

NYIKA-VWAZA TRUST (UK)

CONSERVATION RESEARCH NOTE No. 1

ORCHID HARVESTING ON THE NYIKA GRASSLANDS

The Nyika National Park, in particular the upland grasslands, supports a large diversity of orchid species. The book on Nyika's plants by Burrows and Willis (2005) lists 205 species, of which 158 are ground orchids, many of which have underground tubers or storage organs. Eight of these orchids are confined to the Nyika Plateau or nearby areas and are not found anywhere else. At an international level, the Nyika's unique and extensive grassland flora is probably its greatest importance for conservation.

Over the last 10-15 years, a number of species of ground orchid – locally called *chikanda* or *chinaka* – have been targeted as part of an illegal and regional trade. The tubers are rich in easily-digestible starches and are considered a delicacy. They are dug up by villagers, dried, and then traded locally and regionally (Kasulo, Mwabumba & Munthali 2009, Lee 2020). This illegal harvesting is not confined to the Nyika; indeed, the Kitulo Plateau in southern Tanzania has suffered particularly badly (Davenport & Ndangalasi 2003, Mapunda 2007, Rondi Salter pers. comm.), and the trade is widespread across Zambia. It has been suggested (Simkoko 2012) that the main orchids targeted on the Nyika are the larger and attractive *Disa ochrostachya*, *Disa robusta* and (in particular) *Disa satyriopsis*, while other potentially utilisable species of *Habenaria* and *Satyrium* were less favoured. A later study (Namoto & Pearce 2017, Namoto 2018) identified 43 potentially edible species with five species of *Disa*, three species of *Satyrium*, *Brachycorythis pleistophylla* and *Habenaria clavata* being the most frequently collected in the central areas of the National Park.

The illegal harvesting of orchids has now been recognised by Park managers and the Department of National Parks and Wildlife to be an important management issue, alongside the poaching of larger mammals. There have been a number of arrests and convictions of poachers in recent years. Local magistrates are also taking the issue more seriously and fines and prison sentences have been imposed. However, it is also recognised that *chinaka* harvesting and sale is an important source of income for some rural families as well as a few entrepreneurial traders (Lee 2020).

Much work has now been done on the socio-economic aspects of the harvesting and trade and its drivers (e.g. Simkoko 2012, Lee 2020), as well as on the implementation of existing anti-poaching laws (some of which have been assisted through Lilongwe Wildlife Trust's PEEP programme). But what is still not clear is the possible biological impact past and present harvesting has had on orchid populations and conservation status, or what the effects of other ecological issues – such as a possibly increased incidence of fire and the decreased large herbivore pressure owing to poaching – might be having.

Given the current state of knowledge on drivers of the trade, the main issues on which much more detailed information is now needed are:

1. Is there any evidence of population decline of the harvested species? Are any threatened with local extinction?
2. What impact any possible increased incidence of burning or reduced large herbivore grazing pressure might be having on ground orchids and other grassland flora.

As part of a longer-term strategy, a basic and simply executed monitoring system should be established to help inform the Park management authorities. This would probably involve annually-monitored but unmarked transects across the main affected areas.

Finally, it is worth noting that there have been suggestions that *chinaka* orchids might be cultivated locally to provide a sustainable harvest. A Darwin Initiative-funded project based in Kitwe, Zambia has been looking into the possibilities of propagation of chikanda orchids (see Facebook page at @chikandaorchidconservation), while the Forestry Research Institute of Malawi (FRIM) has been looking at similar possibilities for Nyika (Namoto & Pearce 2017).

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