The IUCN Red List of Threatened Species™ European Assessment Update – March 2010

Species Facts

What do butterflies, beetles and dragonflies have in common?

Butterflies, beetles and dragonflies play an important role in contributing to Europe's rich biodiversity. Through pollination, nutrient-cycling and pest control, respectively, they help to maintain vital balances within the ecosystems upon which we all depend.

Unfortunately, according to the IUCN Red List of Threatened Species™ - the world's most comprehensive information source on the global conservation status of animals and plants - all three taxonomic groups are considered to be in decline in Europe. Furthermore, recent analyses found that 9% of Europe's butterflies, 11% of its saproxylic beetles and 14% of its dragonflies are threatened with extinction.

There are 482 butterfly species in Europe, with the highest diversity being found in the mountainous areas of southern Europe, mainly the Pyrenees, the Alps and the Balkans. Butterflies go through three main stages of development – from caterpillar to chrysalis to adult – and have very different habitat requirements during each of these stages.

Saproxylic beetles depend upon decaying wood, particularly in forests, for their survival. These beetles play an important role in the decomposition and nutrient-cycling processes which occur in natural ecosystems, and many are also involved in pollination.

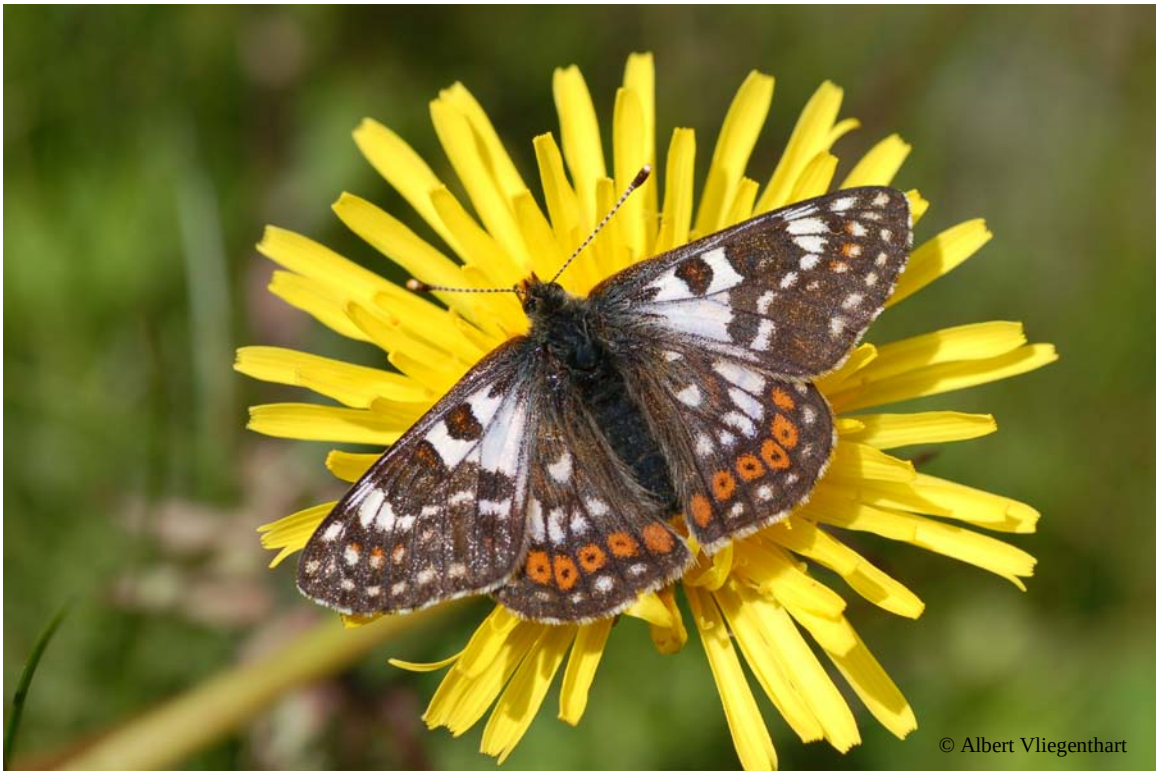
Dragonflies are relatively large insects, recognized for their striking colours and equilibristic flight. Most of them make their homes in freshwater environments, and thus serve as good indicators for environmental change both above and below the water's surface.

What is the main threat?

The main threat to all three groups of species is habitat loss, although climate change is set to become an increasing threat in the future. Europe has the most fragmented landscapes of all the continents and only a tiny fraction of land can be considered wilderness.

While these species have adapted to thrive in semi-natural conditions created and maintained by human activity, these habitats are under increasing pressure from agriculture, urban sprawl, over-abstraction of water, unsustainable forest management, tourism, land abandonment, logging and forest fires. Butterflies and dragonflies have a particularly high number of threatened species in southern Europe, whilst beetles are most threatened in central and eastern Europe.

The European Red List is a review of the conservation status of approximately 6,000 European species, which aims to classify species according to their extinction risk within Europe, so that conservation action can be taken to improve their status.



Examples of the species under threat

Scarce Large Blue (*Phengaris teleius*) (Vulnerable)

The Scarce Large Blue butterfly has an unusual obligate relationship with ants. After feeding on the heads of flowers, the larvae drop to the ground and wait to be picked up by worker ants. The ants carry them to their nests, where the larvae feed on ant grubs and get shelter for hibernation and pupation. Once a larva metamorphoses into an adult butterfly, it lives in meadows. However, changes in agricultural management, including drainage, intensification and abandonment, have modified its natural environment, thus threatening its survival. As a result, its population has declined by up to 30% in some European countries.

Violet Click Beetle *(Limoniscus violaceous)* (Endangered)

The Violet Click Beetle is dependent upon dead wood for its survival and can typically be found in cavities of old trees. Its larvae usually develop in wood mould derived from fungal decay in the base of hollow trees, in sites such as ancient forests and old coppiced woodlands. Poor forest management of old trees has led to the decline of this species in many countries and it currently has a fragmented distribution across Europe. Among the key actions to preserve this species are the conservation of old-growth trees and the protection of sites where it is known to occur. The preservation of traditional coppicing and the provision of substitute habitat by creating trees with cavities is also important in order to maintain these beetle populations. This species is listed on Annex II of the EU Habitats Directive.

Bulgarian Emerald (*Somatochlora borisi*) (Vulnerable)

The Bulgarian Emerald dragonfly was only discovered in 2001. Its adult population size is estimated to be less than 10,000 individuals, and this number is expected to decrease. The Bulgarian Emerald is endemic to the Eastern Balkans - it occurs only in the area across Bulgaria, Turkey and Greece, and nowhere else in the world. Its main habitat is in forested rivers. However, bad forest management, such as intensive conifer plantations, is contributing to its decline. Traditional extensive rearing of goats and sheep is also a potential threat, as this activity results in large areas of cleared land which are not suitable for the Bulgarian Emerald. Among the necessary measures for the conservation of this species are the removal of conifer plantations and the restoration of riparian forests.