Prunus africana

Names: *Prunus africana* Hook f. (Rosaceae); Pygeum, African Cherry.

Description: Tall tree measuring 30 metres or more. Leaves are glossy, dark green, minutely serrated and smelling of almonds when crushed. Flowers are small, white and in elongated clusters. Berries are red, 1 cm in diameter. The bark is dark brown to black with a rough blocky texture; the freshly broken bark smells of bitter almonds (Schippmann 2001).

Geographical distribution: Africa and Madagascar.

Habitat: montane tropical forest.

Part used: bark.

Uses: *Prunus africana* is a traditional medicine in Africa, used to treat chest pain, malaria and fevers (Cunningham and Mbenkum 1993). It is traded on the international market for the manufacture of products used to treat prostate gland hypertrophy (enlarged prostate gland) and the closely related but more serious condition of benign prostatic hyperplasia (BPH). Prostate enlargement currently affects more than 50 per cent of men over the age of 50 (BBC 2001). With a rapidly ageing population in the West, it easy to envisage a great rise in demand. The extract from the pulverised bark is incorporated into capsules and sold under various trade names, including Pygenil, produced in Italy, and Tadenan, produced in France (Schippmann 2001). The timber is hard and durable and is used in Africa for the manufacture of various household products such as axes, hoes and furniture.

Source of plant material and trade: *Prunus africana* is exported mainly to Europe, where France is the biggest importer followed by Spain. Extracts are re-imported from France, Spain and Italy. The bark of *Prunus* and its extracts are traded on a larger scale than those of any other wild-collected African tree. Commercial exploitation started in 1972 (Schippmann 2001). The over-the-counter value of the retail trade in *Prunus africana* is estimated at US$220 million a year.

Prunus is traded in the form of dried bark and as bark extract. About 2,000kg of fresh bark, representing 1,000kg of dried bark, are needed to make 5kg of extract (Cunningham *et al.* 1997). The average yield of bark per tree is about 75kg (Acworth *et al.* 1998).

Cameroon is the biggest exporter of *Prunus africana* bark and bark extract. On average during the 1980s, 1.5 million kg of bark were exported annually. This rose to 2 million kg in the early 1990s. Even in 1990/1, with an official ban on exports in force by the Cameroonian government, 3.9 million kg were exported (Cunningham 1997).

Madagascar is the second biggest exporter of *Prunus africana*. Between 1972 and 1981, a total of 1,3 million kg were exported. Exports ceased in 1985, but trading resumed in 1988, after

which there was a big jump in annual exports of fresh bark, reaching 300,000-600,000 kg (Schippmann 1991). Bark extract became the dominant export commodity during the 1990s. Between 1995 and 1998, 14, 1000 kg of bark extract (equivalent to 2,82 million kg of dried bark) were exported, mainly to France, Italy and Switzerland. In comparison, 386,000 kg of dried bark were exported during the same period.

Global demand for *Prunus africana* bark and its extract rose from 2.45 million kg in 1995 to more than 2,78 million kg in 1996 and again to 3.091 million kg in 1997 (Schippmann 1997).

Legal protection: Since 1995, international trade in *Prunus africana* has been regulated by the Convention on Trade in Endangered Species (CITES). The species is included in Appendix II, which stipulates that exports and imports have to be declared, with the exporting countries being required to demonstrate that their quotas have been set at levels that do not adversely affect the species. However, the quality of reporting to CITES is inadequate, especially on the part of importing countries (Schippmann 2001). Monitoring the trade of this species is difficult, partly because it is traded in five different forms – unprocessed dried bark, bark extract, herbal preparations in the form of capsules, as a constituent of a hair tonic and as wood (used for the manufacture of furniture). Similar difficulties are encountered with many other materials and products in the herbal medicine trade, for which, in general, official figures have many deficiencies (see *Taxus wallichiana* factsheet).

The only other legal protection afforded specifically to *Prunus africana* in relation to trade in its bark, in this case at national level, was a temporary ban on its exploitation in Cameroon. This was introduced in 1991, but lifted in 1992. Despite the ban, greater quantities of *Prunus africana* were harvested between 1991 and 1992 than in any preceding year.

Conservation assessment: Commercial exploitation, habitat loss and unsustainable harvesting have led to a decline in *Prunus africana*, threatening conservation of its genetic diversity (Cunningham & Mbenkum 1993). The species is listed as vulnerable in the world list of threatened trees, owing to its rapid population declines (Schippmann 2001). The species is widely distributed in montane Africa, but its populations are isolated from each other and are likely be genetically distinct. It is already known that there are genetic differences between the populations in some of its main regions of occurrence in Cameroon, central Africa and Madagascar. In Madagascar and Cameroon, the situation is considered critical.

Unsustainable extraction methods, involving excessive debarking or the felling of entire trees, are threatening the species. The demand has been so high that these unfavourable practices are becoming common. Introduction of better harvesting techniques, with adequate controls, would require the introduction of better management systems involving trained manpower and financial support (Schippmann 2001). The necessary resources are not available at present.

Prunus africana can be cultivated, but this is being done only on a relatively small scale, compared with the level of demand. Cultivation is restricted to Cameroon and Kenya. It appears that a reason why some farmers are cautious about investing time and money in cultivation is uncertainty about the reliability of the market.

The listing of *Prunus africana* on CITES has been only partially effective in reducing threats to the species, but it has helped raise awareness about the problems posed by its international

trade. Several non-governmental, governmental and international bodies are now involved in programmes to promote sustainable management of wild populations, cultivation and monitoring of the trade. For example, for some years the Mount Cameroon Project has been working with villagers to promote the sustainable management of the species. Villagers are involved in monitoring the forest to guard against *Prunus* poachers and to help ensure, in the event of legal harvest, that only a part of the bark is removed. It is hoped that this and similar efforts will suffice to ensure that future supplies of the bark are harvested in sustainable ways.

Conservation recommendations: There is one well-established technique which can sometimes be used to harvest the bark sustainably. This involves removal of opposing quarters of the bark on the lower part of a trunk, with re-harvesting of opposite quarters possible after four or five years. The challenge now is to establish systems of sustainable management, based on methods that are workable for communities within the contexts of local socio-economic and political conditions. This work would benefit from research, including the status of populations of the species in different places (Schippmann 2001).

More effort should be given to improving the enforcement of CITES regulations. This will require greater awareness of the issue and better-trained manpower. Importing countries should improve their systems of recording imports, making sure that, in addition to the raw bark, extracts and other derivatives are well covered.

There is a strong case for investment in conservation by pharmaceutical companies that manufacture products from *Prunus*. In the long run, assurance of the conservation of the species and the introduction of sustainable harvesting systems will be to their benefit. There is a great need for more plantations and the incorporation of *Prunus africana* into agroforestry systems.

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