

Cycads (*Cycadophyta*)



What are they?

Cycads (*Division: Cycadophyta*) are the only surviving plants from the age of the dinosaurs (280 million years ago). They are considered as living fossils and it has been suggested that they evolved from the ancient "seed ferns" of the late Paleozoic. The Jurassic Period of the Mesozoic era is known as the "Age of Cycads" because these plants, along with the conifers and ginkgos, dominated the vegetation of the planet at this time. The name comes from the Greek *koikas* (palm), and its shape is similar to that of the palms although they are unrelated. Together with the ginkgo, they are considered the most primitive plants to have seeds and they represent an important stage in the evolution of seeding plants.

¿How many?



It is estimated that there are about **200** described species of cycads (Vovides 2000). In Mexico, **42** species of cycads in **3** genera are recognized: *Ceratozamia*, *Dioon* and *Zamia*. Globally, Mexico has the second largest diversity of cycads after Australia, with **80%** of the species endemic to the country.

Where do they live?

They live in tropical and subtropical environments, in rainforest, dry forest, cloud forest, pine-oak forest and scrub.

Cycads (*Cycadophyta*)

How are they?

They can be tree-like and reach up to 10 m tall or also of small size. They have thick stems with no branches and large compound leaves with pinnae. Their seeds are found inside large brightly colored cones known as strobili.

How do they live?

They are slow-growing plants that can live for over 2000 years. They are dioecious, i.e., the male and female reproductive organs are located on separate individuals of the same species. Unlike other plants with no flowers, cycads are pollinated by primitive beetles.



They have high toxicity and few predators. However, it appears that some of them were dispersed by dinosaurs, who ate the seed covers. At present, several species of birds, rodents and marsupials feed on and disperse seeds. Their roots, which can be collapsed in response to drought and fire, contain symbiotic cyanobacteria that fix atmospheric nitrogen.



How do we use them?

Seeds of cycads have been used as food to supplement the diet of people in times of scarcity. The seeds can be used to prepare flour which can be stored.

Paradoxically, they have also been used as insecticide or poison for vermin control. Currently, their main use is as an ornamental plant due to their aesthetic appeal. In Mexico, the leaves of some cycads are used to decorate churches during religious festivals.

How can you help?

Many species of cycads are extracted from their natural habitats by collectors and plant traders. Many of the plants sold in the street do not survive because they are only the tips of the stems and do not develop roots. Do not buy cycads of unknown origin. In Chiapas and Veracruz cycads are produced commercially in nurseries.