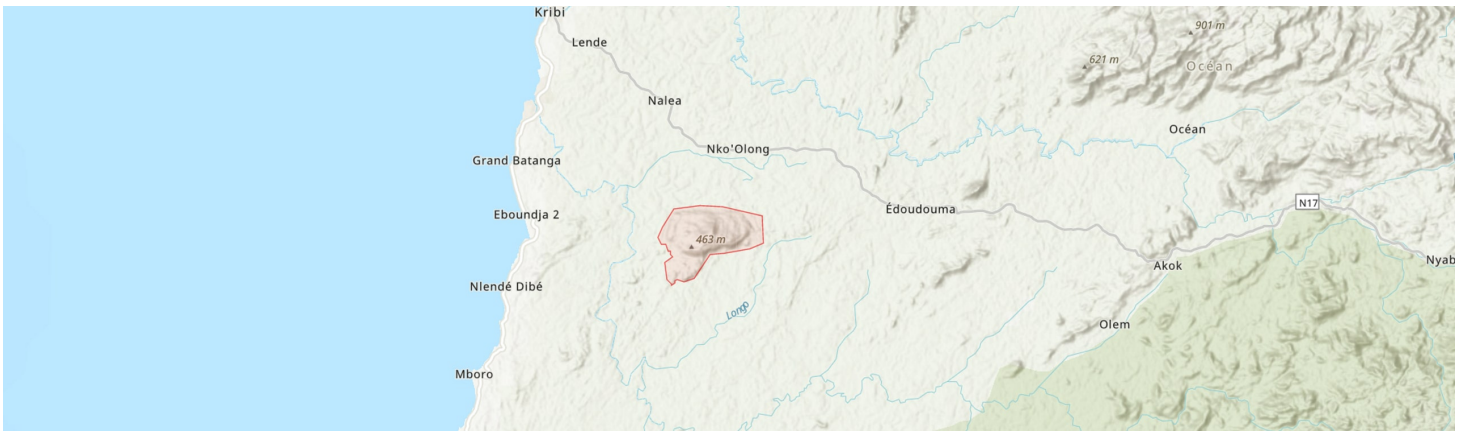
Mount Elephant

Mont de l'Eléphant

CMNTIPA002



Country: **Cameroon**
Administrative region: **South (Region)**
Central co-ordinates: **2.80000 N, 10.00000 E**
Area: **23km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Three endemic or near-endemic plant species, as well as a number of other threatened plant species, qualify Mount Elephant as a potential IPA under criteria A(i). Mount Elephant contains two threatened habitat types, lowland rain forest and vertical rock, therefore the area would probably also qualify under criteria C. The species composition of the lowland rainforest, which is very rich in tree species from the Leguminosae subfamily Detarioideae, as well as poor in pioneer tree species (X.M. van der Burgt, pers. obs.), is an indication that the rainforest was relatively little disturbed by past human activities and past climatic change. The high density of timber trees and the presence of non-timber forest products, suggests the area might also qualify under criterion B(iii), likely containing > 3% of Cameroon's socially, economically, or culturally valuable plant species.

Site description

Mount Elephant is a 480 m hill in Ocean Division, Cameroon's South Region, 11 km from the coast, southeast of Kribi. The slopes are gradual on the north, east and west sides, but on the south side there is a long vertical rock wall about 50 m high. The area demarcated here covers 23 km2, encompassing the hilly terrain but it is feared much of this area may already have been lost.

Botanical significance

The site is part of the African Atlantic coastal forest, a vegetation type rich in rare and endemic species (Letouzey, 1968, 1986). Forest in this area is particularly rich in tree species in the Leguminosae subfamily Detarioideae. Begonia montis-elephantis (CR, Begoniaceae; Wilde 2002) and Mitriostigma monocaule (CR, Rubiaceae; Sonké et al 2009) are endemic, and Hypolytrum unispicatum (EN, Cyperaceae; Sosef & Simpson 2005) is near-endemic to the vertical rock wall at the South side of the hill (but also known from a single site in Equatorial Guinea). These species are highly threatened, because forest fires lit by farmers and oil palm plantation staff are advancing closer in the forest strip at the base of the vertical rock wall. In September 2017, the fires had advanced to 50 m from the base of the cliff. When these fires reach the base of the cliff, the trees will die, and the environment will become generally too sunny for these three shade-loving species. Begonia montis-

elephantis may therefore soon become extinct. Three attempts have been made to collect seeds of these species for seed-banking; in February 2016, November 2016 and October 2017, but without success.

Habitat and geology

Mount Elephant lies at the northern edge of the ancient Congo Craton, at the border of the paleo-proterozoic Nyong unit (part of the Ntem complex) and a northwest oriented, south-east thrusting tongue of the neoproterozoic Yaoundé group; these are metasedimentary and meta-igneous rocks, predominantly gneiss, amphibolite, biotite, quartzite and micaschists (Nzenti et al., 2016; Teutsong et al., 2020). More detailed mapping appears to show Mount Elephant as a small intrusion of meta-syenite bordering an area of Biotite-hornblende gneiss and TTG (Moudiouh et al., 2020). Personal observation suggests the bedrock is of some kind of light-coloured and layered stone, which is being quarried by hand in two quarries at the top of the cliff. The stone is quarried by hand, carried to the roadside and sold in nearby villages and cities in Cameroon. The slabs are cut into egg-shaped plates which are used to grind food. Irregularly shaped pieces are used to cover floors and walls (X.M. van der Burgt, pers. obs.). Soils in this area are mapped as haplic ferralsols (Yerrima & Ranst, 2005) but may vary locally on the raised terrain. The climate is equatorial with c. 2,900 mm of rain per year at Kribi and a main dry season between late November and February but with all months receiving c. 60 mm or more (Tchouto, 2004; WMO, 2021). At Kribi there is only a slight reduction in precipitation in July rather than a distinct second dry season. Average annual temperature is around 25 °C, with monthly maxima ranging from 32.8 °C in February to 27.7 °C in August. Minima are more constant, ranging between 22.5 and 23.9 °C. The area is part of the Lower Guinea subregion of the Guineo-Congolian region (White, 1986) and habitat includes lowland coastal rainforest, rich in Detaroid legumes, and a vertical, partially vegetated rock wall. However, there is little rainforest remaining and the area is largely surrounded by palm oil plantion and other cultivated land.

Conservation issues

The whole area in and around Mount Elephant is currently listed as an "Agro-industrial area" by the Cameroon government, implying that it will all be converted to agricultural land. To the South, a very large oil palm plantation was set up recently; there is no more forest left here. To the East, medium sized farms were set up recently and the forest is all but gone although this area is designated as Nyete community forest, a production forest reserve. In September 2017, there was still closed forest on the slopes and summit of the mountain. This forest has been subject to some logging in the past. This forest is also heavily hunted, so that the populations of edible animals are greatly reduced. As we write this (2021), the forest may already have been completely destroyed, or this may happen soon.

Site assessor(s)

Xander van der Burgt, Royal Botanic Gardens, Kew

Bruce Murphy, Royal Botanic Gardens, Kew

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
Begonia montis-elephantis J.J. de Wilde	A(i), A(iii)	✓	✓	✓	✓	–	Scarce
Gilbertiodendron scutatum Wieringa & Estrella	A(i)	✓	✓	–	–	–	Scarce
Hypolytrum unispicatum Sosef & D.A. Simpson	A(i)	✓	✓	✓	–	–	Scarce
Rhaphiostylis elegans Engl.	A(i)	✓	✓	✓	–	–	
Copaifera religiosa J.Léonard	A(i)	–	✓	–	–	–	Scarce
Afzelia africana Sm. ex Pers.	A(i)	✓	–	–	–	–	
Afzelia bipindensis Harms	A(i)	✓	–	–	–	–	
Afzelia pachyloba Harms	A(i)	✓	–	–	–	–	
Albertisia capituliflora (Diels) Forman	A(i)	✓	–	–	–	–	
Ancistrorhynchus tenuicaulis Orchidaceae	A(i)	✓	–	–	–	–	
Angraecum angustum (Rolfe) Summerh.	A(i), A(iii)	✓	–	–	–	–	
Bulbophyllum alinae Szlach.	A(i), A(iii)	✓	✓	✓	–	–	
Cola brevipes Malvaceae	A(i)	✓	–	–	–	–	
Crotonogyne zenkeri Pax	A(i)	✓	–	–	–	–	
Deinbollia maxima Gilg ex Engl.	A(i)	✓	–	–	–	–	
Dichapetalum oliganthum Breteler	A(i)	✓	✓	✓	–	–	
Dracaena viridiflora Engl. & K.Krause	A(i)	✓	–	–	–	–	

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
Duguetia dilabens Chatrou & Repetur	A(i)	✓	✓	✓	–	–	
Eurypetalum unijugum Harms	A(i)	✓	–	–	–	–	
Floscopa mannii C.B.Clarke	A(i)	✓	–	–	–	–	
Garcinia staudtii Engl.	A(i)	✓	✓	✓	–	–	
Gilbertiodendron klainei (Pierre ex Pellegr.) J.Léonard	A(i)	✓	✓	✓	–	–	
Leptoderris aurantiaca, Leguminosae	A(i)	✓	–	–	–	–	
Lophira alata Banks ex Gaertn.f.	A(i)	–	–	–	–	✓	
Memecylon candidum, Melastomataceae	A(i)	✓	–	–	–	–	
Mitriostigma monocaule, Rubiaceae	A(i)	✓	✓	✓	✓	–	Scarce
Rhaphiostylis subsessilifolia Engl.	A(i)	✓	✓	✓	–	–	
Strychnos gnetifolia Gilg ex Onochie & Hepper	A(i)	✓	✓	✓	–	–	
Strychnos staudtii Gilg	A(i)	✓	–	✓	–	–	
Uvariopsis vanderystii Robyns & Ghesq.	A(i)	✓	–	–	–	–	
Vitex lokundjensis W.Piep.	A(i)	✓	✓	✓	–	–	
Allexis obanensis Violaceae	A(i)	✓	✓	✓	–	–	
Habenaria phantasma, Orchidaceae	A(i)	✓	✓	✓	–	–	
Hymenostegia viridiflora Mackinder & Wieringa	A(i)	✓	✓	–	–	–	
Isolona pleurocarpa Diels	A(i)	✓	✓	–	–	–	

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
Kylicanthe cornuata Descourv. & Stévart & Droissart	A(i)	✓	–	✓	–	–	
Globulostylis rammelooana Sonké	A(i)	✓	✓	✓	–	–	
Vangueriella letestui Verdc.	A(i), A(iii)	✓	✓	✓	–	–	
Vangueriella zenkeri Verdc.	A(i), A(iii)	✓	✓	✓	–	–	
Bertiera rosseeliana Sonké, Esono & Nguembou	A(i)	✓	✓	✓	–	–	
Guibourtia tessmannii (Harms) J.Léonard	A(i)	–	–	✓	–	✓	
Craterispermum parvifolium Taedoumg & Sonké	A(i)	–	–	✓	–	–	

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

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	99	Major
Rocky Areas - Rocky Areas [e.g. inland cliffs, mountain peaks]	1	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Harvesting of wild resources	100	Major

Threats

THREAT	SEVERITY	TIMING
Energy production & mining - Mining & quarrying	Low	Ongoing - stable
Biological resource use - Hunting & collecting terrestrial animals	High	Ongoing - stable
Biological resource use - Gathering terrestrial plants	Medium	Ongoing - stable
Agriculture & aquaculture - Annual & perennial non-timber crops - Shifting agriculture	High	Ongoing - increasing
Agriculture & aquaculture - Annual & perennial non-timber crops - Agro-industry farming	High	Ongoing - increasing
Biological resource use - Logging & wood harvesting	High	Ongoing - trend unknown

Management type

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

Bibliography

Letouzey, R. 1968. **Étude Phytogéographique du Cameroun.**

Letouzey, R. 1985. **Notice de la carte phytogéographique du Cameroun au 1: 500,000..**

World Meteorological Organization 2019. **World Weather Information Service: Kribi, Cameroon.**

White, A.F. 1983. **The vegetation of Africa. A descriptive memoir to accompany the UNESCO/AETFAT/UNSO vegetation map of Africa.**

Moudioh C., Tamehe, L., Ganno, S., Tankwa, Soares, M.B., Ghosh, R., Kankeu, B. & Nzenti, J.P. 2020. **Tectonic setting of the Bipindi greenstone belt, northwest Congo craton, Cameroon: Implications on BIF deposition.** Journal of African Earth Sciences, Vol 171(103971)

Teutsong, T.,Temga, J.P., Enyegue, A.A., Feuwo, N.N. & Bitom, D. 2020. **Petrographic and geochemical characterization of weathered materials developed on BIF from the Mamelles iron ore deposit in the Nyong unit, South-West Cameroon.** Acta Geochimica

J.J.F.E. de Wilde 2002. **Begonia montis-elephantis (Begoniaceae) a new species in section Scutobegonia from Cameroon.** Wageningen University Papers, page(s) 259-266

Sonké, B., Simo, M., Dessein, S. 2009. **Synopsis of the genus Mitriostigma (Rubiaceae) with a new monocaulous species from south Cameroon.** Nordic Journal of Botany, Vol 27, page(s) 305-312

Sosef, M.S.M. & Simpson, D.A. 2005. **Hypolytrum unispicatum (Cyperaceae), a new species from Cameroon.** Blumea, Vol 50, page(s) 523-525

Yerima, B. & Van Ranst, E. 2005. **Major Soil Classification Systems Used in the Tropics: Soils of Cameroon.**

Ndong Bidzang, F., Sobdjou Kemteu, C., Mero, Y., Ntomba Martial, S., Nzenti, J.P. & Mvondo Ondoa, J. 2016. **Origin and Tectonic Framework of the Ngovayang Iron Massifs, South Cameroon.** Science Research, Vol 4(1), page(s) 11-20