**Encephalartos turneri - Turner’s Cycad**

Article and Photos by Maurice Levin

For years, the distinct leaves and relative inaccessibility of Encephalartos turneri have made it a true collector’s item among cycad aficionados. Located in hard-to-access habitats in previously war-torn Mozambique, Turner’s Cycad only became well-known in gardens in the last ten years, since political stability returned to Mozambique. However, due to efforts to propagate and distribute seed and seedlings in the late 1990’s and early 2000’s, this medium-sized cycad, very adaptable to a range of climates, may become more available and popular in gardens.

**History of the Species**

*E. turneri* was described in 1985 by Lavrans and Goode. They named the plant for the Ian S. Turner of Zimbabwe, who discovered the species, and whose collected specimens and field notes provided the basis for description of the species. Turner had discovered the plant in his journeys among the granite-covered hill sides approximately 15 miles southeast of Nampula, Mozambique.

**Morphology of Forms and Ecotypes**

There are several habitats for Turner’s Cycad around the Nampula region of Mozambique. The type locality, southeast of the city of Nampula, has been likely decimated by collectors, with few specimens remaining. This is the Nai rouk ecotype. In habitat, *E. turneri* grows in habitats ranging from rocky barren hill sides to “along a watercourse cascading down from the highest peaks” (Douglas Goode, *Cycads of Africa Volume I*). Not surprisingly, specimens are plentiful only in the most remote localities.

The trunk of Encephalartos turneri can reach ten feet in height. Hillside plants have a tendency to recline over time, becoming procumbent, particularly where growing on an incline. In cultivation, these plants tend to produce straight erect stems. Leaves grow five feet long and spread straight out. Leaves of sun-grown plants (front cover) are imbricate and an olive green color, while those of shade-grown plants are dark green and very shiny (Fig. 2); both figures are of plants from the Nai rouk habitat. Leaflets of *E. turneri* range from entire to somewhat spiny, depending on ecotype, which will be discussed below. One of the most distinctive features of *E. turneri* may be found in the boat-shaped form of the leaflets, which also have an attractive revolute margin in mature plants.

Mature plants of this species tend to produce 1-3 cones each year. Cones of both sexes can reach 12” long. Diameter of male cones is 3”; that of female cones is 5”. Color of cones ranges green to yellow to reddish pink, depending on habitat and maturity.

Seedcoat color ranges from green to yellow to red and are among the largest I’ve seen in the genus, up to 1½” long, and nearly ¾” wide at the base. The seeds tend to be somewhat pear-shaped, similar to those of *E. gratus*, but much more robust. Please see the accompanying photographs of seedlings for reference.

Turner’s Cycad’s various habitats and ecotypes have notable morphological differences. Most plants in U.S. nurseries and gardens today are from the Nai rouk habitat. Examples of this plant are found on the front cover (mature coning plant), a 15-gal. juvenile plant in Fig. 1, and a seedling in Fig. 2. Plants from the Nai rouk locality are the tallest and most robust in this species.

70 miles from Nampula, to the west and a bit north, lies the town of Ribaué, where the “giant” Ribaué Form of Encephalartos turneri is located. It is quite numerous in habitat, and is difficult to reach, requiring several hours of climbing up stone-faced mountains full of thorny Euphorbias and other native plants. The Ribaué form, which has green and yellow male cones, has spiny leaflets than the other forms of the species. Note the prickly leaflets on the seedling leaflets of this form pictured in Fig. 3.

Approximately 50 miles northwest of Nampula lies Jaiane, in the Rapale district of Nampula Province. In this area are found two unique forms of *E. turneri*, exhibiting either red or yellow sarcotesta, known as the “Red Seed” and “Yellow Seed” (Fig. 3).

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*Fig. 1. A 15-gallon specimen of the Nai rouk form of Encephalartos turneri*

*Fig. 2. A seedling of the Nai rouk form of Encephalartos turneri*

*Fig. 3. Seedlings of the “Ribaué Form” of Encephalartos turneri with spiny leaflets (inset).*
low Seed" variants of the Jaiene/Rapale form. Leaves are more a blue-gray color and are wider than other forms of E. turneri. The major difference between the two variants is seed size: the "Red Seed" variant has smaller seeds, but leaflets of juvenile leaves tend to have more spines than those of the "Yellow Seed" variant (Fig. 4). Seeds of these plants only became available in early 2003 in very limited quantities. The illustrations in Fig. 5 compare this ecotype with the Ribaue ecotype.

A less well-known ecotype of Encephalartos turneri is found in the town of Boila, approximately 10-12 miles from the Indian Ocean. The Boila form has larger leaves than the other forms, with more revolute leaflet margins. Ultimately this plant may be described as a new species, but for now it is considered part of E. turneri. Fig. 6 shows a juvenile plant of this form.

Finally, a dwarf form of Encephalartos turneri comes from the vicinity of Namato, approximately 50 miles west-northwest of Nampula. Plants of this form are smaller and slower growing in every way than those of the type locality. Fig. 7 shows seedlings of this ecotype.

Growing Encephalartos turneri

I have imported a number of seed and seedlings of this species over the years. Encephalartos turneri has been difficult to import from Mozambique, but for a few years, I was able to import habitat-specific seeds and seedlings. Generally, there is a 6-12 month "waiting" period before the seeds will sprout their root radical, and another 3-6 months before those sprouts will develop well enough to produce their first leaves. Seedlings are fairly robust, with little risk of damping off if given good drainage.

Once a seedling has hardened off, it can last in its community pot for two to three years before it needs to be potted up into a 5-gallon pot. I have found that Encephalartos turneri at this age benefits from 8-12 hours of shade in our arid Southern California climate, particularly with summer heat.

After approximately 3 1/2 years, seedlings have 3-4 leaves approximately 12-15 inches long. This is a point at which the plant may be safely transferred into either a 15-gallon pot or into the ground. Experience has taught me that it is wise to bury the caudex of these plants at least 1-2" below the soil line. Encephalartos turneri is one of the few plants in this genus that loves ample water once it has established, but suffers from dry heat until it has become well-established.

Our nursery experienced temperatures in the mid- to high 20's (°F) in January 2007, and a wide range of leaf damage occurred in this species. Plants with some overhead protection, or protection from winds experienced very little damage. Plants exposed to cold wind experienced leaf damage, but nearly all of these came back in the spring with the first heat wave. Seedlings suffered considerably more leaf damage than did mature plants.

From a nursery owner's standpoint, I would say that Turner's Cyecad has been an extremely satisfying plant to grow, both in the nursery and in my home garden. Its new leaf flushes have never disappointed me, always glowing with a beautiful sheen, each successive flush seeming to display longer, more concave and revolute leaflets than the previous. I'm looking forward to having the plants we've propagated and grown become beautiful specimens in all of our gardens in the coming years.

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