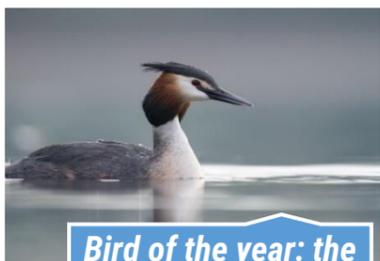


NATURE SUPERSTARS OF ESTONIA 2020



Bird of the year: the great crested grebe

Photograph: Kalmer Lehepuu / eoy.ee/tuttpytt

The **great crested grebe** (*Podiceps cristatus*) has a unique appearance and behaviour but much is yet unknown about this aquatic bird. What is well known, however, is their mating dance of graceful head flicks and rushing towards each other breast-to-breast with greenery in their bills. In Estonia, the great crested grebes are quite common in reedy seacoasts and larger lakes. When April begins, just after the ice has melted, they start arriving and will stay here until October when they head towards winter areas in Western and Southern Europe. A few may choose to stay here if the winter temperatures are mild. In addition to the great crested grebe, there are also the red-necked grebe, the horned grebe, the little grebe and the black-necked grebe living in Estonia.

The **bats** of Estonia belong to the family *Vespertilionidae* and order *Chiroptera*. Of all the mammals, bats are the second most numerous mammal family in the world: a total of 407 species with 14 of them found in Estonia. Half of the Estonian species are non-migratory and stay here throughout winter. Having a complicated life cycle, these animals have become rare and are therefore under protection. Bats are nocturnal creatures and use echolocation for navigation and hunting. They avoid flying during rainfall as the sound of raindrops interferes with the sound waves used for echolocation. Bats sleep during daytime, hanging upside down in caves, buildings, tree trunks or other shelters. Most bat species live in colonies, some may live a solitary life or stay in couples.



Animal of the year: the bat

Photograph: Rauno Kaada "Veelendlane"



Tree of the year: the European spruce

Photograph: M. Kala

The **European spruce** (*Picea abies*) is an evergreen coniferous tree. It is monoicous, meaning both male and female cones are found on the same tree. Female cones usually grow on the upper third of the crown while the male ones appear below them. An average European spruce produces cones after every five or six years. These years are known as "seed years" or "mast years". The top of a spruce can live long, which makes it the tallest tree in our forests, usually up to 30-35 metres. Spruce forests are shady and usually only moss can survive on the ground. Spruce has historically been used as building material and also for making musical instruments. In folk customs, spruce is traditionally used as Christmas tree and it is also important in funeral ceremonies.

Cladonia stellaris is the most distinctive of all the reindeer lichen. It forms yellowish grey dome-shaped cushions which can reach up to 15 cm in height. It can be found in pine forests, heaths and dunes all over Estonia growing mainly on the ground, sometimes also on deadwood. *Cladonia stellaris* grows slowly which is why it is more common in forests older than 80 years.



Fungus of the year: Cladonia stellaris

Photograph: Andres Saara



Moss of the year: Leucobryum glaucum

Photograph: Kai Vellak / Plutorf ID: TUI69881

Leucobryum glaucum (*Leucobryum glaucum*) grows in bright green cushions which can reach from a few centimetres up to a metre in height. The distinctive bright colour is caused from the anatomy of its leaves: the green leaves with chlorophyll are covered with empty cells which act as water collectors as well as reflectors for excess sunlight. The *Leucobryum glaucum* is particularly bright when dry but becomes greener after rainfall. Due to the fact that this moss species prefers marine climate, it can mostly be found in sparse populations in the forests of Western Estonia and on the islands. In Estonia, *Leucobryum glaucum* is registered as protected species of 3rd category.

The **marsh fritillary** (*Euphydryas aurinia*) is a butterfly of the family *Nymphalidae*. It can be recognized by a fast erratic flight pattern and a highly-variable chequered pattern of orange, brown and yellow markings on its wings. Its flight period starts in early summer. The marsh fritillary prefers damp woodland clearings like grasslands, power line corridors, and clear cut areas. It depends heavily on a plant known as devil's bit (*Succisa pratensis*) which is the only viable food plant for the larvae. The marsh fritillary is a protected species of the 3rd category in Estonia.



Butterfly of the year: the marsh fritillary

Photograph: Ain Piir



Orchid of the year: the marsh helleborine

Photograph: Arto Randel Servet

The **marsh helleborine** (*Epipactis palustris*) is a common orchid in Estonia and can be found in thousands. As it prefers chalky soils and humidity, the marsh helleborine can be found in fens, spring fens, floating mats and wet meadows. It can also be found near drainage ditches, quarries and other man-made environments. It is easy to recognize the relatively large flowers of the marsh helleborine thanks to the long frilly lip and reddish sepals which look like wings. This orchid can successfully reproduce vegetatively – one rhizome can form more than a hundred new plants. In Estonia, the marsh helleborine is considered a protected species of the 3rd category.

Eroded soils are formed on the steeper parts of hill chains by intense rainfall or meltwater. These soils are common in current or former croplands which have been cultivated on inclined surfaces. This is why they are mostly found in South Estonian hill chains and South-East Estonian plateau, somewhat less in the hill chains of Sakala and Pandivere. Eroded soils form only 1.2% of all the land and 3.1% of all the agricultural land in Estonia. Erosion is the displacement of the top layer of the soil and is considered a form of soil degradation. It can only impact soils that have sparse or no vegetation. It can all result in thin and eroded topsoil with less organic matter. Human activities like intensive cropping, animal farming and deforestation accelerate soil erosion.



Soil of the year: the eroded soil

Photograph: Alar Astover / EMÜ

The **Atlantic salmon** (*Salmo salar*) is a slender, slightly flat fish with a greyish green back, silvery sides and spots mostly above its lateral line. During spawning season, male salmon develop a hook-like tip on their lower jaw known as the kype. Salmon spend their first couple of years in the rivers during which the young salmon feed on aquatic invertebrates and flying insects. After maturing and migrating to the sea, they start hunting other fish, mostly sprat and herring. To reproduce, salmon eventually make their way back into the rivers which is known as "salmon run". Due to the fact that Estonian rivers are quite small, local salmon runs are rather short. They start their run right before the spawning season, usually in October or November. The Atlantic salmon is highly appreciated by fishermen.



Fish of the year: the Atlantic salmon

Photograph: Wikipedia

