



TIPA ASSESSEMENT:
GRANDES CHUTES CLASSIFIED FOREST,
KINDIA PREFECTURE

ABSTRACT

This is the only known global site for four species of plant, such as *Scleria guineensis*, a critically endangered endemic species to Guinea and a new species to science of *Coleus*. Grandes Chutes falls is the only known global site for the Podostemaceae species, *Inversodicraea pygmaea* and several other species of Podostemaceae; they may now be extinct due to the construction of a dam for hydro-electric power. It also has a population of *Raphionacme caerulea* (EN). The seepage areas are rich in carnivorous plant species including the threatened species *Utricularia pobeguinii* (EN) and *Utricularia macrocheilos* (VU). The area is under threat from increased mining activities, housing and cattle grazing.

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TIPA Assessment: Grandes Chutes Classified Forest, Kindia Prefecture.

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

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IPA assessment rationale

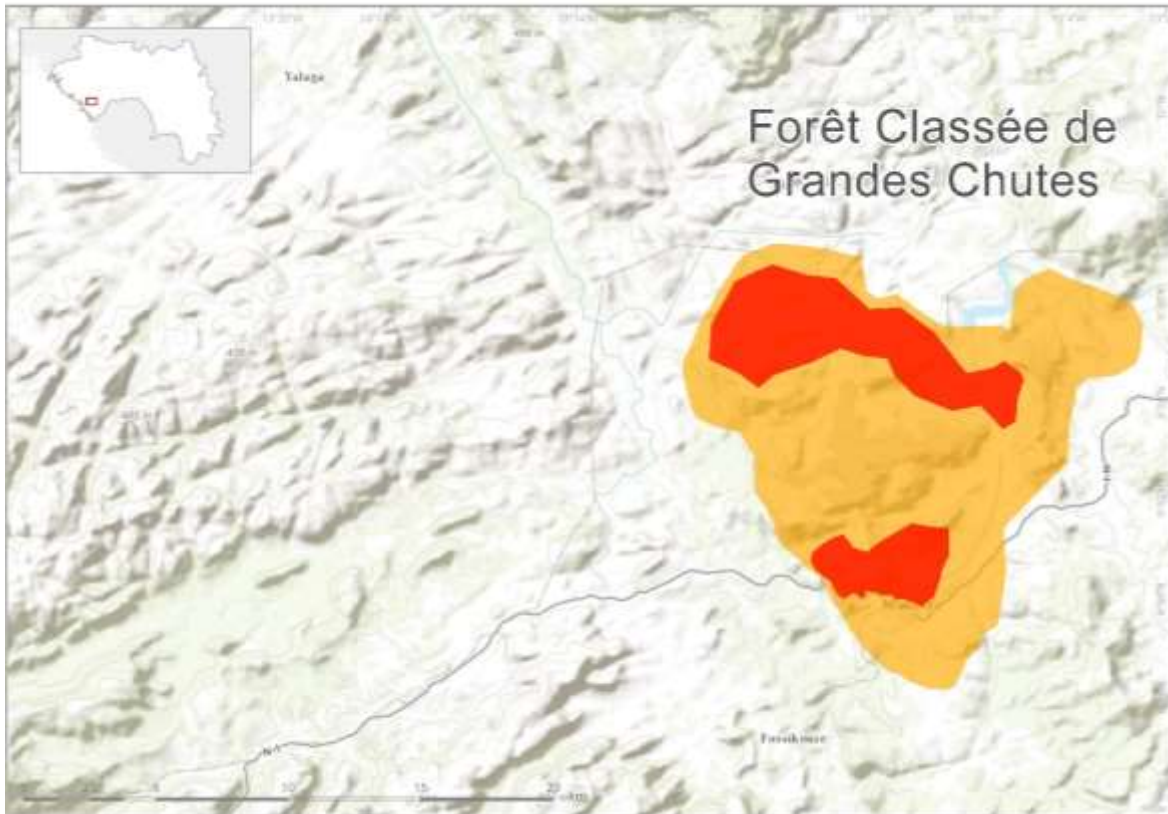
This is the only known global site for four species of plant, such as *Scleria guineensis*, a critically endangered endemic species to Guinea and a new species to science of *Coleus*. Grandes Chutes falls is the only known global site for the Podostemaceae species, *Inversodicraea pygmaea* and several other species of Podostemaceae; they may now be extinct due to the construction of a dam for hydro-electric power. It also has a population of *Raphionacme caerulea* (EN). The seepage areas are rich in carnivorous plant species including the threatened species *Utricularia pobeguinii* (EN) and *Utricularia macrocheilos* (VU). The area is under threat from increased mining activities, housing and cattle grazing.

SITE OVERVIEW

Site Name: Grandes Chutes Classified Forest	
Country: Guinea	Administrative region: Kindia
Central co-ordinates: 09°54'26"N, 13°07'10"W	Area: 160 km ²
Altitude minimum: 80 m	Altitude maximum: 560 m

Site Description

Grandes Chutes Classified Forest is located between the towns of Coyah and Kindia on the N1 national highway, in Kindia Prefecture. The area is part of the southern extent of the Fouta Djallon, with low elevation sandstone outcrops with shallow valleys and bowal. The sandstone bowal has several microhabitats, including seasonal seepage areas which support threatened herb species such as *Utricularia pobeguinii*, *Raphionacme caerulea*, and *Scleria guineensis*. Part of the classified forest has an active bauxite mining concession owned by RUSAL. The Grandes Chutes falls, after which the area is named, was dammed in the 1960s to provide power to the nearby town and open-cast bauxite mine. This may have resulted in the global extinctions of *Inversodicraea pygmaea* and *Stonesia gracilis*, as this was their sole global site. They have not been discovered elsewhere, despite searches.



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

Botanical significance

The classified forest is the only known site for *Scleria guineensis* a critically endangered (CR) endemic species to Guinea. It also has a population of *Raphionacme caerulea* (EN). The seepage areas are rich in carnivorous plant species including five species of Lentibulariaceae two of which are threatened (*Utricularia pobeguinii* (EN) and *Utricularia macrocheilos* (VU)). Grandes Chutes falls is the only known global site for the Podostemaceae species, *Inversodicraea pygmaea* and *Stonesia gracilis*; several other species of Podostemaceae are also recorded from the site, but due to the change in hydrology caused by the dam, they are likely extinct. Targeted searches for them in January 2018 failed to find them.

General habitat and geology description

Low sandstone hills with sandstone bowal, rich in bauxite in some parts, with crevices and cracks, seepage areas and temporary waterways. Ordovician sandstone of the Pita suite with patches of aleurolites (Source: Carte des Mineraux de la Guinee, Ministry of Mines, Government of Guinea, 2006).

Conservation issues

There are numerous threats to the Grandes Chutes Classified forest, most notable from the RUSAL mine and its potential expansion. There is a lot of dust across the area from the access roads and the mine itself coating the vegetation. The hydroelectric dam has already caused damage to the

Podostemaceae populations. There is also an area that has been marked out for housing (seen from Google Earth). From recent visits to the area, cattle grazing and trampling in the seepage areas close to the road have been observed, which has also led to fires across the bowal areas.

Since the mine and hydroelectric dam are already established, the TIPA area will have two core areas of protection within the larger boundary of the CF to protect specific populations of threatened species.

Protected area status and Management

The Grandes Chutes Classified Forest was designated in 1944. The TIPA is encompassed by the current protected area.

Threats

- Pastoral farming: Cattle grazing and trampling of threatened species
- Mineral extraction: Bauxite mine (RUSAL) active in the area and has expanded over time
- Housing: Part of area has housing lot designated
- Fires: Fire set by cattle herders, reducing seed dispersal of species

Threat level: High

Criterion A: Threatened Species

Criterion A taxon present	IPA subcriterion	IUCN redlist assessment	Site contains...			Entire global population (single-site endemic)	Species is of socio-economic importance	*Abundance at site
			≥ 1% of global population	≥ 5% of national population	Is 1 of 5 best sites nationally			
<i>Raphionacme caerulea</i> E.A.Bruce	A(i)	EN	☉	☉				Infrequent
<i>Scleria guineensis</i> J.Rayal	A(i)	CR	☉	☉	☉	☉		Infrequent
<i>Utricularia macrocheilos</i> (P.Taylor) P.Taylor	A(i)	VU	☉	☉	☉			Frequent
<i>Utricularia pobeguinii</i> Pellegr.	A(i)	EN	☉	☉	☉			Infrequent
<i>Stonesia gracilis</i> G.Taylor	A(i)	CR (PE)	☉ <i>If extant</i>	☉	☉	☉		Unknown

<i>Inversodicraea pygmaea</i> G.Taylor	A(i)	CR (PE)	☉ <i>If extant</i>	☉	☉	☉		Unknown
<i>Sericanthe trilocularis</i> subsp. <i>paroissei</i> (Scott-Elliot) Robbr.	A(i)	EN	☉	☉	☉			Unknown
<i>Keetia susu</i> Cheek	A(i)	EN	☉					Infrequent
<i>Coleus (Plectranthus)</i> sp, nov.	A(i,iii)	CR	☉	☉	☉	☉		Infrequent
<i>Dilophotriche occidentalis</i> Jacq.-Fél.	A(i)	VU	☉					Frequent

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

Criterion B: Botanical Richness

B(i) exceptional botanical richness within a defined habitat		B(ii): exceptional number of species of conservation importance - site recording table (from nationally agreed list)		B(iii): exceptional number of useful / culturally valuable species (from nationally agreed list)		
*Habitat code and name	Site is part of the top 10% of the national resource	Site is one of the 5 best sites nationally for that habitat	Site contains ≥ 3% of the species on the national list	Site is one of the 15 richest locations nationally	Site contains ≥ 3% of the species on the national list	Site is one of the 15 richest locations nationally
Sandstone bowal (low altitude)	☉	☉	○	○	○	○

*Criterion B taxon present	Sub-criterion under which species qualifies	For B(i) – indicator of habitat	*Abundance at site
<i>Lepidagathis fimbriata</i> C.B.Clarke	B(i)	Sandstone bowal	
<i>Hygrophila barbata</i> (Nees) T.Anderson	B(i)	Sandstone bowal	
<i>Fegimanra afzelii</i> Engl.	B(i)	Sandstone bowal	
<i>Raphionacme caerulea</i> E.A.Bruce	B(i)	Sandstone bowal	
<i>Cyanotis arachnoidea</i> var. <i>arachnoidea</i> C.B. Clarke	B(i)	Sandstone bowal	
<i>Fimbristylis dichotoma</i> (L.) Vahl	B(i)	Sandstone bowal	
<i>Scleria guineensis</i> J.Raynal	B(i)	Sandstone bowal	
<i>Nemum spadiceum</i> subsp. <i>spadiceum</i> (Lam.) Desv. ex Ham.	B(i)	Sandstone bowal	

<i>Scleria tricholepis</i> Nelmes	B(i)	Sandstone bowal	
<i>Afrotrilepis pilosa</i> (Boeck.) J.Raynal	B(i)	Sandstone bowal	
<i>Scleria naumanniana</i> Boeck.	B(i)	Sandstone bowal	
<i>Eriocaulon rufum</i> Lecomte	B(i)	Sandstone bowal	
<i>Sebaea teuszii</i> (Schinz) P.Taylor	B(i)	Sandstone bowal	
<i>Rhytachne gracilis</i> Stapf	B(i)	Sandstone bowal	
<i>Dilophotriche occidentalis</i> Jacq.-Fél.	B(i)	Sandstone bowal	
<i>Anadelphia liebigiana</i> H. Scholz	B(i)	Sandstone bowal	
<i>Plectranthus</i> sp. nov. Gangan	B(i)	Sandstone bowal	
<i>Aeschynomene tambacoundensis</i> Berhaut	B(i)	Sandstone bowal	
<i>Dalbergia albiflora</i> subsp. <i>albiflora</i> A.Chev. ex Hutch. & Dalziel	B(i)	Sandstone bowal	
<i>Dolichos dinklagei</i> Harms	B(i)	Sandstone bowal	
<i>Vigna venulosa</i> Baker	B(i)	Sandstone bowal	
<i>Utricularia foveolata</i> Edgew.	B(i)	Sandstone bowal	
<i>Utricularia macrocheilos</i> (P.Taylor) P.Taylor	B(i)	Sandstone bowal	
<i>Utricularia scandens</i> Benj.	B(i)	Sandstone bowal	
<i>Utricularia firmula</i> Welw. ex Oliv.	B(i)	Sandstone bowal	
<i>Utricularia pobeguinii</i> Pellegr.	B(i)	Sandstone bowal	
<i>Polygala sparsiflora</i> var. <i>sparsiflora</i> Oliv.	B(i)	Sandstone bowal	
<i>Sericanthe trilocularis</i> subsp. <i>paroissei</i> (Scott-Elliot) Robbr.	B(i)	Sandstone bowal	
<i>Triliceras pilosum</i> (Willd.) R.Fern.	B(i)	Sandstone bowal	

Key: Abundance: Abundant, Common, Frequent, Infrequent, Scarce, Unknown.

Criterion C: Threatened Habitat

*Habitat type	IPA subcriterion	IUCN redlist assessment	Site contains...		Estimated area at site (if known)
			≥ 5% of national resource (for C(i) and C(ii))	≥ 10% of national resource (for C(iii))	
Sandstone bowal (low altitude)	C(iii)			⊙	41 Km ²

Bibliography

IUCN Red List: www.redlist.org accessed Dec 2018

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Site in pictures



Grandes Chutes Classified Forest, October 2016 (Photo: ©I. Larridon, RBG Kew)



Grandes Chutes Classified Forest, October 2016 (Photo: ©C. Couch, RBG Kew)



Chutes Classified Forest June 2016 (Photo: ©C. Couch, RBG Kew)



Grandes Chutes Classified Forest October 2016 (Photo: ©C. Couch, RBG Kew)



Species assemblage in wet flush vegetation, Grandes Chutes, October 2016 (Photo: ©I. Larridon, RBG Kew)



Utricularia pobeguinii (Photo: ©M. Cheek, RBG Kew)



Raphionacme caerulea (Photo: ©C. Couch, RBG Kew)