

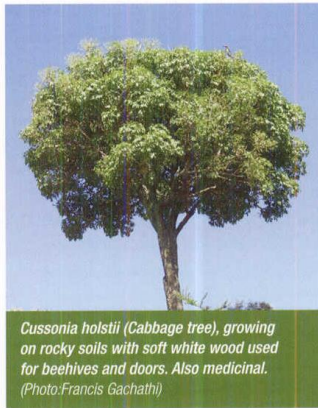
Vegetation of the Menengai caldera

BY FRANCIS GACHATHI

Background

Menengai (meaning "Mountain of God" in Maasai) lies north of Lake Nakuru and forms the northern divide of the lake's drainage basin. It is considered a dormant volcano and rises to a height of 2,278 masl. Following the eruption, the sides of the volcanic crater collapsed inwards forming a large, basin-shaped caldera with an area of about 90 km² and a diameter of 12 km. It is the second largest caldera in Africa after Ngorongoro in Tanzania.

For some years now, the Geothermal Development Company Limited (GDC) has been actively involved in exploration and development of geothermal resources for power generation on the floor of Menengai Caldera. The project can influence the local microclimate and hence the flora and fauna. For any geothermal project, land is required for drill pads and access roads. There is also dumping of waste soil and drill mud. The hot wastewater when disposed off, can have some effect on the surrounding vegetation by scorching plants. Impacts to vegetation include loss of indigenous species and species diversity; increased risk of invasive species and seed bank depletion.



Cussonia holstii (Cabbage tree), growing on rocky soils with soft white wood used for beehives and doors. Also medicinal. (Photo: Francis Gachathi)

General vegetation

Vegetation within the Menengai Caldera is generally sparse and the woody perennial species are those that have withstood perennial burning.

The dominant trees include: *Protea gagedi*, *Faurea saligna*, *Hymenodictyon*

parvifolium, *Agauria salicifolia*, *Erythrina abyssinica*, *Cussonia holstii* and *Tarchoanthus camphoratus*.

Common shrubs within the caldera include: *Rumex usambarensis*, *Conyza newii*, *Anthospermum welwitschii*, *Lippia javanica*, *Osyris lanceolata* and *Rhus natalensis*.

The ground which is of purely volcanic rocks is barely covered by various grasses and sedges. Common grasses include *Themeda triandra*, *Rhynchelytrum repens*, *Cenchrus ciliaris*, *Sporobolus pyramidalis*, *Hyparrhenia sp.*, *Cymbopogon nardus* and *Pennisetum clandestinum*. Sedges are common in wetter sites and include *Cyperus laevigatus*, *Kyllinga sp.* and *Fimbristylis sp.* Annual herbs are many and appear during the wet season. They include *Notonia petraea*, *Gerbera viridifolia*, *Fuerstia africana* and *Impatiens sodenii*. There are also ferns like *Pteridium aquilinum*, *Pellaea calomelanos* and *Asplenium sp.* *Phragmanthera dschallensis* is a common parasitic shrub found on most woody species.

Species of special interest

There are a number of species of special interest. The sandalwood (*Osyris lanceolata*) is of national conservation interest. It is protected under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix II, which requires certain legal procedures to be followed, in order to avoid utilization incompatible with the survival of the species in the wild. It is listed as "Vulnerable" by The World Conservation Union (IUCN) due to unsustainable levels of harvesting for the international medicinal plant trade, habitat loss and restricted distribution. Consequently, export trade on these species is under a Presidential Ban. Other species useful as local medicines include: *Withania somnifera*, *Clerodendrum myricoides*, *Myrsine africana*, *Ajuga remota*, *Artemisia afra*, *Aloespp.*, *Maytenus senegalensis* and *Tetradenia riparia*.

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Tarchoanthus camphoratus (Ol-leleshwa, the camphor bush). This is a valuable species, used in medicine, and also exploited for its essential oils. It can withstand drought and cold. (photos Francis Gachathi)

