

# Matibane Forest

Floresta de Matibane (Test version)

**MOZTIPA005**



Country: **Mozambique**

Administrative region: **Nampula (Province)**

Central co-ordinates: **-14.71331 N, 40.80208 E**

Area: **45.4km<sup>2</sup>**

## Qualifying IPA criteria

A(i), C(iii)

## IPA assessment rationale

Matibane Forest qualifies as an IPA under criteria A and C. Under sub-criterion A(i), the site supports important populations of fourteen globally threatened plant species. Under criterion C(iii) the site includes a significant area of coastal dry forest of the Rovuma CoE, including patches dominated by *Icuria* and *Micklethwaitia*, for which this is considered to be one of the best five sites nationally. Overall, the site is known to support 10 plant species of high conservation importance as defined under IPA criterion B(ii). Nine of these are nationally endemic species, while the tenth is a regional endemic with a restricted range of less than 10,000 km<sup>2</sup>. Since there are fewer than 16 species of high conservation importance, the site does not meet the threshold to qualify as an IPA under criterion B(ii) for Mozambique. However, the flora at this site has not been extensively surveyed to date and may support other qualifying

species.

## Site description

Matibane Forest is a coastal site in Mossuril District of Nampula Province, ca. 20 km to the south-east of Nacala town and 12 km north of Matibane village. The site consists of a core area of coastal dry forest and a zone of coastal scrub and thicket, ca. 2 km wide, to the north east between the forest edge and shore. Matibane was gazetted as a Forest Reserve in 1957 (Portaria No. 8459 of 22.7.57), originally for the protection and recovery of *Androstachys johnsonii*, an overexploited timber tree. The reserve is co-managed by government and local communities. Although there is no settlement within the core zone of the Forest Reserve, there are three communities living around the edge: Crusse to the south, and Inago and Namalasa to the north-west. Local people cultivate machambas (small-scale areas of cultivation) within the coastal zone. The intact Rovuma coastal dry forest at this site is of global conservation importance and the site is of particular interest for being the only locality globally where the threatened legume genera *Icuria* and *Micklethwaitia*, both endemic to Mozambique, occur together.

## Botanical significance

Matibane Forest is of high botanical importance for the ca. 23 km<sup>2</sup>

of intact coastal dry forest within the southern portion of proposed Rovuma Centre of Plant Endemism (Burrows & Timberlake 2011; Darbyshire et al. 2019a), this being one of the most highly threatened and fragmented habitat types in Mozambique. It is a critical site for *Icuria dunensis*, a globally Endangered tree species endemic to Mozambique for which Matibane Forest is the northernmost known locality (Darbyshire et al. 2019b). This tree is highly restricted and known from few sites along a ca. 360 km stretch of coastline, where it occurs in small and fragmented forest patches, many of which are under increasing pressure from human encroachment. Matibane Forest is currently the only protected area where this tree occurs. Here, *Icuria dunensis* grows with the important timber species *Androstachys johnsonii* (LC), with approximately 0.84 km<sup>2</sup> of *Icuria*-dominated forest recorded in the central portion of this site. Matibane has been identified as one of only three *Icuria* forests assessed to be in “very good condition” using a Forest Ecological Condition Index (A. Massingue, pers. comm.), the others being Mogincual [MOZTIPA029] and Moebase [MOZTIPA032].

A second nationally endemic tree species of high importance at this site is *Micklethwaitia carvalhoi* (VU), which is here at the southernmost end of its range and is locally abundant with some dominant or co-dominant stands, particularly in the northern portion of the reserve.

Other threatened species of note at this site are *Hexalobus mossambicensis* (VU), *Monanthes trichantha* (VU), *Pavetta dianaeae* (EN), *Premna tanganyikensis* (VU) and *Tarenna pembensis* (EN). In total, Matibane Forest supports nine nationally endemic plant species and fourteen species that are threatened with extinction. Botanical inventory of this important site is currently incomplete, and a full survey is desirable as it may well reveal further rare and threatened plant species.

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## Habitat and geology

The principal habitat at Matibane is low-lying, semi-evergreen, dry coastal forest with flat or slightly undulating topography on deep sands (Müller et al. 2005). The forest canopy is dominated by *Androstachys johnsonii*, often forming almost pure stands or mixed with either *Icuria dunensis* or *Micklethwaitia carvalhoi*. Other tree species noted by Müller et al. (2005) include *Azelia quanzensis*, *Albizia forbesii*, *A. glaberrima*, *Balanites maughamii*, *Fernandoa magnifica*, *Markhamia obtusifolia*, *Mimusops caffra*, *Schrebera trichoclada* and *Sclerocarya birrea*, but none of these are ever dominant. The forest understorey is dense and rich in small trees, shrubs and lianas, with a *Combretum* sp., several *Strychnos* spp. and a number of Rubiaceae including *Hyperacanthus microphyllus* - here at the northernmost extent of its range - all common; *Hymenocardia ulmoides* was also noted to be common by Müller et al. (2005). To the north-east of the forest, between the forest edge and the shore, there is a zone of coastal scrub and thicket vegetation.

Matibane is noted to have a particularly high density of *Icuria* trees where it is dominant, although it is restricted here to less than 1 km<sup>2</sup>

of the Forest Reserve (A. Massingue, pers. comm.). Seedling and sapling recruitment has been observed to be good.

Rainfall is rather low, with an average annual rainfall of 800 mm per year recorded at nearby Nacala, which is concentrated in the months December to March. Temperatures remain high throughout the year with average monthly high temperatures varying from 29 – 31°C at Nacala (weatherbase.com).

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## Conservation issues

Illegal logging and charcoal production pose a serious threat to Matibane Forest. *Androstachys johnsonii*, known as ‘mecrusse’, is selectively logged from within the core zone of the forest reserve. *Micklethwaitia carvalhoi*, known as ‘ivate’, is cut for construction locally, particularly around the north edge of the forest and is also used for charcoal making within the forest. Environmental officers (Fiscais) from each of the three local communities are employed part time (for example, three days per week) but have insufficient resources to control the illegal activity. They patrol on foot as they have no access to vehicles. Some illegal hunting of ‘impala’ takes place within the forest. A non-native *Opuntia* (cactus) species occurs along a disused railway line but does not appear to have spread through the forest.

The current extent of the Forest Reserve is smaller than that originally gazetted and most of the natural habitat in the original southwest extent of the reserve has now been cleared. Evidence from Google Earth (2021) imagery shows some notable declines in forest extent in the northern section of the current reserve buffer, but that this has stabilised since the mid-1990s. In these areas, fallow fields and regenerating areas dominated by *Hyparrhenia* spp. are frequent (Müller et al. 2005). These openings appear to be maintained by regular fires.

This site is also included within Mozambique’s Key Biodiversity Areas network on the basis of its population of *Icuria dunensis* (WCS et al. 2021).

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## Site assessor(s)

Jo Osborne, Royal Botanic Gardens, Kew

Hermenegildo Matimele, Instituto de Investigação Agrária de Moçambique

Iain Darbyshire, Royal Botanic Gardens, Kew

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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
<i>Hexalobus mossambicensis</i> N.Robson	A(i)	✓	✓	✓	–	✓	Unknown
<i>Icuria dunensis</i> Wieringa	A(i)	✓	✓	✓	–	✓	Abundant
<i>Micklethwaitia carvalhoi</i> (Harms) G.P.Lewis & Schrire	A(i)	✓	✓	✓	–	✓	Abundant
<i>Pavetta dianeae</i> J.E.Burrows & S.M.Burrows	A(i)	✓	✓	✓	–	–	Occasional
<i>Pavetta mocambicensis</i> Bremek.	A(i)	✓	✓	✓	–	–	Unknown
<i>Tarenna pembensis</i> J.E.Burrows	A(i)	✓	✓	✓	–	–	Occasional
<i>Monanthes trichantha</i> (Diels) Verdc.	A(i)	✓	✓	✓	–	–	Unknown
<i>Premna tanganyikensis</i> Moldenke	A(i)	✓	✓	✓	–	–	Unknown
<i>Psydrax micans</i> (Bullock) Bridson	A(i)	–	–	✓	–	–	Unknown
<i>Zanthoxylum tenuipedicellatum</i> (Kokwaro) Vollesen	A(i)	✓	✓	✓	–	–	Unknown
<i>Agelanthus longipes</i> (Baker & Sprague) Polhill & Wiens	A(i)	✓	✓	✓	–	–	Unknown
<i>Vitex carvalhi</i> Gürke	A(i)	✓	✓	✓	–	–	Unknown
<i>Paracephaelis trichantha</i> (Baker) De Block	A(i)	–	✓	✓	–	–	Unknown
<i>Vitellariopsis kirkii</i> (Baker) Dubard	A(i)	–	✓	✓	–	–	Unknown

## 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 Icuria Coastal Dry Forest	C(iii)	—	—		0.84
Rovuma Micklethwaitia Coastal Dry Forest	C(iii)	—			

## General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Dry Forest	–	Major
Shrubland - Subtropical/Tropical Dry Shrubland	–	Minor

## Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	–	Major

## Threats

THREAT	SEVERITY	TIMING
Biological resource use - Logging & wood harvesting	Medium	Ongoing - trend unknown
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Low	Ongoing - trend unknown

## Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Reserva Florestal de Matibane	Forest Reserve (conservation)	IPA encompasses protected/conservation area	–

## Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Reserva Florestal de Matibane	Key Biodiversity Area	protected/conservation area encompasses IPA	–

## Bibliography

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