

Le Corps professoral de
Gembloux Agro-Bio Tech - Université de Liège vous prie
de lui faire l'honneur d'assister à la défense publique de la dissertation originale que

Monsieur HOUNGBEGNON Fructueux,

Titulaire d'un master en Gestion des Ressources Naturelles et de la Biodiversité,

présentera en vue de l'obtention du grade et du diplôme de

DOCTEUR EN SCIENCES AGRONOMIQUES ET INGENIERIE BIOLOGIQUE,
le 23 mai 2022, à 14h00 précises (personne ne sera admis après cette heure),
en l'auditorium G (Bât. 8),
Passage des Déportés, 2, à 5030 GEMBLOUX.

Cette dissertation originale a pour titre :

« **Ecologie des céphalophes d'Afrique centrale : rythmes d'activité et rôle
dans la dispersion des graines** ».

Le jury est composé comme suit :

Président : Prof. P. LEJEUNE, Professeur ordinaire,
Membres : Prof. J.-L. DOUCET (Promoteur), Prof. B. SONKE (Copromoteur – Université de Yaoundé I, Cameroun), Prof. C. VERMEULEN, Prof. J. MICHAUX, Prof. K. ABERNETHY (Université de Stirling, Royaume-Uni), Dr D. CORNELIS (CIRAD, France).

Summary

Duikers are bovid species endemic to the forests of Africa. They are mainly frugivorous and constitute a very important biomass of forest ecosystems. As such, duiker populations are declining due to increasing hunting and poaching pressure. Being discreet, their ecology in natural forest is little known and their role in forest regeneration has almost never been addressed. Consequently, this thesis aims to provide original data on the ecology of duiker populations (genera *Cephalophus* and *Philantomba*) in the moist forests of central Africa. More specifically, it aims to: (i) make a state of knowledge on the duiker community, (ii) specify the rhythm of activities of duiker species, (iii) examine their role in the regeneration of forests exploited for timber. In **Chapter 2**, the literature review carried out at the start of this research identified many studies on the impacts of hunting on the duiker populations. Similarly, significant documentation was gathered on their habitat, diet, and abundance in the forests. However, data gaps were noted on their activity patterns, their role in seed dispersal and forest regeneration, their level of resilience to logging, and methods to discriminate species (especially red duikers) during surveys. Finally, controversies have been noted on the taxonomy of duikers. In **Chapter 3**, we quantified the nycthemeral rhythm of six duiker species (*Philantomba congica*, *Cephalophus leucogaster*, *C. callipygus*, *C. nigrifrons*, *C. castaneus*, *C. silvicultor*), and described the nature of the spatio-temporal interactions that allow these species to live in the same space. In **Chapter 4**, the role of duiker populations in seed dispersal and forest regeneration was highlighted by germination tests of seeds contained in their dung and rumen. Many plant species were identified. These species were mostly pioneer and light-demanding (herbaceous and woody), including species exploited for timber such as *Milicia excelsa*, *Nauclea diderrichii* and *Erythrophleum suaveolens*. Based on inventories conducted over four years, it was also shown that when hunting is controlled, logging has little impact on duiker populations and thus their role in forest regeneration. In **chapter 5**, we summarize our main results and discuss their generalization. Perspectives for further research are also defined.