Available from https://tipas.kew.org/site/muagamula-river/
[Accessed 16 June 2026]

Muàgámula River

Rio Muàgámula (Test version)

MOZTIPA027

Country: **Mozambique**
Administrative region: **Cabo Delgado (Province)**
Central co-ordinates: **-12.09200 N, 40.30420 E**
Area: **291km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

The Muàgámula River valley qualifies as an IPA under criterion A(i) as it contains important populations of 11 globally threatened species, four of which are assessed as Endangered and seven as Vulnerable. Of particular note, this is considered to be the most secure locality globally for Terminalia barbosae (VU) and it is one of only two known localities for both Heinsia mozambicensis (EN) and Duosperma dichotomum (VU). At present, these three species are only represented at this site within Mozambique's IPA network, as is Grewia filipes (EN). The site does not yet qualify under criterion B as it contains only ten of the B(ii) qualifying species (c. 2%) but with further exploration it is possible that this site may meet the 3% threshold in the future. The small areas of Rovuma Coastal Dry Forest are not considered sufficient to trigger Criterion C(iii) but are nevertheless of high interest at this site.

Site description

This IPA encompasses the broad valley of the Muàgámula River and its tributaries and adjacent lower slopes, approximately 10 – 35 km inland from the Indian Ocean coastline in Macomia District of Cabo Delgado Province. This area is referred to as the Mucojo flats by Timberlake et al. (2010). It is bisected by the main road from Mucojo to Macomia, which passes through a mosaic of woodland and grassland habitats of high botanical interest. The site lies within the Quirimbas National Park and buffer zone. The exact boundary of this IPA, particularly to the north and south, is incompletely delimited at present as botanical exploration of this site has so far been concentrated in the vicinity of the Mucojo-Macomia road.

Botanical significance

Timberlake et al. (2014) note that the varied geological substrates and landforms across the broad valley of the Muàgámula River result in a rich mosaic of habitats that are largely intact and undisturbed, resulting in a high conservation significance. It is of primary importance for its areas of Acacia woodland on calcareous clay-rich soils, together with seasonally inundated grasslands rich in suffrutices. These are unusual habitat in northeast Mozambique which holds several rare and threatened plant species, for which the Muàgámula River IPA is a critical site. Of particular note are globally important populations of Acacia latispina (VU), Duosperma dichotomum (VU), Grewia filipes (EN), Heinsia (formerly Pseudomussaenda) mozambicensis (EN), Tarenna pembensis (EN) and Terminalia (formerly Pteleopsis) barbosae (VU). This site also contains small areas of raised sandstone outcrops with more dense woody vegetation including small patches of dry forest on sand that support localised and threatened species, including Premna schliebenii (VU) and Oxyanthus strigosus (EN). All these species are endemic to the proposed Rovuma Centre of Plant Endemism (Burrows & Timberlake 2011; Darbyshire et al. 2019).
To date, only very limited botanical exploration has taken place within this IPA and most or all of this has been concentrated along the Mucojo-Macomia road, in part due to access difficulties across much of the rest of the site. A more thorough and extensive survey is required to fully document the plant diversity of this interesting area; it is likely that this will result in the discovery of more

interesting and rare species within this IPA. For example, a potentially new species of Hygrophila was noted by Timberlake et al. (2014) from edaphic grassland at this site.

Habitat and geology

This IPA contains a rich mosaic of habitats which are summarised by Timberlake et al. (2014), from which the following information is derived; however, it should be noted that much of the IPA has not yet been surveyed. Outcrops of marl and limestone from the lower Cenozoic (Tertiary) Period occur along the lower slopes of the valley. In combination with Quaternary clays, these give rise to calcareous-rich clay soils that support an Acacia-dominated woodland. Important species include Acacia gerrardii, A. polyacantha and A. robusta subsp. usambarensis, together with Dalbergia melanoxylon and Spirostachys africana. This habitat, rare in northeast Mozambique, also supports a number of rare species (see above) including Acacia latispina.
Ridges of sandstone are encountered across the landscape and these hold a mixture of miombo woodland, dominated by Julbernardia globiflora together with Afzelia quanzensis, Berlinia orientalis and Diplorhynchus condylocarpon, and on deeper sands, a woodland dominated by Hymenaea verrucosa, Millettia stuhlmannii and Terminalia (formerly Pteleopsis) myrtifolia (Timberlake et al. 2014). Some small patches of dry forest occur within these woodlands but these are not well documented at this site.
The floodplain holds Quaternary black or greyish clays supporting an extensive wooded grassland and open grassland, which is inundated during the wet season but is frequently burnt in the dry season. The dominant tree is Acacia seyal, with shrubs of Combretum spp. and the striking Mozambican endemic shrub Thespesia mossambicensis being common. The dominant grasses are Panicum coloratum or, on patches of heavier soil, Setaria incrassata. River and stream channels, usually dry in the prolonged dry season, are lined by dense thickets.
The climate is characterised by a prolonged dry season from May to November/December, with a single rainy season December to April; annual rainfall is approximately 1,000 – 1,150 mm per year. The rivers and streams are mainly seasonal. Dry season fires are frequent across the floodplain.

Conservation issues

Much of this IPA lies within the wilderness zone of the Quirimbas National Park and UNESCO Biosphere Reserve, although the northeast portion north of the Mucojo-Macomia road is within the Park's buffer zone. This park was established in 2002, initially with support from WWF Mozambique and French and Danish development agencies. However, active management and conservation within the park is limited due to insufficient resources, and the Muàgámula River IPA is not considered to be well protected at present. This has been exacerbated by the recent violent insurgency in Cabo Delgado Province which has resulted in large displacements of populations from north of Pemba and major security concerns across the region. There are now serious problems with wildlife poaching and illegal timber extraction in coastal Cabo Delgado. Ecotourism, which could greatly benefit the Quirimbas wilderness zone, is not viable in the current political situation. Wood harvesting for charcoal and timber has been noted to be degrading some of the woodland habitats along the Mucojo-Macomia road, particularly targeting timber species such as Millettia stuhlmannii. However, extensive areas of habitat at this site remain largely intact and undisturbed.
A significant threat arose in the mid-2010s from the proposed construction of a new road from Mocimboa da Praia to Pemba associated with oil and gas industrial activity which would have run through the Muàgámula floodplain. Thankfully, this project did not proceed, and the threat appears to have abated. Current petroleum industry activity is focused on offshore liquefied natural gas (LNG) extraction further north on the Cabo Delgado coast.
The Muàgámula River IPA falls within the vast Quiterajo Key Biodiversity Area, which was designated based upon the range of threatened and range-restricted plant species in this region.

Site assessor(s)

Iain Darbyshire, Royal Botanic Gardens, Kew

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
Heinsia mozambicensis (Verdc.) J.E.Burrows & S.M.Burrows	A(i)	✓	✓	✓	–	–	Scarce
Combretum caudatisepalum Exell & J.G.García	A(i)	✓	✓	✓	–	–	Unknown
Terminalia barbosae (Exell) Gere & Boatwr.	A(i)	✓	✓	✓	–	–	Unknown
Acacia latispina J.E.Burrows & S.M.Burrows	A(i)	✓	✓	✓	–	–	Occasional
Millettia makondensis Harms	A(i)	✓	✓	✓	–	–	Unknown
Oxyanthus strigosus Bridson & J.E.Burrows	A(i)	✓	✓	✓	–	–	Unknown
Premna schliebenii Werderm.	A(i)	–	✓	✓	–	–	Unknown
Duosperma dichotomum Vollesen	A(i)	✓	✓	✓	–	–	Unknown
Grewia filipes Burret	A(i)	✓	✓	✓	–	–	Unknown
Tarenna pembensis J.E.Burrows	A(i)	✓	✓	✓	–	–	Unknown
Acacia latistipulata Harms	A(i)	✓	✓	✓	–	–	Scarce

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
Rovuma Coastal Dry Forest	C(iii)	–	–	–	

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Dry Forest	—	Minor
Savanna - Moist Savanna	—	Major
Shrubland - Subtropical/Tropical Dry Shrubland	—	Major
Grassland - Subtropical/Tropical Seasonally Wet/Flooded Lowland Grassland	—	Major
Wetlands (inland) - Seasonal/Intermittent/Irregular Rivers, Streams, Creeks	—	Minor

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	—	Major
Harvesting of wild resources	—	Minor
Tourism / Recreation	—	Minor
Agriculture (pastoral)	—	Minor

Threats

THREAT	SEVERITY	TIMING
Biological resource use - Gathering terrestrial plants	Medium	Ongoing - trend unknown
Transportation & service corridors - Roads & railroads	High	Past, not likely to return

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	—

Conservation designation

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

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

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