



CAMEROON GENDER AND ENVIRONMENT WATCH (CAMGEW)

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NEWTONIA CAMERUNENSIS- STATE IN THE WILD, THREATS AND WAY FORWARD

I. Introduction of CAMGEW

Cameroon Gender and Environment Watch (CAMGEW) is a nonprofit created in 2007 with authorization number N° 000998/RDA/JO6/BAPP to tackle environmental and gender issues in Cameroon. CAMGEW works locally and thinks globally, integrating gender in solving environmental problems in Cameroon. CAMGEW believes that the future of our mother planet-earth is in our hands and also that the planet can be sustained by putting social and environmental justice at the centre of development. CAMGEW seeks to achieve her objectives by liaising with like-minded organizations worldwide. She has resolved to function according to core values of honesty, engagement and dedication in respect of its constitution. CAMGEW has as **vision** "Changing lives of women, children and communities while protecting the environment and as **mission** to fight poverty; promote sound environmental management, gender balance and economic sustainable development.

i. Introduction of habitat of *Newtonia Camerunensis*

The species habitat is sub-montane to montane forest with other tree species like *Albizia gummifera*, *Carapa grandifolia*, *Zyzygium staudtii*, *Prunus africana* cohabiting with it. The world's greatest density of this species is in Dom with probably less than a hundred stems. Despite exhaustive searching, the flowers of this species remain unknown to science, probably appearing earlier in the season around March.

This species habitat is the Kilum Mountain Range, the Ijim Ridge which is covered with a montane forest called Kilum-Ijim forest and the Bali Ngemba Forest Reserve. This forest (Kilum-Ijim) is unique as it produces the Oku White Honey (a type of honey which is white in colour and has been certified as a Geographical Indication Product by African Intellectual Property Right Organisation). This forest is predominantly montane, in which trees are too small and inaccessible to be of interest to commercial loggers. The Kilum-Ijim forest has a rich ecosystem with non timber forest products like honey, mushrooms, medicinal plants (like *Prunus africana*, *Pittosporum veridiflorum*, *Agauria salicifolia*), alpine bamboos, wood for firewood and carving, spices, additives (colourings, preservatives and flavourings), etc but suffers from forest degradation due to animal encroachment, farming, poaching and forest exploitation.

The Kilum-Ijim forest is part of the Western Highlands of Cameroon commonly referred to as the Bamenda Highlands. The Kilum Mountain is found in two tribes Nso and Oku which are in Bui Administrative Division in the North West Region of Cameroon. The Ijim Ridge is found in the Kom tribe in Boyo Division of the North West Region of Cameroon. The Kilum-Ijim Community forest covers an area of 20,000 hectares and is located on Mount Kilum (3,011m) and the adjoining Ijim Ridge (2,000-2,500m). About 44 communities live in the Kilum-Ijim Community Forest. The Kilum-Ijim Mountain Forests are located between latitude 6°0'TN and 6°1'TN and Longitude 10°20'E and 10°35'E. The highest altitude of this mountain forest that is at 3,011m has a large crater lake called Lake Oku that is found along the Cameroon Volcanic line.

The Kilum-Ijim region is known nationally for its traditional healers as they have many medicinal plants due to the biodiverse forest. The area around the Kilum-Ijim Forest is one of the most densely populated parts of Cameroon with an estimated population of 300,000 people living within a day's walk to the forest. This

population is attracted by rich volcanic soils and the near temperate climate that favours the cultivation of crops such as coffee, beans, maize, Irish potatoes and a wide variety of vegetables (onions, tomatoes, cabbages, carrots etc.).

II. NEWTONIA CAMERUNENSIS

i. Introduction

Newtonia camerunensis locally known in the Kom language as “Adjwa”, “Kelaanen” in Oku and “Kirara” in Nso languages is a *Leguminosea*.

Taxonomy of *Newtonia camerunensis*

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Magnoliopsida	Fabales	Leguminosae

The taxon name is *Newtonia camerunensis*.

The trunk of this tree can grow up to 2.5m diameter with flared flutes at the base. Leaves can be as long as 25cm long with petiole 1.2 -1.5cm long; rachis with 8-10 pairs of pinnae, a large gland between each pair; pinnae with slightly retuse, upper surface glossy with midrib prominent. This species is endemic to the Bamenda highland and the Bamboutos Mts. of Cameroon. This species was assessed as CR A1c in Cheek et al. (2000), when it was known from only five collections made between 1932 and 1974 from locations where it is now thought to be absent so at that time was considered to be possibly extinct. In 2002, the species was rediscovered at Bali Ngemba Forest Reserve and at Laikom below the Ijim Ridge. In May 2002 detail survey work at Laikom resulted in two fruiting collections (Ghogue 1401 and Pollard 1097). These identifications were later confirmed by B. Mackinder at Kew.

ii. Habitat:

The species habitat is sub-montane to montane forest associated with other tree species like *Albizia gummefera*, *Carapa grandifolia*, *Zyzygium staudtii*, *Prunus africana*. The trees species appears between 1600-1800 metres in altitude. The species is distinguished from *Newtonia buchananii* (Baker f.) Gilbert and Boutique by the higher altitudinal range (1600-1800m, not 900-1500m alt.) the presence of a prominent midrib, the larger leaflets and the more conspicuous rachis glands. The world's greatest density of this species is in Dom with probably a hundred stems. Despite exhaustive searching, the flowers of this species remain unknown to science, probably appearing earlier in the season around March.

There is absence of seedlings with diameter at the base between 1-5cm at under the canopy which is mostly dominated by *Albizia gummefera* and *Newtonia c.* as the case may be in the Akwamofu forest in Laikom suggesting that there is poor recruitment to maturity. There is even a fewer specimens with diameter at the base between 5cm to 100cm. Fruit are set abundantly.

iii. Threats:

iv.

The sites where this *Newtonia c.* appear at Kilum-Ijim fall outside the boundary of protection (Kilum-Ijim Forest boundaries) except at Akwamofu where some protection is afforded by the Kom who do not allow clearance of the forest for traditional reasons. Unfortunately, this is only enforced on one path and most of the specimen of *Newtonia camerunensis* fall on the unprotected path.

The proliferation of *Schefflera* also poses a threat to the mature individuals from which most of the seed rain originates. The *Schefflera abyssinica* strangulates the trees and easily kill the matured ones. *Schefflera*

abyssinica and Schefflera mannii are two tree species of the Kilum Ijim that are stranglers. Most of it grows easily on mature and fruiting trees. They end up killing the original tree and taking over.

It is likely that these substantial trees are still used as timber and it may well be exploited elsewhere in its known range. In Oku for example and most communities around the Kilum-Ijim, the tree was formerly used as the main timber source before the introduction of Eucalyptus species in the late 40s and early 50s. One of the largest and fruiting trees CAMGEW has identified as *Newtonia camerunensis* at the "Chung" Family forest at Keyon Oku has been sold to a local Commercial logger.

In Bali Ngemba Forest Reserve where the species was rediscovered in April-May 2002, the threat from forest clearances for timber, firewood and small scale agriculture is increasing every year.

III. CAMGEW and the conservation of *Newtonia camerunensis*

- i. CAMGEW has developed three tree nurseries in Oku. CAMGEW successfully nursed 1200 seedlings of *Newtonia camerunensis* between April 2015 and January 2016. The nursing of these tree seedlings is however a challenge. CAMGEW had more than 15Kilogrammes of these seeds that could number more than 25000 seeds but successfully nursed 1200 only.
- ii. Environmental education is important to tackle forest degradation through behavioural change and to instill in young people the spirit to grow and participate in forest management. Protecting the forest enable it to generate water, fresh air, serve as carbon sink, source of beneficial insects, protect endangered species like *Bannerman's tauraco* (an endemic and endangered bird species of the Bamenda Highland Forest region with Kilum-Ijim having its largest remaining forest), *Xenopus longipes* etc. all of which are indirect benefits to village dweller.
- iii. CAMGEW has identified some individual *Newtonia camerunensis* trees in a family shrine at Keyon Oku. Some of these individuals are fruiting. The largest tree in the forest has however been sold to commercial loggers around Oku. CAMGEW has engaged in a educating community members on the dangers the trees are facing. CAMGEW will also like to repurchase the tree from the commercial logger for conservation. CAMGEW will also ensure that the seeds are available for nursing and regeneration of the forest especially within the protected areas.
- iv. CAMGEW will nurse over 25000 seedlings of *Newtonia camerunensis* in 2016. CAMGEW hopes that with the lessons she learnt last year in nursing these seeds, she will have a success rate of over 40%.
- v. CAMGEW will also (if funds are available) re-introduce *Newtonia camerunensis* into the protected areas of Kilum Forest around the Mbai and Nchiy Community Forests in June 2016.

i. Management suggestions:

Efforts should be made to rediscover and protect any trees that might leave of this species. In recent years seedlings of this species have been incorporated into the forest restoration plantings in the Dom forest led by ANCO. However, often wild collected seedlings are used since seed germination in nurseries is reported to have a very low success rate.

There is a high scope to investigate the biology of this species more closely, particularly at Laikom and Dom: to investigate the dynamics of recruitment of maturity, ecological relation with Albizia; the morphology of the inflorescences and flowers; identification of pollinators and seed dispersal agents; cultivation regimes, the causes of mature specimen mortality, including the effects of parasitic and strangler plants. Such studies will greatly assist conservation efforts.



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