

Vast Plains

Grasses, which at first glance may appear deceptively simple and far from spectacular in flower, are in fact evolutionarily very young plants. They appeared on Earth only relatively recently and once again relied on the ancient strategy of wind pollination.

Around 70 million years ago, grasses grew mainly in tropical forests, where they thrived in the shade of trees. Later, as the climate changed and large areas of the continents became drier, grasses gained an important advantage. They evolved into species able to withstand drought and grazing by large mammals, making them better adapted to dry steppe environments than most other plants. Wherever forests could no longer spread because of a lack of moisture, grasslands emerged. The first grassy plains appeared in South America and gradually expanded across the world.

In Europe and North America, so-called mammoth steppes first developed around 2.6 million years ago during the Quaternary Period. Today, their last remnants survive only in Siberia, but more than 40,000 years ago they also extended into Czechia. Large mammals shared these steppes with humans. Fossil discoveries from Czechia provide evidence of both modern humans and Neanderthals.

Today, most of Czech grasslands are semi-natural landscapes shaped and maintained by humans for more than 7,000 years in some places. More than half of the agricultural fields are used to grow cereals, members of the grass family that remain an essential part of our diet.

Throughout history, not only humans but also the landscapes around us have changed. Can you imagine what life on Earth might look like another million years from now?

Timeline

Beginning of the Mesozoic Era – Triassic	251 million years ago
Age of reptiles (dinosaurs)	243 million years ago
Gnetophytes – first flower-like structures	170 million years ago
One of the oldest flowering plants – <i>Montsechia vidalii</i>	130 million years ago
Flowering plant – <i>Archaeofructus</i>	125 million years ago
Major expansion of flowering plants	100 million years ago
Origin of grasses	70 million years ago
Beginning of the Tertiary – Palaeocene	66 million years ago

Beginning of the Quaternary – Pleistocene	2.6 million years ago
Origin of feather grasses – genus <i>Stipa</i>	126 thousand years ago
Oldest known find of a <i>Homo sapiens sapiens</i> woman from Koněprusy	45 thousand years ago
Beginning of the current geological epoch – Holocene	11.7 thousand years ago

Feather Grass (*Stipa*)

Its inconspicuous flowers are arranged in panicle inflorescences.

The fruit is known as a grain, or caryopsis.

Today, species of *Stipa* grow across Europe, Asia, Africa and South America.

Nine species occur in the Czech Republic, some of them critically endangered and surviving only in natural steppe habitats on the southern slopes of the Central Bohemian Highlands and in South Moravia.

The stems are hollow and divided by nodes.

Narrow linear leaves are characteristic.

Relatives of feather grass include other grasses, cereals, sugar cane and bamboo.

Grasses produce large quantities of pollen, which often causes allergies.

They can regenerate even from small fragments of the plant.

Pollination takes place by wind.