sciendo

ASN, Vol. 9, No 1, Pages I–III, 2022

Acta Scientifica Naturalis

Former Annual of Konstantin Preslavsky University of Shumen: Chemistry, Physics, Biology, Geography

Journal homepage: https://content.sciendo.com/view/journals/asn/asn-overview.xml

Editorial Note: Lakes on the Northern Black Sea coast of Bulgaria

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The Black Sea coast of Bulgaria is a place where a large number of lakes meet. They are a beautiful addition to the sandy beaches and leave the impression of still untouched nature. The lakes are an important part of the bird migration route in Europe, known as Via Pontica and are an important wintering ground for many bird species. In order to be preserved in the future, they have been declared protected territories or protected areas by the European ecological network "Natura 2000". There are several lakes on the North Black Sea coast of Bulgaria and by their origin they can be divided into two groups: lagoon lakes and estuarine lakes.

The lagoon lakes in the region of the Northern Black Sea coast of Bulgaria are three in number: Balchishka Tuzla, Nanevska Tuzla, and Shablenska Tuzla. These are small, shallow, super-saline lakes, whose surface, especially in summer, is below sea level. Healing mud forms at the bottom. Balchik and Nanev Tuzla are formed in areas of landslides and therefore can be considered as landslide lakes.

The estuarine lakes are the largest in number and the largest in area. The largest of them is Varnensko Lake with an area of 17.4 km². It is also the deepest seaside lake in Bulgaria. Its depth reaches 19 m. In the west it is connected with Beloslavsko Lake, and in the east it is connected by an artificial canal with the Black Sea.

Lakes that are close to cities are more or less altered by human activity. Such are Beloslavsko Lake, Varnensko Lake and Balchishka Tuzla. Therefore, the object of consideration here will be the lakes in the more remote northern parts of the Northern Black Sea coast of Bulgaria. These are Nanevska Tuzla, Shabla Lake Complex, and Durankulashko Lake.

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Editorial Note
DOI: 10.2478/asn-2022-0001
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Nanevska Tuzla is located about 5 km north of Cape Kaliakra. The lake is small, with an area of 0.1 km^2. It is incorrectly called Taukliman, which means Bird's Bay, after the name of the nearby bay. It is separated from the sea by sand dunes, through which sea water seeps or passes in strong waves. It is fed by spring waters, but due to the inflow of sea water its salinity varies from 2.3 to 87‰. Nearby is the famous seaside resort "Rusalka". The lake is a place for rest and feeding of many species of birds during their migration. Remains of ancient medieval settlements, parts of a late antique fortification, a Byzantine fortress from the 5th century AD have been found around the lake. and a large number of round stone wine-making facilities.

The Shabla lake complex consists of three karst lakes and has been declared a protected area by the European ecological network "Natura 2000". These lakes are the following: Shablensko Lake, Ezeretsko Lake and Shablenska Tuzla. The largest is Shablensko Lake with an area of 0.9 km², in second place is Lake Ezeretsko Lake with an area of 0.7 km², and in third place is Shablenska Tuzla with an area of 0.22 km². Shablensko Lake and Ezeretsko Lake are named after neighboring villages. They are located near the Black Sea and are separated from it by sand dunes. The width of the dune strip varies from 30 to 230 meters. Dunes form complexes that, like lakes, are protected. Despite its proximity to the sea, the water in the lakes is sweet due to the supply of underground karst springs. The infiltration of salt water through the sandy strip leads to an increase in salinity to 0.4‰. Shablenska Tuzla is a salt lake-lagoon (salinity 40‰), located 1.5 km southeast of Shablensko Lake. It is also separated from the sea by a sandy strip 140-170 m wide. In summer, due to its small size and shallow water - up to 0.6 m, Shablenska Tuzla almost dries up. The bottom of the lake is covered with healing mud (hydrogen sulfide sludge) with reserves of more than 200,000 tons, which is used for mud treatment.

There are 260 species of birds on the territory of the Shablensko Lake complex. This makes more than half of the birds distributed on the territory of Bulgaria. Of these, 111 species are of European conservation importance (SPEC). Globally endangered (in category SPEC1) are 13 species, endangered in Europe in category SPEC2 (species with global population concentrated in Europe and with unfavourable conservation status in Europe) are 26 species and in category SPEC3 (species not concentrated in Europe, but with unfavourable conservation status in Europe) are 72 species. The site provides suitable habitats for 90 species of birds listed in Annex 2 of the Biodiversity Act of the Republic of Bulgaria, for which special protection measures are required. Of these, 86 are also listed in Annex I to Directive 79/409 of the European Union.

Durankulashko Lake is located about 6 km from the border of Bulgaria with Romania between the villages of Durankulak in the northwest, Krapets in the south and Vaklino in the southwest. It is a coastal lake-lagoon with an area of 3.4 km². In its western part there are two islands - a large one with an area of 2 ha and a small one with an area of 0.53 ha. At lower lake levels, the large island becomes a peninsula.

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Durankulashko Lake is inhabited permanently or temporarily by 260 species of birds. Of these, 110 species are of European conservation importance (SPEC). There are 14 species globally endangered (in SPEC1 category), 27 species in Europe in SPEC2 category and 69 species in SPEC3. The lake provides suitable habitats for 95 species included in Annex 2 of the Biodiversity Act of the Republic of Bulgaria, for which special protection measures are required. Of these, 91 species are included in Annex I to Directive 79/409 of the European Union. Durankulashko Lake is a place of world importance for waterfowl in winter. The world-endangered bird species *Branta ruficollis* winters here in January and February, with almost the entire world population living in the Durankulashko and Shablemsko lakes, which undoubtedly makes them one of the most important wetlands in the world.

As in many places in Bulgaria, Durankulak Lake combines preserved nature and interesting history in one site. The Durankulak Archaeological Reserve is located on the big island. It is world famous for the names "Bulgarian Troy" and "European Troy" due to the great age and global significance of the finds. Archaeological excavations show that the area has been inhabited almost uninterruptedly for about 6,000 years (from the 48th century BC to about the 11th century AD). The largest prehistoric necropolis in Europe has been discovered here, and according to some sources - even in the world (from the beginning of the Late Paleolithic to the end of the Eneolithic). It is older than the famous Varna necropolis, located only 70 km southwest.

The big island near the present-day village of Durankulak was inhabited in the 5th millennium BC. Then the first settlement with the earliest stone architecture in continental Europe was built. The place was chosen for the construction of one of the administrative management centers of the early Eneolithic culture Hamandzhia. An important fact is that Durankulashko Lake did not exist at that time. In its place was a river with meanders. At that time, the Big Island was one of the rocky heights on its west coast. In the rock massif on it is carved a Thracian cave temple of the goddess Zemela (3rd century BC). The sanctuary is two parallel caves located at the level of today's lake. It is believed that parts of this ancient settlement were located on the banks of this river, much of which is today under the waters of Durankulashko Lake. Archaeological work continues to uncover the rest of the ancient settlement both on the western shore of the lake and at its bottom.

The place continues to attract lovers of both nature and history, and this is a good example of how we can skillfully combine past and present.

Front Cover

View of Shablensko Lake, Northeast Bulgaria

Photo by Prof. Dimcho Zahariev

Date of photo: July 14, 2020

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