁷ Rutkowicz 1982, 140-141, No. 30.

⁵⁸ Autenrieth 1887, 74.

(1) 'shining, gleaming, sparkling (usually of the sea, of the dawn, of the moon)'; (29) 'glaucous, pale blue, gray-blue, bluish, blue-green, greenish (of eyes, of oil or olives)'⁵⁹. Similar meanings are listed in *A Greek-English Dictionary*: 'gleaming, silvery; bluish green or gray', esp. 'light blue or gray (of eyes)'⁶⁰.

Closely corresponding definitions of the adjective γλαυκός are found in foreign language dictionaries of Ancient Greek. Let us compare the meanings of the Greek γλαυκός in some of the major European languages:

GERMAN: 'funkelnd, glänzend, auch bläulich; hell, weißgrau oder blaugrau, auch blauäugig, und lichtfarbig; blank (vom Meer)'⁶¹.

ITALIAN: 'lampeggiante, scintillante', 'corrusco', 'rifulgente a cagione della fresca verdura'⁶²; 'brillante, rilucente, scintillante', 'glaucio, ceruleo, grigio-azzurro, bluastro, verde-azzurro, verdastro'⁶³.

RUSSIAN: 1) 'светло-синий, голубой, лазоревый или светло-серый, сизый', 2) 'зеленоватый, светло-зелёный', 3) 'светлый, сверкающий, блистающий', 4) 'светлоглазый'⁶⁴.

SPANISH: 'claro, brillante, resplandeciente, chispeante; glaucio'⁶⁵; 'que despide reflejos, resplandeciente, luminoso; verde, azulado, gris, blancecino; azul pálido, gris azulado, azul claro'⁶⁶.

A review of the major dictionaries of Ancient Greek implies that in the relevant literature there are no doubts whatsoever as to the semantic field of the Greek adjective γλαυκός, which was the derivational base for the Ancient Greek ichthyonym γλαῦκος, created originally by an oppositional accent.

However, statements of ancient authors suggest that the matter is less straightforward. Isidore of Seville, a 7th century Latin encyclopedist, explains that «the name *glaucus* (= spearfish) comes from the color white, since the fish is white; for Greeks refer to white things using the word γλαυκόν»⁶⁷. Thus, St. Isidore clearly states that the *glaucus* is a white fish, and the Greek adjective γλαυκός means 'white/albus', and by no means

⁵⁹ Montanari 2018, 432.

⁶⁰ Liddell - Scott 1996, 350-351. See also Liddell - Scott 1990, 165. It is worth noting that the Latin adjective *glaucus*, borrowed from Greek, means 'blue-grey', also 'grey-green (of the color of vegetation)', see Glare - Stray 2012, 841.

⁶¹ Kaegi 1931, 152.

⁶² Schenkl - Brunetti 1991, 171.

⁶³ Montanari 1999, 447.

⁶⁴ Dvoretzkiy 1958, 325.

⁶⁵ Pabón Suárez de Urbina 1970, 120.

⁶⁶ Adrados 1994, 817.

⁶⁷ Isid. *Orig.* XII 6, 28: *glaucus a colore dictus, quod albus sit, Graeci enim album γλαυκόν dicunt.*

‘dark blue, grey-blue, azure, or sky-blue’. His opinion is not solitary, since Hesychius of Alexandria, a Greek lexicographer of the late 5th century, offers the following gloss:

γλαυκός· λευκός (HAL γ-606)⁶⁸ «*glaukós*: white».

Greek and Latin lexicographers of late antiquity are thus in agreement: the basic meaning of γλαυκός/*glaucus* was ‘white/*albus*/λευκός’. This meaning is also confirmed by Byzantine lexicographic works⁶⁹.

A question thus arises as to whether the existing lexical material supports this meaning. Let us consult a rich lexical material of Romance languages. In Romanian, the word *ghiócel* m. denotes ‘the snowdrop, *Galanthus nivalis* L.’, pl. ‘the first white hairs’⁷⁰. Etymologists agree that the Romanian word comes from the Latin diminutive form **glaucellus*, which is obviously derived from the adjective *glaucus* by means of adding the suffix **-ellus*⁷¹. It is commonly known that the flowers of the snowdrop are intensely white or snow-white. This is grounds enough to argue that in the Balkan Latin of the 2nd and 3rd centuries AD, which later evolved into the present-day Romanian, the adjective *glaucus* had the basic meaning of ‘white’. This observation is consistent with the opinions of Hesychius of Alexandria and St. Isidore of Seville. Let us note that Latin dictionaries usually attribute to the Latin adjective *glaucus* – which is borrowed from Greek – the primary meaning of ‘blue, azure’⁷².

It appears that in late antiquity, the adjective γλαυκός/*glaucus* (both in Latin and in Greek) acquired a new meaning of ‘white’. It is highly likely that the semantic change observed was triggered by a significant phonetic similarity of the Greek adjectives γλαυκός and λευκός. However, it cannot be ruled out that the visible semantic innovation (though not recorded by the Ancient Greek and Latin dictionaries) along the lines of

⁶⁸ Latte 1953, 378; Cunningham 2018, 507.

⁶⁹ The Suda from the 10th century defines the adjective in question as follows: γλαυκός· λευκός, κυάνεος «white, blue», see Adler 1989, 526. *Etymologicon Magnum*, the most comprehensive dictionary of the Byzantine period, uses the adjective γλαυκός only with reference to eyes: Τὸ ἐπιθετὸν τὸ σημαῖνον τὸν ἔχοντα πυρρῶθι τὰ ὄμματα. Παρὰ τὸ γλαύσσω, γλαυκός, ὡς λεύσσω, λευκός. Παρὰ δὲ τὸ γλαυκός γίνεται ῥήμα παράγωγον γλαυκῶ, καὶ γλαυκιῶ «the adjective denoting a person whose eyes are fiery. Deriving from the verb γλαύσσω (‘to glow’) is γλαυκός, just as deriving from the verb λεύσσω (‘to see, to look’) is the adjective λευκός (‘bright, shiny, white’). Deriving from the adjective γλαυκός is the verb γλαυκῶ ‘to suffer from leucoma’, as well as γλαυκιῶ (‘to have sparkles in the eyes’)», see Gaisford 1994, 233.

⁷⁰ Levičchi 2008, 472.

⁷¹ Meyer-Lübke 1935, 323, No 3781a, s.v. **glaucellus* «Schneeglöckchen».

⁷² Walde-Hofmann 1938, 606, s.v. *glaucus* (‘bläulich, graulich, lichtgrau’); Souter *et al.* 1968, 766, s.v. *glaucus*¹.

‘grey-blue, dark blue > ‘light’ > ‘white’ was partially motivated by the ichthyonym γλαῦκος (= Lat. *glaucus*), probably denoting not only the Mediterranean spearfish (*Tetrapturus belone* Rafinesque), but also the white marlin (*Kajikia albida* Poey) and the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe), frequently captured in the western Mediterranean Sea. Of course, our claim that the white marlin was influential in shifting the semantic field of the Greek adjective γλαυκός should be treated as speculative.

7. A NEW RESEARCH HYPOTHESIS:
γλαῦκος/GLAUCUS = MEDITERRANEAN SPEARFISH

In the previous sections, we listed the most important features of the fish called γλαῦκος/*glaucus* which were attested in the extant antique sources (see section 4), and then we rejected the previous identification hypotheses (see section 5). At this point, we will try to demonstrate that the name γλαῦκος/*glaucus* referred to the Mediterranean spearfish (*Tetrapturus belone* Rafinesque, 1810) and two species closely related to it (*Tetrapturus georgii* R.T. Lowe; *Kajikia albida* Poey).

7.1. Antique sources (e.g. *Cyran* IV 9) agree that the γλαῦκος is a large marine fish. The Mediterranean spearfish is a sizeable predatory fish, reaching a length of 2.4 m and a weight of 70 kg. The fish has a big tail ending with a tall, sickle-shaped caudal fin. Conclusion: the size of the Mediterranean spearfish is fully consistent with the antique reports devoted to the fish γλαῦκος/*glaucus*.

7.2. The γλαῦκος, as emphasized by Aristotle, lives in the pelagic zone, although antique authors point out that it is also fished for in the coastal waters (e.g. near Megara, Olynthus, and the Roman harbor settlement of Cumae). The Mediterranean spearfish is a «fast, strong swimmer hunting in the pelagic zone (and only sporadically in the coastal waters) for schools of fish»⁷³. Full consistency.

7.3. During the summer period, the γλαῦκος disappears for two months (around 60 days) from the fishing waters surrounding continental Greece and Italy (Arist. *Hist. an.* 599b 32; Ovid. *Hal.* 117; Plin. *HN* IX 58; XXXII 153). This is when – as we believe – it likely travels for procrea-

⁷³ «Schnelle, kräftige Schwimmer, die in offenen Meer (nur gelegentlich auch in küstennahen Gewässern) Schwarmfischen nachjagen», see Terofal - Militz 1983, 142-143.

tion purposes. In fact, both Atlantic species migrate in summer for procreation purposes and temporarily disappear from their native waters. More facts are known concerning the procreation of the Atlantic marlin, which spawns in the warm equatorial waters. The white marlin procreates in the shallow waters of the Atlantic near the coast of north-western Africa. It is suspected that the Mediterranean spearfish, similarly to the meagre, procreates in summer near the coast of north-western Africa⁷⁴. There is full consistency between the summer two-month absence of the fish called *glaucus* in the Italian and Greek waters and the long summer migrations of the white marlin, as well as the Atlantic marlin and the Mediterranean spearfish.

7.4. For some time, the male *glaucus* takes care of the offspring, which hides in its mouth in case of danger (Opp. *Hal.* I 747-755; Ael. *NA* I 16). This description convincingly proves that the $\gamma\lambda\alpha\upsilon\kappa\omicron\varsigma$ is an oviparous fish and that a mature male reaches a very considerable size. The Mediterranean spearfish is a large oviparous fish. There are no data pertaining to whether and how the Mediterranean spearfish protects its young. The Atlantic marlin and related species are fast-moving pelagic fish. It is commonly believed that they leave their fertilized eggs and move on. Once laid and fertilized, the adults abandon the eggs leaving them to hatch and fend for themselves⁷⁵. The ancient claim assigned to the male *glaucus*'s behavior seems wrong, but it can be motivated by correct observations (and a false interpretation) given by some Greek and Roman fishermen. The spearfish is usually accompanied by a small fish (up to 40 cm-long) called marlin sucker or spearfish remora (*Remora osteochir* Cuvier, 1829), and *remora dei marlin* or *remora grigia* in Italian, $\rho\epsilon\mu\omicron\rho\alpha$ $\mu\alpha\rho\lambda\iota\upsilon\omega\nu$ in Modern Greek, *rémora marlinera* in Spanish, and *rémora des marlins* in French. It is probable that the antique observers thought the sucker to be the offspring of the spearfish, hence the conviction that this fish takes care of its young. Potential though uncertain consistency.

7.5. Ancient Greeks and Romans considered the *glaucus* to be a tasty, meaty, and fat fish. The meat of the Mediterranean spearfish is very tasty and can be eaten fresh, smoked, or canned. The meat of the white

⁷⁴ The biology of the propagation of the Mediterranean spearfish is not well-researched. This fact is frequently stressed in the basic literature, e.g. Terofal - Militz 1983, 142: «Ihr Fortplanzungsverhalten ist noch weitgehend unbekannt».

⁷⁵ One of the reviewers expressed the following opinion: «There are no recorded pelagic fish anywhere in the world that protect their young in their mouths».

marlin is also «greyish and very tasty, especially once smoked»⁷⁶. Full consistency.

7.6. The γλαῦκος was fished for in the Tyrrhenian Sea, especially near the ancient harbor settlement of Cumae (according to the account of Ennius), and then served as a dish in Roman homes. Presently, the Mediterranean spearfish is predominantly fished for in the Tyrrhenian sea, near the west coast of South Italy. There is full agreement as to where the *glaucus* was captured (in Cumae) and where the Mediterranean spearfish is frequently caught (in southern parts of the Tyrrhenian Sea).

7.7. In the ancient period, it was believed that the color of the γλαῦκος corresponded to the adjective γλαυκός, La. *glaucus* (Isid. *Etym.* XII 6, 28). The adjective γλαυκός originally meant 'grey blue, dark blue'. The Mediterranean spearfish has a «dark blue back, light sides, and a whitish underside»⁷⁷, meaning that its color tallies with the suggested identification. Isidore of Seville thinks that the fish called *glaucus* is white and firmly believes that the Greek term γλαυκός denotes the color white. This opinion is probably informed by the fact that in the seas surrounding the Iberian Peninsula the Mediterranean spearfish is visibly outnumbered by two species closely related to it: the roundscale spearfish (*Tetrapturus georgii* R.T. Lowe) and the white marlin (*Kajikia albida* Poey), and their hue is much lighter than that of the Mediterranean spearfish. The bishop of Seville, who must have eaten the *glaucus* (= spearfish) many times, probably described the white marlin or the roundscale spearfish, which have white undersides and whitish sides. The western part of the Mediterranean and the eastern part of the Atlantic Ocean were home to a significant population of the white marlin and the Atlantic marlin, which are characterized by the bright (white or whitish) color. In the days of the Roman empire, the high numbers of both species may have created the impression that the appellative *glaucus* indeed meant 'bright, white'. The independent accounts of Hesychius of Alexandria and St. Isidore of Seville appear to suggest that in the vulgar Latin of late antiquity a semantic change took place, progressing along the lines of 'grey-blue, dark blue' > 'light' > 'white'. Thus, there is full consistency as to the basic color of the fish.

⁷⁶ Rutkowicz 1982, 501, No. 752.

⁷⁷ Terofal - Militz 1983, 142: «Rücken dunkelblau oder blau. Flanken heller, Bauch weißlich».

8. CONCLUSIONS

In the article, the Greek-Latin ichthyonym *γλαῦκος/glaucus* has been discussed, for which an entirely new identification, i.e. with the Mediterranean spearfish (*Tetrapturus belone* Rafinesque), has been suggested. It appears that in the ancient period the distinctive character of the round-scale spearfish (*Tetrapturus georgii* R.T. Lowe) and the white marlin (*Kajikia albida* Poey) was not recognized, so the term *γλαῦκος/glaucus* was applied to these two species related to the Mediterranean spearfish. In the article, it has also been indicated that the Greek adjective *γλαυκός* changed its meaning in late antiquity. A tentative hypothesis has been formulated that the semantic innovation ('grey-blue, dark blue' > 'light' > 'white') occurred or later developed under the influence of the name of an extremely tasty fish which was very popular in the Greco-Roman world.

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