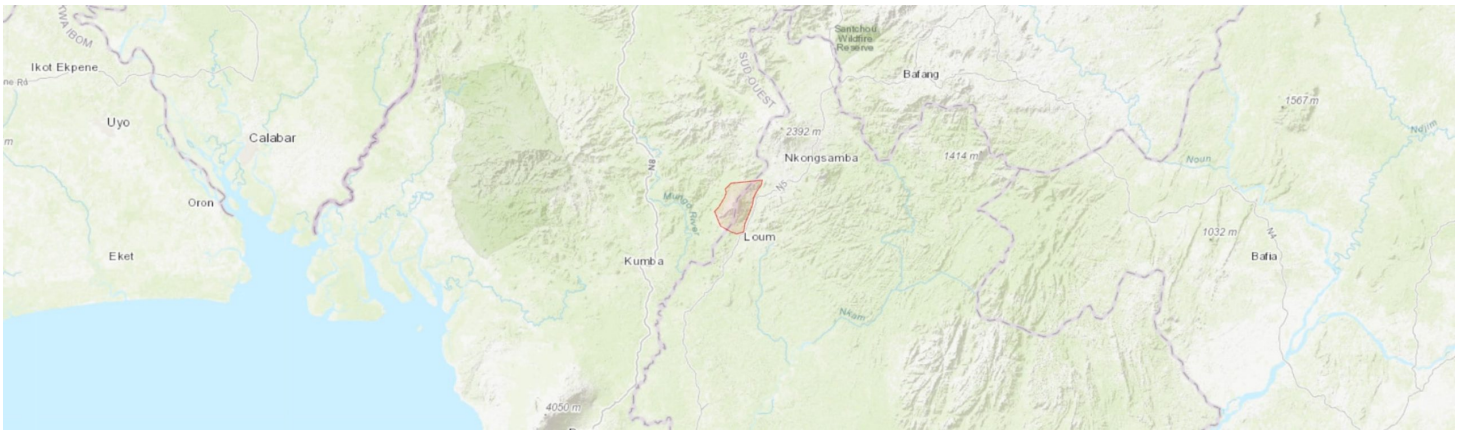
Mount Kupe

CMNTIPA028



Country: **Cameroon**
Administrative region: **Southwest (Region)**
Central co-ordinates: **4.81000 N, 9.71000 E**
Area: **146km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

The very large number of threatened and endemic taxa recorded at Mount Kupe easily qualify it as a potential IPA under criterion A(i). At least five threatened species are considered endemic to the site. The site would also almost certainly qualify under criterion B(i) or B(ii) due to the very high number of species from the submontane forest habitat type or the high number of restricted range or nationally endemic species. It might also potentially qualify under criterion B(iii) for its diversity of socially, economically or culturally important species. Furthermore, the areas of submontane and montane forests are likely amongst the most important areas of these habitat type in Cameroon and the wider West and Central Africa region, potentially qualifying the site under criterion C(ii) or C(iii).

Site description

Mount Kupe is a 2000 m high forested mountain located approximately 100 km from the Atlantic coast and spanning Southwest and Littoral regions of Cameroon. It lies between the N5 Douala-Bafoussam and N8 LImbe-Mamfe roads, close to the towns of Loum, Tombei and Manjo. Within the foothills of the mountain there are two forest reserves that are included here within the proposed IPA boundary: Manehas Forest Reserve to the north and Loum Forest Reserve to the South. Mount Kupe has been proposed as an Integral Ecological Reserve covering 4,676 ha (Wild 2004). However, this has not been officially gazetted. The IPA area incorporates the proposed protected area and extends beyond this to include populations of other important taxa.

Botanical significance

Mt Kupe forms a link in the chain of Afromontane vegetation sites along the Cameroon Volcanic Line, one of the few points in West or Central Africa reaching above 2000 m and therefore featuring genuine montane vegetation as well as the naturally more extensive but now highly threatened submontane habitat (White, 1983; Cheek et al., 2004). Compared to neighbouring sites (Mt Manengouba, Mt Nlonako, the Mwenzekong Mts of Banyang Mbo and the Mwendolengo Mts and Edib Hills of Bakossi National Park), Mt Kupe has benefitted from much greater concentration of collecting effort

(Cheek et al., 2004). This has revealed a very high number of threatened and geographically restricted species within the c.50 km2 of the proposed ecological reserve or the c 150 km2 proposed here as an IPA. Most of the diversity is from the submontane forest, which has been considerably reduced in extent by anthropic activity, but the naturally less rich montane forest also contains rare endemic species. Twelve species are narrowly endemic to the site: Lefebvrea kupense, Brachystephanus kupensis, Bulbophyllum jaapii, Cola etugei, Polystachya kupensis, Ardisia alabastro-alata, Afrothismia kupensis, Vepris Zapfacki, Stachyanthus cuneatus, Beilschmiedia crassipes, Memecylon kupeanum, Cyperus nicrocristatus. Cheek et al. (2004, p78) give a higher number of 26 taxa - this includes some that undescribed taxa that are not included here (Cheek et al., 2019). Numerous other species are endemic to the Kupe-Bakossi area. Of the >120 threatened species listed here, no less than 17 are Critically Endangered.

Mt Kupe and the Bakossi mountains are also of significance as part of a postulated glacial refugium where evergreen forest species were able to survive the colder, drier conditions at higher altitude but, isolated from other populations, may have diverged. Species with poor dispersal ability, such as yellow-flowered begonias, are thought to have subsequently remained restricted to such areas (Sosef, 1994; Sosef, 1996; Cheek, 2004). A large number of such species have been described from the Kupe-Bakossi area (Cheek, 2004). Some species recorded by Ledermann from Lom, which appears to be Loum (Hepper, 1978) are included here although possibly extinct due to loss of lowland forest around the town. These include Beilschmiedia crassipes (CR), Stachyanthus cuneatus (CR), Thyrsosalacia racemosa (VU) and Scaphopetalum pallidinerve. Others such as Crotonogyne impedita (CR) have been more recently re-rerecorded at the site.

Habitat and geology

Although the terrain of the entire Kupe-Bakossi-Manengouba area is linked to the Cameroon Line geological fault where the Congo craton and the West African plate meet, there is geological variation between the various mountains. Several phases of geological activity are responsible (Cheek et al., 2020; Wild, 2004). Mt Kupe is a synenitic horst of basement complex rocks (or possibly more recent intrusive material) uplifted in the early Eocene (Lamilen et al., 1989 cited by Pouclet et al., 2014; Enang et al., 2020). This is overlain by more recent basaltic and pyroclastic rocks from late Pliocene to late Pleistocene eruptions, which have weathered into highly fertile soils (Enang et al., 2020).

The volcanic terrain gives rise to andosols in much of this area although there is much local variation (Wild, 2004). More clayey nitisols are predominant to the west and ferralsols to the east and north of the area, and these may also feature in non-volcanic parts of the Kupe-Bakossi zone (Ngachi et al., 1992; Yerima & Ranst, 2005). Sieffermann (1973) described fertile andosoils and brown eutrophic soils on the lower eastern slopes that are important to farming. These soils are porous and well-drained, rich in organic matter and with high nutrient availability (Wild, 2004). Enang et al. (2020) suggests andosols and cambisols derived from pyroclastic parent rocks are dominant, particularly on the western slopes, with stratification and erratic variation of physical and chemical properties. This micro-variation might partly explain the high plant diversity. The topsoils are slighly acidic (pH 5) and subsoils around pH 6.5 (Wild, 2004).

The whole region has high precipitation, augmented by horizontal precipitation which probably mitigates against reduced dry season rainfall. Southwestern Kupe is particularly wet, with up to 6-7 m possible (Cheek et al., 2020) and 4 m mean recorded at Nyasoso, compared to 3 m from Loum to the southeast and 2.8 m from Nkongsamba to the northeast (Wild 2004, adapted from Ejedepang-Koge, 1986). Temperature varies little seasonally around 23-24 °C and daily gradients, influenced by altitude are much greater.

Cloud cover is less stable than in the Bakossi Mts or Mt Manengouba, and cloud forest—characterised by enveloping mist, stunted trees and abundant epiphytes, mosses and ferns—is less developed and descends less far (to around 1,300 m) (Wild, 2004). The eastern flanks of Mt Kupe provide a tributary of the Wouri river.

A variety of vegetation types are present. There is a small area of semi-deciduous lowland forest in the degraded Loum reserve and lowland evergreen forest would cover much of the remaining area below 800 m but is much cleared for farming. The submontane forest is most abundant but also encroached at lower levels: in 2001 up to 1,500 m on the eastern side and up to 750–1,100 m on the western and northern sides (Birdlife, 2020), with subsequent additional clearance (ERuDeF, 2016). Montane forest, cliff-faces and inselbergs, montane grassland and seasonal streams are other important habitats (Cheek et al., 2004).

Conservation issues

Loum and Manehas forest reserves were created by the British colonial administration (Wild, 2004). Manehas is still a protected forest reserve but Loum forest reserve appears not to be demarcated on any administrative maps and has been badly degraded and partially absorbed into the Loum urban area (MINFOF & WRI, 2020). The upper submontane and montane forest area of Mt Koupe has been proposed as a 4,676 ha Integratated Ecological Sanctuary, having the same degree of protection as a National Park, but this has not been gazetted, despite local support and the clear biological significance of the site (Wild, 2004). There has been considerable degradation of the lowland and lower submontane forest from continuing smallscale logging and conversion to farmland, which has been renewed following the withdrawal of international NGOs faced with the stalled gazettement status (ERUDEF, 2016). Although highly fertile, the soils are quickly degraded due to the high precipitation and steep slopes, potentially leading to soil erosion, landslides and abandoned land where diverse forest may struggle to return (Yerima & Ranst, 2005; Zogng et al., 2006; Mukenga et al., 2016;). Cooperation of local groups to protect watersheds has reportedly broken down, with renewed land conversion threatening water supply to 20 villages (ERUDEF, 2016). Extensive areas to the east and south of the site, around Tombel,

Loum and Manjo have been cleared for agro-plantation (MINFOF & WRI, 2020; GoogleEarth, 2021). As, indicated by the development plan for the Tombel agglomeration, local populations are overwhelmingly employed in agriculture (PNDP, 2011). Although historically Mt Kupe has been a sacred site to the Bakossi people, traditions and taboos that protect such sites have begun to break down and may be opposed by immigrant populations drawn to the rich soil and agro-plantation employment (Chuo, A. & Angwafo, T., 2017; Ngea, 2006).
Formal gazettement with active management is urgently needed to preserve this very important site. Forest corridors linking the proposed integral reserve with neighbouring sites must be maintained or restored to ensure genetic exchange and migratory routes. The site has great potential for eco- and wildlife-tourism which has languished following withdrawal of international NGOs (ERuDeF, 2016). Conservation is, however, strongly supported by local elders (Ngea, 2005).

Site assessor(s)

Bruce Murphy, Royal Botanic Gardens, Kew

Jean Michel Onana, University of Yaounde I, Faculty of Science, Department of Plant Biology; IRAD-Herbier National Camerounais

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
Lefebvrea kupense (I.Darbysh. & Cheek) Cheek & I.Darbysh.	A(i)	✓	✓	✓	✓	–	
Brachystephanus kupeensis Champl.	A(i)	✓	✓	✓	✓	–	
Bulbophyllum jaapii Szlach. & Olszewski	A(i)	✓	✓	✓	✓	–	
Afrothismia kupensis Cheek & S.A.Williams	A(i)	✓	✓	✓	✓	–	
Begonia bonus-henricus J.J.de Wilde	A(i)	✓	✓	✓	–	–	
Cyathula fernando-poensis Suess. & Friedrich	A(i)	✓	✓	✓	–	–	
Deinbollia onanae Cheek	A(i)	✓	✓	✓	–	–	
Begonia duncan-thomasii Sosef	A(i)	✓	✓	✓	–	–	
Leptonychia kamerunensis Engl. & K.Krause	A(i)	✓	✓	✓	–	–	
Quassia sanguinea Cheek & Jongkind	A(i)	✓	✓	✓	–	–	
Rhipidoglossum polydactylum (Kraenzl.) Garay	A(i)	✓	✓	✓	–	–	
Psychotria darwiniana Cheek	A(i)	✓	✓	✓	–	–	
Diospyros kupensis Gosline	A(i)	✓	✓	✓	–	–	
Kupeantha kupensis Cheek & Sonké	A(i)	✓	✓	✓	–	–	
Mussaenda epiphytica Cheek	A(i)	✓	✓	✓	–	–	
Kupea martinetugei Cheek & S.A.Williams	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
Microcos magnifica Cheek	A(i)	✓	✓	✓	–	–	
Afrothismia saingei T.Franke	A(i)	✓	✓	✓	–	–	
Pavetta kupensis S.D.Manning	A(i)	✓	✓	✓	–	–	
Costus kupensis H.Maas & Maas	A(i)	✓	✓	✓	–	–	
Polystachya cooperi Summerh.	A(i)	✓	✓	✓	–	–	
Polystachya farinosa Kraenzl.	A(i)	✓	✓	✓	–	–	
Sclerochiton preussii (Lindau) C.B.Clarke	A(i)	✓	✓	✓	–	–	
Aneilema silvaticum Brenan	A(i)	–	✓	✓	–	–	
Vepris lecomteana (Pierre) Cheek & T.Heller	A(i)	–	✓	–	–	–	
Aristolochia goldiena Hook.f	A(i)	–	✓	✓	–	–	
Entandrophragma angolense (Welw.) C.DC.	A(i)	–	–	–	–	✓	
Khaya ivorensis A.Chev.	A(i)	–	–	–	–	✓	
Uvariopsis vanderystii Robyns & Ghesq.	A(i)	–	✓	✓	–	–	
Dactyladenia johnstonei (Hoyle) Prance & F.White	A(i)	–	✓	✓	–	–	
Crassocephalum bauchiense (Hutch.) Milne-Redh.	A(i)	✓	✓	✓	–	–	
Mikaniopsis vitalba (S.Moore) Milne-Redh.	A(i)	–	✓	✓	–	–	
Dorstenia prorepens Engl.	A(i)	✓	✓	✓	–	–	
Begonia furfuracea Hook.f.	A(i)	✓	✓	✓	–	–	
Amorphophallus	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
preussii (Engl.) N.E.Br.							
Mikaniopsis maitlandii C.D.Adams	A(i)	✓	✓	✓	–	–	
Allophylus conraui Gilg ex Radlk.	A(i)	✓	–	✓	–	–	
Memecylon dasyanthum Gilg & Ledermann ex Engl.	A(i)	✓	–	✓	–	–	
Uvariodendron giganteum (Engl.) R.E.Fr.	A(i)	✓	✓	✓	–	–	
Pyrenacantha cordicula Villiers	A(i)	✓	✓	✓	–	–	
Ardisia koupensis Taton	A(i)	✓	✓	✓	–	–	
Chazaliella obanensis (Wernham) Petit & Verdc.	A(i)	✓	✓	✓	–	–	
Rutidea nigerica Bridson	A(i)	✓	✓	✓	–	–	
Tricalysia atherura N.Hallé	A(i)	✓	✓	✓	–	–	
Bidens mannii T.G.J.Rayner	A(i)	✓	✓	–	–	–	
Psydrax bridsonianus Cheek & Sonké	A(i)	✓	✓	✓	–	–	
Magnistipula conrauana Engl.	A(i)	–	✓	–	–	–	
Strychnos staudtii Gilg	A(i)	✓	–	–	–	–	
Polystachya bicalcarata Kraenzl.	A(i)	✓	✓	✓	–	–	
Bulbophyllum nigericum Summerh.	A(i)	✓	✓	✓	–	–	
Loesenera talbotii Baker f.	A(i)	✓	✓	–	–	–	
Afrothismia fungiformis Sainge & Kenfack	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
Entandrophragma cylindricum (Sprague) Sprague	A(i)	–	–	–	–	–	
Cyperus microcristatus Lye	A(i)	✓	✓	✓	✓	–	
Psychotria densinervia (K.Krause) Verdc.	A(i), A(iii)	–	–	–	–	–	
Dorstenia astyanactis Aké Assi	A(i)	–	✓	✓	–	–	
Hugonia macrophylla Oliv.	A(i)	–	✓	✓	–	–	
Clerodendrum anomalum Letouzey	A(i)	–	✓	✓	–	–	
Psychotria bakossiensis Cheek & Sonké	A(i)	✓	✓	✓	–	–	
Coffea bakossii Cheek & Bridson	A(i)	✓	✓	✓	–	✓	
Dracaena kupensis Mwachala, Cheek, Eb.Fisch. & Muasya	A(i)	✓	✓	✓	–	–	
Begonia adpressa Sosef	A(i)	✓	✓	✓	–	–	
Begonia preussii Warb.	A(i)	✓	✓	✓	–	–	
Calochone acuminata Keay	A(i)	✓	✓	✓	–	✓	
Xylopia africana (Benth.) Oliv.	A(i)	✓	✓	✓	–	–	
Pararistolochia ceropegioides (S.Moore) Hutch. & Dalziel	A(i)	✓	✓	✓	–	–	
Acanthopale decempedalis C.B.Clarke	A(i)	✓	✓	✓	–	✓	
Hymenocoleus glaber Robbr.	A(i)	✓	✓	✓	–	–	
Oncoba lophocarpa Oliv.	A(i)	✓	✓	✓	–	–	
Anthocleista microphylla	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
Wernham							
Begonia oxyanthera Warb.	A(i)	✓	✓	✓	–	–	
Cuviera talbotii (Wernham) Verdc.	A(i)	✓	✓	✓	–	–	
Staurogyne bicolor (Mildbr.) Champl.	A(i)	✓	✓	✓	–	–	
Afropectinariella pungens (Schltr.) M.Simo & Stévart	A(i)	✓	✓	✓	–	–	
Bulbophyllum teretifolium Schltr.	A(i)	✓	✓	✓	–	–	
Uvariopsis submontana Kenfack, Gosline & Gereau	A(i)	✓	✓	✓	–	–	
Afrothismia winkleri (Engl.) Schltr.	A(i), A(iii)	✓	✓	✓	–	–	
Microberlinia bisulcata A.Chev.	A(i)	✓	–	–	–	–	
Peperomia kamerunana C.D.C	A(i)	✓	✓	✓	–	–	
Pseudagrostistachys africana subsp. africana	A(i)	✓	–	✓	–	–	
Triclisia macrophylla Oliv.	A(i)	✓	✓	✓	–	–	
Vepris trifoliolata (Engl.) Mziray	A(i)	✓	✓	✓	–	–	
Mapania ferruginea Ridl.	A(i)	✓	✓	✓	–	–	
Asystasia glandulifera Lindau	A(i)	✓	✓	✓	–	–	
Brachystephanus longiflorus Lindau	A(i)	✓	✓	✓	–	–	
Justicia camerunensis (Heine) I.Darbysh.	A(i)	✓	✓	✓	–	–	
Momordica enneaphylla Cogn.	A(i)	✓	✓	✓	–	–	
Homalium hypolasium Mildbr.	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
Anthocleista scandens Hook.f.	A(i)	✓	✓	✓	–	–	
Tiliacora lehmbachii Engl.	A(i)	✓	✓	✓	–	–	
Ixora foliosa Hiern	A(i)	✓	✓	✓	–	–	
Allophylus bullatus Radlk.	A(i), A(iii)	✓	✓	✓	–	–	
Dracaena viridiflora Engl. & K.Krause	A(i)	✓	–	✓	–	–	
Angraecum pyriforme Summerh.	A(i)	✓	✓	✓	–	–	
Disperis mildbraedii Schltr. ex Summerh.	A(i)	✓	✓	✓	–	–	
Bulbophyllum micropetalum Lindl.	A(i)	✓	✓	✓	–	–	
Habenaria thomana Rchb.f.	A(i)	✓	✓	✓	–	–	
Brachystephanus giganteus Champl.	A(i)	✓	✓	✓	–	–	
Chassalia laikomensis Cheek	A(i), A(iii)	✓	–	✓	–	–	
Palisota preussiana K.Schum. ex C.B.Clarke	A(i)	✓	✓	–	–	–	
Schefflera mannii (Hook.f.) Harms	A(i)	✓	–	–	–	–	
Phyllopentas ledermannii (K.Krause) Kårehed & B.Bremer	A(i)	✓	✓	✓	–	–	
Crotonogyne impedita Prain	A(i)	✓	✓	✓	–	–	
Bulbostylis densa (Wall.) Hand.-Mazz. var. cameroonensis S.S.Hooper	A(i)	✓	✓	✓	–	–	
Polystachya kupensis P.J.Cribb & B.J.Pollard	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
Angraecum sanfordii P.J.Cribb & B.J.Pollard	A(i)	✓	✓	✓	–	–	
Afzelia pachyloba Harms	A(i)	–	–	–	–	✓	
Mendoncia camerounensis Breteler & Wieringa	A(i)	✓	✓	✓	–	–	
Aframomum kamerunicum D.J.Harris & Wortley	A(i)	✓	✓	✓	–	–	
Pavetta cellulosa Bremek.	A(ii)	✓	✓	✓	–	–	
Hamilcoa zenkeri (Pax) Prain	A(i)	✓	–	–	–	–	
Memecylon kupeanum R.D.Stone, Ghogue & Cheek	A(i)	✓	✓	✓	✓	–	
Cordia platythyrsa Baker	A(i)	–	✓	✓	–	✓	
Neoschumannia kamerunensis Schltr.	A(i)	✓	✓	✓	–	–	
Talbotiella ebo Mackinder & Wieringa	A(i)	✓	✓	✓	–	–	
Napoleonaea egertonii Baker f.	A(i)	✓	–	–	–	–	
Beilschmiedia crassipes (Engl. & K.Krause) Robyns & R.Wilczek	A(i)	✓	✓	✓	✓	–	
Thyrsosalacia racemosa (Loes. ex Harms) N.Hallé	A(i)	✓	✓	✓	–	–	
Stachyanthus cuneatus Engl.	A(i)	✓	✓	✓	✓	–	
Beilschmiedia preussioides Fouilloy & N.Hallé	A(i), A(iv)	✓	✓	✓	–	–	
Bulbophyllum josephi (Kuntze) Summerh. var. mahonii (Rolfe) J.J.Verm.	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
Bulbophyllum summerhayesianum (Szlach. & Olszewski) Govaerts & J.M.H.Shaw	A(i)	✓	✓	✓	–	–	
Ardisia alabastroalata Taton	A(i)	✓	✓	✓	✓	–	
Beilschmiedia cuspidata (K.Krause) Robyns & R.Wilczek	A(i)	✓	✓	✓	–	–	
Psychotria asterogramma O.Lachenaud	A(i)	✓	✓	✓	–	–	
Aframomum plicatum D.J.Harris & Wortley	A(i)	✓	✓	–	–	–	
Anthonotha xanderi Breteler	A(i)	✓	✓	✓	–	–	
Bulbophyllum bifarium Hook.f.	A(i)	✓	✓	✓	–	–	
Chassalia petitiana Piesschaert	A(i)	✓	✓	✓	–	–	
Deinbollia insignis Hook.f.	A(i)	✓	✓	✓	–	–	
Dicranolepis polygaloides Gilg ex H.Pearson	A(i)	✓	✓	–	–	–	
Heckeldora ledermannii (Harms) J.J. de Wilde	A(i)	✓	✓	✓	–	–	
Keetia bakossiorum Cheek	A(i)	✓	✓	✓	–	–	
Vepris onanae Cheek	A(i), A(iv)	✓	✓	✓	–	–	
Piptostigma goslineanum Ghogue, Sonké & Couvreur	A(i)	✓	✓	✓	–	–	
Tapinanthus preussii (Engl.) Tiegh.	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
Triclisia macrophylla Oliv.	A(i)	✓	✓	✓	–	–	
Vepris zapfackii Cheek & Onana	A(i), A(iv)	✓	✓	✓	✓	–	
Monanthotaxis glaucifolia (Hutch. & Dalziel) P.H.Hoekstra	A(iv)	–	–	–	–	–	
Scaphopetalum pallidinerve Engl. & K.Krause	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

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE

Threats

THREAT	SEVERITY	TIMING

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mt Kupe Integral Ecological Reserve (Proposed)	National Reserve	IPA encompasses protected/conservation area	–

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Mt Kupe IBA	Important Bird Area	protected/conservation area overlaps with IPA	–

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP

Management type

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

Bibliography

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).**

Chuo, A. & Angwafo, T. 2017. **Influence of Traditional Beliefs on the Conservation of Pan troglodytes ellioti: Case Study, Kimbi-Fungom National Park and Kom- Wum Forest Reserve, NW Region, Cameroon.** International Journal of Forest, Animal and Fisheries Research (IJFAF), Vol 1(3), page(s) 1-14

Pouclet, A., Dongmo, A. K. Jacques-Marie, Bardintzeff, P. W., Tagheu, P. C., Nkouathio, D., Bellon, H. & Ruffet, G. 2014. **The Mount Manengouba, a complex volcano of the Cameroon Line: Volcanic history, petrological and geochemical features.** Journal of African Earth Sciences, Vol 97, page(s) 297-321

Wild, C. 2004a. **The Physical Environment.** The Plants of Kupe, Mwanenenguba and the Bakossi Mountains, Cameroon: a conservation checklist (pub. RBG Kew), page(s) 17-23

MINFOF (Ministry of Forestry and Wildlife) & WRI (World Resources Instiute) 2020. **Cameroon's Forest Estate December 2020 poster.**

ERuDeF (Environmental and Rural Development Foundation) 2016. **Revamping Conservation Groups for Greater Protection of the Proposed Mount Kupe Integral Ecological Reserve.**

Ngea, P. 2006. **Picking up the shattered shreds of a sacred forest: Kupe Forest, Cameroon.**

Ngea, P. 2005. **Cameroon's chiefs invoke spirits to protect Kupe forests.**

BirdLife International 2020. **Important Bird Areas factsheet: Mount Kupe.**

Cheek, M., Polllard, B., Darbyshire, I., Onana, J-M. & Wild, C. 2004. **The Plants of Kupe, Mwanenenguba and the Bakossi Mountains, Cameroon: a conservation checklist.**

Cheek, M. 2004. **Phytogeography & Refugia.** The Plants of Kupe, Mwanenenguba and the Bakossi Mountains, Cameroon: a conservation checklist (pub. RBG, Kew), page(s) 75-80

Wild, C., Ekobo, A., Fosso, B. & Ntokok, A. 2004b. **The Protected Areas System.** The Plants of Kupe, Mwanenenguba and the Bakossi Mountains, Cameroon: a conservation checklist (pub. RBG, Kew), page(s) 111-116

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

Enang, R., Yerima, B., Kome, G. & Van Ranst, E. 2020. **Trace elements in Tephra Soils of Mounts Kupe and Manengouba (Cameroon).** Eurasian Soil Science, Vol 53(5), page(s) 595-606

Ngachie, V. 1992. **A general assessment of soil resources and soil fertility constraints in Cameroon on the basis of FAO-UNESCO soil map anlaysis.** Tropicultura, Vol 10(2), page(s) 61-63

FAO-UNESCO 1977. **Soil Map of the World Vol. VI Africa.**

Sosef, M. 1994. **Refuge Begonias. Taxonomy, phylogeny and historical biogeography of Begonia sect. Loasibegonia and sect. Scutobegonia in relation to glacial rain forest refuges in Africa.** Wageningen Agricultural University Papers, Vol 26(1), page(s) 1-306

Sosef, M. 1996. **Begonias and African rain forest refuges: general aspects and recent progress.** The Biodiversity of African Plants (pub. Springer), page(s) 602-611

Sieffermann, G. 1973. **Les sols de quelques régions volcaniques du Cameroun..** Mémoires ORSTOM, Vol 66 (pub. Office de la Recherche Scientifique et Technique Outre-Mer)

Lamilen, B. 1989. **Contribution à l'étude du complexe anorogénique du mont Koupé: un exemple de série alcaline incomplète. Thèse 3ème cycle, Univ. Yaoundé I, Cameroon, 169pp.**

Wild, C. 2004b. **Sacred Groves.** The Plants of Kupe, Mwanenenguba and the Bakossi Mountains, Cameroon: a conservation checklist

(pub. RBG, Kew)

Cheek, M., Etuge, M. & Williams, S.A. 2019. **Afrothismia kupensis sp. nov. (Thismiaceae), Critically Endangered, with observations on its pollination and notes on the endemics of Mt Kupe, Cameroon.** Blumea, Vol 64, page(s) 158–164