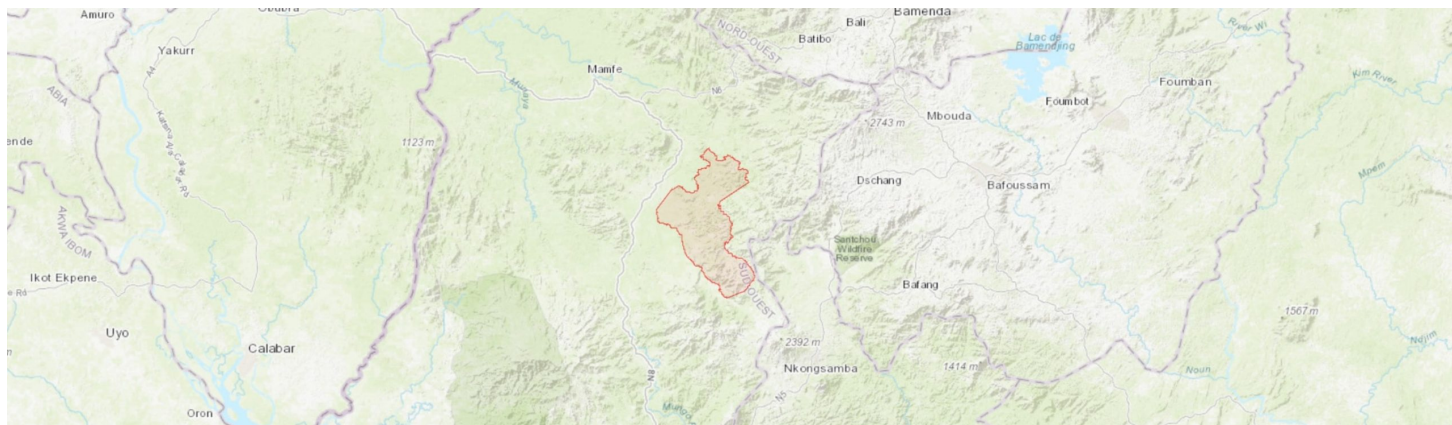


Banyang Mbo Wildlife Sanctuary

CMNTIPA030



Country: **Cameroon**

Administrative region: **Southwest (Region)**

Central co-ordinates: **5.32000 N, 9.63000 E**

Area: **666km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Despite limited data relating to its phytodiversity, the site qualifies as an IPA under criterion A(i) because of its significant populations of globally threatened species such as *Warneckea ngutiensis* (CR), *Diaphanathe lanceolata* (CR), *Coffea bakossi* (EN), *Piptostigma goslineanum* (VU), *Cola metallica* (CR) and *Rothmannia ebamutensis* (EN). It would also very likely qualify under other criteria as B(i) and C(i-iii) for its lowland evergreen rainforest and associated flora.

Site description

Officially gazetted in 1996 as Cameroon's first nationally protected faunal reserve, Banyang Mbo Wildlife Sanctuary constitutes over 66,000 ha of lowland and submontane rainforest in Manyu and Kupe-Muanenguba divisions, Southwest Region. The boundary forms a boot shape, with the toe located at the southeastern extreme in a steeply mountainous part of the Bakossi mountains known as the Mwenzekong range, which rises to 1800 m east of Ntale. As the name indicates, the protected area status was designated primarily with a view to preserving animals, especially the notable birdlife and megafauna, which includes rare primates and elephants (Ajonina et al., 2013). A research station is based a few km west of the reserve boundary in the town of Nguti on the main Kumba-Mamfe road. A

new road now connects Nguti with Bangem to the southeast of the park. Bangem also serves as the northeastern gateway town to Bakossi National Park which is only 4 km south of Banyang Mbo, the two reserves separated by the Mbu valley through which the new road is routed. Further north, the smaller, proposed Mak Betchou wildlife sanctuary is only a couple of km east of Banyang Mbo's northeast corner, while the Tofala Hills Wildlife Reserve and Lebialem highlands are another 15–20 km to the north, where the forest rises steeply before giving way to the largely denuded Mt Bamboutos and the Bamenda Highlands.

Botanical significance

In contrast to its acknowledged status as a wildlife sanctuary, Banyang Mbo has been little surveyed for plants. Despite this there are enough records to indicate high diversity, with considerable areas of relatively untouched forest in addition to logged secondary forest (Birdlife, 2021). Ajoni et al. (2014) report 543 species, representing 75 families, have been recorded but the source of this is not clear. They also cite Gentry's 1988 "Banyong" transect as indicating the highest plant diversity in Central Africa, but Gentry's survey was actually along the eastern border of Korup National Park, at least 25km outside the boundary of the sanctuary (Philips & Miller, 2002; Ajonji et al., 2014).

Zapfack et al. (2010) found 93 orchid species in and around Banyang Mbo. The 48 actually within the sanctuary constituted 12% of orchids species known to occur in Cameroon. Several of these are globally threatened and included below as IPA criterion A(i) species. A useful study by Nchanji & Plumptre (2003) records a number of taxa germinated from seeds found in elephant dung collected within the sanctuary, but inevitably this type of study records few rare species. Other collections have mainly been made from close to the Nguti research station, with many possibly slightly outside the boundary (including *Warneckea ngutiensis*, CR), or close to Ebamut village in the southeast. Because of the limited data available, the list

of IPA taxa is relatively short (compared to nearby Bakossi National Park and Korup National Park) but there are enough records from the limited collecting efforts to suggest similarly high phytodiversity. Notable taxa that are particularly reliant on the sanctuary include *Coffea bakossi* (EN), *Piptostigma goslineanum* (VU), *Cola metallica* (CR), *Diaphananthe lanceolata* (CR), *Rothmannia ebamutensis* (EN) and *Warneckia ngutiensis* (CR). The latter is narrowly endemic, having only so far having been collected from the planned palm oil concession neighbouring the Sanctuary.

Coffea leonimontana (CR), previously considered possibly extinct, has also been recorded from the sanctuary, although this location was not included in the IUCN assessment. *Salacia conraui* (CR) is known only from the type location near Tali, 4 km north of the National Park boundary.

Habitat and geology

The sanctuary area can be divided into three areas (Zapfack et al, 2010; Birdlife, 2021). The western section is largely flat and low (200–300 m), although there are some hills in the far north rising to c. 550 m. This is predominantly high canopy, evergreen lowland forest with emergents. The forest reportedly transitions into semi-deciduous forest in the far north (Abugiche, 2002).

In the southeast, the site touches the Cameroon Line fault region which thrusts the terrain up to 1,800 m. Between the lowland and submontane areas, an intermediate area is characterised by inselbergs with low-canopy forest (Birdlife, 2021).

The steeply rugged Mwenzekong Mountains are separated by the Mbu valley from the Mwendolengo mountains to the south, which fall within the Bakossi National Park. The Mfi-Mie river valley forms much of the eastern border of the reserve and separates the northern edge of the Mwenzekong mountains from the slightly higher Ekoman arc to the north. However, the eastern-most border is at 1,500 m, passing through a high ridge connecting these ranges to the east. Mount Manengouba is also connected by terrain not dropping below 1,200 m. The Mwenzekong Mountains are likely early Quaternary, uplifted basement complex (gneisses and schists) without the more recent volcanic material of Kupe and Manengouba (Wild, 2004; Abugiche, 2002; Enang et al., 2020). The soils on the steep slopes are thin and easily eroded and appear to lack the high fertility of the volcanic peaks (Abugiche, 2002; Wild, 2004). These hills are clothed in submontane cloud forest, rich in mosses, ferns and epiphytes (Wild, 2004). More generally, the soils in the sanctuary are described as clayey to sandy (Abugiche, 2002).

Rivers in the sanctuary flow northwest into the Manyu which then joins the Cross river northwest of Mamfe.

The area has a very wet, two-season climate, with c. 3,000 mm of per annum (Birdlife, 2021). This is likely exceeded on steep western slopes and supplemented by "horizontal" or "occult" precipitation induced by cloud forest vegetation (Ajonje et al., 2014; Wild, 2004) and Chifu Nchanji & Plumptre (2003) also report 4083 ± 487 mm in Nguti just outside the western boundary. The wet season runs from mid-March to October but patterns vary across the site: while in Nguti, October was the wettest month, at Bangem data shows July

and August to have more than twice as much total precipitation as October (Nchangji & Plumptre 2003; Ejedepang-Koge, 1986, cited by Wild, 2004). Temperature varies relatively little seasonally around an annual mean of 23 °C (at Bangem, 1,120 m) but daily variation in the highland areas will be more significant (Ejedepang-Koge, 1986, cited by Wild, 2004).

Conservation issues

The main threats are from subsistence farming and small scale cash-cropping. There are 54 villages within 10 km of the boundary (Ajonina et al., 2013). Of these, 24 have direct impact on the forest according to Abugiche (2002). The status of Wildlife Sanctuary allows local villagers to continue to use the forest for hunting and other products as long as this does not conflict with conservation objectives. Locals also manage the sanctuary with assistance from MINEF and WCS (Rose, 2002). The boundary is not demarcated on the ground and villagers develop farms within the sanctuary (Hill et al., 2002). Zapfack et al. (2010) suggest such activities are "progressively destroying" the forest. This practice also increases conflicts over crop-raiding by large mammals, an unresolved problem hindering wildlife conservation efforts in the park and surrounding area (Rose, 2002; Nchanji, 2002). Although conservation species are in theory excluded from hunting, bushmeat consumption is a serious problem and traditional taboos protecting forests and large fauna are breaking down. However, the forest is still fundamental to local livelihoods and culture (Abugiche, 2002; Rose 2002; Nchangji 2002).

Archaeological evidence points to a history of settlement within the forest dating back to the 9th century which has likely influenced the habitat (Oslily et al., 2000). Part of the lowland forest is reported to be secondary forest that has been more recently logged (Abugiche, 2002).

A new road has recently been built along the site's southern border, connecting Nguti and Bangem. This seems likely to increase clearance and bushmeat exploitation within the sanctuary and threatens to limit faunal migration between the site and Bakossi National Park and other areas. Between the town of Nguti and the western boundary a 2,500 ha palm oil plantation has been designated. Several threatened species have been collected from this site and most of these, including the Critically Endangered, narrowly endemic *Warneckea ngutiensis*, have not yet been collected within the gazetted borders, although they may occur there. Zapfack et al. (2010) found that more species of orchid were found outside than inside the boundaries (although it is unclear how collecting effort compared). Habitat loss and settlement have also disrupted connections with Mt Manengouba, Mt Kupe and Mt Nlonako and efforts should be made to restore these forest corridors and to protect those linking the site with Korup National Park, Nta Ali Forest Reserve, Rumpi Hills, Mak Betchou and Tofala Hills Wildlife Sanctuaries.

It should be noted that Lake Bermin, a site of remarkable biological significance for its nine endemic, sympatrically evolved fish species (Schliewen et al., 1994), lies just outside the boundary, in the zone

between the site and Bakossi National Park.

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>Rothmannia ebamutensis</i> Sonké	A(i)	✓	✓	✓	–	–	
<i>Rinorea fausteana</i> Achound.	A(i)	✓	✓	✓	–	–	
<i>Coffea bakossii</i> Cheek & Bridson	A(i)	✓	✓	✓	–	✓	
<i>Crateranthus talbotii</i> Baker f.	A(i)	–	✓	✓	–	–	
<i>Loesenera talbotii</i> Baker f.	A(i)	✓	–	–	–	–	
<i>Polystachya superposita</i> Rchb.f.	A(i)	✓	✓	✓	–	–	
<i>Ancistrocladus grandiflorus</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Afropectinariella pungens</i> (Schltr.) M.Simo & Stévant	A(i)	✓	✓	✓	–	–	
<i>Antrocaryon micraster</i> A.Chev. & Guillaumin	A(i)	–	–	✓	–	✓	
<i>Aulacocalyx mapiana</i> Sonké & Bridson	A(i), A(iii)	✓	✓	✓	–	–	
<i>Baillonella toxisperma</i> Pierre	A(i)	–	–	–	–	✓	
<i>Begonia prismatocarpa</i> Hook. subsp. <i>delobata</i> Sosef	A(i)	✓	✓	✓	–	–	
<i>Bulbophyllum teretifolium</i> Schltr.	A(i)	✓	✓	✓	–	–	
<i>Calyptrochilum aurantiacum</i> (P.J.Cribb & Laan) Stévant, M.Simo & Droissart	A(i)	✓	✓	✓	–	–	
<i>Cola metallica</i> Cheek	A(i)	✓	✓	✓	–	–	
<i>Diaphanthe bueae</i> (Schltr.) Schltr.	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>Manniella cyripediooides</i> Salazar, T.Franke, Zapfack & Beenken	A(i)	✓	✓	✓	–	–	
<i>Microberlinia bisulcata</i> A.Chev.	A(i)	✓	–	–	–	–	
<i>Octoknema bakossiensis</i> Gosline & Malécot	A(i)	✓	✓	✓	–	–	
<i>Piptostigma goslineanum</i> Ghogue, Sonké & Couvreur	A(i)	✓	✓	✓	–	–	
<i>Plagiosiphon discifer</i> Harms	A(i)	✓	✓	✓	–	–	
<i>Polystachya farinosa</i> Kraenzl.	A(i)	✓	✓	✓	–	–	
<i>Psychotria bimbiensis</i> Bridson & Cheek	A(i)	✓	–	✓	–	–	
<i>Staurogyne bicolor</i> (Mildbr.) Champl.	A(i)	✓	✓	✓	–	–	
<i>Polystachya kornasiana</i> Szlach. & Olszewski	A(i)	✓	✓	✓	–	–	
<i>Bulbophyllum volcanicum</i> Kraenzl.	A(i)	✓	✓	✓	–	–	
<i>Warneckea ngutiensis</i> R. D. Stone	A(i)	✓	✓	✓	✓	–	
<i>Belonophora talbotii</i> (Wernham) Keay	A(i), A(iii)	✓	✓	✓	–	–	
<i>Tricalysia lejolyana</i> Sonké & Cheek	A(i)	✓	✓	✓	–	–	
<i>Allophylus conraui</i> Gilg ex Radlk.	A(i)	–	✓	–	–	–	
<i>Diaphananthe lanceolata</i> (Summerh.) P.J.Cribb & Carlswald	A(i)	✓	✓	✓	–	–	
<i>Bulbophyllum micropetalum</i> Lindl.	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>Vepris letouzeyi</i> <i>Onana</i>	A(ii)	✓	–	✓	–	–	
<i>Afzelia bipindensis</i> <i>Harms</i>	A(i)	–	–	–	–	✓	
<i>Craibia atlantica</i> <i>Dunn</i>	A(i)	–	–	✓	–	–	
<i>Pradosia spinosa</i> <i>Ewango & Breteler</i>	A(i)	✓	✓	✓	–	–	
<i>Rhipidoglossum obanense</i> (Rendle) <i>Summerh.</i>	A(i)	✓	✓	✓	–	–	
<i>Salacia conraui</i> <i>Loes.</i>	A(i)	✓	✓	✓	✓	–	
<i>Bulbophyllum subligaculiferum</i> <i>J.J.Verm.</i>	A(i)	–	✓	✓	–	–	
<i>Bulbophyllum summerhayesianum</i> (Szlach. & Olszewski) <i>Govaerts & J.M.H.Shaw</i>	A(i)	✓	✓	✓	–	–	
<i>Polystachya principia</i> Stévar & P.J.Cribb	A(i), A(iv)	✓	✓	✓	–	–	
<i>Empogona talbotii</i> (Wernham) <i>Tosh & Robbr.</i>	A(i)	✓	✓	✓	–	–	
<i>Angraecum egertonii</i> Rendle (syn. <i>Ancistrorynchus egertonii</i>)	A(i)	✓	✓	✓	–	–	
<i>Calycosiphonia macrochlamys</i> (K.Schum.) Robbr.	A(i)	✓	–	–	–	–	
<i>Pseudosabicea pedicellata</i> <i>Wernham</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
Forest - Subtropical/Tropical Moist Montane Forest	—	Major
Forest - Subtropical/Tropical Moist Lowland Forest	—	Major

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Nature conservation	100	Major
Agriculture (arable)	—	Unknown
Harvesting of wild resources	—	Unknown

Threats

THREAT	SEVERITY	TIMING
Transportation & service corridors - Roads & railroads	Medium	Past, likely to return
Agriculture & aquaculture - Annual & perennial non-timber crops - Shifting agriculture	Medium	Ongoing - increasing
Agriculture & aquaculture - Annual & perennial non-timber crops - Agro-industry farming	Medium	Ongoing - increasing
Biological resource use - Logging & wood harvesting	Medium	Ongoing - trend unknown
Biological resource use - Hunting & collecting terrestrial animals	High	Ongoing - trend unknown

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Banyang Mbo Wildlife Sanctuary	Wildlife Sanctuary	protected/conservation area matches IPA	666

Conservation designation

DESIGNATION NAME	PROTECTED AREA	RELATIONSHIP WITH IPA	AREAL OVERLAP
Banyang Mbo Wildlife Sanctuary	Important Bird Area	protected/conservation area matches IPA	666
Banyang Mbo Wildlife Sanctuary	Key Biodiversity Area	protected/conservation area matches IPA	—

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