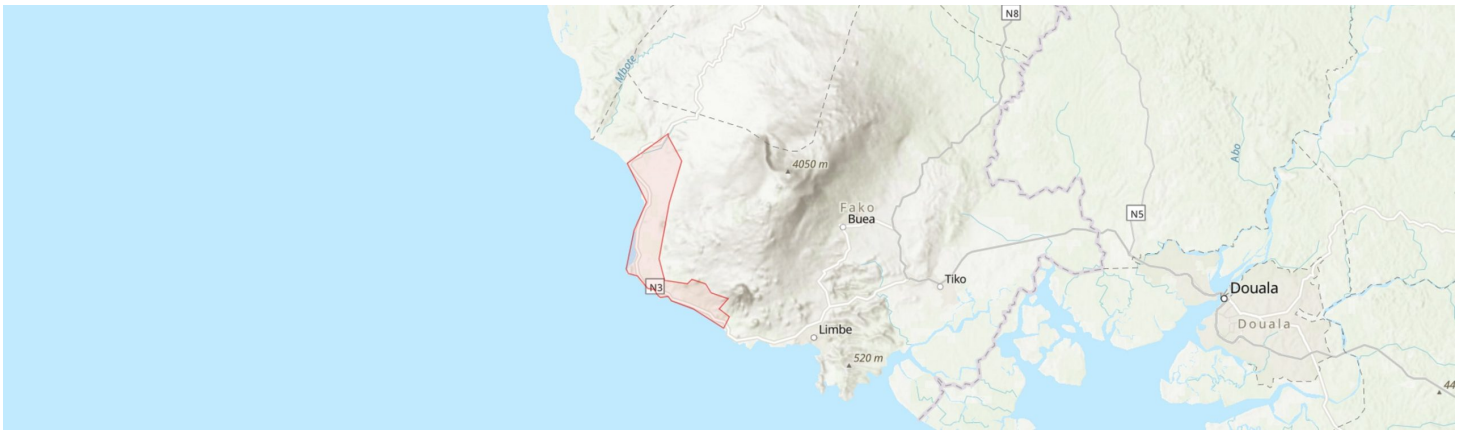
Idenau-Batoke coastal forest

CMNTIPA042



Country: **Cameroon**
Administrative region: **Southwest (Region)**
Central co-ordinates: **4.09400 N, 9.01300 E**
Area: **114km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Although little natural habitat remains, the many rare and threatened species recorded from this area qualify it as an IPA under criterion A(i).

Site description

The Idenau-Batoke coastal forest is a much degraded but unique, very wet, lowland evergreen rain forest strip beneath the boundary of the Mt Cameroon National Park. The area here demarcated includes 114 km2 but this includes approximately 55 km2 designated as palm oil plantations, as well as other cultivated and degraded areas and the settlements of Idenau, Njonji, Bakingili and Cape Debundscha. Populations of several recorded species may already be lost from this site. The site borders three other proposed IPAs, Mt Cameroon National Park, Mokoko-Onge, and Eastern Mt Cameroon. While several species are shared with one or more of these sites, major variation in local climate and topography, as well as the highly threatened status of these other sites, justify its additional inclusion.

Botanical significance

The much larger total area of the Mt Cameroon massif contains the highest recorded diversity of vascular plants in tropical Africa with 2345 species (Cable & Cheek, 1998). It is the only remaining area in Africa with a continuous gradient of vegetation from lowland rainforest at sea-level to subalpine summit grassland (Cheek et al., 1996; Forboseh et al., 2011). Although a large part of this is protected as the Mt Cameroon National Park, the lower slopes and foothills of the massif lie largely outside this zone, are highly threatened, and are botanically very significant due to the rarity of lowland coastal forest and the exceptional climate conditions created by Mt Cameroon. In contrast, many species from the upper areas are more secure from immediate threats and often occur at several other montane sites along the Cameroon volcanic line (Cable & Cheek, 1998).
At least one species, Carappa littoralis (provisionally EN) is considered globally endemic to these remaining scraps of forest. A large proportion of the other listed threatened species, and also several not listed here but included for Mt Cameroon N.P., are found

close to the boundary of the National Park which is imperfectly protected and suffering from incursions and border effects. It is unlikely that these populations can survive without efforts to conserve and restore habitat below the N.P. boundary.

Habitat and geology

At over 4000m and by far the highest peak in West and Central Africa, Mt Cameroon has a profound influence on local climate, with great variation in rainfall even along the c.30 km length of this coastal site. Cape Debundscha is considered one of the wettest places on earth, frequently cited as having an average of over 10 m of rain per year based on data from Courade (1974). More recently published long term annual averages extending from 1965-1993 show this reduced somewhat to 9086 mm, with a maximum of nearly 17 m (Fraser et al., 1998). Rainfall is also very high further west at Idenau, with a mean of 8392 per annum. However, at Mokundange at the southeastern tip of this site, only 19 km from Debundscha, the mean per annum drops to 4935 mm. Further inland (outside the site) only 2-3 m falls in the rainshadow on Mt Cameroon's eastern flanks. Rainfall is strongly seasonal throughout the site, with southwesterly prevailing winds driving a wet season peaking in July and August, and then replaced by the dry and dusty northeasterly Harmattan as the intertropical convergence zone moves south. At Mokundange, there is frequently less than 50 mm of rain per month during December and January.
Mean monthly maximum and minimum temperatures vary very little seasonally but minima are a few degrees lower at Mokundange (17.1-18.9 °C) than at Debuschanda (21.6-23.3 °C) and maxima a little higher (27.9-31.7 versus 27.2-30 °C).
Mt Cameroon is the only active volcano in mainland Africa west of the Virunga mountains in eastern DRC. It is formed of alkali basalt and basanite lavas overlying Cretacious to Miocene (or more recent) sediments, which in turn rest on precambrian metamorphic basement rocks (Dereulle et al, 1987; Mathieu et al., 2011). The mountain is considered to be a horst structure by Dereulle et al., 1987): ie. its height is constituted by uplift from below rather than just by accumulation of lava. The age of surface lavas is unclear, with upper Mioecene age estimated by Vincent (1971) and 10 Ma by Fitton (1983) but

Conservation issues

Much of the coastal strip between the lower National Park boundary and the coast has already been replaced with oil palm plantations where the original vegetation is entirely destroyed (MINFOF & WRI, 2021). Outside the plantations, small-scale agriculture and logging have severely degraded most of the area (Birdlife International, 2021). A hard-surfaced road also runs between Idenau and LImbe, separating the extreme coastal fringe from the mountain and connecting the various settlements. Limbe is now connected to Mokundange and Batoke by continuous urban sprawl which has engulfed former plantation areas. A major new "Limbe Deep Sea Port" is planned at Ngeme, east of Mokundange, which is anticipated to bring 20,000 jobs and stimulate development in the area (Ngah, 2016;. There is also an oil refinery at Mokundange and there is oil prospecting in the area. According to Birdlife International (2021), the best surviving forest of the whole mountain is around Mt Etinde, which has its lower slopes outside the National Park partly in this proposed IPA. Continued development around Batoke and the deep sea port will inevitably further threaten these slopes unless serious conservation efforts are made. The port is also anticipated to increase tourism to the area which, if managed well, could be positive for conservation (Olsen et al., 2001). The DFID and German Government funded Mount Cameroon Project, established in 1994, funded development projects in the area in collaboration with MINEF under a Participatory Biodiversity Conservation Strategy. The proposed IPA area incorporates the Bakingili community forest, established in 2000. REDD+ initiatives have been developed elsewhere around the mountain but apparently not in this area (Awono et al., 2014). Native reforestation efforts within exhausted palm oil plantation zones could be investigated and could be worthwhile because of the unique climate conditions; such projects have been implemented elsewhere on the mountain (ERUDEF, 2021; Truscott, 2021).

Site assessor(s)

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
Belonophora ongensis S.E.Dawson & Cheek	A(i), A(iii)	✓	–	✓	–	–	
Ardisia schlechteri Gilg	A(i)	✓	✓	✓	–	–	
Chlorophytum petrophilum K.Krause	A(i)	✓	✓	✓	–	–	
Cola praecuta Brenan & Keay	A(i)	✓	✓	✓	–	–	
Pavetta brachycalyx Hiern	A(i)	✓	–	–	–	–	
Uvariopsis korupensis Gereau & Kenfack	A(i)	✓	–	✓	–	–	
Psychotria elephantina Lachenaud & Cheek	A(i)	✓	–	✓	–	–	
Anopyxis klaineana (Pierre) Engl.	A(i)	–	–	–	–	✓	
Diospyros crassiflora Hiern	A(i)	–	–	–	–	✓	
Uvariodendron giganteum (Engl.) R.E.Fr.	A(i)	✓	–	–	–	–	
Vepris lecomteana (Pierre) Cheek & T.Heller	A(i)	✓	–	–	–	–	
Deinbollia maxima Gilg ex Engl.	A(i)	–	–	✓	–	–	
Leplaea thompsonii (Sprague & Hutch.) E.J.M.Koenen & J.J.de Wilde	A(i)	–	–	–	–	✓	
Piptostigma macrophyllum Ghogue, Sonké & Couvreur	A(i)	✓	–	–	–	–	
Leeuwenbergia africana Letouzey & N.Hallé	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
Boutiquea platypetala (Engl. & Diels) Le Thomas	A(i)	✓	–	–	–	–	
Begonia mbangaensis Sosef	A(i)	✓	✓	✓	–	–	
Leptoderris aurantiaca, Leguminosae	A(i)	✓	✓	✓	–	–	
Drypetes staudtii (Pax) Hutch.	A(i)	–	–	–	–	–	
Afrofittonia silvestris Lindau	A(i)	✓	–	✓	–	–	
Strychnos staudtii Gilg	A(i)	–	–	–	–	–	
Hymenocoleus glaber Robbr.	A(i)	✓	✓	✓	–	–	
Psychotria podocarpa Petit	A(i)	✓	✓	✓	–	–	
Rutidea nigerica Bridson	A(i)	✓	✓	✓	–	–	
Dorstenia prorepens Engl.	A(i)	✓	✓	✓	–	–	
Psychotria darwiniana Cheek	A(i)	✓	–	✓	–	–	
Psychotria asterogramma O.Lachenaud	A(i)	✓	✓	✓	–	–	
Impatiens hians Hook.f. var. bipindensis (Gilg) Grey-Wilson	A(i)	✓	✓	✓	–	–	
Cheirostylis divina (Guinea) Summerh. var. ochyrae Szlach. & Olszewski	A(i)	✓	✓	✓	–	–	
Uvariopsis zenkeri Engl.	A(i)	✓	–	–	–	–	
Chazaliella obanensis (Wernham) Petit & Verdc.	A(i)	✓	–	✓	–	–	
Eugenia kameruniana Engl.	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
Diospyros korupensis Gosline	A(i)	✓	–	✓	–	–	
Allophylus zenkeri Gilg ex Radlk.	A(i)	–	–	✓	–	–	
Drypetes burnleyae Cheek	A(i)	✓	✓	✓	–	–	
Bulbophyllum porphyrostachys Summerh.	A(i)	–	–	✓	–	–	
Asystasia lindauiana Hutch. & Dalziel	A(i)	–	–	✓	–	–	
Mischogyne gabonensis (Pellegr. ex Le Thomas) Gosline	A(i)	✓	✓	✓	–	–	
Pachylobus igaganga (Aubrév. & Pellegr.) Byng & Christenh.	A(i)	–	✓	✓	–	–	
Garcinia afzelii Engl.	A(i)	–	–	–	–	–	
Globulostylis minor Wernham	A(iii)	–	–	✓	–	–	
Rinorea dewitii Achound.	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
Artificial - Terrestrial - Urban Areas	5	
Artificial - Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	55	
Artificial - Terrestrial - Plantations	40	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Agriculture (arable)	50	Major
Residential / urban development	5	

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	High	Ongoing - stable
Transportation & service corridors - Roads & railroads	Medium	Ongoing - increasing
Residential & commercial development - Commercial & industrial areas	Medium	Ongoing - increasing
Energy production & mining - Oil & gas drilling	Unknown	Future - inferred threat
Agriculture & aquaculture - Annual & perennial non-timber crops - Agro-industry farming	High	Ongoing - trend unknown
Biological resource use - Logging & wood harvesting	Medium	Ongoing - trend unknown

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mount Cameroon National Park	National Park	protected/conservation area is adjacent to IPA	–

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mount Cameroon and Mokoko-Onge	Key Biodiversity Area	protected/conservation area overlaps with IPA	15
Mount Cameroon and Mokoko-Onge	Important Bird Area	protected/conservation area overlaps with IPA	15
Mount Cameroon and Mokoko-Onge	Alliance for Zero Extinction Site	protected/conservation area overlaps with IPA	15

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
No management plan in place	A management plan for the neighbouring National Park succeeding that expiring in 2019 has not been seen but is likely to exist.	–	–

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