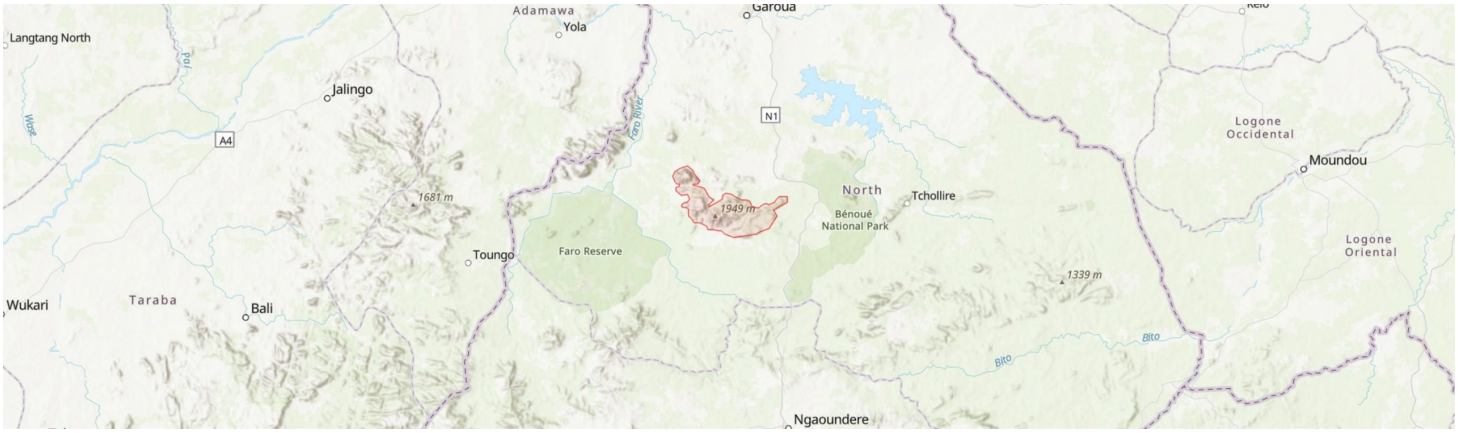
Mount Vokré

Hoséré Vokré, Monts de Poli (Test version)

CMNTIPA046



Country: **Cameroon**
Administrative region: **North (Region)**
Central co-ordinates: **8.34000 N, 13.25000 E**
Area: **962km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Mount Vokré qualifies as an IPA under criterion A(i) through its important populations of several globally threatened species, most notably Antherotoma clandestina (EN), Crotalaria ledermannii (VU) and Ledermanniella raynaliorum (EN).

Site description

Mount Vokré in North Region, Cameroon, is a horseshoe shaped mountain ridge reaching nearly 2000 m. It lies 100 km south of Garoua and a few km south of the town of Poli, and between Faro and Benoué National Parks which are of predominantly low altitude. As well as the summit, several additional peaks in the range are named, including Hosere Kogo and Hosere Mango. To the Northwest, narrowly separated by a 300-400 m valley a related peak, Hosere Gode rises to 1600 m and is included here. A smaller separated peak, Hosere Poli, also rises to nearly 1000 m on the eastern edge of Poli itself but is excluded. To the east the range forms a plateau which slopes away gradually. The proposed boundary is a tentative suggestion and surveying is required to indicate what parts retain conservation value.

Botanical significance

These mountains have seen a fairly high number of collections compared to elsewhere in the North, Far North and Adamawa regions but there are no recent records of the more notable taxa. G. Fotius, J & A Raynal, H Jaques-Felix, C. Geerling and A.P.M Van der Zon are responsible for most of the collecting and important records which date from the 1960s-1980s. A large number of non-vouchered observations by Le Bourgeois in 1990 and OUSTALET in 2003 do not appear to have returned rare or threatened taxa.
Antherotoma clandestina (EN) is endemic to Adamaoua region and only recorded at one other nearby site, Mt Nganha, while Ledermanniella raynaliorum (EN) is only otherwise recorded from a single site in Nigeria (Cheek, 2015; Cheek & Lovell, 2021). Rhynchosia ambacensis subsp. cameroonensis (provisionally EN, Onana & Cheek, 2011) is also very rare. Other species such as Wahlenbergia ramosissima subsp. ramosissima and Panicum acrotrichum are somewhat more widely recorded but still assessed as Vulnerable. Mount Vokré is also notable for hosting outlier populations of taxa otherwise limited to Northwest and Southwest regions of Cameroon, such as Crotalaria ledermannii (VU) a national endemic, and Podocarpus milanjianus. The remarkable orchid Ansellia africana (VU), although widespread in Africa, has rarely been scientifically recorded in Cameroon but twice collected at this site. It is threatened by horticultural and ethnobotanical collecting (Crook, 2013). Echinops mildbraedii is provisionally assessed as NT by Onana & Cheek (2011). Thesium equisetoides (NE) also has a large range across Africa but is very sparsely recorded and is only known in Cameroon from this site.
In addition, several other taxa are recorded from nearby Hosere Godé, including narrow endemic Eugenia poliensis, Cyphostemma leucotrichum (provisionally EN), Globimetula oreophila (VU in Onana & Cheek, 2011 but now more widely recorded), Dombeya ledermannii (CR), Vernonia chapmannii (provisionally VU) and Vitex bogalensis (Not Evaluated).

Habitat and geology

Mount Vokré is in the Central African Fold Belt region, a zone between the Congo Craton, the West African Craton and the Chad basin. The mountains are formed of Neoproterozoic granitoids, uplifted as a horst like structure and surrounded by metabasalts and micaschists (Kouske et al., 2012; Essi et al., 2017; Thiéblemont et al., 2021). Many large granite boulders, forming deep crevices, are exposed at the summit area and found in gallery forest at slightly lower altitudes (Bauer et al., 2006). One of only two known Cameroon uranium deposits (the Kitongo occurrence) is known from the northwestern margin and occupies an area of ~ 1.8 km by ~ 1.3 km (Kouske et al., 2012). The higher altitude areas are characterised by leptosols, with gleyic luvisols and planosols in the lower areas to the west, and ferric luvisols and regosols to the east (Yerrima & Van Ranst 2005; Letouzey, 1982).
Average annual precipitation at Poli (478 m) is 1352 mm. There is a single wet season (Koppen type: Aw) running from mid March to the end of October and peaking in August (275 mm, humidity 80%). Very little rain (

Conservation issues

The area has a high population density and impacts on the natural habitat have been described as "extremely high" (Larrison et al. 2000). Forest is largely limited to narrow gallery forests in valleys and gorges with dry wooded savanna in between. The summit area appears largely bare. It is assumed that forest cover was formerly much more complete although perhaps not reaching the highest regions. Grazing is likely to be the main cause of degradation (Cheek, 2015). Pastoral villages and cattle grazing are reported on the plateau itself, with streams used for watering livestock. There is also cultivation of the lower slopes and even on the plateau. Fire is not mentioned but is likely to be used to rejuvenate grazing land, and fuelwood gathering is likely a further impact. Numerous fire alerts are indicated over the latest month (prior to 18/03/2022) by infrared satellite imaging using a 375 m pixel size (NASA FIRMS, 2022).
Gallery forests are targeted for both grazing, particularly in the dry season, and for cultivation because of the moister soils (Bauer et al., 2006). One of the globally threatened and narrowly endemic species, Ledermannia raynaliorum is a rheophytic species from waterfalls and rapids and likely to be susceptible to impacts on these streams (Cheek & Lovell, 2021).
Hidden crevices between the large granite boulders may shelter surviving populations of important species.
The Kitongo uranium deposit is thought to contain up to 13,000 tonnes of ore material but is of low value (IAEA, 2009). Drilling in 2010 by Mega Uranium Ltd revealed nothing of economic significance. Further drillling in 2011 was defered and does not appear to have resumed (KPMG, 2014). A large area, extending through Benoué National Park remains under various mining permits (MINFOF & WRI, 2020).

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
Pterocarpus erinaceus Poir.	A(i)	–	✓	✓	–	✓	
Ledermanniella raynaliorum C.Cusset	A(i)	✓	✓	✓	–	–	
Vitellaria paradoxa C.F.Gaertn.	A(i)	–	–	–	–	✓	
Crassocephalum bauchiense (Hutch.) Milne-Redh.	A(i)	–	–	–	–	–	
Panicum acrotrichum Hook.f.	A(i)	✓	✓	–	–	–	
Crotalaria ledermannii Bak.f.	A(i)	✓	✓	✓	–	–	
Afzelia africana Sm. ex Pers.	A(i)	–	✓	–	–	✓	
Ansellia africana Lindl.	A(i)	–	–	✓	–	–	
Wahlenbergia ramosissima (Hemsl.) Thulin subsp. ramosissima	A(i)	✓	–	–	–	–	
Antherotoma clandestina Jacq.-Fél.	A(i)	✓	✓	✓	✓	–	
Dombeya ledermannii Engl.	A(i)	–	–	–	–	–	
Globimetula oreophila (Oliv.) Tiegh.	A(i)	–	–	–	–	–	
Vepris oubanguensis (Aubrév. & Pellegr.) Onana	A(i)	✓	✓	✓	✓	–	
Garcinia afzelii Engl.	A(i)	–	–	–	–	–	
Indigofera dasycephala Baker f.	A(i)	✓	✓	✓	–	–	
Cyphostemma leucotrichum (Gilg & M.Brandt) Desc.	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
Eugenia poliensis Aubrév. & Pellegr.	A(iii)	✓	✓	✓	✓	–	

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
Savanna - Moist Savanna	–	
Grassland - Subtropical/Tropical High Altitude Grassland	–	
Forest - Subtropical/Tropical Moist Montane Forest	–	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Harvesting of wild resources	–	
Agriculture (pastoral)	–	
Agriculture (arable)	–	

Threats

THREAT	SEVERITY	TIMING
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	High	Ongoing - trend unknown
Agriculture & aquaculture - Livestock farming & ranching - Small-holder grazing, ranching or farming	High	Ongoing - trend unknown
Natural system modifications - Fire & fire suppression - Increase in fire frequency/intensity	High	Ongoing - trend unknown
Biological resource use - Gathering terrestrial plants - Intentional use (species being assessed is the target)	Medium	Ongoing - trend unknown
Energy production & mining - Mining & quarrying	Medium	Ongoing - trend unknown
Biological resource use - Logging & wood harvesting	High	Ongoing - trend unknown

Bibliography

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

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

MINFOF (Ministry of Forestry and Wildlife) & WRI (World Resources Instiute) 2021. **Forest Atlas of Cameroon.**

Thiéblemont D. (edit.) et al. 2021. **Geological Map of Africa at 1:10 M scale, CGMW-BRGM 2016.**

Larison, B., Smith, T.B., Fotso, R. & McNiven, D. 2000. **Comparative avian biodiversity of five mountains in northern Cameroon and Bioko.** Ostrich, Vol 71(1 & 2), page(s) 269-276

Bosmans, R. and van Hove, M. 1986. **New species and new records of spiders of the genus Langbiana (Araneae: Zodariidae) scientific report of the Belgian Cameroon expeditions 1981 and 1983 XVI..** Revue suisse de zoologie, Vol 93, page(s) 373-392

Bauer, A.M., Chirio, L., Ineich, I. & Lebreton, M. 2006. **New species of Cnemaspis (Squamata: Gekkonidae) from Northern Cameroon, a neglected biodiversity hotspot.** Journal of Herpetology, Vol 40(4), page(s) 510-519

IAEA (International Atomic Energy Agency) 2009. **World Distribution of Uranium Deposits (UDEPO). Kitongo, Cameroon.**

KPMG 2014. **KPMG Global Mining Institute. Cameroon: Country mining Guide..**

Abate Essi, J.M., Marcel, J., Yene Atangana, J.Q., Ahmad, A.D., Fita Dassou, E., Mbossi, E.F., Ondoa, J.M. & Penaye, J. 2017. **Interpretation of gravity data derived from the Earth Gravitational Model EGM2008 in the Center-North Cameroon: structural and mining implications.** Arabian Journal of Geosciences, Vol 10, 130

Kouske, A.P., Suh, C.E, Ghogomu, R.T. & Ngako, V. 2012. **Na-Metasomatism and Uranium Mineralization during a Two-Stage Albitization at Kitongo, Northern Cameroon: Structural and Geochemical Evidence.** International Journal of Geosciences, Vol 3(1), page(s) 258-279

Weatherbase 2022. **Climate summary: Poli, Cameroon.**

Ayafor, J.F, Sondengam, B.L, Bilon, A.N., Tsamo, E. & Kimbu, S.F. 1982. **Furoquinoline alkaloids of Teclea ouabanguiensis.** Journal of Natural Products, Vol 45(6), page(s) 714-717

Ayafor, J.F., Sondengam, B.L, Bilon, A.N., Connolly, J.D. 1986. **Limonoids of Teclea Ouabanguiensis.** Journal of N, Vol 49(4), page(s) 583-7

LeBreton, M., Chirio, L. & Gonwouo, N.L. 2021. **Cnemaspis alantika. The IUCN Red List of Threatened Species 2021: e.T104681745A104681747.**

World Spider Catalog 2022. **World Spider Catalog. Version 23.0. Natural History Museum Bern.**

Bosmans, R. & Van Hove, M. 1986. **New species and new records of spiders of the genus Langbiana (Araneae: Zodariidae). Scientific report of the Belgian Cameroon Expeditions 1981 and 1983 XVI..** Revue Suisse de Zoologie, Vol 93(2), page(s) 373-392

Cheek, M. 2015. **Antherotoma clandestina. The IUCN Red List of Threatened Species 2015: e.T202774A2752585.**

Crook, V. 2013. **Ansellia africana. The IUCN Red List of Threatened Species 2013: e.T44392142A44437667.**

NASA FIRMS 2022. **"VIIRS Active Fires." Accessed through Global Forest..**