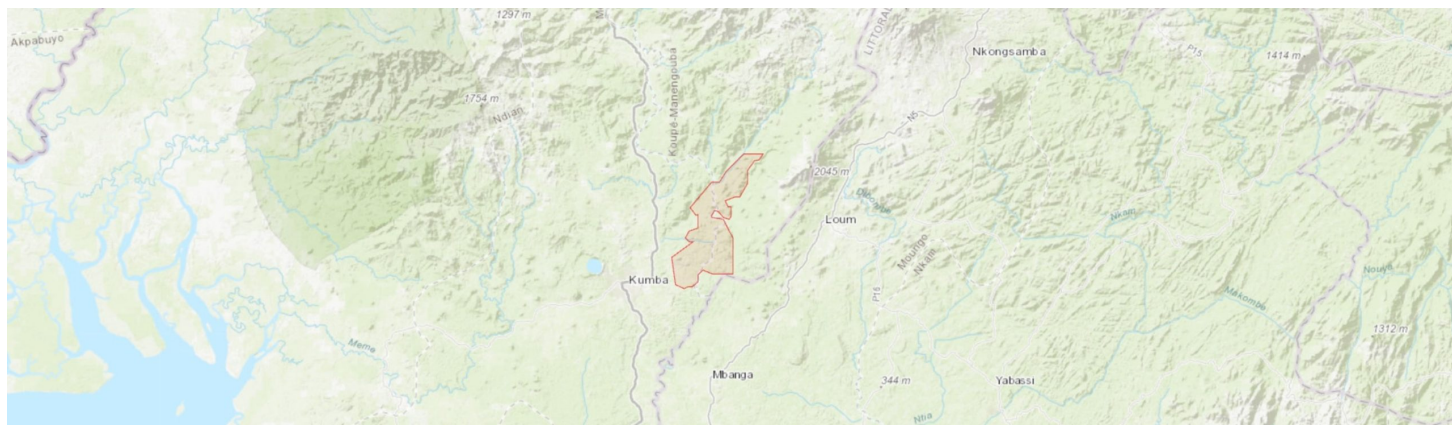


Mungo and Bakossi Forest Reserves

CMNTIPA031



Country: **Cameroon**

Administrative region: **Southwest (Region)**

Central co-ordinates: **4.69000 N, 9.56000 E**

Area: **104.86km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

The Mungo River and Bakossi Forest Reserves qualify as a potential IPA under criterion A(i) through their important populations of globally threatened species such as *Piptostigma goslineanum* (VU), *Chlamydocardia subrhomboidea* (EN), *Belonophora ongensis* (CR), *Cola metallica* (CR) and local endemics *Vitex yaundensis* (CR) and *Coffea charrieriana* (CR).

Site description

This proposed IPA site is constituted by two adjacent forest reserves in Meme and Kupe-Muanenguba divisions of Southwest Region, Cameroon. Located between the towns of Kumba and Tombei and separated by the Mungo river which runs north-south between them, the Bakossi and Mungo River Forest Reserves were created, along with Loum and Manehas Forest Reserves, by the colonial government of the Southern Cameroons during the League of Nations Mandate period, apparently in reaction to rapid development of cash crop farming in the area from 1920 (Wild, 2004).

Botanical significance

Although less diverse and well preserved than nearby sites such as

Mt Kupe, the Mungo River and Bakossi Forest Reserves are a valuable site of lowland forest, supplementing the limited remaining resources of this habitat in the area. They also harbour several taxa not otherwise known from nearby sites, such as *Belonophora ongensis*, *Salacia lehmbachii* var. *pes ranualae* and two globally unique taxa, *Vitex yaundensis* which is assumed extinct at its only ever recorded location, and *Coffea charrieriana*, a low caffeine coffee species which may have potential for crop breeding or as a gene donor. *Cola metallica*, *Cola praecuta* and *Chlamydocardia subrhomboidea* are other notably rare species found here. Additionally of note is the rare and enigmatic *Eugenia buchholzii*, recorded in 1874 from "Mungo", Cameroon and never subsequently collected. The exact locality of the collection is unknown (Onana & Cheek, 2011).

Habitat and geology

The site slopes down from around 700 m in the north extreme of the Bakossi reserve to c. 80 m in the south along the river Mungo. The Bakossi Reserve, in two separated parts east of the Mungo river, has more undulating terrain, perhaps cinder cones of minor eruptions, similar to those described by Wild (2004) as occurring between Tombel and Loum. The narrow far end of the northern section extends up the southwestern foothills of Mount Kupe to Mahole and towards Nyasoso. The Mungo River Forest Reserve, west of the river is flatter, sloping gradually south and west down to the river. The geology of this area is complicated but the site appears to be mainly basaltic, with lava flows filling a trough formed in association with the uplifted horst of Mt Kupe, and a layer of windblown ash and scoria deposited over this (Yerima & Van Rast, 2005). Volcanic soils in the area are often highly fertile (Wild, 2004) although Cheek et al. (2004) suggests those at the site are less so than in the Jide valley further north. Low resolution soil maps indicate eutrophic, humic brown soils on basic rocks in the northern section of Bakossi Forest Reserve and brown ferrallitic soils on acid rocks in the other areas of

the site (Vallerie, 1970).

This is one of the wettest areas of tropical Africa and the western flanks of Mt Kupe are subject to particularly high rainfall as they induce orographic precipitation. Mean rainfall at Tombel and Nyasoso just east of the Mungo-Bakossi site was 3,657 mm and 4,045 mm respectively, with the single drier season falling between November and February (Ejedepang-Koge, 1986 cited by Wild et al., 2004). Temperature fluctuates little seasonally around a mean of 25 °C and humidity is consistently high.

Letouzey & Fotius's (1985) vegetation maps assign the intact areas of the site to the Atlantic-Biafran sector of the dense humid evergreen Guineo-Congolian forest, particularly to subcategories 228 (Foret Atlantiques biafreenes à Caesalpinaceae) and 231 (Foret Atlantiques biafreenes à Caesalpinaceae encore abondantes, avec *Sarcoglottis gabonensis* et autres indices littoraux), both with additional semi-deciduous elements.

Conservation issues

The site was established as a production forest and has been selectively logged (Cheek et al., 2004). Under its current status of Forest Reserve it is not listed as a production forest on the Cameroon Forest Atlas (2020) and it is unclear if official logging continues. However, encroachment for unofficial logging and fire wood extraction has been reported and likely continues (Cheek et al., 2004). Some areas have been replanted with timber trees such as Meliaceae according to collector notes to specimen Cheek 10152 (<http://specimens.kew.org/herbarium/K000008854>). Conversion to farmland has also taken place, particularly following logging incursions (Cheek et al. 2004) and around the Kumbe–Mamfe road. The great majority of people in and around Tombel and Kumba are employed in agriculture (PNDP, 2011) and agro-industry draws in migrant workers creating additional demand for subsistence farming. Extensive banana and palm oil plantations surround Kumba and appear to have infringed on marked boundaries in the southwest of the site, with informal cultivation and degradation also apparent in this area from satellite imagery.

Anthropogenic activity further north threatens the water quality of the river and therefore the habitats of some species at the site such as *Brillantaisia lancifolia* (Cheek, 2014). A banana plantation also abuts the eastern boundary of the site. A huge mining reconnaissance permit also overlaps the southeastern corner.

The northeastern part of the site is close to the proposed Mount Kupe IPA and every effort should be made to ensure habitat continuity between these sites in the area between Nyasoso and Ngusi.

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
<i>Strychnos staudtii</i> Gilg	A(i)	✓	–	✓	–	–	
<i>Loesenera talbotii</i> Baker f.	A(i)	✓	✓	–	–	–	
<i>Aristolochia goldiana</i> Hook.f	A(i)	–	✓	✓	–	–	
<i>Whitfieldia preussii</i> (Lindau) C.B.Clarke	A(i)	✓	✓	✓	–	–	
<i>Salacia lehmbachii</i> Loes var. <i>pes-ranulae</i> N.Hallé	A(i)	✓	✓	✓	–	–	
<i>Drypetes staudtii</i> (Pax) Hutch.	A(i)	✓	–	–	–	–	
<i>Strychnos elaeocarpa</i> Gilg ex Leeuwenb.	A(i)	✓	✓	✓	–	–	
<i>Medusandra richardsiana</i> Brenan	A(i)	✓	✓	✓	–	–	
<i>Entandrophragma angolense</i> (Welw.) C.DC.	A(i)	–	–	–	–	✓	
<i>Belonophora ongensis</i> S.E.Dawson & Cheek	A(i), A(iii)	✓	✓	✓	–	–	
<i>Pauridiantha divaricata</i> (K.Schum.) Bremek.	A(i)	✓	✓	–	–	–	
<i>Cola metallica</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Cola praecuta</i> Brenan & Keay	A(i)	✓	✓	✓	–	–	
<i>Dicranolepis polygaloides</i> Gilg ex H.Pearson	A(i)	✓	✓	✓	–	–	
<i>Calyptrochilum aurantiacum</i> (P.J.Cribb & Laan) Stévant, M.Simo & Droissart	A(i)	✓	✓	✓	–	–	
<i>Mitragyna stipulosa</i> (DC.)	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
<i>Kuntze</i>							
<i>Piptostigma goslineanum</i> Ghogue, Sonké & Couvreur	A(i)	✓	✓	✓	–	–	
<i>Chlamydocardia subrhomboidea</i> Lindau	A(i)	✓	✓	✓	–	–	
<i>Anopyxis klaineana</i> (Pierre) Engl.	A(i)	–	–	–	–	✓	
<i>Gilbertiodendron ebo</i> Burgt & Mackinder	A(i)	✓	✓	✓	–	✓	
<i>Lepalea cedrata</i> (A.Chev.) E.J.M.Koenen & J.J.F.E.de Wilde	A(i)	–	–	–	–	✓	
<i>Uvariadendron giganteum</i> (Engl.) R.E.Fr.	A(i)	✓	–	–	–	–	
<i>Brillantaisia lancifolia</i> Lindau	A(i)	✓	✓	✓	–	–	
<i>Vitex yaundensis</i> Gürke	A(i)	✓	✓	✓	✓	–	
<i>Coffea charrieriana</i> Stof f. & F.Anthony	A(i)	✓	✓	✓	✓	✓	
<i>Trichostachys petiolata</i> Hiern	A(i)	✓	–	✓	–	–	
<i>Rhipidoglossum obanense</i> (Rendle) Summerh.	A(i)	–	–	✓	–	–	
<i>Marantochloa mildbraedii</i> Koechlin	A(i)	–	–	✓	–	–	
<i>Guibourtia tessmannii</i> (Harms) J.Léonard	A(i)	–	✓	✓	–	–	
<i>Beilschmiedia cuspidata</i> (K.Krause) Robyns & R.Wilczek	A(i)	✓	✓	✓	–	–	
<i>Garcinia afzelii</i> Engl.	A(i)	–	–	–	–	–	
<i>Angylocalyx talbotii</i> Baker f. ex Hutch. & Dalziel	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
<i>Psychotria camerunensis</i> E.M.A.Petit	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
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General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	100	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	100	

Threats

THREAT	SEVERITY	TIMING
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Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mungo River Forest Reserve and Bakossi Forest Reserve	Forest Reserve (production)	protected/conservation area matches IPA	100

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