

Cycads in South Africa

SPECIES AND STATUS OF CYCADS IN SOUTH AFRICA

South Africa is one of the world centres of cycad diversity, with 39 species. Cycads are characterised by a stout and woody trunk with a crown of large, hard and stiff, evergreen leaves. They usually have pinnate leaves. The individual plants are either all male or all female (dioecious). They vary in size from having trunks only a few centimetres to several meters tall. They typically grow very slowly and live very long, with some specimens known to reach up to 1,000 years old.

The country is also one of the global hotspots for threatened cycads. South Africa's cycads (68%) are threatened with extinction compared to the global average of 62%. The percentage (%) rate of cycads from South Africa which classified as Critically Endangered is 31%, compared to the global average of 17%. South Africa also has three of the four species classified as extinct in the wild, two of which have become extinct in the wild in the period of between 2003 and 2010.

PRODUCTION AREAS OF CYCADS IN SOUTH AFRICA

The *Encephalartos longifolius* (Thunberg's cycad) occurs in Uitenhage and Somerset East under Eastern Cape province. It is tall and stately. *Encephalartos humilis* (dwarf cycad) which is small and insignificant with underground stem is found in Mpumalanga. *Encephalartos woodii* (wood's cycad) is extremely rare and known only by two male plants which is originally found in Ngoye forest of KwaZulu-Natal province. *Encephalartos transvenosus* (Modjadji cycad) is endemic to the Modjadji area (Tzaneen) in the Limpopo province. The tree grows up to 12 m tall with a thick trunk deeply scored in a netted pattern. This is crowned by nearly straight, shiny, spiny pinnate leaves up to 2 and half metres long.

Other species which are more common and widespread such as the *Encephalartos altensteinii* (Eastern Cape giant cycad, bread tree) is found in Port Elizabeth under Eastern Cape.

DESCRIPTION OF CYCADS

Cycads have a cylindrical trunk which usually does not branch. Leaves grow directly from the trunk, and typically fall when older, leaving a crown of leaves at the top. The leaves grow in a rosette form, with new foliage emerging from the top and center of crown. The trunk may be buried, so the leaves appear to be emerging from the ground, so the plant appears to be a basal rosette. The leaves are generally large in proportion to the trunk size and sometimes even larger than the trunk.

The leaves are pinnate with central leaf stalk from which parallel ribs emerge from each side of the stalk, perpendicular to it. There are three families of cycads, namely; Cycadaceae, Stangeriaceae and Zamiaceae. These three families can be identified by looking at the central stalk of the leaf. Each family has at least one vein running up the leaf stalk from bottom to top. The Cycadaceae have only one vein in the centre of the leaf stalk (central vein), but no veins on the stalklets of the leaflet. The Zamiaceae have more than one central vein, and they are parallel to each other.

GROWTH OF CYCADS

Cycads grow extremely slowly. The plants produce a new whorl of leaves every three to four years. The older leaves die off leaving a compact ring of leaf bases, which then form a continuous and slowly lengthening stem. The stems can grow to between 4 m and 5 m and eventually lean in prostrate position. The mature plants sucker readily and continually give rise to new stems that replace the older stems which ultimately die off.

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Modjadji cycad



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