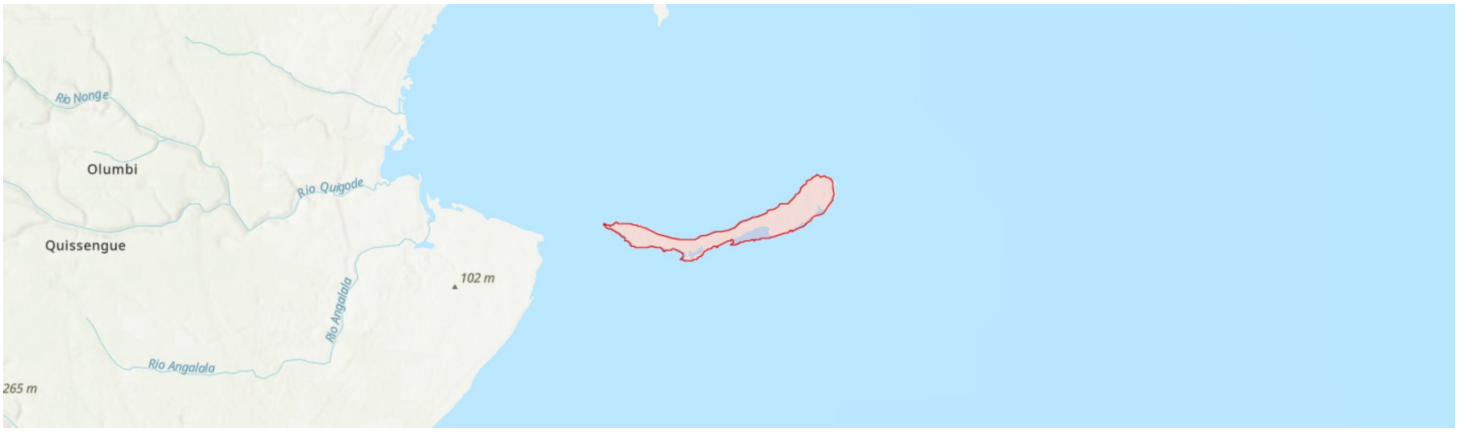
Vamizi Island

Ilha Vamizi (Test version)

MOZTIPA017



Country: **Mozambique**
Administrative region: **Cabo Delgado (Province)**
Central co-ordinates: **-11.02840 N, 40.66830 E**
Area: **15.5km²**

Qualifying IPA criteria

A(i), C(iii)

IPA assessment rationale

Vamizi Island qualifies as an IPA under criteria A(i) and C(iii). At present, it qualifies under A(i) on the basis of three globally threatened taxa, two of which are Endangered and for which Vamizi is the only known site in Mozambique: Barleria whytei, a coral rag forest specialist that is known from only five localities globally, and Olea woodiana subsp. disjuncta, a coastal dry forest tree otherwise known from Kenya and Tanzania. However, as the flora of the site becomes more thoroughly researched, it is likely that other criterion A species will be found, such as Psydrax sp. A which, if confirmed as a distinct species, is likely to qualify as threatened under IUCN criterion D2.
Vamizi qualifies under criterion C(iii) due to the presence of extensive areas of intact dwarf coastal forest on coral rag, a nationally scarce and range-restricted habitat for which Vamizi is the only known example in Mozambique.

Site description

Vamizi Island lies in the north of the Quirimbas Archipelago, off the coast of Palma District in Cabo Delgado Province, northeast Mozambique. This narrow, low lying island lies c. 4 km offshore from the mainland and is 13.3 km long and less than 2 km wide at its widest point, totaling 15.5 km2 in size. It is formed from ancient raised coral rock deposits (coral rag) and coral-derived sands. The island is surrounded by coral reefs and other marine areas that are of international conservation importance for their marine life.

Botanical significance

Vamizi is the only known site in Mozambique to support dwarf coastal forest on coral rag (Burrows & Burrows 2012; Burrows et al. 2018), a habitat that is highly localised, scattered and often threatened elsewhere in Eastern Africa. This habitat supports a low-diversity but unique assemblage of plant species that are adapted to this rather harsh, water-scarce environment. The forests include important populations of the globally threatened tree Olea woodiana subsp. disjuncta (EN) and understorey herb Barleria whytei (EN), Vamizi being the only known site for these species in Mozambique (Darbyshire et al. 2015; Burrows et al. 2018). Three potential endemic, undescribed species are recorded from the island, which may prove to be additional threatened species: Cordia sp. ?nov. aff. ovalis (J.E. Burrows, pers. obs.), Pleurostylia sp. aff. opposita (R.H. Archer, pers. comm.) and Psydrax sp. A (Burrows et al. 2018). It also holds an important population of the recently described species Acacia quiterajoensis (LC), which is a co-dominant in the coral rag forest and for which the Vamizi plants differ from the mainland populations - which do not occur on coral rag - in fruit and leaf size (Burrows et al. 2018) such that they may represent a distinct taxon. The island is also the only known site in Mozambique for a number of other species, including the coastal East African climbing shrub Capparis schefflera, and some Pacific drift-seed species such as Cycas thouarsii (LC), Morinda citrifolia and Hernandia nymphaefolia (Burrows & Burrows 2012).

The flora of Vamizi has so far been incompletely surveyed (Silveira & Paiva 2009; Burrows & Burrows 2012), and a full inventory is highly desirable in view of the unusual coral rag forest habitat, and the high potential for further new discoveries.

Habitat and geology

The island is formed from exposed coral rocks (coral rag), overlain in some areas by thin sandy soils. Coral-sand beaches fringe the whole island apart from the north-western coast which is composed of an undercut coral rock shelf. The site has a highly seasonal climate with the rainy season in December-to April and dry season from May to November; temperatures remain high all year, however, with monthly maxima averaging 27-30C at Palma on the Cabo Delgado mainland.

Burrows & Burrows (2012) provide a summary of the vegetation with dominant species, and a preliminary species inventory. The dominant vegetation in the interior of the island is dwarf coastal forest on coral rag, which is a low-diversity deciduous or semi-evergreen assemblage with a canopy of 10-12 m and occasional emergents to 15 m, and with an understorey shrub and small tree layer. Dominant species include Diospyros consolatae, Pleurostylia sp. aff. opposita, Sideroxylon inerme and Terminalia boivinii, with Suregada zanzibarensis dominant in the understorey. The coral sand beaches and dunes support a low littoral scrub which includes a nationally important population of Xylocarpus moluccensis, with other frequent species including Bourreria petiolaris, Grewia glandulosa, Sophora tomentosa and Suriana maritima amongst others. The southern portion of the island supports a low intermediate scrub on shallow soils between the littoral vegetation and the forest, with e.g. Commiphora spp., Pemphis acidula and Sideroxylon inerme. Three inlets on the southern side of the island support mangroves dominated by Brugueira gymnorrhiza and Rhizophora mucronata, although these are not well developed as there are no rivers on the island to provide nutrient-rich silts during floods. The western portion of the islands is much more impacted by humans, with areas of cultivation and patches of open, disturbed woodland.

Conservation issues

Although not formally a protected area, Vamizi Island is managed as a conservation area. The Friends of Vamizi project and charitable Trust were established in 2002 and 2012 respectively to protect Vamizi's terrestrial and marine ecosystems through combining biodiversity conservation with community development and tourism (Friends of Vamizi 2020). The Vamizi Marine Conservation Research Center conducts research and community outreach to protect this area, and the eastern two-thirds of the island are run as a tourism and conservation concession. The natural vegetation of this concession area is remarkably well preserved, impacted only by a few roads and limited tourism infrastructure. The main concerns within the tourist areas are (1) that the siting of future infrastructure be carefully planned to minimise impact and to prevent damage to the sensitive littoral vegetation; (2) that the sewerage is managed appropriately as the coral rag and its water table are highly susceptible to pollution; and (3) that exotic plant species are not allowed to spread. Casuarina trees are well established along the beaches but are not a threat to the biodiversity so long as seedlings are not allowed to establish in the natural habitats (Burrows & Burrows 2012).

The western third has been settled for several centuries, and much of the vegetation here has been largely degraded or transformed. Today, there are around 2,000 inhabitants on the island, but the population has fluctuated historically. The main occupation is fishing, which is putting some pressure on the rich marine life of the offshore reefs. A private airstrip has been constructed in the western portion.

A notable threat, assuming that gas drilling and extraction continues offshore in Cabo Delgado, is pollution from the offshore rigs and shipping that will pass nearby north of Vamizi. Although it may not directly impact the vegetation, this poses a threat to the integrity of the Vamizi ecosystem (T. Hempson, pers. comm.) including the Vamizi Key Biodiversity Area, which as currently defined, is entirely marine and does not overlap with the IPA.

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 whytei S.Moore	A(i)	✓	✓	✓	–	–	Occasional
Olea woodiana Knobl. subsp. disjuncta P.S.Green	A(i)	–	✓	✓	–	–	Scarce
Zanthoxylum lindense (Engl.) Kokwaro	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
Dwarf Forest on Coral Rag	C(iii)	–	✓	✓	

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Dry Forest	–	Major
Marine Coastal/Supratidal - Coastal Sand Dunes	–	Minor
Marine Intertidal - Sandy Shoreline and/or Beaches, Sand Bars, Spits, etc.	–	Major
Marine Intertidal - Mangrove Submerged Roots	–	Minor
Shrubland - Subtropical/Tropical Dry Shrubland	–	Minor

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	–	Major
Tourism / Recreation	–	Major
Agriculture (arable)	–	Minor

Threats

THREAT	SEVERITY	TIMING
Residential & commercial development - Tourism & recreation areas	Low	Ongoing - stable
Climate change & severe weather - Storms & flooding	Unknown	Future - inferred threat
Energy production & mining - Oil & gas drilling	Medium	Future - inferred threat

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Vamizi Island concession	Private nature reserve	IPA encompasses protected/conservation area	–

Bibliography

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