Njesi Plateau

Planalto de Ndjesi (Test version)

MOZTIPA019

Country: **Mozambique**
Administrative region: **Niassa (Province)**
Central co-ordinates: **-12.82840 N, 35.18430 E**
Area: **167km²**

Qualifying IPA criteria

A(i), C(iii)

IPA assessment rationale

Njesi Plateau qualifies as an Important Plant Area under criteria A and C. Under criterion A(i) the site supports a population of the globally threatened shrub Barleria torrei (EN). The site also qualifies under criterion C(iii), having a significant areas of montane grassland habitat, a restricted and nationally threatened habitat.

Site description

The Njesi Plateau is a montane site in the west of Niassa Province, in Sanga District, ca. 50 km north of Lichinga and 15 km south-east of Maniamba. It lies within the broader Lichinga Plateau, an area of highlands over 1,000 m elevation, of which Njesi is the most significant montane site, covering an area of over 160 km2 with much of the Njesi Plateau over 1,700 m. It reaches 1,848 m elevation on Serra Jeci (also known as Jec, Jesi or Gesi). These mountains in the far north of Mozambique are considered biogeographically distinct from the group of mountains in north-central Mozambique that includes Mt Namuli, Mt Inago and Mt Mabu (Bayliss et al. 2014, Jones et al. 2020). There is no settlement or cultivation on the Njesi plateau although it does overlook a number of small villages including Cunha and Amice.

Botanical significance

Significant areas of montane habitat can be found on the Njesi Plateau including grassland, scrub, rock outcrop, gallery forest and small patches of moist montane forest. Montane grassland and mid-altitude montane moist forest habitats are both restricted and threatened in Mozambique; however, there is only a very limited area of mid-altitude montane forest at this site compared to other sites in Mozambique, and so this habitat does not qualify under sub-criterion C(iii). The montane scrubland at this site is also likely of conservation importance but is difficult to define spatially and as such it cannot be assessed under the IPA criteria at present.
There has only been limited botanical collection in this IPA, with most of the previous research focusing on faunal taxa. However, a botanical expedition was undertaken in 2019 to address this information gap (Osborne et al. 2019). One particularly important species that occurs in this IPA is the threatened endemic shrub Barleria torrei, growing in woodland and on rocky slopes towards the base of the plateau. This species is assessed as Endangered on the IUCN Red List (Osborne & Rokni 2020). In addition to this threatened species, one new record for northern Mozambique were collected at this site. Vernonia natalensis was previously thought to be restricted nationally to the central and southern provinces of Mozambique but was observed to occur in the rockfaces of the montane grassland within this IPA. With further investigation, other notable plant species are likely to be recorded from this site.

Habitat and geology

The Njesi Plateau experiences a wet season between November to April. Although annual average precipitation has not been calculated for this site, the figure is approximated to be between 1,300 – 1,700 mm while average temperature is around 18°C, reaching an average annual maximum of around 20 – 26°C between October and

November (Lötter et al. 2021).
Serra Jeci is the highest peak of this IPA, reaching 1,848 m. Geologically this mountain is categorised as a weakly metamorphosed lens (a body of rock that is broad in the middle with tapering edges) of mostly carbonate rocks positioned within the surrounding granulite Unango Complex; it is thought to have a depositional age of around 600 million years (Melezhik et al. 2006).
The plateau supports a large area of montane savanna grassland with scattered rock outcrops, raised montane forest/thicket patches and gallery forest along stream gullies. Miombo woodland dominates the lower slopes below the plateau, adjoining areas of settlement and cultivation.
The montane savanna grassland on Njesi is predominantly a tall grass savanna, 1.5 to 2 m in height, growing at over 1,700 m elevation. It is rich in tall herb species, particularly in the families Fabaceae, Asteraceae and Lamiaceae, with several dominant grasses including Hyparrhenia cymbaria (Osborne et al. 2019). A small herb layer grows in the sheltered habitat beneath the tall herbs and grasses, with species such as Hypericum peplidifolium occurring frequently. Woody species are scattered throughout the savanna including tree species Acacia amythethophylla, Cussonia arborea, Dombeya rotundifolia and species of Protea. The key ecological factors responsible for this tall grass savanna vegetation are thought to be a combination of fertile soil, regular precipitation and frequent fire (Osborne et al. 2019).
Rock outcrops are scattered throughout the savanna providing habitat diversity. Species associated with the rock outcrops include the shrubs Steganotaenia araliacea and Tecomaria nyassae, the herb Aeollanthus serpiculoides as well as many geophytes.
Numerous moist evergreen forest patches occur on the plateau. However, each patch is limited in size and so this forest covers a much smaller area of the plateau than the tall grass savanna. Trees in the moist forest include Albizia schimperiana, Bridelia macrantha, Ficus sp. and Xanthoxylum sp. with Chassalia parvifolia, Cassipourea malosana and Tiliacora funifera in the understorey (Osborne et al. 2019). The shaded forest floor supports herbs including Acanthaceae and orchid species. The canopy within the forest reaches ca. 35 m tall but is irregular, with frequent sheltered forest gaps dominated by dense and impenetrable growth of herbs and lianas. The irregular canopy and frequent forest gaps may be the result of previous fires spreading into the forest from the savanna in the dry season. Forest margin vegetation is frequent and includes abundant Dracaena steudneri, Maesa rufescens, Senna petersiana and Sparrmannia ricinocarpa alongside diverse tall herbs and abundant lianas (Osborne et al. 2019).
Gallery forest grows along the stream gullies that drain from the plateau. Albizia gummifera, to ca. 25 m tall, is the dominant tree species, growing with Breonadia salicina, Zanthoxylum sp., Rauvolfia caffa and Schrebera alata. Where the canopy is more open Dracaena steudneri, Solenecio mannii and tree ferns (Cyathea sp.) occur and there are dense growths of herbs, bracken fern (Pteridium aquilinum) and lianas including stands of tall, shrubby Acanthopale pubescens (Osborne et al. 2019). The gallery forest margin is extensive and species diverse, similar to the moist forest margin.
On the slopes towards the base of the plateau, to the south and east of the site, miombo woodland habitat adjoins areas of settlement and cultivation. There may be some habitat loss here due to expanding cultivation. The woodland is also likely to be impacted by fires set by hunters, increasing the natural fire frequency in this habitat (Jones et al. 2020).

Conservation issues

Although there is no settlement on Njesi Plateau, people do walk up onto the plateau to hunt wildlife including wild pig, deer, porcupine, giant rat, rabbit and birds. Hunters include both locals and people from further afield (Osborne et al. 2019). Hunting is seasonal, mostly taking place when the plateau is accessible after fires have cleared the tall grass savanna. Fire is a major factor affecting the vegetation on the Njesi Plateau and it is likely that fire frequency is increased as a result of hunters setting fires to flush out wildlife on the plateau. The tall grass savanna vegetation is well adapted to natural wildfires though there may be species present that have a limited tolerance and would be affected by increased fire frequency (Osborne et al. 2019). The moist forest habitat is not fire adapted and increased fire frequency is likely to affect the forest edge habitat as well as potentially reducing the forest extent.
The Njesi Plateau is protected by local Government and patrolled by Environmental Officers (Ficais), reducing the level of hunting on the plateau. However, more resources are needed to prevent hunting and the setting of wildfires. The value of this IPA is emphasized as it lies mostly within the Lake Niassa Partial Reserve, also a Ramsar site, including both Lake Niassa and the adjacent terrestrial zone (Ramsar 2011). This IPA also falls within the larger Njesi Plateau Important Bird Area (IBA), triggered by species such as the Endangered Mozambique Forest-warbler (Artisornis sousae) and the Vulnerable Thyolo Alethe (Chamaetylas choloensis) (BirdLife International 2019). For the former species, this IBA contains the entire global population and, as the Mozambique Forest-warbler is an Endangered species, also meets Alliance of Zero Extinction site criteria. The wider Njesi Plateau area has also been recognised as a Key Biodiversity Area, triggered by the Mozambique Forest-warbler and Mecula girdled lizard (Cordylus meculae). Despite being assessed as Least Concern, the latter species is limited mostly to the Njesi Plateau (Tolley et al. 2019). With the presence of a number of rare and threatened species, it is clear that the habitats of this IPA are of central importance for conserving a number of faunal taxa.

Site assessor(s)

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IPA criterion A species

SPECIES	QUALIFYING SUB-CRITERION	≥ 1% OF GLOBAL POPULATION	≥ 5% OF NATIONAL POPULATION	1 OF 5 BEST SITES NATIONALLY	ENTIRE GLOBAL POPULATION	SOCIO-ECONOMICALLY IMPORTANT	ABUNDANCE AT SITE
Barleria torrei I.Darbysh.	A(i)	✓	✓	✓	–	–	Occasional

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-CRITERION	≥ 5% OF NATIONAL RESOURCE	≥ 10% OF NATIONAL RESOURCE	1 OF 5 BEST SITES NATIONALLY	AREAL COVERAGE AT SITE
Montane Grassland	C(iii)	–	–		
Montane Moist Forest >1600 m	C(iii)	–	–	–	

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Montane Forest	–	Minor
Savanna - Moist Savanna	–	Major
Grassland - Subtropical/Tropical High Altitude Grassland	–	Major
Wetlands (inland) - Permanent Rivers, Streams, Creeks [includes waterfalls]	–	Minor
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	–	Minor

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	–	Major

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Low	Ongoing - trend unknown
Natural system modifications - Fire & fire suppression - Trend Unknown/Unrecorded	Unknown	Ongoing - trend unknown

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Lake Niassa Reserve	Partial Reserve	protected/conservation area encompasses IPA	–

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Njesi Plateau	Important Bird Area	protected/conservation area encompasses IPA	–
Njesi Plateau	Key Biodiversity Area	protected/conservation area encompasses IPA	–

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
No management plan in place		–	–

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