

# Quinga

MOZTIPA030



Country: **Mozambique**

Administrative region: **Nampula (Province)**

Central co-ordinates: **-15.73550 N, 40.34300 E**

Area: **63km<sup>2</sup>**

## Qualifying IPA criteria

A(i), C(iii)

## IPA assessment rationale

Quinga qualifies as an IPA under criterion A(i), containing globally important populations of three threatened species: *Icuria dunensis* (EN), *Blepharis dunensis* (EN) and *Warneckea sessilicarpa* (CR). It is the only site within the current IPA network in Mozambique to contain *Blepharis dunensis* and Quinga is considered likely to be a global stronghold for this species. Quinga also qualifies under criterion C(iii) as it contains up to 6 km<sup>2</sup> of Rovuma *Icuria*-dominated coastal dry forest.

## Site description

The Quinga IPA is located in coastal Liupo District of Nampula Province in northern Mozambique, between the latitudes of -15.85° and -15.60°. It comprises a stretch of ca. 37 km of coastline between the village of Quinga in the southwest to the estuary of the Mogincual River in the northeast, and extends inland for up to 3.5 km. This site contains some of the most intact coastal dune vegetation systems in Nampula Province and includes significant patches of well-preserved coastal dry forest. Whilst this area has been highly under-botanised to date, it is known to contain globally important populations of several threatened species and is very likely to prove to be one of the most important remaining sites in the southern portion of the proposed Rovuma Centre of Plant

Endemism (CoE).

## Botanical significance

The coastal dune formations between Quinga and the Mogincual River mouth support a number of rare and threatened species and habitats of the proposed Rovuma CoE (Burrows & Timberlake 2011; Darbyshire et al. 2019a). Quinga is believed to be a critical site for *Blepharis dunensis*, an Endangered local endemic of coastal northern Mozambique. This species has been recorded here at Quinga Beach growing in open dry dune scrub (A.R. Torre & J. Paiva #11439), and was recently re-recorded at this site (A. Massingue, pers. obs.). Given that the other two known localities for *B. dunensis* - Angoche and Pebane - are both now highly disturbed and with little intact dune vegetation remaining, the Quinga IPA may be the prime locality globally for this species (Darbyshire et al. 2019b).

This is also a globally important site for the endangered *Icuria dunensis* ('icuri' or 'ncuri') which forms mono-dominant or co-dominant dry forest stands. Several patches of *Icuria* forest have been confirmed within this IPA, including well preserved patches in the far north of the site along the margin of the Mogincual River Estuary which are reported to be in good condition (A. Massingue, pers. obs.; Darbyshire et al. 2019c). Whilst these forests have not been surveyed in full, a review of satellite imagery available on Google Earth Pro (2021) imagery suggests up to 6 km<sup>2</sup> of forest containing *Icuria* may be present within the IPA, second only in area to the Moebase *Icuria* forests [MOZTIPA032].

The Critically Endangered shrub *Warneckea sessilicarpa* has recently been discovered here, where it was found to be locally common to dominant along the dunes at Quinga beach (A. Massingue, pers. obs.). Elsewhere within its narrow range, this species is associated with *Icuria* forest and so it is likely to occur in and around the *Icuria* patches of the Quinga IPA.

Other interesting species recorded at this site to date include the Mozambique endemics *Dracaena* (formerly *Sansevieria*) *subspicata*

(not assessed but likely to be LC) and *Chamaecrista paralias* (LC). The Vulnerable shrub or climbing shrub *Acacia* (*Senegalia*) *latistipulata* may also occur here as it has been recorded from just outside the IPA boundary, along the route between Mogincual and Quinga (A.R. Torre & J. Paiva #11496). Given the highly incomplete botanical survey at this site to date, the likelihood of finding other rare species is high. This may include other species endemic to the southern portion of the Rovuma CoE, such as *Scorodophloeus torrei* (EN) and *Ammannia moggii* (CR). The latter of these is known to date only from the Angoche area, c. 50 km to the southwest of the Quinga IPA, and is Critically Endangered due to extensive sand mining operations there (Mucaleque 2020). This species should be sought for in the seasonal wetlands of the coastal dune systems at Quinga.

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## Habitat and geology

The vegetation of this site is a mosaic of coastal thicket, woodland and dry forest on coastal dune formations, together with extensive areas of seasonal wetlands and damp grasslands in the inter-dunal slacks. The coastal sands rich in heavy minerals including ilmenite (titanium ore) (Kenmare Resources 2018). The vegetation assemblages have not been studied in detail to date. As elsewhere within its range, the Icuria forests are associated with low-lying sands with a high water table. The coastal thicket vegetation is dominated by *Sideroxylon inerme*, *Flacourtia indica* and *Mimosops cf. obovata* (A. Massingue, pers. obs.); this is the "Dune Thicket-Forest [14b]" vegetation type of Burrows et al. (2018). Areas with better developed soils, e.g. along small rivers, support a woodland with *Azelia quanzensis* and *Millettia stuhlmannii* amongst the dominant species (A. Massingue, pers. obs.). It is likely that the wooded areas on the inland side of the IPA include areas of miombo woodland.

The climate is highly seasonal, with a hot wet season from December to March/April, peaking in January. At nearby Mogincual to the north, annual rainfall is approximately 1,037 mm per year. Temperatures peak in December with an average high of 33°C (climatedata.eu).

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## Conservation issues

There is no formal protection or management for biodiversity within this IPA at present. Some of the woodland habitats are subject to continuing encroachment, particularly on the landward side of the IPA where smallholder farms increase in density moving inland, and there have been notable expansions of farmland clearly evident over the past 20 years from historical imagery available on Google Earth Pro (2021). However, there are still significant areas of intact habitats along the coastal strip and within the dune systems. At present, some of these areas are not visited frequently except by fishing communities. In such areas, the most likely threat is from fire which can encroach into these coastal habitats from the neighbouring agricultural lands inland; evidence of recent fires was observed to be widespread during surveys in 2017 (A. Massingue,

pers. obs.). In the vicinity of Quinga, there is greater footfall around the beach, with much fishing activity and recreation, and this may impact the quality of the habitat. There is an urgent need to protect the remaining intact coastal habitats at this site, given their high botanical importance.

A significant future threat lies in the fact that a large portion of the IPA falls within the Quinga North mining concession for which an exploration license is held by Kenmare Resources plc. who operate the Moma Titanium Mineral Mine to the southwest. The Quinga North concession is believed to hold commercially viable concentrations of heavy minerals, including ilmenite, rutile and zircon. Reconnaissance exploration of this concession began in 2018 (Kenmare Resources 2018).

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## 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
<i>Icuria dunensis</i> <i>Wieringa</i>	A(i)	✓	✓	✓	—	—	Occasional
<i>Warneckea sessilicarpa</i> (A.Fern. & R.Fern.) <i>Jacq.-Fel.</i>	A(i)	✓	✓	✓	—	—	Frequent
<i>Blepharis dunensis</i> <i>Vollesen</i>	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)	—	—	—	5.8

## General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Dry Forest	—	Major
Savanna - Moist Savanna	—	Major
Shrubland - Subtropical/Tropical Dry Shrubland	—	Major
Marine Coastal/Supratidal - Coastal Sand Dunes	—	Major
Marine Coastal/Supratidal - Coastal Brackish/Saline Lagoons/Marine Lakes	—	Minor
Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools [under 8 ha]	—	Major
Grassland - Subtropical/Tropical Seasonally Wet/Flooded Lowland Grassland	—	Major
Artificial - Terrestrial - Arable Land	—	Minor
Marine Intertidal - Sandy Shoreline and/or Beaches, Sand Bars, Spits, etc.	—	Minor

## Land use types

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

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Harvesting of wild resources	–	Unknown

## Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Medium	Ongoing - increasing
Energy production & mining - Mining & quarrying	Unknown	Future - inferred threat
Biological resource use - Logging & wood harvesting	Medium	Ongoing - trend unknown
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	Unknown	Ongoing - trend unknown

## Management type

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

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