

Description and Ecology of *Pterocarpus angolensis* in Namibia

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Abstract

The tree Pterocarpus angolensis is an important component of the dry woodland savanna of northern Namibia. Its timber provides the basic resource for much of the carvings in Namibia. Unfortunately little management, particularly regeneration, has been implemented in the country and current exploitation practices amount to mining of the species.

Keywords: Dry woodland savanna, Namibia, *Pterocarpus angolensis*

Introduction

Pterocarpus angolensis is a leguminous tree which belongs to a genus comprised of about 100 species (Dyer 1975). Four of these species occur in the northern and eastern parts of southern Africa.

The species provides a very valuable timber used for carpentry and for carving by the tourism industry. While commercial exploitation is controlled, it is uncertain how much of the wood is harvested illegally. Since the tree is extremely slow growing, it is important to implement conservation measures to insure sustainable utilization of the species.

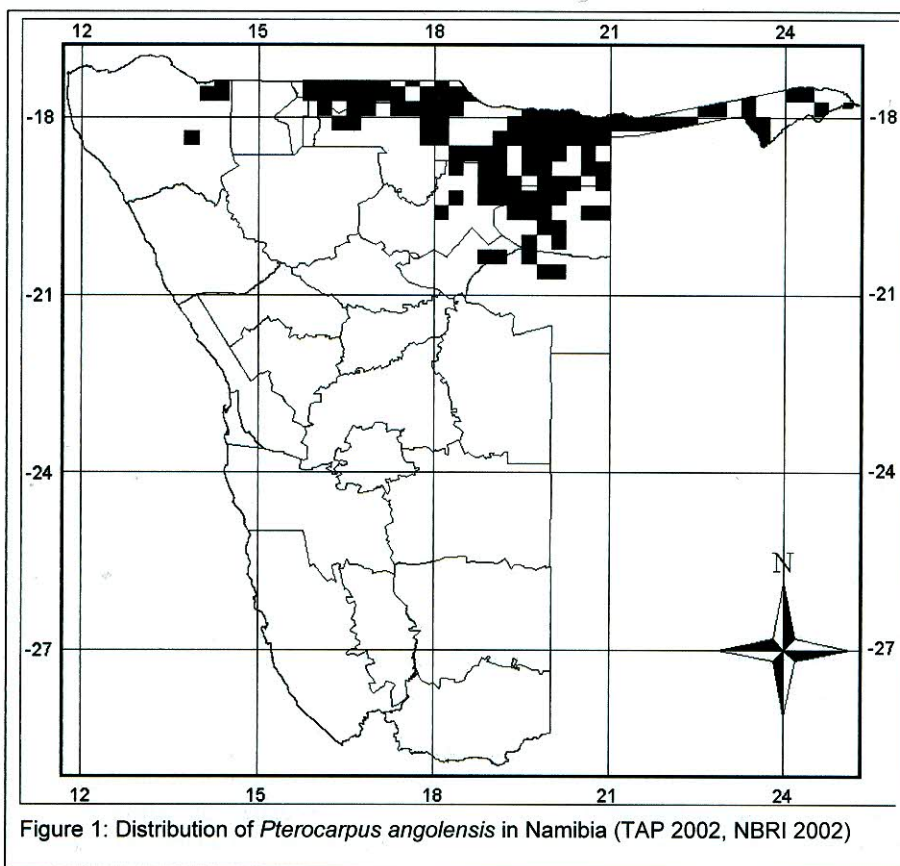
This monograph aims to consolidate available information. While a very comprehensive review was compiled by Vermeulen (1990) some research results obtained after that date need to be taken into account.

Distribution and Occurrence

Distribution

P. angolensis occurs in the dry woodland savanna in southern Africa. The countries in which the species occurs include Zambia (Trapnell 1959), Malawi (P. Hardcastle pers. com.), Mozambique, Tanzania (Groome *et al.* 1957b), Angola, Namibia,

Botswana, South Africa, Zimbabwe (Coates Palgrave 1983) and Swaziland (Dyer 1975).



Within Namibia, the species is found in the dry woodland savanna areas of western and eastern Caprivi, Okavango, Otjozondjupa, Omaheke, Ohangwena and Otjikoto regions.

In the Otjozondjupa region the species is frequently found in conjunction with *Burkea africana*, sometimes with *Terminalia sericea*. In the Okavango region *P. angolensis* may be found together with *Guibourtia coleosperma*, *Lonchocarpus nelsii* and *Schinziophyton rautanenii*. Although the different species occur together, it is probable that *P. angolensis* established first given its sensitivity to competition; the other species would have followed later.

Growth Requirements and Preferences

Soil

Within its distribution range *P. angolensis* occurs mostly on deep sands, with the biggest trees on well-drained soils with a sandy or loamy texture (Vermeulen 1990). Personal observations and discussions with local forestry staff indicate, that seedlings were able to establish themselves on the slightly heavier soils of a dry river bed near Kanovlei, Namibia. None of the plants observed had developed beyond the suffrutex stage (see later in text) and assumptions about long term survival cannot be made.

Water

P. angolensis occurs in areas that are characterized by well-defined wet and dry seasons. Rainfall may be as low as 500mm per annum (Vermeulen 1990, Groome *et al.* 1957b), although precipitation in parts of its range is somewhat less in Namibia, and a water table of around 70m (Vermeulen 1990).

The soil conditions favored by the species together with the rooting strategy described by von Breitenbach (1973) and Vermeulen (1990) indicate that precipitation rather than a permanent subterranean water supply meet the species' water requirements. This brings the tree into competition for water with the remaining vegetation. Under conditions of exceptional competition for ephemeral water resources *P. angolensis* is not successful (von Breitenbach 1973).

Light

According to Groome *et al.* (1957b) and Vermeulen (1990) *P. angolensis* is a light demanding species. Although it may persist in moderate shade it is likely to stagnate. Other authors consider that *P. angolensis* may survive as a suffrutex in shade conditions for a number of years and is able to form a permanent shoot once conditions improve (Boaler and Schiwale 1966)

Frost

While high temperature may cause *P. angolensis* to produce leaves early, frost may have detrimental effects. Low temperatures appear to affect younger plants in particular, causing them to die-back. Older growth does not seem to be affected as severely, although periodic damage may occur (Groome *et al.* 1957b).

