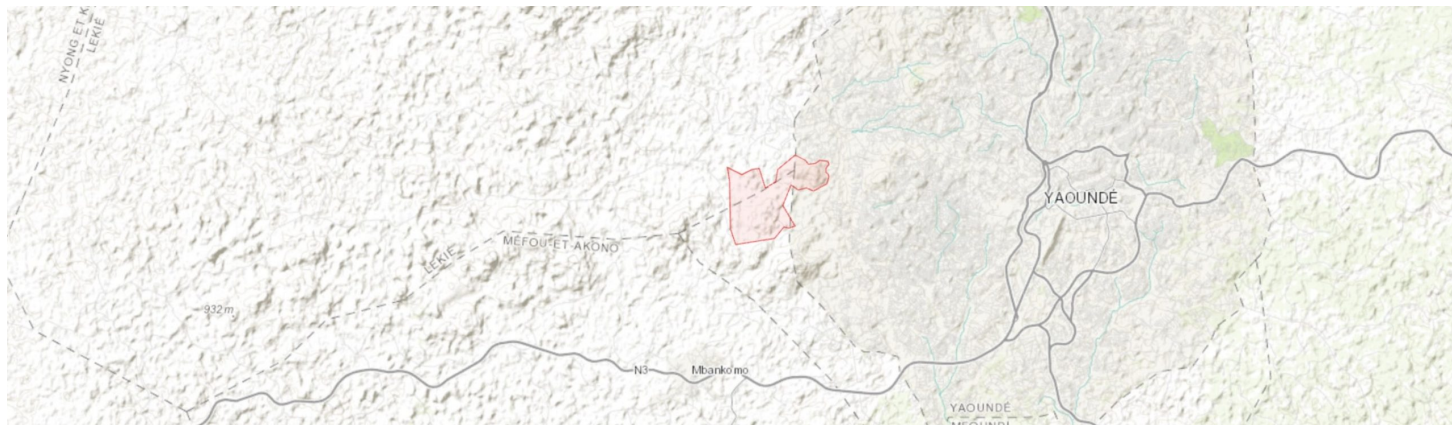


Mbokdoum hill

Mbekoum (Test version)

CMNTIPA014



Country: **Cameroon**

Administrative region: **Centre (Region)**

Central co-ordinates: **3.85720 N, 11.44430 E**

Area: **6.7km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Mbokdoum hill qualifies as a potential IPA under criterion A(i) due to the presence of three globally threatened (all critically endangered) species known only from here and one or two other sites. Other globally threatened species recorded from "N'kolbisson" may also occur here.

Site description

Mbokdoum hill (Mbogdoumy, Mbekoum) is a steep-sided inselberg, one of the "seven hills" of Yaoundé (Tiafack & Mbon, 2017) rising to around 1,000 m and part of a larger group of mountains which form a natural barrier on the western side of the city. Included in the proposed IPA perimeter is the unnamed hill to the south east (895 m) and the low lying riverine zone in between. The site is close to the N'kolbisson neighbourhood where IRAD and other scientific institutes are based and is adjacent to the Mt Eloumden proposed IPA which in turn extends west almost to the Mt Kala proposed IPA.

Botanical significance

The site is significant for three critically endangered species that

have been recorded there, two of which are endemic to the Yaoundé inselbergs. *Multidentia saxicola* has only been recorded from here, another site north of N'kolbisson, possibly Mont Minloua, and one location in DRC. *Psychotria yaoundensis* is only otherwise recorded from neighbouring Mont Akokndoué and from Mont Eloumden 3 km to the south (Lachenaud et al., 2013). *Coffea* sp. "N'kolbisson" is a possibly undescribed, morphologically distinct taxon known only from this record and other non-specific "N'kolbisson" locations. Treated as *Coffea heterocalyx*, which might otherwise be extinct, it was demonstrated to be distinct from *Coffea canephora* ("Robusta" coffee) by a recent molecular study (Davis et al., 2020). As apparently the closest "wild relative" of *C. canephora*, it is of potential economic importance as a possible source of useful genetic traits. Conserving it in the wild should therefore be a priority. Several other threatened species, including *Chlorophytum staudtii* (EN), *Cyphostemma camerounense* (EN) and *Momordica camerounensis* (EN) may occur here, having been recorded from N'kolbisson without a precise location. Many threatened species were also recorded by Zenker and Staudt from "Yaounde station" and some of these might also occur at this site.

Habitat and geology

The hills around Yaounde rise from the South Cameroon Plain between the Sanaga fault and the north-thrusting Congo craton. They are formed from high grade metamorphic rocks, mainly granulites and migmatites also referred to as embriichite gneiss (Achoundog, 1985), formed from sedimentary and igneous protoliths and apparently dating from around 600 mya (Nzenti, 1988; Tchouatcha et al., 2018; Ngnotue et al., 2012). Precipitation in Yaoundé is 1,605 mm per annum, falling in a bimodal pattern with a small (March–June) and greater (September–November) wet season interspersed with a drier period (July–August) and a second more severe dry period between

December and February when mean monthly rainfall drops below the relatively flat mean monthly temperature curve (range: 22.8–25.47 °C) on a Walter-Leith type chart (Simo et al., 2009; Bissaya et al., 2014; Noumi, 2015). This is below the level of rainfall normally thought necessary to sustain evergreen tropical forest (Cheek et al., 2011), although the level maybe higher on the summits with orographic precipitation likely (Noumi, 2015; Simo et al., 2009). The original forest was probably semi-deciduous (Achoundong et al. 1985; O. Lachenaud, 2021, pers. comm. 29 June) but has been heavily degraded through timber and wood extraction and cultivation.

The Mbokdoum hill is especially steep sided on its northeast and southern faces, with outcrops of bare rock. There is low-lying marshy habitat between Mbokdoum and the hill to the southwest.

Conservation issues

The vegetation has been considerably degraded by logging and cultivation. Settlements surround the Mbokdoum hill and have crept up the lower slopes on all sides but are especially dense to the north where they reach up to 850 m. The site appears to be privately owned and botanists visiting the site encountered surveyors demarcating the boundary (O. Lachenaud, 2021, pers. comm. 29 June). On the other hill a road and sparse buildings ascend to nearly the summit. There is also evidence of cultivation on the lower slopes.

Elsewhere in Yaoundé, such as nearby Mont Minloua, similar inselbergs have been partly destroyed by quarrying activity. Yaoundé's population is rapidly growing and all pressures are therefore likely to intensify (Nkwemoh et al., 2018; United Nations, 2018). However, despite the considerable habitat degradation, sites such as these present an opportunity for recreational and educational spaces in the expanding city, improving quality of life and prestige of the city while also conserving what remains of the original vegetation. They provide convenient fieldwork sites for students at Yaoundé's universities and, for other urban residents, a potential connection to the country's rich biodiversity.

A program of tree-planting has been initiated in Yaoundé in the last decade, including planting of Eucalyptus trees, with the aim of drying up marshy areas (Nkwemoh et al., 2017). Such wetland areas may be important for some species and planting fast-growing native species might be a better option where reforestation is desirable because of the invasive, flammable and allelopathic traits of Eucalyptus.

Mbokdoum, Mt Eloumden and Mt Kala could be connected to form a continuous forest habitat.

Site assessor(s)

Bruce Murphy, Royal Botanic Gardens, Kew

Martin Cheek, Royal Botanic Gardens Kew

Olivier Lachenaud, Meise Botanic Garden

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>Multidentia saxicola</i> <i>O.Lachenaud & Séné</i>	A(i)	✓	✓	✓	—	—	
<i>Psychotria yaoundensis</i> <i>O.Lachenaud</i>	A(i)	✓	✓	✓	—	—	
<i>Coffea sp.</i> <i>'nkolbisson' Charr et al.</i>	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
Artificial - Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	—	
Forest - Subtropical/Tropical Moist Lowland Forest	—	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Harvesting of wild resources	—	
Residential / urban development	—	

Threats

THREAT	SEVERITY	TIMING
Residential & commercial development - Housing & urban areas	High	Ongoing - increasing
Agriculture & aquaculture - Annual & perennial non-timber crops - Shifting agriculture	High	Ongoing - increasing
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	High	Ongoing - increasing
Energy production & mining - Mining & quarrying	Medium	Future - inferred threat
Geological events - Avalanches/landslides	Medium	Future - inferred threat

THREAT	SEVERITY	TIMING
Biological resource use - Logging & wood harvesting - Unintentional effects: subsistence/small scale (species being assessed is not the target) [harvest]	High	Ongoing - trend unknown
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	High	Ongoing - trend unknown

Management type

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

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