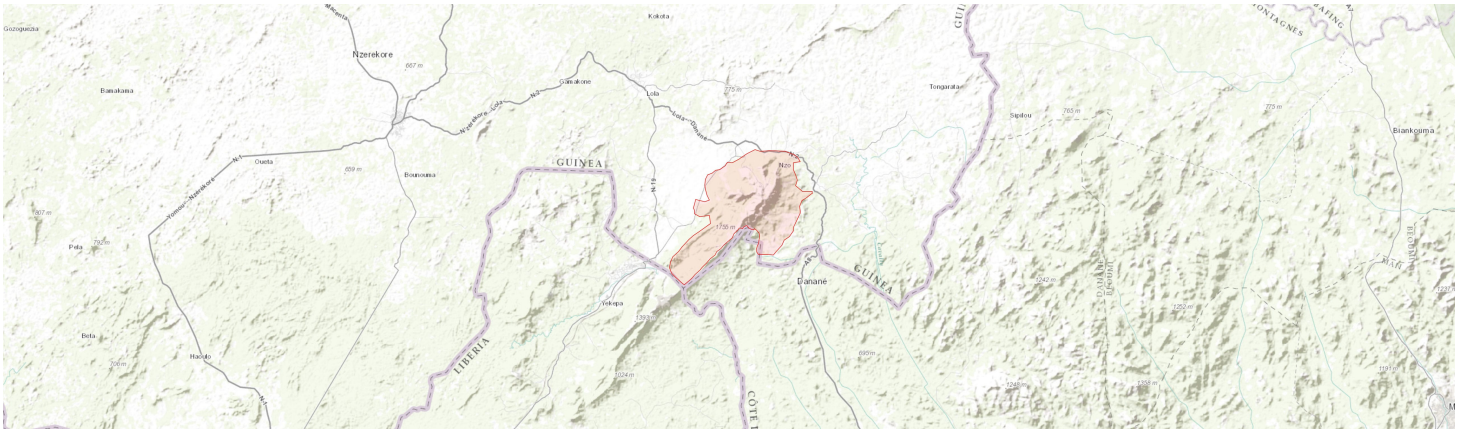
Nimba Mountains

Les Monts Nimba (Test version)

GUITIPA016



Country: **Guinea**
Administrative region: **Lola (Prefecture)**
Central co-ordinates: **7.62222 N, -8.41000 E**
Area: **149.2km²**

Qualifying IPA criteria

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

IPA assessment rationale

The Nimba Mountain range is an area of exceptional biodiversity globally. It has over 1,400 plant species making it the richest documented botanical site in West Africa. It has plants globally endemic to the Nimba Mountains such as Osbeckia porteresii, Sporobolus pauciflorus, Impatiens nzoana, and Begonia quadrialata subsp. nimbaensis. At least 40 threatened species, and species with restricted disjunct distributions e.g. (Justicia jamisonii) also occur. Although it is recognised as a Biosphere Reserve and World Heritage Site, the rare plant species and habitats of the range are still threatened.

Site description

The Nimba Mountains are situated in the south-east of Guinea, in Lola Prefecture. The range extends into Liberia and Ivory Coast. The highest peak in Guinea is part of Nimba and reaches 1,752m above sea-level. The area of Nimba in Guinea covers 149.2km² and was protected in 1944. The majority (134.1km²) is recognised as a World Heritage Site and has been a core area of the Nimba Mountains Biosphere Reserve since 1980. Due to their height, age, and isolation, the Nimba Mountains are exceptionally rich in flora and fauna, with many rare and range-restricted species, including a few species endemic to the Nimba Mountains. The slopes of the mountains are forested and there is submontane grassland above this, on mainly ferralitic itabirites that have undergone various degrees of leaching of its alumina-silicate components. The high-altitude lateritic (ferralitic) bowal grasslands, and submontane forest are both recognised Threatened Habitats of Guinea.
The area is locally managed by the Centre for the Management of the Environment of the Nimba and Simandou Mountains (CEGENS).

Botanical significance

Due to the height and isolation of the Nimba Mountains, they are home to many rare and range-restricted species, including a few endemic to the mountain and others endemic to Guinea. Recent studies have resulted in over 1,400 plant species being recorded in the Guinean portion (pers. obs. Suter, 2018), making it the richest site in Guinea for plant species. At least 40 globally threatened

species are known, though this is likely to increase as more IUCN assessments are made. The submontane forests have plants globally endemic to the Nimba Mountains, such as Osbeckia porteresii, Sporobolus pauciflorus, Impatiens nzoana, and Begonia quadrialata subsp. nimbaensis. The submontane grassland has threatened species found both at Nimba and in the Simandou mountains (e.g. Kotchya lutea, Rhytachne glabra, Bulbostylis guineensis, and Nemum bulbostyloides). There are also species found here that have disjunct distributions across Africa (e.g. Justicia jamisonii and Marsdenia exellii). Some species named 'nimba', while first collected at Nimba, have subsequently been found on other parts of the Guinean highlands (e.g. Ixora nimbana, Brachystephanus jaundensis subsp. nimbae, Dolichos nimbaensis, and Monanthotaxis nimbana).

Habitat and geology

The Nimba Mountains represent a rift area of the early Proterozoic era, similar in age and structure to the Simandou range intrusion. The range comprises itabirite, quartzite and other schists emplaced onto a terrain of tonalitic granite-gneiss, migmatite, and sedimentary gneisses. There is a significant iron ore deposit which is in the forms of haematites and goethites enriched from long-term leaching and weathering processes, including thrusting, faulting, folding and thermal processes.

Conservation issues

The mountains are threatened by:
– Intense poaching, suffering from the 'empty-forest' syndrome.
– Agricultural encroachment, which has disturbed far more habitat, generally at low altitudes in forest, than any other form of disturbance.
– Regular, anthropogenic, and intense bushfires are a problem at the height of the dry season, when they do not occur naturally.
– Invasive species. In particular, Chromolaena odorata, which has invaded mid-altitude savannahs and forest-edges.
– Grazing of cattle at low elevations at the edge of forest.
– Isolation from neighbouring intact ecosystems due to agriculture, forestry, and roads in the surrounding lowlands.
– Mineral exploration in the mining enclave.
An area of 15.16km² was excised from the colonial Strict Nature Reserve of 1944 for mineral exploration, covering 10% of the Guinean Nimba Mountains, and 4.8% of the entire Nimba range. Within this enclave, an iron-ore mining concession of 6.25km² is currently in late-phase exploration. Mineral exploration has resulted in the construction of access roads and drill pads, affecting up to 0.5km². If a mine were developed, it would result in the disturbance of a several square kilometres of the enclave. For this reason, a detailed environmental impact assessment is underway to avoid and minimise negative impacts, particularly to the adjacent World Heritage Site, and to seek how best to close a future mine and rehabilitate the site for its long-term, subsequent conservation. Since the same habitat types are found within the mining enclave and the World Heritage site, this TIPA area will acknowledge the mining zone as an area of development, with the objective of minimising disturbance to the area as a whole.
Concerns have also been raised by the World Heritage Committee about a road upgrade running between Lola (Guinea) and Danané (Ivory Coast), in the Biosphere Reserve's Buffer Zone. The World Heritage Committee has retained Nimba on the list of World Heritage Sites in Danger (2018).
Despite controls in place to manage these threats, continuing damage to the World Heritage Site is possible and will inevitably reduce the global populations of some species, and the extent of Threatened Habitats.

Site assessor(s)

Charlotte Couch, Royal Botanic Gardens Kew

Martin Cheek, Royal Botanic Gardens Kew

Jamison Suter, Société des Mines de Fer Guinée

Carel Jongkind, Consultant Botanist

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
Tarenna hutchinsonii Bremek.	A(i)	✓	✓	✓	–	–	Scarce
Marsdenia exellii C.E.Norman	A(i)	✓	✓	✓	–	–	Scarce
Begonia quadrialata Warb. subsp. nimbaensis Sosef	A(i)	✓	✓	✓	✓	–	Common
Justicia jamisonii Jongkind & Vollesen	A(i)	✓	✓	–	–	–	Scarce
Bulbostylis guineensis Cherm. ex M.Bodard	A(i)	✓	✓	✓	–	–	Unknown
Hypolytrum cacuminum Nelmes	A(i)	✓	✓	✓	–	–	Common
Okoubaka aubrevillei Pellegr. & Normand	A(i)	✓	✓	✓	–	–	Frequent
Allophylus samoritourei Cheek	A(i)	✓	✓	✓	–	–	Scarce
Brachystephanus jaundensis Lindau subsp. nimbae (Heine) I.Darbysh.	A(i)	✓	✓	✓	–	–	Scarce
Terminalia ivorensis A.Chev.	A(i)	✓	–	–	–	✓	Frequent
Nemum bulbostyloides (Hooper) J.Raynal	A(i)	✓	✓	–	–	–	Common
Albizia ferruginea (Guill. & Perr.) Benth.	A(i)	✓	✓	–	–	✓	Frequent
Kotschya lutea (Portères) Hepper	A(i)	✓	✓	–	–	–	Common
Gladiolus chevalieranus Marais	A(i)	✓	–	–	–	–	Common
Genlisea barthlottii S.Porembski, Eb.Fisch. & Gemmel	A(i)	✓	✓	–	–	–	Common

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
Dorstenia astyanactis Aké Assi	A(i)	✓	✓	✓	–	–	Scarce
Rhytachne glabra (Gledhill) Clayton	A(i)	✓	✓	✓	–	–	Common
Homalium smythei Hutch. & Dalziel	A(i)	✓	✓	✓	–	–	Frequent
Pavetta platycalyx Bremek.	A(i)	✓	✓	✓	–	–	Frequent
Copaifera salikounda Heckel	A(i)	✓	✓	✓	–	–	Frequent
Cryptosepalum tetraphyllum (Hook.f.) Benth.	A(i)	✓	✓	✓	–	–	Common
Cola reticulata A.Chev.	A(i)	✓	✓	✓	–	–	Frequent
Entandrophragma angolense (Welw.) C.DC.	A(i)	✓	–	✓	–	✓	Frequent
Entandrophragma candollei Harms	A(i)	✓	–	✓	–	✓	Frequent
Khaya grandifoliola C.DC.	A(i)	✓	–	✓	–	✓	Frequent
Milicia regia (A.Chev.) C.C.Berg	A(i)	✓	–	✓	–	✓	Frequent
Polystachya orophila Stévart & E.Bidault	A(i)	✓	✓	✓	–	–	Common
Glenniea adami (Fouilloy) Leenh.	A(i)	✓	✓	✓	–	–	Unknown
Rinorea djalonensis A.Chev.	A(i)	✓	✓	✓	–	–	Unknown
Pavetta leonensis Keay	A(i)	✓	✓	✓	–	–	Unknown
Tarenna brachysiphon (Hiern) Keay	A(i)	✓	–	–	–	–	Unknown
Cola angustifolia K.Schum.	A(i)	✓	✓	✓	–	–	Unknown
Osbeckia porteresii Jacq.-Fél. (Jacq.-Fél.)	A(i)	✓	✓	✓	✓	–	Unknown

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
Heterotis sylvestris (Jacq.-Fél.) Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Unknown
Droogmansia chevalieri (Harms) Hutch. & Dalziel	A(i)	✓	✓	✓	–	–	Unknown
Dracaena calocephala Bos	A(i)	✓	–	–	–	–	Unknown
Sporobolus pauciflorus A.Chev.	A(i)	✓	✓	✓	✓	–	Unknown
Impatiens nzoana A.Chev.	A(i)	✓	✓	✓	✓	–	Scarce
Vernonia nimbaensis C.D.Adams	A(i)	✓	✓	✓	–	–	Unknown
Cassipourea adamii Jacq.-Fél.	A(i)	✓	✓	✓	–	–	Scarce
Nemum bulbostyloides (Hooper) J.Raynal	A(i)	–	–	–	–	–	Abundant
Neolemonniera clitandrifolia A.Chev.	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
High Altitude Lateritic Bowal Grasslands	C(iii)	–			
Guinean Highland Submontane Forest	C(iii)	–			
West African Lowland Evergreen Forest	C(iii)	–			

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	–	Minor
Forest - Subtropical/Tropical Moist Montane Forest	–	Major
Grassland - Subtropical/Tropical High Altitude Grassland	–	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	–	Major
Extractive industry	–	Minor
Tourism / Recreation	–	Minor

Threats

THREAT	SEVERITY	TIMING

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mount Nimba	UNESCO World Heritage Site	protected/conservation area overlaps with IPA	–
Mount Nimba Strict Nature Reserve	National Nature Reserve	IPA encompasses protected/conservation area	–

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Monts Nimba	Important Bird Area	protected/conservation area overlaps with IPA	–

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
Protected Area management plan in place	The Strict Nature Reserve's and Biosphere Reserve's Management Plans are out of date. Apart from the studies, invasive species-control programme and fire-control programme of the mining-concession holder, the last of which is implemented jointly with CEGENS, current management activities do not address plant conservation.	1991	–

Bibliography

Couch, C., Magassouba, S., Rokni, S. & Cheek, M. 2018. **Threatened plants species of Guinea-Conakry: A preliminary checklist.** Peerj Preprints

IUCN 2019. **IUCN Red List.**

UNESCO 2007. **Man and Biosphere Reserves Directory: Monts Nimba.**

BirdLife International 2001. **Important Bird Areas factsheet: Monts Nimba (part of Mount Nimba transboundary AZE).**

UNESCO 1982. **World Heritage List: Mount Nimba Strict Nature Reserve.**