Assessment of biological productivity and habitat for the conservation of the genus *Cantharellus* (Cantharellales, Basidiomycota) in the Republic of Congo

Mid Term Report

Brazzville, 30th june 2025

The Rufford Foundation
www.rufford.org

ID 45038-2

Abstract of the Project

The 2nd Rufford Small Grant number 45038-2 titled : « Assessment of biological productivity and habitat for the conservation of the genus *Cantharellus* (Cantharellales, Basidiomycota) in the Republic of Congo » aimed at at studying the diversity, socio-economic importance and distribution of the genus *Cantharellus* in two localities around two national Parks. Four activities had been planed for the period from March 2025 to February 2026. These five activities comprise : (1) Field data collection in the Mbomo forests ; (2) data entry in Brahms ; (3) identification of the collected specimens in Brazzaville ; and (4) production of a preliminary list of *Cantharellus* species and their partner trees. This mid term report is providing information about activities carried out from March to June 2025. It will cover activities 1 carried out in Mbomo, Olleme peripheral villages OKNP and Odzala-Kokoua National Park (OKNP).

I. Activities and timescale

I.1. Fieldwork in the Odzala-Kokoua National Park and the buffer zone

A activity (number 1) were planned to be conducted in the Odzala-Kokoua National Park and the buffer zone (villages Mbomo, and Olleme) from March to June 2025. I and my doctoral candidate assistant had left Brazzaville on March 27th 2023 for Mbomo in north of Congo. We had arrived the next daya t the place. Then the following day was devoted to presentations of civilities and reporting our presence to local and administrative authorities. The descent on the ground began on March 28th at the Imbalanga site camp. This study takes place in three departments of the Country : Sangha, Cuvette-Ouest and Brazzaville. In the Sangha department, the project is conducted in Mbomo village (0.470728 N, 14.666092 E ; Alt. : 492 m) where the Headquarter of the Odzala-Kokoua National Park (OKNP) is located and in the OKNP. The Park was created in 1935 and covers an area of 1354600 hectares. The climate is Guinean forest type or lower congolese (Vande weghe & Vande weghe, 2017). Four habitat types are recognized in these two departments (Sangha and Cuvette-Ouest) : wooded hills, savannah, marshy areas, mixed forests of *Uapaca* and islands forests of *Gilbertiodendron dewevrei* or *ogoouense* (Vande weghe & Vande weghe, 2017 ; Wawa et al. obs pers.).

Our collections were made in mixed forests at *Uapaca,* forest islands at *Gilbertiodendron dewevrei* or *ogoouense*, swamp forests and wooded hills in Mbomo, Olleme peripheral villages and OKNP.

I. Preliminary resultats

II.1 Mapping of sites

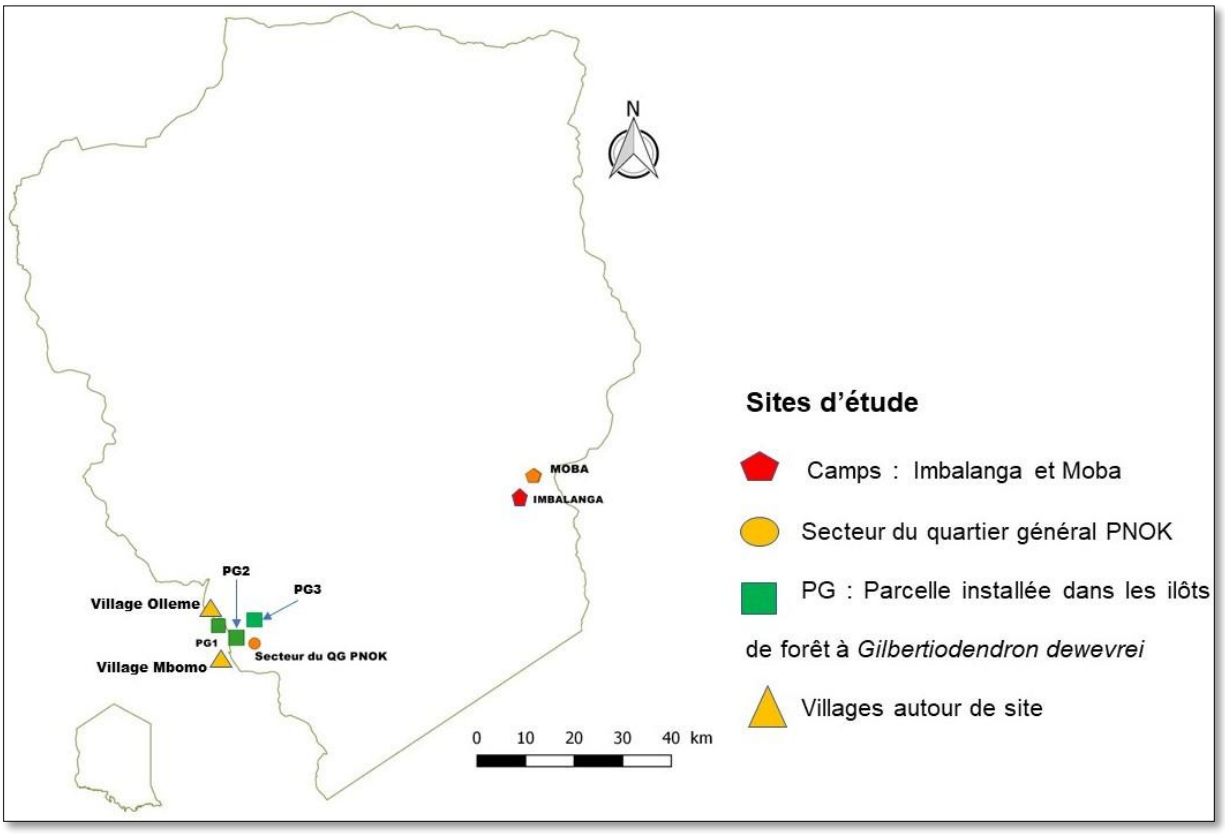

Figure 1 : Presentation of the study area

Three plots (PG1, PG2, and PG3) of 50 m x 50 m have been established in the *Gilbertiodendron dewevrei* or Limbali forest islands. This tree is locally called "Ebembe" by the indigenous Bakola people of Mbomo. One plot was set up in the forest on the outskirts towards Olleme and two others in the Park for the assessment of the biological productivity of *Cantharellus*. They were visited at a frequency of two visits per week per plot in search of chanterelles. The other sites were sampled during opportunistic walks in forest.

II.2 Interview of local population

Interview of the indigenous population in the village Mbomo was conducted by three team members from 8th to 10th april 2025. The figure 2 shows the team who conducted the project in this village while the figure 3 illustrates the interview process. To facilitate communication with certain interviewees, an indigenous group leader was called upon to act as an interpreter. Prelimary results show that all ages (youth, adult and elder) are involved in collecting

mushrooms for one mainly for commercial purposes. A small quantity of the harvested mushrooms can be used for local consumption, source of income, barter and other medical ou seduction practice. But it's more the women who are involved in this activity.

Figure 2 : Team of the Rufford Project 45038-2 in north of Congo. From left to right : Juvey M. WAWA and Célie-Léoda MOUNGOUYA-MOUKASSA (coordonnator project) *23th April 2025 at Mbomo village*.


A


B

Figure 3 : Team of the Rufford Project conducting interviews in Mbomo village. The first photo A shows Juvey assisted by an indigenous interpreter on the right interviewing a young indigenous person. And photo B, Célie questioning an elderly indigenous person.

II.3 Macrofungi collection on field

Field observations and harvests of mature sporophores of mushroom species are made in several habitats in the OKNP and this surrounding Mbomo village in order to associate each species with its ecology. Harvests are made in the field in the morning in different plots and during opportunistic walks in the mixed forest on dry land, mixed forest floodplain, floodplain forest of *Gilbertiodendron ogoouense*, monodominant forest of *Gilbertiodendron dewevrei*, mixed forest with Uapaca spp, secondary dry forest, field ou garden and cosmopolite (fig. 4) and then described in the afternoon once back in the village. These collected and transported specimens were kept or even packed in the leaves of Maratanceae separately (one species per package) and then deposited in the basket, which avoided as much as possible, friction and contact between the samples. The harvested material is described morphologically on the fresh before drying in field notebooks. For each species collected, a sheet associating all morphological, anatomical and ecological data is produced. Once back in the village, the samples are also soon placed in the metal sieves and then dried and labeled. The figure 5 below shows the collection of data and specimens by different collectors assisted by two indigenous guides.

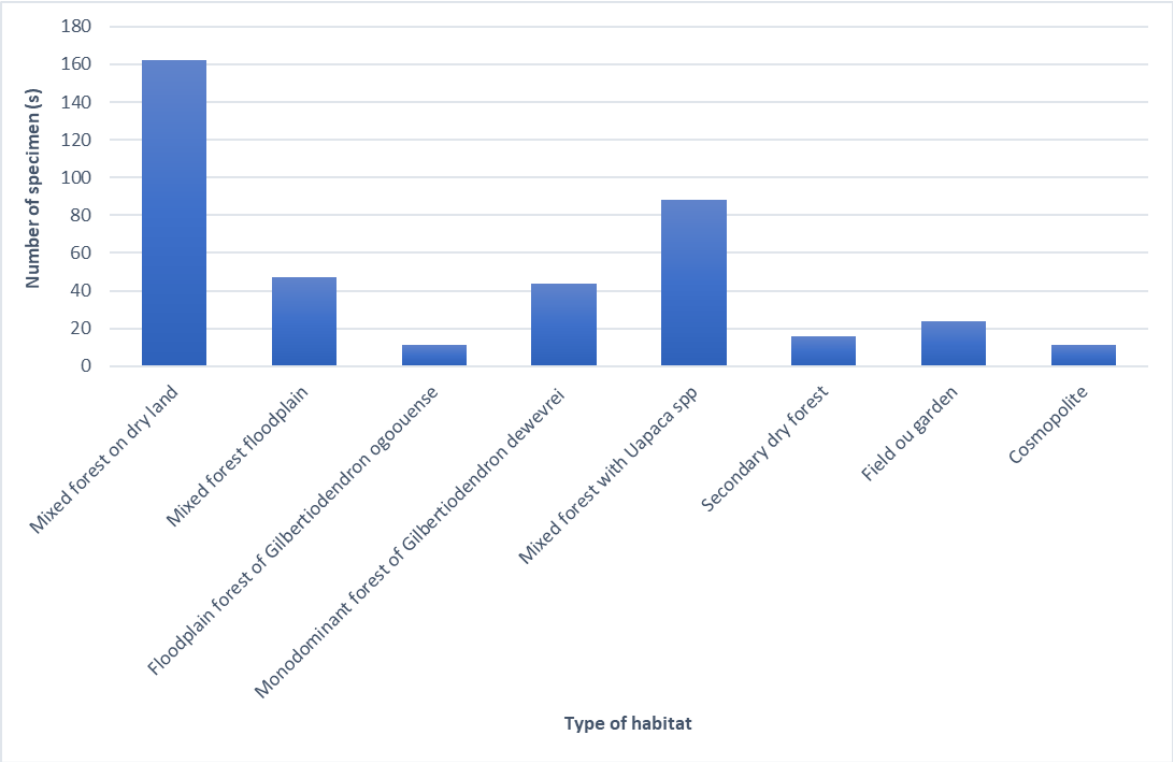

Figure 4 : different types of habitat where the samples were collected

Figure 5 : data collection and specimens

II.4 Drying and preservation of samples in the field

On the one hand, the drying of the collected samples is done the same day after the field by heat. Upon return to the camp, the collected samples are put in metal sieves of different sizes. These sieves are arranged from the smallest to the largest and then placed in a mycological dryer (De Kesel, 2001) which in turn is superimposed on the stove over low heat as shown in the figure below. Regarding the duration of drying of mushrooms, they depend on the amount of water contained in the sample collected and could vary between 6 to 10 hours or even more (Ndolo Ebika, 2018). Once the samples are dry, they are put in plastic bags indicating the crop

number and the name of the collector and then hermetically sealed. After that, they are placed in the containers by adding a few grains of silica gel for preservation. Silicagel absorbs any residual moisture.

Figure 5 : drying fungal specimens with heat. (A) mounted press with stove on, (B) top view of the press with specimens, (C) dried specimens in Minigrip bags and stocked in the pot containing the silicagel.