

Mt Gangan Sandstone Mountain Chain

GUITIPA003



Country: **Guinea**
 Administrative region: **Kindia (Prefecture)**
 Central co-ordinates: **10.16528 N, -12.95083 E**
 Area: **633km²**

Qualifying IPA criteria

A(i), A(iii), B(i), C(iii)

IPA assessment rationale

The Mt Gangan sandstone table mountains form a unique environment within the local area of Kindia Prefecture, the sandstone cliffs, low altitude sandstone bowl and submontane forest are all recognised as threatened vegetation types of Guinea. Species globally endemic to Mt Gangan are *Kindia gangan* (newly described in 2018), *Clerodendrum sylviae*, *Phyllanthus felicis*, plus several near endemics to Mt Gangan e.g. *Pitcairnia felicianae*, the only bromeliad in Africa. There are numerous other rare and threatened species found on the sandstone bowl, including *Plectranthus linearifolius* and *Raphionacme caerulea*. The area also includes some disturbed lowland forest on Mt Gangan itself.

Site description

The Mt Gangan Sandstone Mountains are located north east of the town of Kindia. The core area is 33.4 km wide and 26.5 km at its longest point. It is made up of a series of sandstone step hills intersected with valleys and surrounded by sandstone bowl. The proposed TIPA surrounds the top half of the reservoir at Samaya. Sandstone steps on the bowl have *Plectranthus* sp. nov., and *Cyanotis ganganensis* both nearly endemic to Mt Gangan. The sandstone bowl is often used for small-scale cultivation of vegetables and herbs. The crevices and cracks in the cliffs are home to numerous endemic species and new species have been recently discovered here.

Mt Gangan itself has patches of remnant submontane forest near the summit, however, much was lost due to a now disused banana plantation, and part of the summit area is cleared and littered by tourists from Kindia as a picnic spot. Part of this area was previously designated as a Classified Forest, but there has been little practical protection in recent years. The low altitude sandstone bowl, submontane forest and sandstone cliffs are recognised as threatened vegetation types in Guinea.

Botanical significance

The topographic features of the Mt Gangan Sandstone Mountains give rise to some unique habitats. Numerous species endemic to Guinea are found on the cliffs, for example *Pitcairnia felicianae* EN,

the only native African member of the Bromeliaceae (pineapple family), and *Fleurydora felicis* VU (Ochnaceae) and *Clerodendrum sylvae* EN (Lamiaceae). In 2018, a new genus to science was described from these cliff areas, *Kindia gangan* (Rubiaceae), also monospecific and endemic to Mt Gangan. In addition, *Anisotes guineensis* (Acanthaceae), *Cyanotis ganganensis* (Commelinaceae), *Apodiscus chevalieri* (Phyllanthaceae) are also present; all these species are threatened and have a very restricted distribution. The sandstone bowl dominant grass is *Anadelphia chevalieri*, globally endemic to the Kindia area. Globally threatened species include *Utricularia pobeguinii* (Lentibulariaceae), which are also unique to the environs of Kindia, *Plectranthus linearifolius* (Lamiaceae) and an unusual variant of *Raphionacme caerulea* (Apocynaceae). *Baphia heudelotiana* VU (Leguminosae-Papilionoideae) and *Fegimanra afzelii* NT (Anacardiaceae), small trees are found in the deeper cracks of the bowl.

Habitat and geology

Sandstone table mountains, cliffs and valleys with crevices and cracks. The valley vegetation can be quite high and dense. Sandstone bowl with seepage areas, temporary waterways. Mt Gangan itself has patches of remnant submontane forest near the summit, however, much was lost due to a previous banana plantation (now disused). In the local language of Susu, gangan means 'Sisal'. The mountain takes its name from this plant species. Ordovician sandstone layered with younger Silurian and Devonian argillite and siltstone; differential weathering gives rise to steps in the mountains (Source: Carte des Minéraux de la Guinée, Ministry of Mines, Government of Guinea, 2006).

Conservation issues

There are several threats to this area. Fires from the cattle herders are an issue in the lowland bowl area and potentially they can move up valleys and onto the cliffs. Cattle herds of large numbers have been observed in this area and this can cause damage through trampling and overgrazing. Cultivation of market garden produce is a threat to the bowl. This is currently quite localised and small scale, but threatens some areas where *Raphionacme caerulea* has been observed. There is also a threat from lowland forest being cleared for charcoal production. *Fleurydora felicis* is used by the local people as a medicine, but the level of collection and utilisation is not known.

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>Pitcairnia feliciana</i> (A.Chev.) Harms & Mildbr.	A(i)	✓	✓	✓	–	–	Frequent
<i>Fleurydora felicis</i> A.Chev.	A(i)	✓	✓	✓	–	–	Scarce
<i>Kindia gangan</i> Cheek	A(i)	✓	✓	✓	✓	–	Scarce
<i>Anisotes guineensis</i> Lindau	A(i)	✓	✓	✓	–	–	Scarce
<i>Apodiscus chevalieri</i> Hutch.	A(i)	✓	✓	✓	–	–	Scarce
<i>Baphia heudelotiana</i> Baill.	A(i)	✓	✓	✓	–	–	Scarce
<i>Cyanotis ganganensis</i> Schnell	A(i)	✓	✓	✓	–	–	Scarce
<i>Anadelphia pumila</i> Jacq.-Fél.	A(i)	✓	✓	✓	✓	–	Unknown
<i>Dilophotriche occidentalis</i> Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Scarce
<i>Digitaria patagiata</i> Henrard	A(i)	✓	✓	✓	–	–	Scarce
<i>Dissotis humilis</i> A.Chev. & Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Scarce
<i>Heterotis pygmaea</i> (A.Chev. & Jacq.-Fél.) Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Scarce
<i>Keetia susu</i> Cheek	A(i)	✓	✓	✓	–	–	Scarce
<i>Bulbostylis guineensis</i> Cherm. ex M.Bodard	A(i)	✓	✓	✓	–	–	Scarce
<i>Utricularia pobeguini</i> Pellegr.	A(i)	✓	✓	✓	–	–	Scarce
<i>Utricularia macrocheilos</i> (P.Taylor) P.Taylor	A(i), A(iii)	✓	✓	–	–	–	Scarce
<i>Utricularia tetraloba</i> P.Taylor	A(i)	✓	✓	✓	–	–	Scarce
<i>Clerodendrum sylvae</i> J.-G.Adam	A(i)	✓	✓	✓	✓	–	Occasional

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>Anadelphia chevalieri</i> Reznik	A(i)	✓	✓	✓	–	–	Scarce
<i>Phyllanthus felicis</i> J.F.Brunel	A(i)	✓	✓	✓	✓	–	Occasional
<i>Schizachyrium penicillatum</i> Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Unknown
<i>Schizachyrium radicosum</i> Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Unknown
<i>Anadelphia macrochaeta</i> (Stapf) Clayton	A(i)	✓	✓	–	–	–	Scarce
<i>Napoleonaea alata</i> Jongkind	A(i)	✓	✓	✓	–	–	Scarce
<i>Dissotis leonensis</i> Hutch. & Dalziel	A(i)	✓	✓	✓	–	–	Scarce
<i>Anadelphia trichaeta</i> (Reznik) Clayton	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
Low Altitude Sandstone Bowal Grasslands	C(iii)	–			451
Sandstone cliffs and walls	C(iii)	–			58

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Grassland - Subtropical/Tropical Seasonally Wet/Flooded Lowland Grassland	–	Major
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	–	Minor

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Agriculture (pastoral)	–	Major
Agriculture (arable)	–	Minor

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Tourism / Recreation	–	Minor

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	Medium	Ongoing - stable
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	Medium	Ongoing - stable
Residential & commercial development - Housing & urban areas	Low	Ongoing - increasing
Agriculture & aquaculture - Livestock farming & ranching - Small-holder grazing, ranching or farming	High	Ongoing - increasing
Biological resource use - Logging & wood harvesting	High	Ongoing - increasing

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mt Gangan	Classified Forest	IPA encompasses protected/conservation area	90

Management type

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

Bibliography

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