

SCIENCE . TECHNOLOGY

# FROM MACRO TO MICRO: UNCOVERING EARTH'S UNSEEN WONDERS

2 x 52' (ENG, GER), 2 x 45' (GER)

**Our nature is full of secrets.**

Some are obvious but often overlooked, others lie deep in hiding, far beyond our perception. Nature holds miracles that amaze us and - if we are willing to discover them - help ensure nothing less than the survival of humanity: In this two-part documentary, we delve into these worlds. Before evolution put Homo Sapiens on two legs, insects developed abilities far superior to human technology. Bumblebees beat their wings up to 185 times in just one second. Ants are capable of incredible collective achievements and termites stabilize entire ecosystems. Microbes colonize all regions of the planet, from land to water, and even us humans. Around two hundred billion microorganisms live in our mouths alone. Without them, humans, as well as animals and plants, could not survive. Microbes sustain entire ecosystems and ultimately life on Earth. Through spectacular CGI, high-resolution microscope shots, and high-speed camera images, we show how diverse, disturbingly dangerous, and breathtakingly beautiful this otherwise invisible cosmos is.

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Original Title:	Geheime Wunder der Natur
Year:	2023
Produced by:	Autentic
Partners:	ZDF, arte, NHK

## 1. Insects - The Masters of Adaptation

Insects have developed amazing adaptations in their 350 million years of evolution. With over one million different species, they make up half of all living creatures on Earth and display outstanding abilities. Insects have developed flying to perfection. The hoverfly can fly 60 kilometres per hour at an altitude of 1000 metres. Bumblebees beat their wings up to 185 times in just one second. An outstanding performance, far superior to human flight technology. Ants are capable of incredible collective achievements and termites stabilise entire ecosystems. Without them, the earth would be a dry, hostile place.

## 2. Microbes - The Invisible Rulers

Microbes can kill. The plague epidemics and the worldwide Corona pandemic are not the only evidence of this. But microbes can also save lives. Even in the fight against the most feared disease of our time: cancer. Scientists in the USA have now discovered that certain microorganisms can destroy tumors in just a few days. This could open up completely new avenues in cancer therapy. Other microbes are two-faced: they cause stomach cancer but protect against asthma. Others keep us healthy. One thing is certain: without microbes, there would never have been life on land on Earth. It was microbes that made it possible for food to be processed on land. In fact, all living things today live in symbiosis with microbes. Without them, humans, but also animals and plants could not survive. Microbes sustain entire ecosystems and ultimately life on Earth. They could even mitigate climate change if they were specifically used for this purpose. Their role has long been underestimated. Today, it is becoming increasingly apparent that microbes are the true rulers of the earth.