TONKOYAH INSELBERG COMPLEX, FORECARIAH PREFECTURE

ABSTRACT

This inselberg complex is the one of the best examples of coastal inselbergs in Guinea and West Africa in general. The inselbergs have significant populations of at four endangered species, including the largest known population of Raphionacme caerulea (EN). They are under threat from quarrying, nomadic cattle grazing and invasive species.

Charlotte Couch and Denise Molmou

Royal Botanic Gardens Kew

GUINEE ECOLOGIE

Plantlife

Herbier National de Guinée

DARWIN INITIATIVE

TIPA Assessment: Tonkoyah Inselberg complex, Forécariah

IPA criteria under which the site qualifies: A (i), C (iii)

Assessed by: Charlotte Couch (RBG Kew) and Denise Molmou (Herbier National de Guinee)

IPA assessment rationale

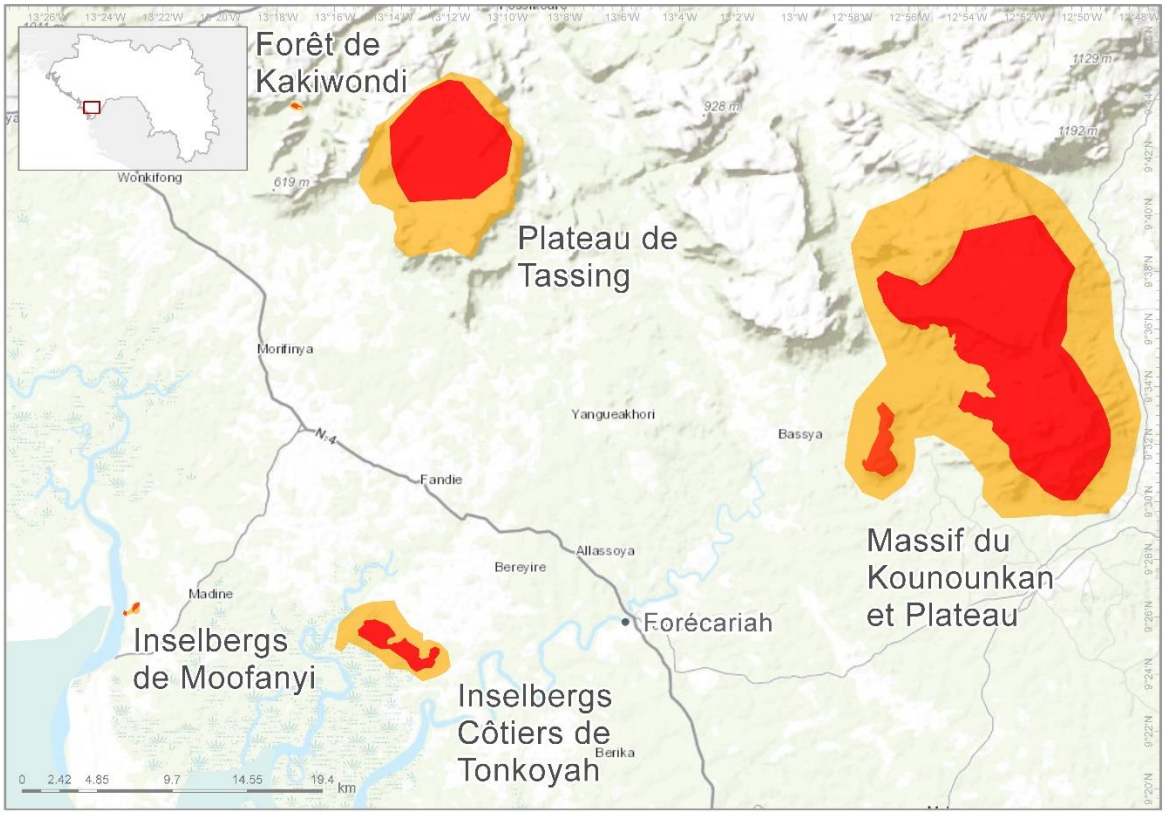
This inselberg complex is the one of the best examples of coastal inselbergs in Guinea and West Africa in general. The inselbergs have significant populations of at four endangered species, including the largest known population of *Raphionacme caerulea* (EN). They are under threat from quarrying, nomadic cattle grazing and invasive species.

Site overview

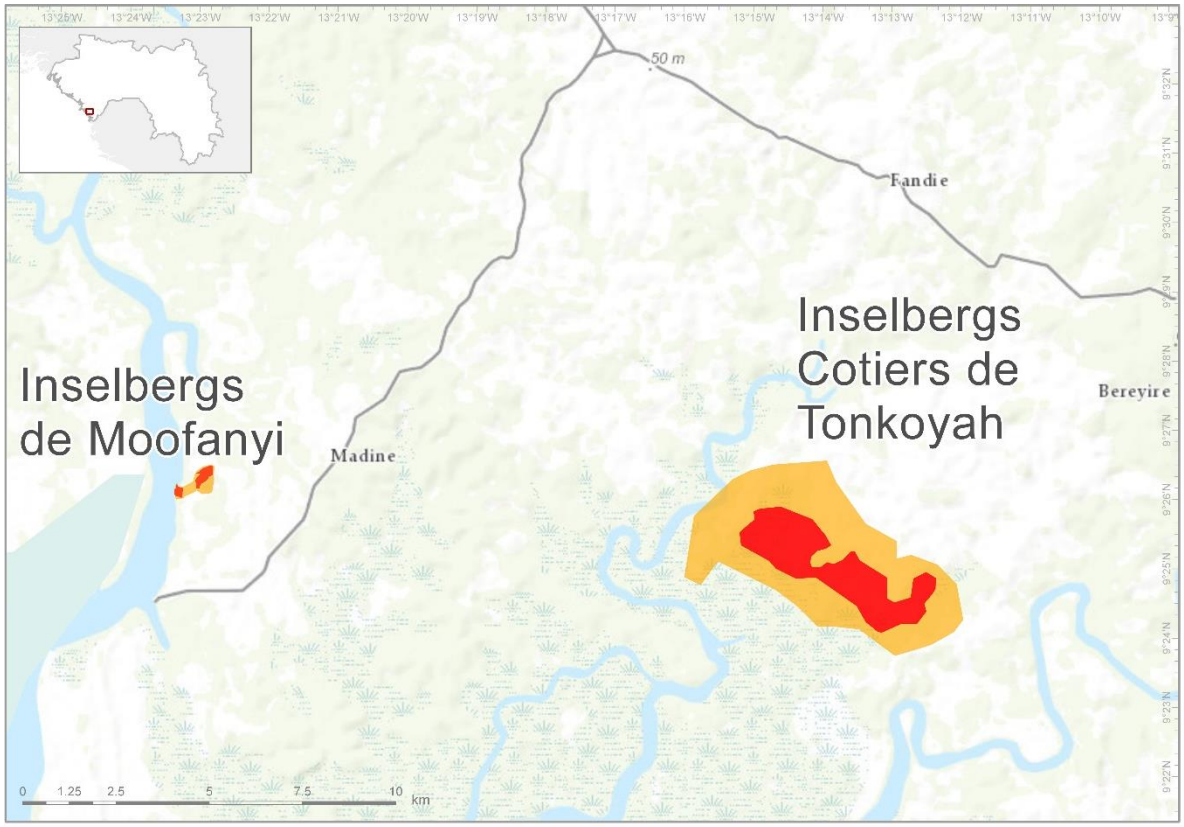
Site Name: Tonkoyah Inselberg complex	
Country: Republic of Guinea	Administrative region: Forécariah
Central co-ordinates: 09°25'6''N, 13°14'16''W	Area: 6.12 km^2
Altitude minimum: 7 m	Altitude maximum: 20 m

Site Description

The Tonkoyah inselberg complex is located in the coastal zone of Forécariah. It is a series of low lying granite shield inselbergs varying in size from c. 1km to 100m. Many of the inselbergs are bordered by mangrove and some have small patches of forest associated with them. In the dry season, the only vegetation is the dehydrated plants of *Afrotrilepis pilosa,* often forming candelabra structures, and most of the inselbergs are covered with an algal crust. In the wet season these inselbergs are covered with a variety of species and habitats which can be classified into microhabitats (Porembski, 1999) such as temporary pools and wet depressions, the latter dominated by the grass *Dilophotiche occidentalis*. Some of the inselbergs in this complex also have endangered species present such as *Raphionacme caerulea* (EN) and *Plectranthus linearifolius* (EN). In the forest patches associated with some of these inselbergs *Stylochaeton pilosus* (EN) can be found. Inselbergs in this area are under threat from quarrying for building material. One quarry was started in the area in 2013.



Map showing the proposed TIPA in relation to the wider Guinea Maritime area.



Map showing the proposed area for protection as a TIPA. Core area in red, buffer zone in yellow.

Botanical significance

The microhabitats found on these inselbergs have several threatened species present. The largest inselberg has one of the most significant populations of *Raphionacme caerulea* and *Plectranthus linearifolius*; the forest adjacent also has a small population of *Stylochaeton pilosus*. Other inselbergs in the complex have small populations of *Raphionacme* and the forest patches adjoining them have populations of *Stylochaeton pilosus.* One also has a small population of *Marsdenia exellii*, a rare Apocynaceae liana associated with the vegetation at the interface of inselbergs and forest.

General habitat and geology description

Granite shield inselbergs with several different microhabitats present. Areas of seepage and depressions with thin soils, *Afrotrilepis pilosus* forming clumps, temporary ponds, cracks and crevices, and associated forest patches.

Conservation issues

The main threat to inselbergs in Guinea is from quarrying. There has already been one quarry opened up in the area, this may increase the likelihood of more. The invasive species *Breynia disticha* was also recorded here in 2012, in small numbers. We have been working with the villagers at Tonkoyah for a number of years and they are aware of the importance of the rare species of plants. They also have issues with nomadic herders coming through and burning the inselberg vegetation and nearby areas for new pasture. This can influence the amount of seed produced and distributed by *Raphionacme* as the fires are often set in January when the fruits are ripening.

Status of Protected Area

This area is not currently protected.

Threats

Pastoralism: Nomadic cattle grazing
Wood cutting: Mangrove trees
Quarrying: extraction of granite
Infrastructure: Transport road from the mangrove area to the village
Invasive species: Presence of *Breynia disticha*

Threat Level: Medium-High

Criterion A: Threatened Species

			Site contains…					
Criterion A taxon present	IPA sub criterion	IUCN redlist assessment	**≥ 1% of global population**	**≥ 5% of national population**	**Is 1 of 5 best sites nationally**	Entire global population (single-site endemic)	Species is of socio-economic importance	*Abundance at site
Raphionacme caerulea E.A.Bruce	A(i)	EN	⊙	⊙	⊙			Frequent
Plectranthus linearifolius (J.K.Morton) B.J.Pollard & A.J.Paton	A(i)	EN	⊙	⊙	⊙			Infrequent
Marsdenia exellii C.Norman	A(I)	EN	⊙	⊙	⊙			Scarce
Stylochaeton pilosus Bogner	A(i)	EN	⊙	⊙	⊙			Infrequent

Key: IUCN category: CR Critically Endangered, EN Endangered, VU Vulnerable. Abundance: Abundant, Common, Frequent, Infrequent, Scarce, Unknown

Criterion B: Botanical Richness

There is insufficient information to apply this criteria.

Criterion C: Threatened Habitat

			Site contains…		
*Habitat type	IPA subcriterion	IUCN redlist assessment	**≥ 5% of national resource (for C(i) and C(ii))**	**≥ 10% of national resource (for C(iii))**	Estimated area at site (if known)
Coastal Inselbergs	C(iii)		○	⊙	

Bibliography

IUCN Red List of Threatened Species: www.redlist.org

Lisowski, S. 2009. Flore (Angiospermes) de la République de Guinée. Scripta Botanica Belgica.

Couch, C; Magassouba, S; Rokni, S; Cheek, M. (2018) Threatened plants species of Guinea-Conakry: A preliminary checklist. PeerJ Preprints. https://doi.org/10.7287/peerj.preprints.3451v1

Site in pictures

Plectranthus linearifolius (J.K.Morton) B.J.Pollard & A.J.Paton EN. Photo: M.Cheek © RBG Kew.

Raphionacme caerulea E.A.Bruce EN. Photo: M.Cheek © RBG Kew.

Inselberg '7' the largest of the shield inselbergs in the complex, July 2013. Photo: C.Couch © RBG Kew.

Stylochaeton pilosus Bogner EN, in the forest patch bordering Inselberg '7C'. Photo: C.Couch © RBG Kew.