



Physicochemical characterization of seven species of *Termitomyces* collected in Kinshasa, Democratic Republic of the Congo

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ABSTRACT

Objective: Wild edible mushrooms have long been considered foods with low nutritional value. Today, they are providing additional medicinal benefits due to their content of bioactive compounds and nutrients. The aim is to assess their nutritional and therapeutic properties. This study was conducted in Mbankana municipality located in Kinshasa city, Democratic Republic of Congo.

Methodology and results: It analysed seven species of *Termitomyces*, namely *Termitomyces striatus* var. *aurantiacus* Heim, *T. robustus* (Beeli) Heim, *T. schimperi* (Pat.) Heim, *T. clypeatus* Heim, *T. fuliginosus* Heim, *T. striatus* (Beeli) Heim, and *T. letestui* (Pat.) Heim, to determine their nutritional value and essential mineral content. ANOVA was applied for different parameters and the significance was at 5%. The findings show that the highest average moisture content is $90.41 \pm 0.33\%$ observed in *T. schimperi*, the ash content was higher ($8.49 \pm 0.03\%$) for *T. robustus*. Regarding the proteins, the highest average was in *T. robustus* ($20.8 \pm 0.04\%$), For fats, the average content is $2.50 \pm 0.01\%$ (*T. schimperi*), the carbohydrate content of *Termitomyces* species was higher with *T. clypeatus* ($87.1 \pm 0.01\%$). As for fibre, the content is very high in *T. striatus* var. *aurantiacus* ($40.6 \pm 0.07\%$), while the energy value 372.07 calories were higher for *T. clypeatus*. The mineral elements reveal the presence of macro elements in varying quantities, and the presence of trace elements.

Conclusion and application of results: Thanks to their nutritional value, *Termitomyces* can be incorporated into the daily diet of rural and urban populations in the DRC to compensate for the nutritional deficits in animal protein observed in developing countries.

Keywords: Characterization, physicochemical, seven species, *Termitomyces*, Kinshasa