

Quirimbas Inselbergs

Montes-Ilha das Quirimbas (Test version)

MOZTIPA022



Country: Mozambique

Administrative region: Cabo Delgado (Province) Central co-ordinates: -12.81450 N, 39.69280 E

Area: 812km²

Qualifying IPA criteria

A(i)

IPA assessment rationale

The Quirimbas Inselbergs qualify as an Important Plant Area under criterion A(i) on the basis of containing important populations of six globally threatened species: Euphorbia unicornis (EN), Rytigynia torrei (EN), Englerina triplinervia (VU), Pouteria pseudoracemosa (VU), Strophanthus hypoleucos (VU) and Coffea zanguebariae (VU). Of these, it contains the entire known global population of Euphorbia unicornis and is the only known site in Mozambique for Pouteria pseudoracemosa. Further threatened and range-restricted species are expected to be found in these inselbergs following more complete botanical surveys.

Site description

This IPA encompasses an extensive series of impressive gneissic inselbergs in Ancuabe and Meluco Districts of Cabo Delgado Province in northeast Mozambique. This area lies ca. 100 km inland from the Indian Ocean coastline and from the port city of Pemba, and is contained within the Quirimbas National Park which was established in 2002, with the inland portion of this Park having been established specifically to protect these inselbergs. The most well-surveyed of these inselbergs are at Taratibu in the south of the IPA, approximately 25 km NW of the town of Ancuabe. Taratibu and the

neighbouring peaks in the southern portion of this IPA are separated from the larger concentration of inselbergs to the north by the Montepuez River which flows ENE through the site. The northern part of the IPA lies adjacent to highway 525 which passes through the small town of Meluco; the town and neighbouring agricultural lands are excluded from the IPA.

Botanical significance

This site is of importance for its extensive areas of xerophytic inselberg flora and for significant intact stands of lowland semideciduous forest. Although the botanical inventory of these habitats is far from complete, this IPA is known to contain important populations of rare and threatened species. It is the only known location globally for the succulent shrub Euphorbia unicornis (EN), which is known only from the inselbergs in the vicinity of Meluco. It is one of only two known locations for the Mozambique endemic shrub Rytigynia torrei (EN) and the only known location in Mozambique for the impressive forest canopy tree Pouteria pseudoracemosa (VU) which is otherwise scarce and scattered in the coastal forests of Tanzania and southeast Kenya. It also holds a population of wild Ibo coffee, Coffea zanguebariae (VU). Other notable species include the Mozambican endemic succulent shrub Euphorbia corniculata (LC), which is a common constituent of the lithophytic flora, and the striking near endemic species Euphorbia (formerly Monadenium) torrei and Aloe mawii (LC).

To date, only a small area of this IPA around the inselbergs of the privately owned Taratibu Concession has been botanised and, with the exception of Euphorbia unicornis, most of the species noted above are known only from that area at present, although they are all likely to also occur in the inselbergs north of the Montepuez River. A more complete botanical inventory of this IPA is sorely needed, and the likelihood of further discoveries of rare, threatened and new species is very high at this site. A rapid survey at Taratibu in early

2017, primarily to investigate the population of Pouteria pseudoracemosa, led to the discovery of a new shrubby species of Pavetta, Pavetta sp. J of Burrows et al. (2018), a potential new Asparagus species and an unusual tree species of Euphorbiaceae that is unknown and not yet placed to genus (J.E. Burrows, pers. obs.). This latter species has also been recorded from an inselberg near Nampula ca. 250 km to the south.

Habitat and geology

The gneissic inselbergs are of Paleoproterozoic to Neoproterozoic age. They vary greatly in size but rise to a maximum of over 700 m a.s.l. The region has a dry to sub-humid climate, with an average annual rainfall of 800 – 1,200 mm, with a short wet season mainly in December to March and a prolonged intervening dry season. The xerophytic flora of the rock faces and crevices is dominated by Xerophyta pseudopinifolia and X. suaveolens, together with a range of succulent species including several Aloe and Euphorbia spp. Other rock-loving plants including Myrothamnus flabellifolia and Strophanthus hypoleucos are also common. Some seasonal seepage areas with peaty soils are observed but these have not yet been surveyed for their plant diversity. The flora on these slopes is mainly herbaceous and shrubby but scattered trees of Brachystegia and Ficus spp. occur.

The vegetation of the Taratibu Concession, focusing on the southwest portion of the reserve in the vicinity of the inselbergs, has recently been characterised by Joaquim (2019) who documented five vegetation types: (1) mixed riverine fringing forest with frequent Ancylobotrys petersiana, Pseudobersama mossambicensis and Rawsonia lucida; (2) a semi-closed dry forest / thicket of Oxytenanthera abyssinica and Millettia stuhlmannii; (3) inselberg xerophytic habitat with abundant Xerophyta and Euphorbia; (4) miombo woodland dominated by Julbernardia globiflora, with Brachystegia spiciformis and Diplorhynchus condylocarpon amongst other miombo species; and (5) closed seasonally moist semi-deciduous forest with large trees of Pouteria pseudoracemosa and Parkia filicoidea, along with a mixed tree and shrub assemblage including Engleropytum natalense, Rawsonia lucida and Rinorea arborea. Based on a review of satellite imagery, these and similar habitats are believed to occur across the IPA, including some extensive areas of intact forest between the more remote inselbergs north of the Montepuez River. Much of the lowland plain is occupied by miombo woodland of varying density. The semi-deciduous forest and thicket appear to be largely confined to the foot of the inselbergs, being particularly well developed in intervening ravines and sheltered areas. Riverine forest is best developed along the Montepuez RIver and its tributaries and this would be worthy of further botanical exploration.

Conservation issues

The large majority of the IPA lies within the western extension of the Quirimbas National Park (QNP), although the northern-most and southern-most inselbergs lie outside the park boundary within the

buffer zone. The QNP was designated in 2002, primarily to protect a region of coastal forest, mangroves and coral reefs including the southern 11 islands of the Quirimbas Archipelago, but a large inland extension was included within the gazetted site, primarily to protect the inselbergs. Active conservation and management within the QNP are very limited at present. Taratibu, whilst within the QNP boundary, is managed as a private ecotourism concession.

Poaching of fauna is a major problem at this site and has led to the decimation of the local elephant population, which may result in significant ecological changes. However, the vegetation on and around the larger inselbergs appears to be largely intact and the human population is low in much of the central and southern portion of the IPA. The inselbergs in the vicinity of Meluco and highway 525 in the north of the site appear from Google Earth (2021) imagery to be more heavily impacted, with most woody vegetation appearing to have been removed and with intensive agriculture in the lowlands surrounding the peaks, with clearance aided by frequent burning. Elsewhere, miombo woodland in particular is being cleared for agricultural land and as a source of fuelwood. Population pressure is likely to increase within this IPA: Ancuabe and Meluco Districts have experienced over 80% and over 50% population increases respectively between 1997 and 2017 (Instituto Nacional de Estatistica Moçambique).

The Taratibu portion of this IPA is included within the Key Biodiversity Areas network on the basis of containing an endemic frog, the Quirimbas Mongrel Frog (Nothophryne unilurio, CR) and the population of Rytigynia torrei. This IPA would also qualify as an Alliance for Zero Extinction site given that it contains the entire known global populations of both the frog species and Euphorbia unicornis.

Site assessor(s)

Iain Darbyshire, Royal Botanic Gardens, Kew Marcelino Inácio Caravela, Universidade Lúrio

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
Pouteria pseudoracemosa (J.H.Hemsl.) L.Gaut.	A(i)	~	~	~	-	-	Frequent
Rytigynia torrei Verdc.	A(i)	~	~	~	-	_	Occasional
Coffea zanguebariae Lour.	A(i)	~	~	~	-	~	Occasional
Euphorbia unicornis R.A.Dyer	A(i)	~	~	~	~	-	Scarce
Strophanthus hypoleucus Stapf	A(i)	~	~	~	-	-	Frequent
Englerina triplinervia (Baker & Sprague) Polhill & Wiens	A(i)	-	~	~	-	-	Unknown

IPA criterion C qualifying habitats

HABITAT	QUALIFYING SUB-	≥ 5% OF NATIONAL	≥ 10% OF NATIONAL	1 OF 5 BEST SITES	AREAL COVERAGE
	CRITERION	RESOURCE	RESOURCE	NATIONALLY	AT SITE

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	-	Major
Savanna - Moist Savanna	-	Major
Wetlands (inland) - Permanent Rivers, Streams, Creeks [includes waterfalls]	-	Minor
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	-	Major
Artificial - Terrestrial - Arable Land	-	Minor
Forest - Subtropical/Tropical Dry Forest	-	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	-	Major

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Agriculture (arable)	-	Minor
Tourism / Recreation	-	Major

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Low	Ongoing - trend unknown
Biological resource use - Hunting & collecting terrestrial animals	High	Ongoing - trend unknown
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	Unknown	Ongoing - trend unknown

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Quirimbas National Park	National Park	protected/conservation area overlaps with IPA	-
Quirimbas Biosphere Reserve	UNESCO Biosphere Reserve	protected/conservation area overlaps with IPA	-
Taratibu Reserve	Private nature reserve	IPA encompasses protected/conservation area	-

Conservation designation

DESIGNATION NAME PROTECTED AREA		RELATIONSHIP WITH IPA	AREAL OVERLAP	
Taratibu	Key Biodiversity Area	IPA encompasses protected/conservation area	_	

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
Protected Area management plan in place	Ministry of Tourism (2012). Parque Nacional das Quirimbas: Plano de Maneio 2013-22.	2013	2022

Bibliography

Burrows, J., Burrows, S., Lötter, M. & Schmidt, E. 2018. **Trees and Shrubs Mozambique**.

Google Earth 2020. Google Earth Satellite Imagery.

WWF Mozambique 2016. A triste história do massacre de elefantes na Reserva de Taratibu..

Joaquim, G.B. & Caravela, M.I. 2019. Caracterização de habitats na concessão de Taratibu, Parque Nacional das Quirimbas-PNQ, distrito de Ancuabe..

Paula, A., Litulo, C., Costa, H. et al. 2015. As maravilhas de Taratibu / The wonders of Taratibu		