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Characteristics of fish species of the Baltic Sea - Part 1

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ABSTRACT

The emergence of the Baltic Sea cemented the Scandinavian ice sheet. The sea began to form at the end of the Vistula glaciations when meltwater from the glacier began withdrawing accumulate on today Gdańsk Bay and expanding, with time its surface. Around 10,200 years ago, there was a freshwater lake ice is also supplied with water running off lying to the south. After this period, the rapid warming, which caused a rise in the water level and connected to the waters of the North Sea today. Yoldi sea arose, also called the mussel living in it. As a result of the disappearance of the ice caps caused by climate warming, followed the slow rise of Scandinavia.

The Baltic Sea is one of the youngest seas in the catchment area of the Atlantic Ocean. Created 12,5-13 thousand. years ago, after the last glaciation. Today the Baltic Sea, such as we see it, is the result of changes occurring with time approx. 2.5 thousand. years ago. It is very specific, unique sea in the world.

***Keywords*:** Baltic Sea; *Neogobius melanostomus; Gobius niger*; *Flavescens Gobiusculus; Pomatoschistus minutes; Pomatoschistus microps; Belone belone; Pungitius pungitius; Liparis lipari*

1. INTRODUCTION

The emergence of the Baltic Sea cemented the Scandinavian ice sheet. The sea began to form at the end of the Vistula glaciation when meltwater from the glacier began withdrawing accumulate on today Gdańsk Bay and expanding, with time its surface.

Around 10,200 years ago, there was a freshwater lake ice is also supplied with water running off obszerów lying to the south. After this period, the rapid warming, which caused a rise in the water level and connected to the waters of the North Sea today. Yoldi sea arose, also called the mussel living in it. As a result of the disappearance of the ice caps caused by climate warming, followed the slow rise of Scandinavia.

This has led to about 8900 years ago to the emergence of another lake that of living in the waters of the lake mollusk called ancylusowym. Further elevation of Scandinavia, and the simultaneous reduction of the southern coast of the Ancylus Sea has given rise to a new connection to the North Sea. Littorina Sea were formed (from the name of the worm) with a greater range and more salty than the present Baltic waters. Baltic sizes of today was built around 2000 years ago. During this period, its area decreased as a result of continuous improvement of the land, which had an impact on the more limited contact with the North Sea in shallow Danish straits.

2. *NEOGOBIUS MELANOSTOMUS*

Photo 1. *Neogobius melanostomus*

Occurrence

The coastal zone of the Azov Sea basin, the Black and Caspian Sea. Enters into freshwater. In Poland it is invasive alien species. The first specimen was recorded off the coast of the Baltic Sea in 1990. He is currently starring in the Gulf of Gdansk, along the Polish Baltic coast and in the lower reaches of the river.

He lives at depths up to 20 m (in the Caspian Sea to 70 m). Tolerates low water oxygen content. Reaches up to 24 cm in length.

The economic importance

Fish fished as a consumer. There has been a very rapid growth of the population of the fish in the waters of the Baltic Sea. This is due to the lack of natural enemies. The presence of this species is disadvantageous in the Baltic Sea due to its diet. Namely grandmother feeds on some species of mussels (Mytilus trossulus), in which the body accumulates large amounts of heavy metal salts. To date mussel was not eaten by other organisms. Eating by the grandmother helps to re-circulation in the environment of heavy metals accumulated in the bodies of the mussel.

3. *GOBIUS NIGER*

Marine species occurring along the shores of the Mediterranean, the European shores of the Atlantic Ocean, the North Sea and in the western and southern Baltic. He lives near the banks (littoral), at the bottom, or lined with soft water plants. Usually lives in a secluded and sheltered places. Black goby frequently occurs in our coasts, but there is no economic significance.

Photo 2. *Gobius niger*

Building

Body short, oval in cross-section, with a slightly flattened part of the stomach. The upper part of the head and back, to the base of the first dorsal fin are not scaled. Sometimes there may be a very small irregularly scattered squamules. The rest of the body is covered with very large scales. The lateral line is not visible. There are two dorsal fins in contact with each other. The first of them is stretched only to soak up hard. The caudal fin is large and the rear edge of the oval. Pectoral fins are wide and long. Pelvic fins placed under and in front of the pectoral is webbed into a kind of funnel, forming a suction cup.

The head of a black grandmother is large, flattened dorsoventrally and has a rounded snout. Maw is armed with fine teeth. This fish grows to a length of 15 cm. Food fish of this species are small benthic animals (snails, shrimp, crabs, polychaetes).

Multiplication

Spawning takes place from May to June. The female lays on plants up to 25 thousand. sticky grains of roe. Pelagic larvae initially, then sink to the bottom.

4. *GOBIUSCULUS FLAVESCENS SON. CORYPHOPTERUS FLAVESCENS*

Photo 3. *Gobiusculus flavescens*

Occurrence

European Atlantic coast of the Baltic Sea. In Poland, encountered numerous along the east coast.

Characteristics of the species

Small fish to 6 cm in length. Black spot on each side of the base of the tail. Males are similar spots around the pectoral fins. They feed on small crustaceans. Spawning takes place from April to July. Roe approx. 1 mm is glued to water plants. Pelagic larvae. Adults feed on zooplankton.

Protection

In Poland, subject to strict protection.

5. *POMATOSCHISTUS MINUTUS*

Occurrence

European Atlantic coast of Norway to Spain, the Mediterranean, the Black Sea and the Baltic Sea.

Photo 4. *Pomatoschistus minutus*

Characteristics of the species

Small fish up to 11 cm in length. Brown-orange coloration. Relatively large eyes, set high and close together. Five of dark spots along the sides.

There are sandy and muddy along the coast at depths of 4-200 m. They feed on small invertebrates (mainly polychaetes and crustaceans). Spawning takes place in the summer in the shallow waters. Males attract females to the empty shell, which is submitted roe. Males guard the eggs approx. 10 days until the larvae do not reach approx. 3 mm in length. Initially pelagic larvae.

Protection

In Poland, subject to strict protection.

6. *POMATOSCHISTUS MICROPS*

Occurrence

European Atlantic coast of Norway to Spain, the Mediterranean, the Black Sea and the Baltic Sea (in the central and western parts of the height of Stockholm and Riga). It occurs in the shallows along sandy coasts and estuaries, small depths. He lives in droves, eager to bury themselves in the sand.

Description

It grows up to 5 cm long, 3-4 cm in the Baltic Sea. Sand-yellow or yellow-gray coloration. On the sides there are a irregular, black spots, often coalescing and forming streaks, dark streaks are also found between the eyes and the corners of the mouth and between the nostrils and the lower lip.

Photo 5. *Pomatoschistus microps*

Nutrition

It feeds on plankton and small invertebrates.

Procreation

Spawning takes place in the summer in the shallow waters. During this time, males appear back part dark blue spot in the dorsal fin and anal fin, gill cover and throat become black. Like his grandmother small spawns into empty shells. Males guard the eggs until the larvae do not reach approx. 3 mm in length.

Protection

In Poland, subject to strict protection.

7. *BELONE BELONE*

Occurrence

Pelagic waters of the eastern Atlantic Ocean and adjacent seas (Mediterranean, Northern, Baltic and Black).

Characteristics

Greatly elongated body. Both jaws long with numerous small, sharp teeth. In young individuals the upper jaw is shorter than the bottom. Scales small, gearing. The fins lack of hard rays. Pelvic fins, dorsal and anal shifted toward the tail. Body length up to 93 cm. This species is oviparous, roe has a long strand of tacky, which adheres to the plants and stones. Bones snook have green color.

Snook fly in flocks near the water surface. During the escape jump out of the water. They feed on small fish and crustaceans.

Photo 6. *Belone belone*

Subspecies

There are three subspecies of common snook:

• Belone belone acus - connecting the Mediterranean Sea and the waters of the Atlantic
• Belone belone belone - North-East Atlantic
• Belone belone euxini - Black Sea and Sea of Azov

8. *PUNGITIUS PUNGITIUS*

Photo 7. *Pungitius pungitius*

Occurrence

Northern Hemisphere, Poland common. Stickleback living in the Baltic Sea creates two forms, sweet and salt water. The population of freshwater reservoirs, as well as the bends of rivers, where the current is negligible. Occurs at the shore and in the shallows, often in the same containers as cierniczek. He lives in loose shoals. In the bends of rivers and lakes cleaner can be very large. Has small requirements for water quality.

Morphological characteristics

Body elongated, laterally flattened, reaches 5-8 cm in marine migratory forms up to 11 cm in length. Pointed snout, small mouth in the end position. Along the sides of a number of bone plates, more developed in the population living in the sea. Individuals living in freshwater can be completely devoid of them. On the back there are 2-5 (usually 3) spikes. Ridge of gray-green, blue-green or dark gray, sides silvery.

Nutrition

Sticklebacks food is very diverse. Juveniles feed on plankton. Adults feed on mainly small aquatic animals such as insect larvae and crustaceans. Besides, like eggs and fry of other fish, including members of their own species. Stickleback enemies are large predatory fish, otters, rzęsorki, kingfishers and other waterfowl. Stickleback often hunt at night, locate prey using the lateral line organ, although large and sensitive eyes permit the use of vision, even at very low light.

Procreation

Third from the end to the beginning of the third VIII. Some populations that live in the sea to spawn set off against the current of rivers and streams. Stationary populations spawn in the waters in which they live.

During spawning males throat and abdomen are bright red or orange, and the whole body becomes metallic sheen. In the right place, eg. In a recess on the bottom or low between plants, builds a nest of plant remains glued secretion from the kidneys and lures him all located around females.

Roe filed by a female socket immediately fertilized by the male. The male usually chase the females and fertilized eggs the same weapons and fry until it does not absorb the yolk sac and not start an independent life.

Breeding in the aquarium

Aquarium medium or large, the temperature is not higher than 22 °C, the food just alive. Males are very aggressive to other males, particularly during mating.

The purpose of reproduction should be placed in the aquarium dense plant with delicate branches (eg. Turnpike, Myriophyllum) to male in mating season could build a nest there. At the time of spawning males choose the strongest stained and put to him a few females.

After placing the eggs by females must be harvested, it does not interfere in the care of the male offspring.

After a few days, as the harvesting of the male, he may begin to eat the young. Stickleback small protozoa and we feed on plankton.

9. *LIPARIS LIPARI*

Photo 8. *Liparis lipari*

Occurrence

Water benthic (up to 300 m) north-east Atlantic Ocean and connected to the sea, also in the Baltic.

Description

Ribbon-shaped body, without scales. Large head, small eyes, two nostrils on both sides of the head. Long fins: dorsal and anal. The length approx. 15 cm. It feeds mainly on crustaceans, rarely polychaetes and small fish.

Protection

In Poland, the strictly protected species.

10. CONCLUSIONS

The emergence of the Baltic Sea cemented the Scandinavian ice sheet. The sea began to form at the end of the Vistula glaciations when meltwater from the glacier began withdrawing accumulate on today Gdańsk Bay and expanding, with time its surface. Around 10,200 years ago, there was a freshwater lake ice is also supplied with water running off lying to the south. After this period, the rapid warming, which caused a rise in the water level and connected to the waters of the North Sea today. Yoldi sea arose, also called the mussel living in it. As a result of the disappearance of the ice caps caused by climate warming, followed the slow rise of Scandinavia. The Baltic Sea is one of the youngest seas in the catchment area of the Atlantic Ocean. Created 12,5-13 thousand years ago, after the last glaciation.

Today the Baltic Sea, such as we see it, is the result of changes occurring with time approx. 2.5 thousand. years ago. It is very specific, unique sea in the world.

The uniqueness of the Baltic Sea due to its shape and position. The Baltic Sea is a brackish called because the water here are low salinity. The average salinity of the oceans is 35 p.s.u. (practical salinity unit), the salinity of the Baltic Sea area is 7-8 psu Polish Low salinity due to the fact that the Baltic Sea is almost an internal sea, closed by peninsulas and the land areas of Europe, and the only exchange of water and salt water supply is done by shallow Danish Straits (Sound, Little and Great Belt) and the Kattegat and Skagerrak. Infusions from the North Sea actually decide that, in general, we have salt water in the Baltic Sea, also cause water mixing and oxygenation. If a long period of no infusion (in the last century, it happened that for 8 years there was not any), in the Baltic Sea depths greater than 200 meters lack of oxygen. Lack of oxygen causes the decay of life at these depths. Due to the low salinity of the Baltic Sea is also relatively low temperatures and less water evaporation within the basin.

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