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A LOOK AT THE TINY CREATURES – WHY THEY ARE THREATENED WITH INSECT EXTINCTION AND HOW TO HELP



According to the WMF, the False Ringlet is "probably the most endangered butterfly species in Europe". ©Dietmar Borbe

If you see an earwig walking across the floor, how do you react? Crush it, vacuum it up, or carefully carry it outside? Unfortunately, [insects \(https://green-travel-blog.com/its-buzzing-and-humming-in-the-green-pearls-hotels-hideaways-for-insects/\)](https://green-travel-blog.com/its-buzzing-and-humming-in-the-green-pearls-hotels-hideaways-for-insects/) are not very popular. And that's a shame because they do many important things. And if they continue to disappear, the consequences for us could be devastating.

That's why today we take a look at invertebrates by consulting the German insect and butterfly expert Dietmar Borbe. We also present insect protection measures from our partner hotels that you can easily copy.

WORLDWIDE STUDY: 2 MILLION SPECIES ARE AT RISK OF EXTINCTION

A new study (in the November/December issue of PLOS One) has found that about 2 million species of animals and plants are threatened with extinction (<https://green-travel-blog.com/sustainable-perpetuating-rare-livestock-species/>). That means: They could disappear completely in the coming decades. That's far more than the World Biodiversity Council (IPBES) predicted in 2019. Invertebrates, which include insects such as beetles and butterflies, are particularly vulnerable.



They are known as daddy long legs and often fly close to the water surface. This makes them a protein-rich snack for fish.

IMAGE: Myriam's Photos | Pixabay

WHY ARE INSECTS USEFUL TO US?

To better understand the importance of insects, we turned to insect and butterfly expert Dietmar Borbe. The biologist from Heiligenhaus, Germany, has been studying butterflies and moths for more than 20 years and was recently in the news for discovering the rare "Blue Ribbon" butterfly. He cites the benefits of insects in general as:

1. **Pollination:** Insects are pollinators. This applies not only to wild bees, but also to many flies, beetles, wasps, and butterflies. Pollination is essential to the survival of many wild plants. (In China, fruit trees are already have to be pollinated by hand due to a lack of natural pollinators.)
2. **Food source:** birds, frogs, bats, hedgehogs and many other animals feed on insects.
3. **Pest control:** Many insects eat insects themselves (aphids, etc.) or help us control other pests. For example, the animal of the year 2024 (https://green-travel-blog.com/green_pearls_insighs/bull-beetle-is-insect-of-the-year-2024/) is the bull dung beetle, which feeds on the excrement of herbivorous animals, quickly utilizing it and returning it to the soil to keep parasites away.

THE BEGINNING OF THE END: INSECT EXTINCTION

Have you ever felt like there used to be more insects? That they flew into your mouth when you rode your bike, that you had to clean your windshield after long car rides, and that there used to be a lot more buzzing and chirping in the garden than there is now? Where are they? Many studies have shown negative population trends.

In 2017, for example, the Krefeld Entomologists (EVK) showed that the insect population **had declined by more than 75% at 63** study sites in North Rhine-Westphalia, Rhineland-Palatinate and Brandenburg. The long-term study was conducted over a period of 27 years (since 1989) by setting up nets to catch flying insects. The data was analyzed by Radboud University in Nijmegen, the Netherlands.



“But to be fair, some species are moving north due to climate change and are trying to establish new habitats there. – Dietmar Borbe

“Insects are at the beginning of the food chain. If we destroy the bottom of a food pyramid, everything eventually collapses” ©Dietmar Borbe

REASONS FOR INSECT DISAPPEARANCE

Biologist Dietmar Borbe lists the main threats to insects as:

- **Monoculture**
- **Eutrophication** (a human-caused buildup of nutrients in a lake or body of water that eventually causes all life to be smothered by algae)
- **Industrialization**
- **Industrial agriculture**
- **Pesticides / Insecticides**
- **Landscape fragmentation**
- **Reduced supply of food and host plants for oviposition**
- **Light pollution** (more on this below)
- **Global Warming**

WHAT YOU CAN DO TO PROTECT INSECTS

Protecting and preserving the environment is part of the identity of Green Pearls® sustainable hotels and resorts. Here are some examples of what our partners are doing that you can easily replicate at home:



A sustainable souvenir from the hotel store. ©SCHWARZWALD PANORAMA

“SPECIES GARDEN” AT THE HOTEL SCHWARZWALD PANORAMA

The **SCHWARZWALD PANORAMA** (<https://www.greenpearls.com/hotels/schwarzwald-panorama/>), in Bad Herrenalb has a snack garden of about 100 square meters, the so-called “Species Garden”. In order to promote the diversity of species (https://green-travel-blog.com/green_pearls_insighs/promoting-garden-biodiversity/), here you will find:

- Hedgehog house
- Birdhouse with bird feeder on the roof
- Sand baths for birds
- Shallow water troughs for insects
- Honey bee colonies
- Nesting aids for wild bees
- Earwig nesting aids (earwig houses)
- Lizard cairn

By the way, the birdhouse was custom made for the hotel and looks exactly like the SCHWARZWALD PANORAMA. 😊

Tipp: You can find lots of DIY instructions on the Internet on how to easily build a hedgehog house, earwig house, etc. yourself.

HOTEL WEIHRERHOF DOES NOT USE FERTILIZERS

The meadows around the **Wehrerhof Hotel** (<https://www.greenpearls.com/hotels/hotel-wehrerhof/>) in South Tyrol on Lake Wolfsgruben have not been fertilized for more than 20 years. “We do this to preserve biodiversity,” they explain, “and we also let the grass and flowers grow so that they can produce seeds.”

It has been known for a long time that fertilized fields attract fewer pollinating insects. But a 2022 British study (<https://academic.oup.com/pnasnexus/article/1/5/pgac230/6814445?login=false>) has now revealed the exact cause. Fertilizers alter the electrical fields of flowers, which pollinators like bumblebees use as a guide.

AT HOTEL LUISE YOU WILL FIND INSECT-FRIENDLY PLANTS



It's green everywhere – even on the roof. ©Hotel Luise

The **Hotel Luise** (<https://www.greenpearls.com/hotels/hotel-luise/>), in Erlangen, Germany, is certified as a “blooming business” and is committed to protecting small creatures. Their measures include:

- **The use of sandstones** (hiding and breeding places for insects)
- **Leaving dead wood and piles of leaves lying around**
- **Insect houses** (The hotel has several of these. The website also has instructions for a “different kind of insect house” (<https://hotel-luise.de/stories/jetzt-wirds-bunt-naturgarten-im-herbst/>) that you can tie together from long stalks and sticks.)
- **Drinking water points**
- **Insect-friendly planting**
- **Light pollution reduction**

HOW TO PLANT YOUR GARDEN IN A WAY THAT IS FRIENDLY TO INSECTS

According to the German Nature and Biodiversity Conservation Union (NABU), 3 elements are important for insect-friendly planting:

1. **A wild spot:** There is no mowing or playing here – this spot is simply left to its own devices, allowing **grasses, nettles and clover** to grow. This is essential for the survival of many insects.
2. **Early bloomers:** Early bloomers (in Germany) include snowdrops, crocuses, and daffodils. The first flowers are essential for the survival of many early flying insects.
3. **Wildflower bed:** Plant a bed of native wildflowers. You can find a sunny spot now and start sowing in the spring.

12 NECTAR PLANTS FOR BUTTERFLIES

If you would like to have butterflies in your garden, you will find [12 suitable nectar plants](https://green-travel-blog.com/green_pearls_insights/12-top-nectar-plants-for-butterflies-in-germany/) (https://green-travel-blog.com/green_pearls_insights/12-top-nectar-plants-for-butterflies-in-germany/) in this article – as well as tips on how to deal with caterpillars.

TIPS FOR INSECT PROTECTION BY DIETMAR BORBE

Dietmar Borbe also gave us some tips for insect protection. Some already been mentioned by the hotels, but here they are at a glance:

- **No soil sealing** – gravel paths instead of concrete
- **Promote flower strips** (keyword: guerrilla gardening)
- **Do not use fertilizer**
- **Insect-friendly plants** and diverse landscapes ([link to Insight](#))
- **Provide hiding places for hibernation** (natural stone walls with crevices, piles of rocks, piles of leaves, etc.)
- **Dark nights without artificial light** (no illumination of house walls, etc.)

“We have too much order and everything has to be “clean” (love of order!) = that’s not nature!” – Dietmar Borbe

NEW STUDY ON LIGHT POLLUTION AND INSECT MORTALITY



Even the light of a distant city can irritate moths. IMAGE: AstroBobo | Pixabay

There are hardly any dark places left. Streetlights, billboards, garden lights... light pollution not only affects the visibility of stars, but effects insects as well. A British study (<https://besjournals.onlinelibrary.wiley.com/doi/10.1111/1365-2664.14373>) from 2023 shows that light pollution is a major factor in insect mortality – and it doesn't just affect cities.

MOTHS MISINTERPRET THE SEASONS

The researchers raised lattice moths and divided the larvae into two groups. One had a “normal” day-night environment, while the other remained “very slightly bright” at night, like a night sky with a distant city. The result: without light pollution, the moths prepare for winter – with light pollution, they apparently fail to read the season correctly and are subsequently surprised by the cold of winter, meaning “the end” for them.

WHY DO MOTHS FLY TOWARDS THE LIGHT?

It is not entirely clear why moths are attracted to light. One popular theory is that moths base their flight patterns on the moon, so artificial light distracts them.

BUTTERFLIES – FASCINATING INSECTS (GRAPHICALLY AS A DIGRESSION WITH A HORIZONTAL LINE)

“Butterflies are true works of art in themselves. – Dietmar Borbe

Butterflies have always fascinated people and have been studied by naturalists for centuries. For example, there is their special metamorphosis with 4 stages of development: (BILD)

- Egg
- Caterpillar
- Pupa
- Moth/Butterfly

Of course, it is the beautiful butterfly wings and delicate nature that make these insects so popular (even without the cuddle factor!)

Learn more about rare butterflies in this picture gallery:

BLUE UDERWING (CATOCALA FRAXINI)



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Image 1 of 5

The beautiful "ribbon" only becomes visible when the moth opens its wings. ©Dietmar-Borbe

BUTTERFLY WATCHING IN PERU

Peru, Ecuador and Colombia have the most butterflies in the world. According to Blickpunkt Lateinamerika, there are no exact figures for the three countries, but a study by the Natural History Museum, London (2021) lists 3,642 butterfly species for Colombia alone, while there are only 496 species in Europe as a whole.

In fact, Peru claims to be home to over 3,700 identified butterfly species. A staggering 20% of the world's butterfly species are said to be found here. One place to see them is at **Inkaterra Reserva Amazonica**. This sustainable resort in the middle of the Amazon rainforest has its own jungle research station and several conservation projects. Including an orchid nursery and butterfly house. Enjoy nature with professional guides.

Approximately 350 cocoons are formed at **Inkaterra Butterfly House** each week.

HOW TO ENCOURAGE CHILDREN TO APPRECIATE INSECTS



In “Siggis Sauhaufen”, children discover animals and experience nature. © David Johansson | Hotel Klosterbräu

Insects lack the “cuteness factor” (except maybe ladybugs), which is why most people have little sympathy for them. Lars Krogmann, a zoologist, told Deutschlandfunk Kultur that the easiest way for adults to change their attitude is to become aware of their usefulness. Children, on the other hand, are generally interested in all animals. As soon as they come into contact with insects, they lose their fear of them.

“I think the time in which children come into contact with insects is simply getting later and later, and also rarer and rarer, because children don’t spend as much time outdoors anymore, and when they do spend time outdoors, they don’t have the opportunity to encounter insects as often as they used to.” – Zoologist Lars Krogmann

NATURE-ORIENTED VACATION WITH CHILDREN

A nature vacation is a wonderful opportunity for children to discover the great outdoors. **Hotel Klosterbräu** (<https://www.greenpearls.com/hotels/hotel-klosterbraeu/>) in Seefeld, Austria, for example, has a wonderful children’s program. The hotel has a vegetarian farm, a petting zoo, and a swarm of honeybees. It also has a workshop where they make apples, soap, and honey products, and countless wide meadows – with insects – all around.

We hope we have increased your sympathy for insects. And the next time you see an earwig, we suggest another option: just let it crawl away peacefully.

Save this post so you can find it again later!



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