

The New Mellenium & the Cycadales

As we have seen, the fossil record provides only a sketchy image of past populations, much distorted by accidents of preservation. Still, it seems to indicate that the cycads came out of the Mesozoic as a diverse family and reestablished themselves quickly in the Cenozoic, many of them surviving vigorously into the present.

Although referred to as "living fossils", this is both unfair and inaccurate because it implies that cycads are like horseshoe crabs, or the Coelacanth, unchanged and unchanging. Yet the Cycadales have shown themselves to be a durable and vital family, with many advanced adaptations, such as contractile roots, underground stems, seed and pollen cones that attract pollinators by producing heat and odor, and multibranched leaves with compound leaflets. Primitive in some characteristics, they are also as modern as Angiosperms in others. They deserve our respect, admiration, and our protection.

While some species of the Cycadales are on the verge of extinction, many genera as a whole, like *Cycas*, *Encephalartos*, and *Macrozamia* continue vigorously. The chief threat to their continued survival has appeared so recently that they have not had time to adapt to it. Sadly, that threat is ourselves. Whether the Cycadales continue depends not on world climate, on tectonic forces, or other accidents of nature (cycads have shown themselves perfectly capable of dealing with such mundane disasters). Put simply, if today's cycads are to survive, we must master ourselves. We have the intellect, and we can acquire the knowledge necessary. All that is wanting is the will.

On the positive side, cycads are much admired and desired. Since ancient times humans have been actively moving "wild" cycads about on this planet, making a mess of their natural ranges while using them as risky food sources and even expensive status symbols. Fortunately, many are now beginning to realize that these magnificent and expensive acquisitions must reproduce if they are to survive, and that there may even be economic rewards in producing seeds and seedlings. So we and the cycads are in a period of difficult transition as we learn each other's needs. The cycad's ancient living spaces are being lost at a terrible rate at the same time that they are being transformed into a domestic horticultural plants, like the rose, and cacti, and orchids. The ancient, solitary cycad growing alone in majestic solitude on its granite outcropping may well be doomed. And to lose this will be a terrible thing; we should fight hard to against it because we'll all lose something very precious when that happens. But cycads will go on. Someday, on the sunny balcony of some distant space habitat on the moon, or in orbit, a colonist will proudly show off his latest potted miniatures to visitors - a male and female *Encephalartos woodii*. Far fetched? Perhaps. But while it's true that today's cycads face powerful enemies, they also have some very creative and ingenious friends!



Photo: Tom Bihr

A male *Cycas revoluta* apparently thriving magnificently under "domestication." Photo: Tom Bihr