

The Romanian Longicorn Beetle Project



Cerambyx cerdo
Great Capricorn Longicorn

Cerambycidae is a large family of beetles with over 26,000 different known species. They are typically characterized by long antennae, which are often longer than their bodies. The beetles use their antennae to identify chemicals in the air in order to locate food (native trees and untreated lumber) and romance (potential mates).

Beneficial Longicorns

The forest depends on Longicorn beetles to decompose wood back into our environment and to pollinate native plants. As nature's recyclers, Longicorn beetles are a biological indicator for forest health and can be used as a surrogate for conserving other vulnerable species.

Due to habitat loss, many species within the Longicorn family are threatened or in danger of becoming extinct in Western Europe. Romania is one of the few European countries with intact forests and traditionally maintained landscapes, habitats that provide a diverse array of ecosystems where these beetles thrive.

By surveying the Longicorn beetles in Iron Gates National Park, Romania, we can measure their biodiversity and learn about their ecology and biology, providing us with a strategy to protect the Longicorns.

Damaging Longicorns

Longicorn beetles lay their eggs in crevices on native host trees and untreated lumber. The larva then bore into the wood, feeding on sap and creating large tunnels throughout. Because trees can take as long as 20-30 years to mature, foresters are devastated to discover a beetle infestation in the tree stands. The beetle infestations cause huge economic losses because no one wants holes in lumber when building their home.

A small number of Longicorn species are considered invasive because they are not native to Europe. The introduction of these invasive species displaces the native Longicorn species and, in some cases, transmits diseases to native trees. This can lead to the loss of an entire tree species.

Romania is stuck between a rock and a hard place: to protect the species of conservation concern and manage the species considered pests... and these beetles often fall into both categories.

Protect the Longicorns

The Romanian Longicorn Beetle Project promotes harmony between our responsibility to safeguard the beneficial Longicorn species and our need to reduce the economic losses from damaging Longicorn species. To protect the Longicorn beetles, this study provides data to help assess the status of beetle diversity, abundance, and their habitats. To do this, our team partners with the Administration of the Iron Gates Natural Park and the Mehedinti Department of Forestry, and uses modern monitoring methods for beetles based on pheromone attractants and habitat surveys. Combined, these methods identify relationships between the forest composition, habitat structure, and beetle diversity and abundance.

The project team also alters the behavior of Longicorn beetles in tree stands with a high economic value using pheromones traps to avoid damage to trees. Thus, instead of using harmful insecticides, which may kill both Longicorn beetles and many other insect and animal species, pheromones are an environmentally friendly method to ensure that both economic goals and conservation goals are met.

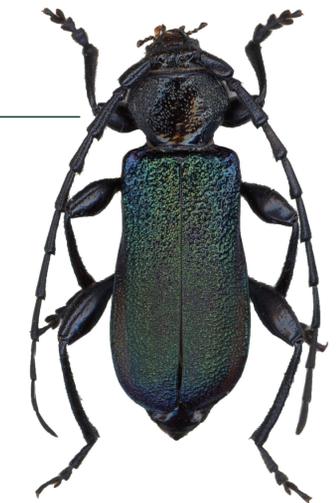
Conserving Longicorn beetles and their habitat requires collaboration and communication between the local communities and forest management agencies. In particular, local communities play a critical part in maintaining traditional landscapes through grazing and hay mowing, as well as low-impact forest management (pollarding, selective cuts). These traditional landscapes are true habitat mosaics, which are preferred by many Longicorn beetles, as well as other vulnerable species.



Morimus asper funereus
Flightless Forest Longicorn



Rosalia alpina
Rosalia Longicorn



Ropalopus insubricus
European Maple Longicorn



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Invisible Nature



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