Ototomo Forest Reserve

Réserve Forestière d'Ototomo (Test version)

CMNTIPA022

Country: **Cameroon**
Administrative region: **Centre (Region)**
Central co-ordinates: **3.67550 N, 11.29130 E**
Area: **45km²**

Qualifying IPA criteria

A(i)

IPA assessment rationale

Ototomo forest reserve qualifies as a potential IPA under criterion A(i), on the basis of several globally threatened species which occur here and at few or no other sites.

Site description

Ototomo Forest Reserve is a production forest reserve and was first gazetted in 1929 by the French colonial authorities. It is located around 30 km southeast of Yaoundé and covers around 45 km2 (Jum and Oyono, 2005; but 2,950 ha according to Sassen and Jum, 2007) of undulating moist tropical forest between 700 and 900 m in altitude. An initial buffer zone was quickly lost to cocoa plantation in the first half of the twentieth century and now a new buffer zone has been established allowing farming within the reserve area (Jum et al., 2009). This may explain the discrepancy between the area of 45 km2 indicated by Jum and Oyono (2005) and that of c. 30 km2 indicated on maps and cited by Sassen and Jum (2007).

Botanical significance

Although classed as a production reserve and considerably degraded, the site represents one of very few remaining areas in the Yaoundé region with any officially recognised public status. Botanical collections dating back to the 1930s indicate several globally threatened species, including the Critically Endangered Monanthotaxis couvreuri and Stereospermum zenkeri, both now considered narrowly endemic to the site. The latter is one of the species collected in the 1890s by Zenker and Staudt from "Yaunde station" and has only been otherwise collected (Tsoungui 101042) from "Chantier Coron", apparently in downtown Yaoundé where it is very unlikely to survive. It has apparently not been collected at any of the inselberg sites around Yaoundé where some other species have been rediscovered.
Eugenia kameruniana (CR) may be endemic to the Yaoundé region as it is considered likely to be extinct at the other recorded sites of Bipindi and Mount Cameroon (Onana & Cheek, 2011). Ardisia ototomensis/dewitiana (EN) is either endemic or known from three other locations including Mbam Minkom, depending on delimitation, while Callichilia monopodialis (VU) is known from the Yaoundé region and four or five other locations in South and Centre Regions. Leptonychia subtomentosa (EN) is only known from Yaoundé and one other collection in Gabon (Onana & Cheek, 2011; Cheek, 2014, 2017).
In addition, a number of globally threatened, economically important species are known from the site. These species have mainly been assessed using under IUCN criterion A (population decline) and therefore typically may not qualify a site under IPA criterion A(i) but could still be of botanical significance, particularly close to the capital.

Habitat and geology

There is little specific information on the geology of Ototomo but it lies within the South Cameroon Plateau, an area of slightly elevated, rolling topography covering most of Cameroon south of the Adamaoua mountains and east of the Cameroon Highlands (Cheek et al., 2014). The Plateau is covered by deep lateritic soils underlain by mainly metamorphic rocks, although these are in places overlain by sedimentary deposits and intruded by igneous formations. A complex of Precambrian migmatites is indicated by geological maps for this region south of Yaoundé. White sand is often revealed in river beds but it is not known if this is the case at Ototomo. The soils are described as ferralitic and chemically poor at Ototomo (Segalen, 1967 cited in Sassen & Jum, 2007). Altitude varies between around 600 and 900 m, with some exposed rocky outcrops. Valleys between are narrow, with inundated rivers and swampy ground.
Annual temperature is 23–24 °C, with little fluctuation around this mean; annual rainfall is 1,450–1,750 mm (Sassen and Jum, 2007) which is below the level usually considered to support evergreen forest (Cheek et al., 2011). There are two wet seasons, one peaking in May and a longer one peaking in October. The vegetation in the area has been characterised as mainly semi-deciduous with a patchwork of degraded and partially intact forest but with evergreen Gilbertiodendron dewevrei along rivers and some mixed evergreen-semi-deciduous areas (Letouzey, 1968, 1985; Cheek et al., 2014). However, most of the vegetation outside of the reserve is now heavily degraded (Sassen and Jum, 2007).

Conservation issues

The site was established as a production forest reserve supplying timber and has mainly been managed as such; there has been intense harvesting of large timber trees, both legal and illegal. Over the years various regeneration efforts have been initiated in an attempt to put the reserve on a more sustainable basis, with a management plan first published in 1999 (Jum et al., 2009). This divided the forest into production, regeneration and conservation areas covering 1,575, 516 and 796 ha respectively, plus an area for wood gathering by local peoples.
The reserve has apparently long lacked legitimacy in the eyes of local people and has been encroached for cultivation (Sassen & Jum, 2007). In particular a border zone was quickly encroached in the 1930s and 1940s for cocoa production and has now been replaced with a new border zone permitting cultivation of the interior zone (Jum et al., 2009). The forest is also used by local peoples for food, medicines, spices, building materials and other purposes.
According to Jum and Oyono (2005) the management plan was not based on substantive collaboration with local peoples although there was some consultation.
Population increase in the area has put pressure on the site and the area of dense forest within the reserve was reported to have decreased by 45% between 1960 and 2000, with the area of farmland increasing by 60% (Oyono et al., 2005).
There are very few protected sites in the Yaoundé area but nearby Mefou National Park (30 km east) provides a potentially replicable model for combining tourism, education and conservation in proximity to the capital (Cheek et al., 2011). There may be administrative as well as conservation benefits in linking these sites, as well as Mbalmayo forest reserve c. 30 km southeast and the inselberg sites on the western fringes of Yaoundé. Wildlife corridors connecting these sites would be particularly desirable given their small size.

Site assessor(s)

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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
Callichilia monopodialis (K.Schum.) Stapf	A(i)	✓	✓	✓	–	–	Unknown
Monanthotaxis couvreuri P.H.Hoekstra	A(i)	✓	✓	✓	✓	–	Unknown
Stereospermum zenkeri K.Schum. Ex De Wild.	A(i)	✓	✓	✓	✓	–	Unknown
Leptonychia subtomentosa K.Schum.	A(i)	✓	✓	✓	–	–	Unknown
Ardisia dewitiana Taton	A(i)	✓	✓	✓	–	–	Unknown
Afrostyrax lepidophyllus Mildbr.	A(i)	–	–	–	–	✓	Unknown
Eugenia kameruniana Engl.	A(i)	✓	✓	✓	–	–	Unknown
Pterygota bequaertii De Wild.	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

General site habitats

GENERAL SITE HABITAT	PERCENT COVERAGE	IMPORTANCE
Forest - Subtropical/Tropical Moist Lowland Forest	50	
Artificial - Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	50	

Land use types

LAND USE TYPE	PERCENT COVERAGE	IMPORTANCE
Forestry	100	
Agriculture (arable)	30	

Threats

THREAT	SEVERITY	TIMING
Biological resource use - Logging & wood harvesting	High	Ongoing - trend unknown
Agriculture & aquaculture - Annual & perennial non-timber crops - Small-holder farming	High	Ongoing - trend unknown

Protected areas

PROTECTED AREA NAME	PROTECTED AREA TYPE	RELATIONSHIP WITH IPA	AREAL OVERLAP
Réserve Forestière d'Ototomo	Forest Reserve (production)	protected/conservation area matches IPA	–

Management type

MANAGEMENT TYPE	DESCRIPTION	YEAR STARTED	YEAR FINISHED
Site management plan in place	Management plan implemented from 1999 demarcates areas of timber production, regeneration, conservation and community wood gathering. Plan reportedly based on limited consultation but little substantive decision making input by local people (Jum and Oyono, 2005).	1999	–

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