Lebendige Moselweinberge

DISCOVER THE DIVERSITY ALONG THE MOSELLE









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FOREWORD

Things are quite lively on the steep slopes of the Moselle wine-growing region.

The sun hits the dark slate floor almost vertically and heats up not only the vines but also the animals and plants there. However, the warmth and dryness can cause problems for many organisms, which is why a special kind of flora and fauna has established itself in the vineyards, one that has been able to adapt to the extreme conditions there. No wonder, therefore, that the spectrum of species has an almost Mediterranean feel to it and is, for that reason, of a kind rarely seen in Germany.

This memory card game enables you to playfully learn about wall lizards, white stonecrop, etc. All the photos were taken in the local vineyards in the habitats concerned. So, with a bit of patience and luck, you will be able to track down all the plants and animals in the Moselle region yourself. Patience and intuition are also required when you play memory. It's not just the winner who reaps the reward, though, but also all those who are then able to recognise the Jersey tiger or the blue-winged grasshopper in the vineyard. Experiencing the landscape is twice as much fun then.

This accompanying brochure provides you with some exciting information on the 16 animal and plant species. If you would like to learn more about the world of the Living Moselle Vineyards, take a look at the home page www.lebendige-moselweinberge.de. But the best thing to do is to visit the vineyards on the impressive steep slopes themselves. We recommend you do so under the expert guidance of one of the roughly 150 trained nature experience guides.

Have fun!

THE VINEYARD AS A HABITAT

Foto: Sabine Bergmann

The vineyard is more than just a place where vines grow in rows on wire frames. On the steep slopes of the Moselle wine-growing region, it is mainly the vineyard walls, rocks and embankments that enrich the habitat, but also grass margins, vine row plantings, shrubs of dry sites and forest borders. All of this is characterised by the almost perpendicular rays of sun, which generate a lot of heat on the surface of the Moselle slopes. But there is very little water. At best, the elixir of life flows in the deeply incised tributary valleys of the major rivers, which round off the vineyard as a habitat.

In addition to the diverse biotopes, there are also various kinds of bedrock. Limestone is found on the Upper Moselle region and clay slate and greywacke in large parts of the Middle and Lower Moselle area, interspersed with rhyolite, sandstone, loess deposits and river gravel. There are also the characteristic Moselle meanders, which mean that the amount of sun exposure on the slopes is constantly changing. The meanders also create very different forms of terrain with undercut banks and slip-off slopes.

This wealth of diversity as regards site factors and biotope structures provides a habitat for numerous plants and animals. As the Moselle region is also characterised by heat and drought, you can often find thermophilic species at their northern limit of distribution here. This makes them rare for Germany and particularly worthy of protection. This is one reason why a ramble through the flora and fauna of the Moselle vineyards is a special experience.

Photo: S. v. Schuckmann-Karp

COMMON WALL LIZARD

Podarcis muralis

The poikilothermic wall lizard is a relatively small family member of the true lizards with an average length (excluding tail) of 7.5 cm and a total length (including tail) of about 20 cm. The inconspicuous brown-grey patterned mini-dinosaur weighing about 8 g likes to sunbathe on old vineyard walls, peeks out cheekily from wall crevices and scurries briskly over vertical rock walls of slate warmed by the rays of the sun.

Structurally rich rocks and dry stone walls of cultural and historical value, which typify the terraced viticulture of the Moselle vineyards, provide the perfect habitat for the lizard and have fostered its spread along the Moselle over the centuries. Species-rich strips of flower with numerous insects always ensure a feast for the bustling reptile.

So it doesn't become a meal itself, the wall lizard can shed part of its long tail to confuse its attacker and quickly go into hiding. Behind the predetermined breaking point, the tail grows back again – only shorter.

Photo: Daniel Müller

WESTERN GREEN LIZARD

Lacerta bilineata

With an average length (excluding tail) of up to 13 cm and a total length (including tail) of up to 40 cm, the western green lizard is the largest lizard species in Germany – and the most thermophilic. It is unmistakable thanks to the bright emerald to dark green colouring of its back with dark dots and spots. Males can also be recognised by their blue throat during the mating season.

The Lower Moselle region offers these animals a suitable habitat due to its open sun-exposed and scree-covered slopes. With a total of 19 documented occurrences, this is by far the most important and probably still „intact“ population in Germany.

In the “Red List of Threatened Species”, the shy, diurnal beauty is classified as “threatened with extinction” and is one of the rarest reptiles in Germany. The animals should, therefore, not be disturbed. In just three months, the creatures have to build up enough energy reserves for their long hibernation – especially the young ones facing their first winter.

Photo: Sabine Bergmann

ROCK BUNTING

Emberiza cia

The roughly 15 cm tall songbird represents the intact steep slopes of the viticultural landscape in the Moselle valley like no other. With its maroon, black-striped dorsal plumage and light-grey head with its fine black lines, the rock bunting is a discreet beauty. Its breast and belly plumage are grey and rusty brown in colour.

It loves the warm areas of the steep slopes. In the mating and breeding season, it uses vineyard poles as raised lookout perches. In the shelter of the rocks and dry stone walls of the vineyards, it builds its nest in recesses and crevices behind dense vegetation. The semi-open landscapes with their short-grassed vegetation of rocky outcrops and flower strips offer the rock bunting plenty of food.

This strictly protected bird species that is included in the “Red List” is mainly distributed along the Moselle. About half of the only 300 to 500 breeding pairs across Germany live here! If viticulture on the steep slopes continues to decline, this will make it hard for the rock bunting to survive.

ROMAN SNAIL

Helix pomatia

Everyone is familiar with them. Adult Roman snails can grow up to 10 cm long and weigh about 30 g. It is the largest native land snail. Its shell, which can be up to 5 cm in size and comes in various shades of brown, has transverse grooves. The snail shell normally spirals in a clockwise direction. Only about one out of 20,000 specimens spirals anticlockwise. These sinistral specimens are called “snail kings”.

This royal specimen and its subjects prefer their habitat to be on the shady and humid side, which, at first sight, is not really compatible with the sun-drenched vines. However, the molluscs still find places to their liking – especially in the richly structured vineyard terraces. If it does get too dry in summer, they go into aestivation and remain dry and rigid in their sealed-off shell. In winter, they bury themselves in the ground and likewise seal off their housing with a calcareous plug.

The rasping tongue the snail uses to graze on wilted plants and algae coatings has 40,000 tiny teeth. Another figure is not quite as impressive: the snail can reach speeds of up to 400 m per hour. Roman snails are a protected species and may not be caught or killed.

Photo: DLR Mosel

Photo: Daniel Müller

MOSELLE APOLLO BUTTERFLY

Parnassius apollo vinningensis

The wingspan of this rare hawk moth can attain a length of 6 cm to 9 cm. Its light and bright white wings and bright red eye spots make it unmistakable. It is a subspecies of the Apollo butterfly, which only occurs in three other areas of Germany outside the Alps. It is considered to be the epitome of endangered butterfly species and enjoys the highest level of legal protection.

The heat-loving little god finds ideal living conditions on the extensive rock biotopes of the Lower Moselle region. It can be observed from June to August when flying over slate-grey strips of rock and vineyard walls, especially between Bremm (Calmont region) and Winningen.

The Moselle Apollo butterfly depends on the white stonecrop for its food. On the Moselle, the black caterpillars with the typical orange dotted rows like to eat nothing else. In turn, the stonecrop needs sunny rocks and walls. Without viniculture on the Moselle terraces, which are so valuable in terms of cultural history, walls and rocks often become overgrown – and the sun-loving stonecrop and Moselle Apollo butterfly then disappear.


Photo: Carsten Neß

SCARCE SWALLOWTAIL

Iphiclides podalirius

With a wingspan of about 7 cm and a total length of 4.5 cm, the scarce swallowtail is one of Europe's largest and most beautiful butterflies. At the outer edge of its „wing tails", there are three blue eye spots in a black band. On the inner edge of the hind wings, there is an oblong orange spot. Black and beige stripes put one in mind of a zebra.

Like Apollo butterflies and swallowtails, other relatives in the Papilionoidea superfamily, it woos its chosen beloved in a courtship flight over rocky mountain tops, attacking rivals and even small birds while doing so. The scarce swallowtail can glide over the richly structured vineyards for minutes without flapping its wings, covering great distances in the process.

Threatened with extinction in Rhineland-Palatinate, it finds one of its last retreats in the Middle and Lower Moselle regions. A network of habitats made possible by the climate-friendly Moselle valley is essential for its survival. Along with the rock bunting and the wall lizard, the scarce swallowtail is one of the indicator species of intact vineyards.

Photo: Daniel Müller

JERSEY TIGER

Euplagia quadripunctaria

The black-blue forewings with white or yellowish stripes contrast with the conspicuous orange, black-and-blue spotted hind wings, which act as a warning. They reach a wingspan of about 5 cm.

It loves rocky valleys and slopes, the banks of rivers and streams and has, therefore, been locally numerous in the Moselle region for many years. During the flying season from June to August, it can often be seen in the wine-growing area, but, fortunately, it is still regarded as a protected species.

The German names for it of "Russian bear" or "Spanish flag" are not the only confusing thing about the creature: there is also the fact that the rather large moth is actually active during the day. With its well-developed proboscis, it sucks the nectar from the flowers along the vineyards. Nevertheless, it also becomes lively at night – when mating.

BLUE-WINGED GRASSHOPPER

Oedipoda caerulescens

The blue-winged grasshopper is a master of adaptation. In each of its five larval stages, it can adapt its body colouring to fit in with its immediate environment. Males are just 1 to 2 cm tall – smaller than the females, which can grow up to 3 cm tall. On the greyish Moselle slopes, their basic colour varies from light to dark grey. Their narrow forewings are patterned grey-brown with two to three transverse bands.

Often, the grasshopper remains motionless on the warming, stony ground, even if you get very close to it. But suddenly it makes a powerful leap, during which it can fly 10 metres – even 20 if they are going downhill. When jumping, it reveals its hind wings, which shine a bright light blue.

The heat-loving short-horned grasshopper feels very much at home in the wine-growing region of the Moselle, where it feeds mainly on weeds, mosses and algae. The red-winged grasshopper is also regularly found in the Lower Moselle. It is also specially protected and, thanks to climate change, has been able to spread slowly upstream on the sun-exposed areas.

Photo: DLR Mosel


Foto: Theo Haarf

EUROPEAN ORCHARD BEE

Osmia cornuta

Like all mason bees, it lives a solitary life, so does not form colonies. It is one of the most striking wild bees of the spring. Many wild and agricultural plants depend on it as a pollinator.

While the bodies of the bumble-bee-like females are black with a rust-red furred abdomen, one can easily recognise the somewhat smaller males by their white facial hair. Only the females have two small horns tucked away between the hairs on their forehead.

Nature lovers are fascinated by the peaceable little bee's ingenious system for nest building. It uses cavities in cracks in walls and in holes in plaster to store food for its larvae. It also makes willing use of artificial nesting aids.

The species is not fussy when it comes to supplying itself with nectar or selecting the sources of pollen to supply its brood. The rocky slopes and steep walls of the wine-growing landscape, but especially the flower strips and dry walls of the Moselle terraces, offer good living conditions for this industrious wild bee.


Photo: Carsten Neß

WILD TEASEL WITH LARGE EARTH BUMBLE BEE

Dipsacus sylvestris / Bombus terrestris

Wild teasel reaches heights of up to 1.50 metres. In order to ward off predators, the whole plant is covered with pointed spines. This, however, is also a clever strategy for spreading its seeds. When passing by, larger mammals get hooked on the plant, bending it far back. On the one hand, the nut-like fruits stick to the animals; on the other, the recoil of the plant catapults them metres away from it.

From July to August, its tubular purple petals are abundantly covered with insects. They seem to hold a special attraction for bumblebees.

Above all, the up to 10 mm large earth bumblebee is a frequent guest. It needs a lot of energy and a lot of such flowering plants in its environment to care for its brood. It digs its nest up to one and a half metres deep into the ground. The bee can be recognised by its broad, golden yellow stripe on the chest and white-tipped abdomen.

WHITE STONECROP

Sedum album

The white stonecrop on the Moselle terraces provides a varied play of colours. During the summer months, its pink-and-white flowers with the red dots shine like small five-pointed stars at the top of their 10-20 cm high stems. The thick fleshy leaves act as water reservoirs and are sometimes red, sometimes green. But why?

White stonecrop can grow almost without any soil on rocks and stones, i.e. in extreme locations with direct sunlight. The red plant pigment anthocyanin acts as a protective shield. In periods of less stress, chlorophyll dominates and photosynthesis can go ahead at full speed.

Stonecrop has developed a further strategy to cope with heat and drought. The CO_2 needed for photosynthesis is absorbed during the night and stored in the form of malic acid. During daylight, the CO_2 is released again within the plant. By doing this, the stomata can stay closed during the day and no water is lost through transpiration.

This perfect adaptation to the habitat of the Moselle vineyard also enables the rare Moselle Apollo butterfly to live. As its only food plant, white stonecrop of great importance in ensuring its survival.

Photo: DLR Mosel

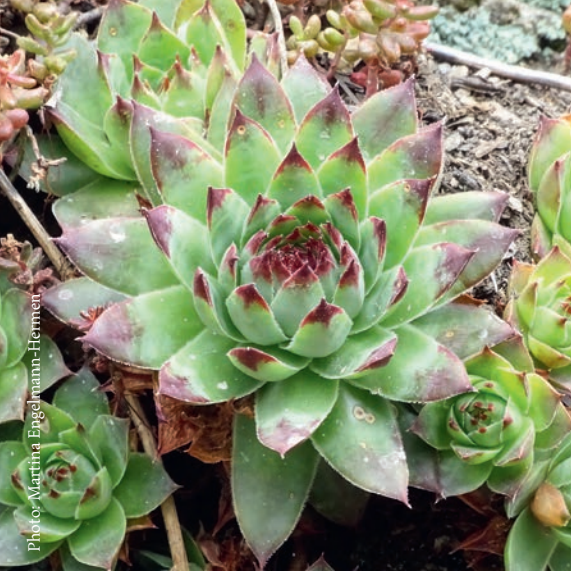

Photo: Martina Engelmann-Hermen

COMMON HOUSELEEK

Sempervivum tectorum

The common houseleek is a master of survival in the rocky landscape of the Moselle. It grows in open rosettes 5 to 7 cm in diameter. Its flowering shoots reach a height of 20 cm to 60 cm and bear up to 100 individual flowers. It flowers from July to September, mainly in rock and wall crevices.

Undemanding and resistant to drought and frost, this houseleek reproduces in the simplest of circumstances. If a rosette detaches itself, the offset rolls downhill a bit, stays there and takes root.

In the pink flower umbels, tiny seeds ripen in capsules, which the wind then spreads like balloons.

As a medicinal plant, the crassulaceous plant has helped people in many different ways. But since ancient times, the houseleek has also been cultivated as a magical and ornamental plant on roofs to protect against lightning. However, their occurrence in the Moselle valley is not caused by man, but is quite natural as the plants that grow there are at the northern edge of their distribution area.

Photo: DLR Mosel

VIPER'S BUGLOSS

Echium vulgare

Viper's bugloss is a constant representative of the typical vineyard flora. Its long inflorescence, or flower cluster, is striking and can make up half of the plant, which can reach a height of up to one metre. Initially of a pink to violet colour, the flowers later turn sky blue, sometimes even white. Their beautiful, detailed shape is reminiscent of the head of a viper with a forked tongue.

Between May and October, it is one of the most important sources of nectar for insects in the vineyard. Among the butterflies, the swallowtail and Jersey tiger fly to the flowers, but wild bees are also frequent guests. As a predatory plant, it has firm bristles on its stems and leaves, protecting it from evaporation and being eaten. Moreover, water vapour condenses on them and provides the plant with additional moisture – which is important in its mostly dry, very sunny habitats.

Wherever vegetation is allowed to grow at the edge of the vineyards, that is where you will find the viper's bugloss. A pioneer plant of flower strips, the land bordering paths and fallow land, it requires well-drained, open soil in which it can gain a foothold with its taproot, which can reach up to 2 m in depth.


Photo: DLR Mosel

CARTHUSIAN PINK

Dianthus carthusianorum

Its bright pink flowers can hardly be overlooked in the green grass along the edges of the vineyard. They display the typical structure of so-called "butterfly flowers": an upright stem, a bright purple-red colouring, a narrow tube-like structure and nectar that is deeply tucked away. This is what the butterflies with their long proboscises look for.

The perennial herbaceous Carthusian pink can grow to a height of 15 cm to 45 cm. It flowers from July to September, sometimes even in October if it's warm. It grows all over the Moselle region where there are rocks or dry, sparse grasslands. As a heat indicator, it shows that the steep slopes with their favourable climate are highly suitable for viticulture.

Apparently, the plant was a standard part of many monastery gardens. Its name is based on the Carthusian order founded in the French Chartreuse Mountains.

All parts of the plant contain the essential oil eugenol and soapy ingredients. Monks and nuns used liquid preparations made from Carthusian pinks to cure toothache, muscle pain and rheumatism.

Photo: Carsten Neß

LATE SPIDER ORCHID

Ophrys holoserica

The slender, vigorously growing plant with narrow elliptical leaves is a master of deception. This orchid uses a sophisticated seduction technique to attract pollinating insects. The lip of its flower emits sexual scents and looks like a deceptively genuine imitation of a female bumblebee, even going so far as to have animal-like hairs. During the supposed love affair, the amorous male tries to mate with the flower and a lot of pollen becomes attached to it, which it then carries to the next plant.

The late spider orchid feels very much at home on warm, moderately dry rough pastures and semi-dry grasslands, as well as on bushy slopes. However, this subtle beauty thrives particularly well on calcareous soils, such as those found in the Upper Moselle region.

The creation of flower strips and the maintenance of chalk heaths help to protect rare plants, because this also encourages insects to act as their pollinators.

RED VINEYARD PEACH

Prunus persica

The peach loves the sun. No wonder that the 3 m to 4 m high, finely branched tree not only feels at home in Spain and Italy, but also on the Moselle. In spring, the red vineyard peach provides pink splashes of colour in the vineyards and offers some initial food for bees and butterflies.

For centuries, people have nurtured and cared for it. Its tasty red fruits in particular – used to make jams and compote, fruit brandies and liqueurs – are a welcome delicacy from September onwards.

For ecological reasons and because it is so typical for the Moselle, the red vineyard peach is also popular with many winegrowers. The combination of landscape, vine and peach is a unique selling point for the Moselle wine-growing region.

Photo: Martina Engelmann-Herren

REGIONAL INITIATIVE "FASCINATION MOSELLE" AND THE "LIVING MOSELLE VINEYARDS" PROJECT

Since 2006, the Moselle Regional Initiative has dedicated itself to high-quality local products. It advertises the excellent wines throughout the entire wine-growing region, promotes highly regarded cultural events even outside the major cities, and offers guests a wide range of culinary and accommodation options.

In 2013, the regional initiative approved the lead project entitled „Living Moselle Vineyards". Its purpose is to better communicate the ecological characteristics of our cultural landscape and so achieve even better added value for the viticulture and tourism sectors. Biological diversity and a species inventory that is something special for Germany demonstrate the high quality of the landscape, especially in the steep slopes and vineyard terraces. Both must be preserved and promoted.

When the regional initiative was repositioned in 2019, the „Living Moselle Vineyards" were incorporated into the new „Fascination of Nature and Landscape" pillar. Continuing under the leadership of the Moselle Rural Service Centre (DLR), the positive experiences from the project are to be extended to areas beyond the vineyards.

At the core of the „Living Moselle Vineyards“ initiative is the transfer of knowledge. As of 2020, over 150 nature experience guides have gained qualifications in annual courses. They are key actors in communicating the importance of the diverse flora and fauna and in initiating concrete projects. With the „Beacons of Biodiversity“, specific landscape sections are professionally analysed and selected by the nature experience guides. They represent the ecological values of the Moselle and its tributaries. The landscape, plants and animals are perfectly presented in short films.
On the “Days of the Living Moselle Vineyards”, numerous events led directly to the Moselle flora and fauna over a weekend from 2017 to 2019. As of 2021, the “Fascination Moselle – Week of Biodiversity” will now feature eight days of even more colourful events, covering all areas of the “Fascination Moselle” regional initiative. The Moselle thus presents itself as a region of biodiversity. For its commitment, the “Living Moselle Vineyards” project was awarded exemplary best-practice status by the UN Decade of Biodiversity in 2016 and 2019.

WHAT STAYS IN YOUR MEMORY BEST ...

... is what you learned through play. With the memory game from the Living Moselle Vineyards project, both young and old alike can discover typical animals and plants from the area. This accompanying brochure offers all sorts of interesting facts about the individual species. Together, they should give any interested person some insight into the fascinating flora and fauna of the vineyards and lead him or her to what is even more exciting: an adventure tour through the steep slopes of the wine-growing region of the Moselle.

Lebendige
Moselweinberge

Dienstleistungszentrum Ländlicher Raum (DLR) Mosel, Gartenstraße 18, 54470 Bernkastel-Kues,
Tel 06531 9560, lebendige-moselweinberge@dlr.rlp.de, www.dlr-mosel.rlp.de, www.lebendige-moselweinberge.de
Text: Dorit Vogel, Design: lutzgestaltet, Mülheim