

MOPANE-VELD

Can we afford to
lose this valuable veld type?

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Mopane-veld, which conjures up images of wild, unspoiled Africa, is dominated by the mopane, *Colophospermum mopane*, a woodland species. This southern African tree is widely distributed from the southern tip of Lake Malawi to north of the Soutpansberg in the Northern Province, and as far as the Olifants River in Mpumalanga. It also occurs in Angola, Botswana, Namibia, Zambia, Mozambique and Zimbabwe. In South Africa it covers an area of approximately 23 000 km², which is nearly 2% of the total land area of South Africa. This small distribution area belies its vast agricultural, medicinal, economic and ecological value for the people and animals of the Northern Province and Mpumalanga.

Mopane is a xeric (dry and desert-like) legume tree, belonging to the Fabaceae family. Mopane trees are of small to medium size, about 4-10 m high. When conditions do not favour the development of trees, the plants can remain stunted,

forming mopane scrub. The bark has a very rough texture usually dark grey to blackish. The leaves are drooping, and consist of two leaflets resembling butterfly wings. Leaves are shed during winter so that by the end of winter most of the trees are bare. The first flush of new leaves is formed during late September to early October, just before the rainy season commences. The leaves of this tree move close together during the heat of the day, thus casting little shade at midday.

In the Northern Province there is an estimated 16 million ha of game farms north of the Soutpansberg. These 8 000 game farms provide the province with a valuable source of income - annual sales of game alone bring in about R100 million. Most of these farms are dependant on mopane during the winter months as a source of fodder for their game. Mopane and *Boscia albitrunca* (shepherd's tree) are usually the only trees with leaves during the early - to middle winter. Antelope browse the foliage eagerly and during dry periods in late winter, even feed on the fallen dry leaves.

Mopane is therefore a valuable carry-over fodder tree during the dry periods of late autumn and early spring. Although there is no estimates for the economic value of the browse, in the form of reduced weight loss in game during the long dry season, as well as keeping otherwise marginal land productive, it is likely to be worth hundreds of millions of rands per year in the Northern Province and Mpumalanga.

Mopane is the main source of food for *Imbrasia belina*, the mopane worm (actually the larva of the mopane emperor moth), a vital source of protein (65% of dry mass) in rural areas, especially during lean periods. Research indicates that 100 g of dried mopane worms provide 76% of a human being's daily protein requirement. Mopane worms provide farmers and harvesters with an additional source of income. The mopane trade industry earns Botswana an estimated R46 million annually.

In the Northern Province and Mpumalanga many of the rural people do not have access to hospitals. Furthermore, the

Far left Mopane trees.

Below A traditional village in Gazankulu, Northern Province, with a fence made from mopane poles. Mopane was also used in the construction of the traditional hut and kraal. Photos: M. Potgieter.

Far right The characteristic leaf and seeds of the mopane tree. Mopane seeds are covered with resin glands from which the botanical name is derived – Colophon in Ionia was the birthplace of Homer and famous for its resin, while 'spermum' is Greek for seed.

Painted by Christine Marais, and reproduced with kind permission from Patricia Craven and Christine Marais from their book on the flora of Namibia, *Damaraland Flora* (published by Gamsberg and reviewed in the September 2000 issue of *Veld & Flora*).



Northern Province has one doctor for every 20 000 people, yet there is one traditional healer for every 200 inhabitants. Nearly 83% of traditional healers do not refer their patients to westernized medical facilities. In areas where mopane is found it makes a substantial contribution to the health care system.

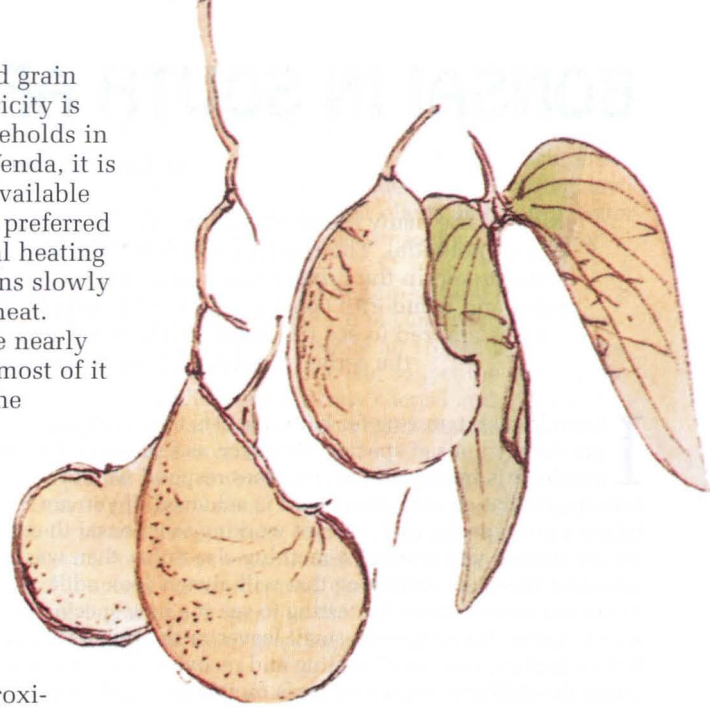
In the Venda area the Vhavenda use it for a variety of ailments, which include treating chaffing of the inner thighs, sores, gum bleeding and kidney stones. The Vatsonga (Shangaan) in Gazankulu use it to treat stomach and toothache, gout, diarrhoea and menstrual pains.

Although rural people in the Northern Province and Mpumalanga are slowly converting to a westernized lifestyle, mopane still makes a substantial contribution to their daily needs. Mopane wood is extremely hard, heavy, durable and termite proof, and it is used as firewood and for building materials (poles) in constructing traditional

huts, kraals, fences and grain stores. Although electricity is available to most households in rural Gazankulu and Venda, it is expensive and freely available mopane wood is often preferred for cooking and general heating purposes. Mopane burns slowly and produces a lot of heat.

On average, people use nearly 8 kg of wood per day, most of it mopane. This means the overall annual consumption for a family of eight is 2.7 tonnes. The ash can contain as much as 50% lime and is sometimes used as a fertilizer. A fence uses as much as 66 m³ of wood and lasts approximately five to seven years.

Although mopane readily coppices when damaged and so has the potential to be managed on a sustainable basis, there appears to have been little management experience with the species, despite its ecological and economic importance. Traditional leaders and local authorities are trying to establish a resource management system for the mopane-veld, but a lack of communication between the community elders and younger generations and the fact that most young people are moving to urban areas, is hampering progress. It is sincerely hoped that the 'African Renaissance', viewed by many South Africans as a return to traditional ways, will help to conserve this extremely valuable resource for the future. ♡



Further reading:

Potgieter, M.J., Wessels, D.C.J. & Nel, C. 1997. Optimising mopane production. *Farmers Weekly*, January 3, pp 26-29.
Wessels, D.C.J., Potgieter, M.J. & A. Jordaan 1998. Miraculous mopane for wood, worms and wealth. *Farmers Weekly*, December 25, pp 50-53.

About the authors

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A grain store made from 86 mopane poles. Photo: M. Potgieter.