

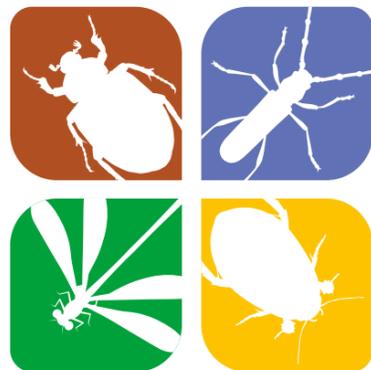
## The Life programme

LIFE is the EU's financial instrument supporting environmental, nature conservation, climate action and biodiversity projects throughout the European Union territory. Since 1992, LIFE has co-financed over 4500 environmental and climate protection projects.



[ec.europa.eu/environment/life/](http://ec.europa.eu/environment/life/)

## The Eremita project



Four species of insects protected in Europe that are present in the territory of the Emilia-Romagna region, are in sharp decline due to the progressive reduction of their life habitats. These species are also protected by the Regional Law n. 15/2006 "Provisions for the protection of minor fauna in Emilia-Romagna". Two of these species, the Hermit beetle and the Rosalia longicorn, are wood coleopterans linked to the life of trees: the first is found in wooded areas, in public parks and in the countryside, the latter in mountain beech forests. The other two insect species are linked to aquatic environments: the Water beetle, a small coleopteran that lives in lakes and ponds, and the Southern damselfly, an elegant dragonfly of the perennial small streams. The Eremita project, launched in 2016 and lasting five years, aims to counteract the decline of these rare and endangered species, by improving their living environments and enhancing their populations. A group of specialised entomologists and of specially organized volunteers works to support the project.

## The Natura 2000 network

The intervention area of the LIFE Eremita project involves the Natura 2000 network. This ecological network, spread over the whole territory of the European Union, was established under the Directive 92/43 / EEC "Habitats", to ensure long-term maintenance of natural habitats and species of flora and fauna, which are rare or endangered, at Community level. The Natura 2000 network consists of the Sites of Community Importance (SCI) as established by the Habitats Directive, which are subsequently designated as Special Areas of Conservation (SAC), and also includes the Special Protection Areas (SPAs) established under the Directive 2009/147 / EC "Birds" concerning the conservation of wild birds.



## Places

78 Natura 2000 sites involved in the project



- Parco Nazionale Foreste Casentinesi
- Parco Nazionale Appennino Tosco Emiliano
- Macroarea Romagna
- Macroarea Emilia Centrale
- Macroarea Emilia Orientale
- Macroarea Emilia Occidentale
- Regione Emilia-Romagna
- Siti Natura 2000 di progetto
- Parks, Reserves and other Regional Protected Areas

### Partners

Coordinator Regione Emilia-Romagna

### Beneficiaries associated



### Contacts

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LIFE 14 NAT/IT/000209 EREMITA  
Coordinated actions to preserve residual and isolated populations of forest and freshwater insects in Emilia-Romagna

Coordinated actions to preserve rare and endangered insects



With the contribution of the LIFE financial instrument of the European Union



## The target species

### Forest environments

For the last sixty years, the removal of old trees with hollows and dead trees from the forests, the felling of rows of willows and vines, and the elimination of trees with cavities along tree-lined roads, parks and public gardens has led to a habitat reduction of saproxylic insects – those species linked in at least one stage of their life cycle, to withering or dead wood. The reduction of available habitats has contributed to the isolation of their populations.



#### *Osmoderma eremita*

**Common name:** Hermit beetle

**Description:** coleopteran active between May and August; squat body, 2.4 to 3.7 cm long. Black-bronzed colour with metallic reflections.

**Distinctive features:** the male emits a powerful and pleasant aroma of ripe peach.

**Habitat:** cavities rich in boring dust of any species of old deciduous trees in woods, rows, and gardens from the plains to the mountains. The larva feeds on dead wood attacked by fungal mycelia and on other plant residues.

### *Rosalia alpina*

**Common name:** Alpine longhorn beetle; *Rosalia longicorn*.

**Description:** coleopteran active between June and August, 1.4 to 3.8 cm long. Grey-blue or light-blue colour with velvety black spots.

**Distinctive features:** easily recognizable because of the elegance of its colours and patterns. Both sexes have long blue-black streaked antennae.

**Habitat:** mountain beech woods with trees with dead parts of the trunk, dead trees that are standing or on the ground, situated in sunny areas.



### Aquatic environments

In Emilia-Romagna the main causes of aquatic habitat alteration are the excessive or inadequate management of small watercourses and reservoirs, the presence of invasive alien species, and some agricultural activities.



#### *Graphoderus bilineatus*

**Common name:** Water beetle

**Description:** predator coleopteran active all year, 1.4 to 1.6 cm long. Its body is oval, wide and flattened. On the upper part of the thorax, it has two black bands with a wide yellow band between them, and on its elytra, it has a uniform black marble-like pattern.

**Distinctive features:** the sides of the elytra are crossed by an expansion that gives a particularly broad appearance to the insect so as to appear provided with a sort of hull on both sides.

**Habitat:** ponds and lakes with clear and deep waters, rich in riparian vegetation, and also peat bogs.

### *Coenagrion mercuriale castellanii*

**Common name:** Southern damselfly

**Description:** small dragonfly active between April and August, 2.7 to 3.1 cm long and with 2.5 to 4.0 cm wingspan. It has a slim, bright light-blue body with black patterns.

**Distinctive features:** the specific term "mercuriale" derives from the Mercury (Greek-Roman mythological god) helm shape of the black pattern on its second abdominal segment.

**Habitat:** small sunny streams with rich vegetation that always have water.



## The actions



**Improvement of forest habitats** – Pruning, thinning, clearing and brush cutting interventions are carried out in order to prompt the best ecological conditions for the Hermit beetle and the *Rosalia longicorn*. Furthermore, for the benefit of *Rosalia longicorn*, in order to increase the availability of dead wood in a luminous beech-wood environment, we are carrying out interventions such as girdling and creating tripods and waste stacks of logs for the deposition of the eggs.



**Improvement of aquatic environments** – For the benefit of the Water beetle and the Southern damselfly, interventions are carried out on basins with lentic waters and small streams, removing part of the shrubs along the banks, to bring the sunlight into the riverbed, allowing the growth of the aquatic grasses that are essential for spawning.



**Monitoring** – Monitoring is necessary to understand the presence and distribution of the four target species and the conditions of their habitats in the regional territory. The results, by locating exactly where the populations of the species and the habitats are, permit the planning of specific restoration interventions for the conservation of the species. Monitoring will be repeated after the implementation of the interventions, thus making it possible to verify the effectiveness of the actions that were put in place to protect the species.

For the *Hermit Beetle*, tree cavities are created or deepened, and wood mould boxes (wooden boxes that simulate the cavities of old trees) are placed, useful to host the different phases of the species' biological cycle.

Photos by: Francesco Lemma (1, 2), Josef Hlasek (3), Roberto Fabbri (4, 5, 7, 13, 15), L. Fabbri (6), Margherita Norbiato (8), Fausto Minelli (9), Cristina Barbieri (10), Massimiliano Costa (11), Willy Reggioni (12, 14).



**Ex situ conservation** – The Hermit beetle is bred in three centres set up for the reproduction of the species. The larvae and adults produced are used to populate the wood mould boxes placed in nature or hollowed trees.



**Reintroduction in nature** – To encourage the expansion of the distribution areas of the saproxylic and aquatic insects (Hermit beetle, Water beetle and Southern damselfly) action is taken to reintroduce the species in suitable locations using specimens taken from healthy source populations or from established breeding centres. For example, to promote the expansion of the distribution areas of the Southern damselfly, specimens of this species are moved from sites where they are present to distant sites in need of repopulation or numerical increase, thus allowing a greater dispersion of the species.



**Raising awareness** – In order to promote a sustainable use of the forest, putting forest ecology and biodiversity at the core, we have planned meetings to inform the citizens and raise their awareness, training workshops aimed at people working in the silvicultural sector, and environmental education activities involving students from kindergarten to high school in the whole territory of the Emilia-Romagna Region.



**Volunteering** – Groups of volunteers work in the various protected areas alongside entomologists and technicians to acquire skills and support the various actions of the project.