

# EUROPEAN RED LIST OF AMPHIBIANS

## Appenine Yellow-bellied Toad (*Bombina pachypus*)

November 2011



The Appenine Yellow-bellied Toad (*Bombina pachypus*) is endemic to Italy, where it occurs south of the Po Valley, through the Appenine region, south to the southern tip of the Italian mainland. It was formerly common, however, the species has declined in almost all of its range (with the exception of Calabria, where populations remain stable) over the last ten years.

This species occurs in both terrestrial and freshwater habitats and is commonly found in unshaded pools in forests and open areas, including pools formed in ditches, irrigation areas, farmland, or pasture land.

Threats to this species are presumed to largely include loss and fragmentation of wetland habitat to drainage for intensive agricultural purposes. This species is protected under international laws. It is listed on Appendix II of the Bern Convention and Annex II and IV of the EU Habitats Directive.

It is listed as Endangered according to the IUCN Red List Categories and Criteria on the basis of rapid recent population declines, suspected to have been caused by the fungal disease chytridiomycosis.

# EUROPEAN RED LIST OF AMPHIBIANS

## Common Toad (*Bufo bufo*)

November 2011



The Common Toad (*Bufo bufo*) is a widespread species in Europe. It is generally common and, adaptable and has been recorded from coniferous, mixed and deciduous forests, groves, bushlands, meadows, arid areas, parks and gardens.

There are generally no major threats to this species. Populations might be locally impacted through deforestation, drainage of wetlands, pollution, agricultural intensification, urbanization, desertification and mortality on roads (migrating animals). Chytridiomycosis is a potential threat to the species and has been reported in some Spanish and UK populations.

It is listed on Appendix III of the Bern Convention and is protected by national and sub-national legislation in many countries. It is recorded on many national and sub-national Red Data books and lists.

In parts of this species range, mitigation measures to reduce road kill have been established.

This species is listed as Least Concern in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF BEETLES

## *Osmoderma cristinae*

November 2011



This beetle is only known from northern Sicily, Italy. It is an obligate saproxylic species, which depends on rotten wood for its survival.

It is restricted to veteran trees, so any activity which destroys these trees (e.g., cutting down avenues) is strongly detrimental to these beetles.

The main overall threat is decreasing habitat quality involving structural changes in the tree populations arising from changing land use.

Exploitation from forestry is often a key immediate issue, but equally damaging can be long-term changes towards canopy closure and loss of ancient trees as a result of non- or minimum-

intervention management systems which all too often exclude grazing by large herbivores.

Fragmentation and increasing isolation of beetle populations are also key factors. The restricted area of occupancy combines limited population size with reduced habitat availability, bird predation, fires, and frequently unsuitable local techniques of forest management.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF BEETLES

## Violet Click Beetle (*Limoniscus violaceus*)

November 2011



This central European species is known to have a discontinuous distribution across the entirety of Europe except for the outer-most southern and northern areas.

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.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF BUTTERFLIES

## Scarce Large Blue (*Phengaris teleius*)

November 2011



The Scarce Large Blue butterfly occurs in widely scattered populations in Central Europe: in France, north of Switzerland, north of Italy, south and central Germany, south of Poland, Czech Republic, Austria, Hungary and further eastwards to Mongolia, Korea and Japan.

It 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.

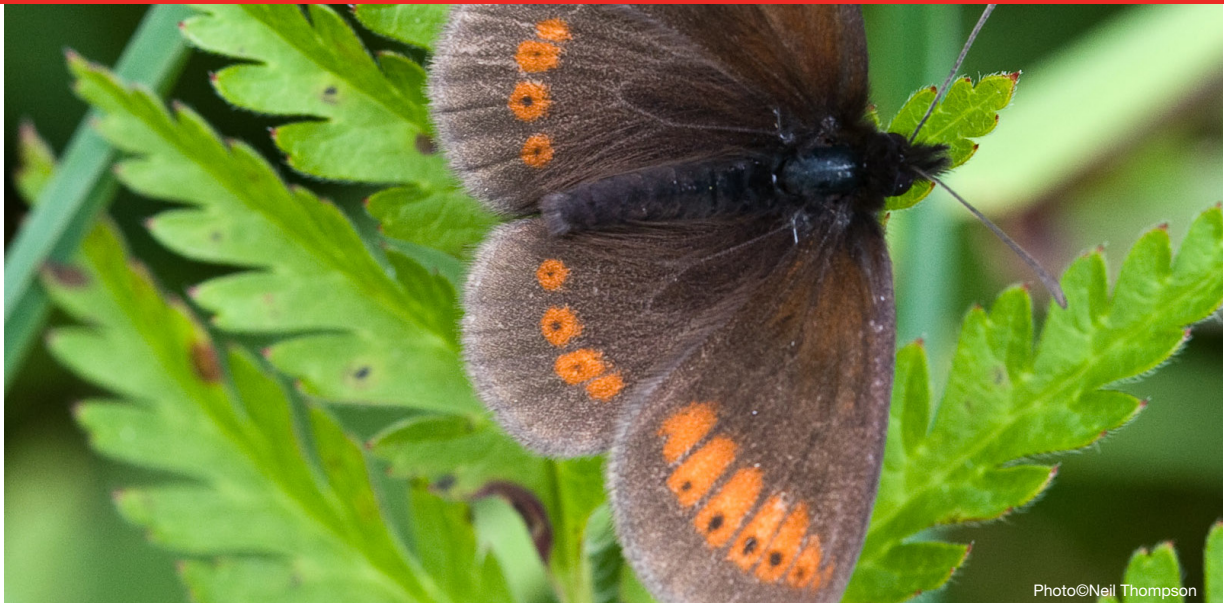
As a result, its population has declined by up to 30% in some European countries.

This species is listed as Vulnerable in Europe, according to the IUCN Red List Categories and Criteria

# EUROPEAN RED LIST OF BUTTERFLIES

## Sudeten Ringlet Butterfly (*Erebia sudetica*)

November 2011



This species is endemic to Europe and has a fragmented distribution with small populations occurring in alpine and sub-alpine grasslands in France (Massif Central and the Alps), Switzerland (Grindelwald), Czech Republic (Sudeten) and Romania (in the Carpathians).

It is reported as extinct in Poland, but further surveys are required to confirm this. Changing land use, particularly intensified grazing and abandonment, is affecting the quality of available habitat for this butterfly.

The future effects of climate change may also be a problem for this species, although further research is needed to support this. The species is protected under the EU Habitats Directive and Bern Convention.

This species is listed as Vulnerable in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF DRAGONFLIES

## Bulgarian Emerald (*Somatochlora borisi*)

November 2011



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.

This species is listed as Vulnerable in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF DRAGONFLIES

## Greek Red Damsel (*Pyrrhosoma elisabethae*)

November 2011



This damselfly is endemic to the southern Balkans, where it is known from eight sites in Peloponnese, Kérkira and southern Albania, and from one record from northwest Greece.

The species appears to occur mainly in brooks and sometimes in rivers with abundant vegetation. It is likely that it cannot survive in habitats that dry out during hot summers.

The management of such habitats in Albania and Greece is very poor. In many cases these are destroyed for irrigation purposes and concrete channels are often built to replace brooks.

Further threats to this damselfly are water pollution and intensive wetland management (e.g., the clearing of all river vegetation).

In recent years climate change has become one of the main threats and during recent hot and dry summers several brooks in Greece have dried out.

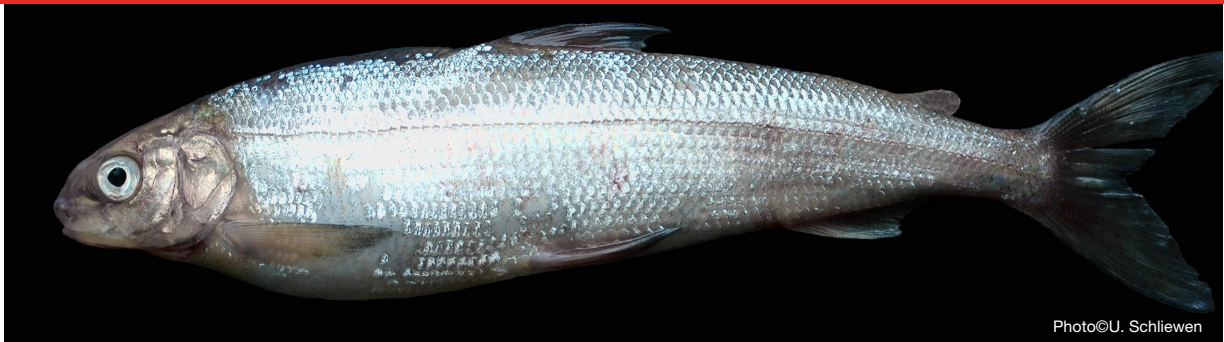
This species is listed as Critically Endangered in Europe, according to the IUCN Red List Categories and Criteria.



# EUROPEAN RED LIST OF FRESHWATER FISHES

## Ammerseekilch (*Coregonus bavaricus*)

November 2011



*Coregonus bavaricus* is endemic to the subalpine lake Ammersee in the south of Germany. It is one of many species of whitefish that are endemic to one or few lakes in Europe.

It is a small sized, deepwater and bottom dwelling species, similar to those that were previously or are still known to occur in Lake Bourget (*C. bezola*; Extinct), Lake Geneva (*C. hiemalis*; Extinct), Lake Thun (*C. alpinus*; Least Concern) and Lake Constance (*C. gutturosus*; Extinct).

In several other lakes, as yet undescribed species of this group are suspected to exist.

In the Danube drainage, to which Lake Ammersee belongs, *Coregonus bavaricus* is unique in being a summer spawner, while most other whitefish reproduce in autumn.

More than 100 years ago, *C. bavaricus* was a species of commercial importance; today, only one or two individuals are caught each year.

The species is obviously still suffering from the regulation of the inflow of the river Ammer into the lake and from high nutrient levels.

However the species has survived the historic pollution peaks which led to the extinction or hybridization of various other *Coregonus* species of subalpine lakes. Besides *C. bavaricus*, Ammersee holds two other endemic species, a deepwater charr (*Salvelinus evasus*) and a perch (*Gymnocephalus ambriaelacus*). Currently, none of these species receives any attention or protection through legislation or fisheries management.

The Ammerseekilch is listed as Critically Endangered according to the IUCN Red List Categories and Criteria as it is restricted to one site only. It is protected under Annex V of the Habitats Directive and Annex III of the Bern Convention.

# EUROPEAN RED LIST OF FRESHWATER FISHES

## Lez Sculpin (*Cottus petiti*)

November 2011



This little, dull species is one of several freshwater fishes endemic to southern France. Its natural occurrence is limited to the headwaters of the Lez, close to the city of Montpellier.

It is one of numerous Mediterranean local endemics that make this region such a biodiversity hotspot for freshwater fishes. The Lez is fed by a large resurgence draining a karstic plateau.

Water pollution and the introduction of the related *Cottus gobio* are the major threats to this species.

Drinking water for Montpellier is extracted in large amounts from the sources of the Lez and there have been plans to take all the water from the Lez, which would have led to the extinction of this species.

While there has been some debate about its taxonomic distinctiveness, *Cottus petiti* is well distinguished by morphology from the more widespread *C. gobio* and even shows some unique behaviour and reproductive strategies. Due to the fact that this species also matures faster and reaches only a small size, it has recently found its way into the laboratories of evolutionary biologists as a model species.

The Lez Sculpin is listed as Vulnerable according to the IUCN Red List Categories and Criteria as it has a very restricted range. This species is protected under Annex II of the Habitats Directive.

# EUROPEAN RED LIST OF MAMMALS

## Iberian Lynx (*Lynx pardinus*)

November 2011



The Iberian lynx is a specialised predator - rabbits account for at least 80% of its diet - that occurs in Mediterranean woodland and maquis thicket in Portugal and Spain.

The lynx's highly specialised diet makes it a naturally vulnerable species and the rapid decline in rabbit populations since the 1950s has had a direct impact on lynx numbers.

However the combined effects of habitat loss and persecution since the 1950's have also had a major impact on populations.

New infrastructure projects continued to fragment lynx populations and created new barriers in corridor areas between the remaining populations in the 1960s. More than forty separate lynx

populations in Spain and Portugal appear to have collapsed since the early 1980s.

With only two viable breeding populations in isolated locations in Spain, this species is now the world's most endangered cat species. Currently the total population is estimated between 84 – 143 individuals.

Although already the target of many conservation efforts, without increased action, this species is likely to go extinct in the wild.

This species is listed as Critically Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF MAMMALS

## European Mink (*Mustela lutreola*)

November 2011



The European Mink was formally widely distributed throughout Europe, extending from Northern Spain in the West to the Urals in the East.

However, over the last 150 years it has severely declined and been extirpated or greatly reduced over most of its former range.

The current range includes an isolated population in Northern Spain and Western France, which is widely separated from the main range in Eastern Europe.

European Mink have specialised habitat requirements. They are semi-aquatic, inhabiting

densely vegetated banks of lakeshores, rivers, streams and marshlands, and are rarely found more than 100 meters away from freshwater.

Habitat destruction and degradation have had serious impacts on the species as has competition with American Mink.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF NON-MARINE MOLLUSCS

## *Chapa (Iberus gualtieranus)*

November 2011

The Chapa (*Iberus gualtieranus*) is endemic to the south of Spain, where it is greatly appreciated as food.

It is a calcicolous, drought tolerant and thermophilic species living in limestone mountain areas of rocky substrate and sun exposure sub-desert environments with sparse vegetation.

Wildfires, urbanisation and agricultural development led to the loss of important parts of its habitat.

Since 2005, a Conservation Plan has been developed within the Programme for Conservation and Sustainable Use of Land Snails of Andalusia and successful captive breeding has been set up.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.



# EUROPEAN RED LIST OF NON-MARINE MOLLUSCS

## Spengler's Freshwater Mussel (*Margaritifera auricularia*)

November 2011



The Spengler's Freshwater Mussel was originally widespread throughout Europe, but nowadays it is restricted to France and Spain.

It is difficult to survey, as the species occurs in beds of the slow-flowing channels of large river systems. Survey work in France and Spain, has increased the known sites in the last 10 years, but as a long-lived species that requires unpolluted waters as well as a host fish during part of its life-cycle, it is still highly threatened.

The major threats are construction of dams on the rivers, dredging of the river channels for navigation, water pollution and the decline of host fish populations, as well as the loss of migrating fish passing over the mussel beds.

The species is one of two, for which a European-level Action Plan was written, and there are active conservation programmes ongoing in Spain and France, with ex-situ conservation breeding, as well as experiments to determine suitable fish hosts and levels of tolerance to pollution.

In the 1980's it was considered to be nearly extinct.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF VASCULAR PLANTS

## *Beta patula*

November 2011

*Beta patula* is endemic to two small islets in the Madeira archipelago and is threatened by invasive alien species, grazing by introduced animals and an increasing seagull population. This species is closely related to beet crops and an important source of virus resistance genes.

Due to its very narrow range, fragmented population and continuing decrease in the quality of its habitat, it is listed as Critically Endangered in Europe and globally according to the IUCN Red List Categories and Criteria. *Beta patula* is endemic to two small, uninhabited islets in the Madeira archipelago—Ilhéu do Desembarcadouro and Ilhéu Chão—where it grows in dry, rocky places by the sea.

It is threatened by invasive alien plant species, grazing by introduced animals, particularly rabbits, and an increase in the seagull population.

This inconspicuous plant holds hidden riches because it contains virus resistance genes and is one of a handful of species closely related to beet crops that can relatively easily be used in crop breeding. It may therefore be critical for improving highly economically important crops such as sugar beet, particularly to adapt them to grow in new environmental conditions brought about by climate change.

*Beta patula* is listed in Annex II of the EU Habitats Directive and the islets on which it occurs are part of the Parque Natural da Madeira (PNM) which is designated as a Special Area of Conservation (SAC) and Special Protected Area (SPA) under the Birds and Habitats Directives. However, special



management measures are needed to ensure the survival of this species and the development and implementation of a species action plan has been recommended.

Ten wild relatives of cultivated beets (including leaf, garden, fodder and sugar beet groups) occur in Europe and all are known to have potential for crop improvement for example, to confer genes for disease resistance and tolerance of extreme environmental conditions such as drought and salinity. It is therefore alarming that half of these species are threatened with extinction given the significance of these crops to the European economy. Conservation in their natural habitats, combined with storage in ex situ gene banks is essential in order to preserve genes that are constantly adapting to a changing environment and to provide access to plant material for research and crop improvement.

# EUROPEAN RED LIST OF VASCULAR PLANTS

## *Marsilea batardae*

November 2011

Trébol de Cuatro Hojas (*Marsilea batardae*) is a small, aquatic fern endemic to the Iberian Peninsula where it has a limited range in the basins of the rivers Tejo, Sado, Guadiana and Guadalquivir. Its distribution is fragmented and exchange of spores between different populations appears to be very limited. In the past, it is suspected that genetic exchange occurred through traditional stock movement (in Spanish «trashumancia»), when sheep were moved to high pastures in spring and returned to the lowlands for the winter. This kind of stock movement is no longer practised.

This plant is a perennial growing at low altitudes, forming creeping strands and mats on clays and sands among gravel and bedrock outcrops in the bed and margins of streams and rivers. It is most frequent in the side-channels of rivers which flow strongly in the winter, breaking up into pools in spring before eventually drying out in mid-summer.

It is threatened by a number of aspects of the general destruction and degradation of water bodies. Construction of dams can submerge populations at depths which they cannot tolerate, as well as physically damaging the rocky ground supporting populations, embankment, channelisation and deepening of streams can destroy important seasonal channels or isolate them from the rivers so that they no longer flood and pollution can favour more aggressive wetland plant species which shade out or simply out-compete *M. batardae*. Populations may also be threatened by the destruction of ponds or their



modification to provide drinking water for stock throughout the year. Equally, some populations may be threatened by increased silt deposition due to increased erosion in river catchments.

*Marsilea batardae* is listed as Endangered according to the IUCN Red List Categories and Criteria as it has a very restricted range which continues to decline along with the quality of its habitat and the number of individual plants. This species is protected under Annexes II and IV of the Habitats Directive and under Appendix I of the Bern Convention. In Spain it is furthermore protected at regional level and in Portugal at national level. *Marsilea batardae* is included in the seed bank project for the flora affected by the Alqueva dam.



# EUROPEAN RED LIST OF REPTILES

## Carpetane Rock Lizard (*Iberolacerta cyreni*)

November 2011



The Carpetane Rock Lizard (*Iberolacerta cyreni*) is endemic to the central mountain system of Spain in the Sierra de Bejar, Sierra de Gredos, La Serrota and Sierra del Guadarrama.

It is a montane species found close to the tree line in damp, rocky habitats. The females lay a clutch of three to ten eggs once or twice a year.

It is a reasonably common species in several areas. Its populations are highly fragmented and are threatened by habitat loss, especially due to the construction of ski resorts and roads. It might also be adversely affected in future by climate change.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.

# EUROPEAN RED LIST OF REPTILES

## Milos Viper (*Macrovipera schweizeri*)

November 2011



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The Milos Viper (*Macrovipera schweizeri*) is endemic to the western Cyclade Islands (Milos, Syphnos, Kimolos and Polyaiagos) of Greece. It is found in the highest point on the islands. The population probably totals around 3,000 individuals, with about 2,500 of these on western Milos Island.

Animals can be encountered throughout the islands on dry, sunny hillsides and in traditionally cultivated land, in densely vegetated areas close to water with rocky outcrops, and also in pools of water. Its most important habitat is small creeks. The female lays a clutch of between four and 11 eggs.

The population is now more or less stable, but over the last 30-40 years there have been significant declines as a result of collecting and road kills.

It is threatened by illegal collection of animals, direct persecution when encountered, accidental mortality on roads and ongoing habitat loss through mining

and quarrying concessions. These threats are still ongoing, but at a lower level than before as a result of regulation and conservation measures. Fires set by people and the development of its range for tourism are important emerging threats.

It is listed on Appendix II of the Bern Convention and is protected by national legislation. The entire island of Polyaiagos is protected and southern Milos is also protected by the European network of protected areas. The species has been monitored for many years. Snake tunnels under roads have been constructed at four sites, and more are planned; studies have showed that these are an effective method to reduce road kills in this species. Agreements have been reached with the local mining company to reduce road traffic, especially at night when the snakes are most active.

This species is listed as Endangered in Europe, according to the IUCN Red List Categories and Criteria.