The montane trees of the Cameroon Highlands, WestCentral Africa, with the Endangered, Deinbollia onanae sp. nov. (Sapindaceae), a new primatedispersed, Endangered species (#54299)

The authors describe a new species of *Deinbollia* already either recognized as a new species or otherwise misidentified in different parts of its distributional range. The authors provide a very detailed description of the new species and discuss its affinities with another congener that also occurs in high altitude. The conservation status of the new species is assessed following IUCN criteria and an excellent illustration of the new species is also included.

The manuscript is very well written. The introduction is well-referenced and provides a thorough background on the genus *Deinbollia*, as well as the circumstances of the discovery of the new species. The three figures (line drawing, specimen scan and the distribution map) are of high quality, are all relevant and well labeled. However, the raw measurements of the plant parts are not provided. The methods used by the authors are classic in taxonomy and are well described. The conclusions are well stated. One of the merits of this manuscript is that it deviates from the classic taxonomic papers as it provides extensive details about the ecology of the new species.

The following suggestions and comments could further improve the manuscript:

Line 69 & 70: **"**It is postulated that this new species is in a sister relationship with *Deinbollia oreophila***".** The authors should simply say that the new species is morphologically close to *Deinbollia oreophila*.

The "sister relationship" cannot be postulated on the sole basis of morphology. *Carapa oreophila* and *C. angustifolia* that are also the only two species of the genus occurring in altitude in the Cameroon line occur in different clades of the phylogeny.

Line 125: The genus Deinbollia Schum. & Thonn. is traditionally placed in the tribe Sapindeae DC

Line 192: …were seen by one or ~~more~~ both authors

Line 239 &240: "The affinities of *Deinbollia* sp. 2 may be with the recently described *D. oreophila* since this species also occurs at altitude in the Cameroon Highlands and both species share numerous".

See above. Sympatric species are not necessary sister species

Line 341: … Jean-Michel Onana, currently Senior Lecturer in Botany at University of Yaoundé I

Line 146: … Taxonomic Checklist of the Vascular Plants of Cameroon ~~Cameroon~~ (Onana, 2011).

Line 359 & 362: We consider that many and probably most of the smaller of these numerous stems may not be the usually infrequent *D. onanae*, but the much smaller (0.8–361 3(–5) m tall) *D. oreophila* which at this altitude, over the border in Cameroon, is vastly more frequent in submontane forest (Cheek & Etuge 2009)

The diameter size class distribution of *D. ananae* has a reverse J shape at Ngel Nyaki which simply means that this species regenerates well in this locality. Speculating that the smaller stems of this species may belong to a separate species is misleading. We all know that taxonomists are mostly interested in fertile herbarium specimens that are often collected from mature trees, ignoring all juveniles of the same species in the understory.

Line 162 – 165: In contrast, the 1970s the 1 ha enumeration plot at Ngel Nyaki (Chapman & Chapman 2001: 25–26) yielded five stems of "*Deinbollia* sp." in the C strata (understorey trees 7–13 m high) with diameter at 1.3 m above the ground exceeding 14.5 cm, of which two exceeded 28 cm and one 40 cm

There is no contrast here. The Ngel Nyaki plot includes all stems with dbh > 1 cm. In this plot, there were 3078 trees, of which only 95 had a diameter > 14.5 cm (4.6 individuals per ha) versus 5 individuals/ ha enumerated by Chapman & Chapman.

Line 367 – 368: observations of animals feeding on *Deinbollia* at Ngel Nyaki have been made using binoculars of primates trained on the crowns of trees so are,

Not sure what this means

Line 506: "The tree species diversity of the montane forest of the Cameroon Highlands is low (28 species,"

Is this estimate of 28 species based on inventory plots (which dbh cutoff?) or herbarium collections?