

## Stop 5 DEAD TREES AND INVERTEBRATES

My friends, I am still with you.

Next to the path you can notice an old rotten tree, partially degraded by weather and time. Now let me tell you a few things about this so-called "*dead tree*" or "*dead wood*."

Dead wood includes the following categories: dead trees - either standing or on the ground, sacrificial trees, clumps of old trees, water protection buffer zones, hollow trees/nests, special trees (with impressive ages or sizes - secular trees).

Part of the dead wood (downed or standing) must remain in place to ensure the continuity in time and space of all the elements of the food chain and thus participate in the conservation of the biodiversity and in the maintenance of healthy, stable forest ecosystems. Sustainable forest management, considered a balance between economics, ecology and sociology, involves a cautious reflection on the use of wood as an energy source and on the conservation of various forms of dead wood in sufficient quantities to conserve biodiversity.

Dead wood at different stages of decomposition represents living environments for a number of species: breeding habitats (e.g. nesting areas, lairs, dens), hibernation habitats (providing thermal insulation in winter), refuge areas (e.g. amphibians, in dry weather), shelter, feeding and hunting habitats. They are valuable trees in terms of biodiversity: with cracks, hollows, nests, with food sources for birds etc. Insects are everywhere and can sometimes be disturbing, but, in reality, their disappearance can cause an ecological imbalance that can lead to the disappearance of plants and animals. The impact of this ecological imbalance could even affect human survival.

Next, I present you **some invertebrates** which have their home in the Zával forest and for whom the dead wood is indispensable for living.

### **The Great Capricorn Beetle** (*Cerambyx cerdo*)

A species rarely encountered with an inadequate unfavourable conservation status, developing in the Zával oak and sessile-oak forest, the 91F0 protected habitat - Mixed meadow forests of *Quercus robur*, *Ulmus laevis* and *Ulmus minor*, *Fraxinus excelsior* or *Fraxinus angustifolia* along the great rivers - *Ulmion minoris*.

It is forbidden to capture, kill or harm this protected species! It is considered by specialists "*rare and threatened with extinction*" and is protected by the Habitats Directive and by the Emergency Ordinance no. 57/2007 on the conditions for protected natural areas, the conservation of natural habitats, wild flora and fauna.

The name "the great capricorn beetle" is related to the fact that it is one of the largest European coleoptera. The body length of the adults is between 23 and 55 cm. The colour is glossy-black, with reddish-brown on the extremity of the elytra. The elytra have an anterior rough sculpture that becomes smooth towards the posterior. The antennae, longer than the body of the insect, are impressive: the antennae of the male exceed by 3-4 items the extremity of the body and those of the female reach at most the extremity of the body.

They feed on the tree sap infiltrated in the cracks of the bark.

The adults appear from May to August and are usually active at night. By day, the adults hide in the tree crowns, between the leaves, in hollows etc. They prefer the standing trees in relatively sunny areas, but can also inhabit wood fallen to the ground.



**Photo 8:** The Great Capricorn Beetle

### **The European Stag Beetle (*Lucanus cervus*)**

The forest in Zăval is home to the most famous insect in Romania: *Lucanus cervus* – the European stag beetle or, as it is sometimes known in the Romanian folklore – *the ox-of-God, little aurochs, the deer or the bull*. Here, different specimens of this species of beetle were identified - the largest and most remarkable coleopter in our country, which has an inadequate unfavourable conservation status. Noteworthy is the sexual dimorphism, the male's hypertrophied mandibles can move like pliers, exceeding one third of the body length (35-75 mm), and the female has short mandibles, so it has no "horns" and measures 35-40 mm.

The European stag beetle prefers the forests with dead wood and the old forests of oaks with isolated trees. Currently, the cutting of the old trees, the replantation of species other than oaks, or the collectors of insects are just some of the threats of the species.

You should also know that adults fly mostly in the evening, from the end of May to the beginning of August. The stag beetle deposits its eggs in old oaks or rotten oaks that serve the larva as food.

The larval development lasts 4 to 6 years, during which it develops in the dead trees, and the pupal one approx. 3 months. The adults feed on the sweet juices on the trees and live only one summer. The degree of dispersal of individuals is up to 1 km for females up to 3 km for males.



**Photo 9:** The European stag beetle

### ***The Grey Longhorn Beetle (Morimus funereus)***

If during your walks in the forest you notice the specimen from the pictures, protect it!... It is a species subject to protection which can also be found in the Zăval Forest.

The *grey longhorn beetle (Morimus funereus)*, also called the *stone longhorn beetle*, is a species of beetle from the *Cerambycidae* family, a forest species feeding on wood in an advanced degree of decomposition. The adults can be found on tree trunks during the May-July period.

Some of the measures for the protection and conservation of the species, which you must also comply with, are aimed at:

- protecting the old trees in deciduous forests;
- prohibiting the collection of the species by amateur collectors;
- reducing treatment with toxic chemicals in forest ecosystems;
- preserving and protecting the characteristic biotopes etc.



**Photo 10:** *The Grey Longhorn Beetle*

### **DID YOU KNOW?**

- ... the presence of fallen or standing logs is considered a source of biodiversity; without dead wood, natural forests would be very fragile, the ecological balance would be affected, forests would be poor in biodiversity and very inadequate.

### **ACTIVITY:**

- Near the path you noticed an old rotten tree, which is part of the "dead wood" of the forest. Approach gently and, without touching it, stand still for a few seconds or minutes. Most certainly a few insects will appear on it – try to compare them with those described above. Isn't it that you've learned another interesting thing? And, on top of that, very useful.

### **ROUTE DIRECTION**

Go left on the trail to the next stop. Which is the last one.

