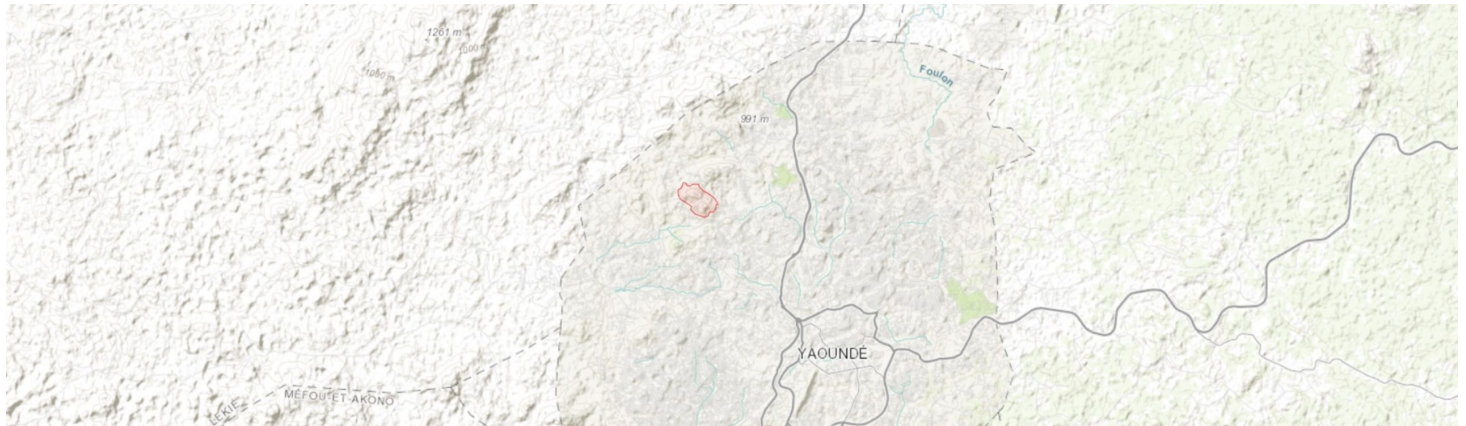


Mont Mbankolo

CMNTIPA023



Country: **Cameroon**
 Administrative region: **Centre (Region)**
 Central co-ordinates: **3.90593 N, 11.48379 E**
 Area: **1.25km²**

Subsequent collecting has provided records of many threatened species from these hills. Two globally endangered species are known from Mount Mbankolo and it is possible that other taxa collected from neighbouring hills may also occur here.

Qualifying IPA criteria

A(i)

IPA assessment rationale

Mount Mbankolo qualifies as a potential IPA under criterion A(i) due to the presence of at least two globally threatened species, *Craterostigma yaundense* and *Eragrostis raynaliana*. Both of these are known from very few other locations and are also thought to be scarce and threatened at those sites. *Craterostigma yaundense* is endemic to Cameroon.

Site description

Mount Mbankolo is one of the "seven hills" of Yaoundé, the capital of Cameroon. These hills are part of a larger group of Yaoundé mountains fringing the western side of the city. Mount Mbankolo is northwest of the city centre, next to Mt Febe and also close to the Presidential Palace. The site rises to over 1,000 m.

Botanical significance

Yaoundé has been an area of important botanical collections since the 1890s. While many of these earlier collections can not be pinpointed to particular locations, it is likely that many species were from the forested inselbergs which provide additional ecological niches for many species to those in the surrounding lowland forest.

Habitat and geology

The hills around Yaoundé 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 emblichite gneiss (Achoundong, 1985), formed from sedimentary and igneous protoliths and apparently dating from around 600 mya (Nzenti, 1988; Tchouatcha et al., 2018; Ngnotue, 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 then 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 may be higher on the summits due to orographic precipitation (Madiapevo et al., 2017; Simo et al 2009). The original forest was probably semi-deciduous (Achoundong, 1985) but has been heavily degraded through timber and wood extraction and cultivation.

Conservation issues

The vegetation of Mount Mbankolo can be seen from satellite images to have been degraded by cultivation, fire and logging, with subsequent soil erosion. Intense population pressure in Yaoundé

has led to increasing "urban front" advancement on steep slopes and marshy areas (Tiafack & Mbon, 2017; Nkwemoh, C.A & Tchindjang, M., 2018). Up to c. 830 m Mbankolo is densely settled around much of its perimeter, and buildings and cultivation can also be seen much higher on parts of the mountain. Several cell phones or radio masts are present on the summit with associated service roads.

Pressure for development and safer conditions in the Mbankolo neighbourhood could lead to further loss of habitat. Planting of Eucalyptus trees has been instigated in other areas of the city for fuel and landslide and flood protection but conservation of natural vegetation and limiting of settlement on slopes might be better solutions.

Site assessor(s)

Bruce Murphy, Royal Botanic Gardens, Kew

Martin Cheek, 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>Craterostigma yaundense</i> (S.Moore) <i>Eb.Fisch., Schäferh. & Kai Müll.</i>	A(i)	✓	✓	✓	—	—	
<i>Eragrostis raynaliana</i> Lebrun	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	—	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Harvesting of wild resources	—	

Threats

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

Management type

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

Bibliography

Cheek, M., Harvey, Y. & Onana, J.M. 2011. **The Plants of Mefou Proposed National Park, Yaoundé, Cameroon.**

Zogning, A., Ngouanet, C. & Tiafack, O. 2007. **The catastrophic geomorphological processes in humid tropical Africa: A case study of the recent landslide disasters in Cameroon.** Sedimentary Geology, Vol 199, page(s) 13 – 27

Mukenga, W., Havenith, H.B., Dewitte, O. & R.M. Eko 2016. **Spatial Analysis of the Landslide Risk in the Cameroon Volcanic Line (CVL).**

Bissaya, R., Ghogomu, R.T., Moundi, A., Njom, B. & N.S. Kanouo 2014. **Utilisation des données géologiques et gestion des informations multi-sources pour l'analyse de l'aléa glissement de terrain/éboulement dans le secteur Nord-Ouest de la région de Yaoundé.** Afrique SCIENCE, Vol 10(3), page(s) 113 - 133

Tiafack, O. & Mbon, A.M. 2017. **Urban Growth and Front Development on Risk Zones: GIS Application for Mapping of Impacts on Yaounde North Western Highlands, Cameroon.** Current Urban Studies, Vol 5(2), page(s) 217-235

Nkwemoh, C.A.; Tchindjang, M. 2018. **Urban sprawl and agriculture: A case study of the Yaounde metropolis (Cameroon).** Revue Scientifique et Technique Forêt et Environnement du Bassin du Congo, Vol 10, page(s) 45-58.

Nkwemoh, C.A., Tchindjang, M. & Afungang, R.N. 2017. **The Impact of Urbanization on the Vegetation of Yaounde, (Cameroon).** International Journal of Innovative Research & Development, Vol 6(5), page(s) 6-18

Achoundong, G. 1996. **Les forêts sommitales du Cameroun: Végétation et flore des Collines de Yaoundé.** Bois et forêt des tropiques, Vol 247, page(s) 37-52

Lachenaud, O., Droissart, V., Dessenin, S., Stévant, T., Simo, M., Lemaire, B., Taedoumg, H. & Sonké, B. 2013. **New records for the flora of Cameroon, including a new species of Psychotria (Rubiaceae) and range extensions for some rare species.** Plant Ecology and Evolution, Vol 146 (1), page(s) 121–133

Noumi, E. 2015. **Floristic structure and diversity of a tropical sub-**

montane evergreen forest, in the Mbam minkom massif (Western Yaoundé). Journal of Biology and Life Science, Vol 6(1), page(s) 149-193

Simo, M., Droissart, V., Sonké, B. & Stévant, T. 2009. **The Orchid Flora of the Mbam Minkom Hills (Yaoundé, Cameroon).** Belgian Journal of Botany, Vol 142(2), page(s) 111-123

Nzenti, J.P., Barbey, P., Macaudiere, J. & Soba, D. 1988. **Origin and evolution of the late Precambrian high-grade Yaounde gneisses (Cameroon).** Precambrian Research, Vol 38, page(s) 91-109

Tchouatcha, M.S., Kouske, A.P., Njiosseu, E.L.T., Ngouem, P.A., Ngnotue, T., Njinchuki, D.N. & Nzenti, J.P. 2018. **Preserved Sedimentary Features in the Pan-African High-Grade Metamorphic Rocks from the Yaoundé Series (Cameroon).** Journal of Geosciences and Geomatics, Vol 6(3), page(s) 94-102

Ngnotué, T., Ganno, S., Nzenti, J.P., Schulz, B., Tchaptchet T.D. & Suh, C.E. 2012. **Geochemistry and geochronology of Peraluminous High-K Granitic Leucosomes of Yaoundé Series) Cameroon. Evidence for a Unique Pan-African Magmatism and Melting Event in North Equatorial Fold Belt.** International Journal of Geosciences, Vol 3, page(s) 525-548

Madiapevo, S.N., Makemteu, J. & Noumi, E. 2017. **Plant Woody Diversity of the Highest Summit Forest (1156 m), in the Kala Massif, Western Yaoundé.** International Journal of Current Research in Biosciences and Plant Biology, Vol 4(10), page(s) 1-30