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Respondent

3 Anonymous

1218:48

Time to complete

PART I – CANDIDATE INFORMATION / PARTIE I – INFORMATIONS SUR LE CANDIDAT

1. Family Name / Nom de famille *

Masudi

2. First name(s) / Prénom(s) *

Muenye Mali Franck

3. Nationality / Nationalité *

Congolese

4. Date of arrival in Belgium / Date d'arrivée en Belgique *

3/23/2025



5. Date of departure from Belgium / Date de départ de Belgique *

4/26/2025



6. Type of visit / Type de visite *



Mainly training in taxonomy and collection management / Surtout formation en taxonomie et en gestion des collections



Mainly access to collections / Surtout accès à des collections



Other

7. Location of training / Lieu de la formation *



Institute of Natural Sciences (Brussels) / Institut des Sciences Naturelles (Bruxelles)



Royal Museum for Central Africa, Tervuren / Musée Royal d'Afrique Central



Botanic Garden of Meise / Jardin Botanique de Meise



I completed my training at the Institute of Natural Sciences in Brussels for one week and at the University of Antwerp for four weeks.

PART II – GENERAL INFORMATION / PARTIE I – INFORMATIONS GÉNÉRALES

8. Describe concisely how you have learned about the Belgian GTI Grants/
Décrivez brièvement comment vous avez pris connaissance des bourses belges pour l'ITM

*

I discovered the Belgian GTI Grants while browsing the internet in search of funding opportunities for researchers living in developing countries.

9. Describe concisely why you needed capacity building in taxonomy and/or collection management / Décrivez succinctement pourquoi vous aviez besoin d'un renforcement de capacités en matière de taxonomie et/ou de gestion des collections *

As part of my doctoral research focused on amphibians and their feeding habits in protected areas, I needed to strengthen my skills in amphibian identification as well as in the analysis of stomach contents, which requires advanced expertise in taxonomy. Given the expertise available in Belgium in my field of research, I took this opportunity to achieve my objectives. This was essential for a better understanding of ecological interactions and forest habitat dynamics. Furthermore, the management of samples requires a solid understanding of conservation protocols, specimen handling, and the organization of scientific collections in the laboratory. This highlights the importance of my GTI internship in taxonomy and collection management, funded by the Royal Belgian Institute of Natural Sciences and the CEBioS program. This training was crucial for the progress of my research as well as for the needs of my home institution.

10. Describe concisely what support (e.g. training, access to collections,...) you have received and how this training can be related to taxonomy and /or collection management / Décrivez succinctement quel type de support (e.g. formation, accès aux collections,...) vous avez reçu et comment il est lié à la taxonomie et/ou la conservation des collections *

I benefited from a range of practical and theoretical trainings. On March 25, 2025, in Belgium, I attended the first training session, which was enthusiastically led by Dr. Tania. This training focused on collection management (their usefulness, types of associated information, different types of reading and writing on collections, etc.), morphological identification of species, as well as several online platforms for sharing biodiversity data and literature. This training was very important for any taxonomist. Apart from this session, I also received training from Ms. Isabelle Gérard, Head of the Publications Service at the RMCA. She introduced us to scientific writing related to different types of publications: research and outreach articles, book chapters, as well as the rational use of artificial intelligence (especially for organizing bibliographic references). The training was particularly useful to me, as it equipped me with a better understanding of the various stages of writing, revision, publication fees, and the mechanisms for publishing research results. The session was rich in exchanges between the learners and the trainer. Thanks to the GTI grant, I also attended a training on data sharing via the GBIF platform, led by Dr. André H. and his colleague. The session allowed me to discover several data processing tools, including ModernCSV (for data visualization), OpenRefine (for data cleaning), SQLite, NameParser, and QGIS. At the University of Antwerp, in addition to research guidance in the database related to my thesis, I carried out morphometric measurements under the supervision of Prof. Raoul and Dr. Erik. I also conducted dissections and stomach content analyses, while practicing the use of identification keys. As part of collection access, Prof. Raoul, Dr. Erik, and I went to Tervuren to assess the condition of the amphibian collection gathered by Kazadi in the Masako reserve 30 years ago as part of his thesis. In advance, Dr. Garin C. had prepared the biological material for us, which is in good condition. Unfortunately, the thesis was never completed, but some data can help us in our thesis. Then, I received support in the form of computer equipment (external hard drive, mouse, extension cord, and a pointer for PowerPoint presentations). In conclusion, all of these trainings helped strengthen my skills in taxonomic techniques, as well as in best practices for the conservation and management of biological collections. They will be of great help to me at every stage as I progress in my doctoral research and disseminate the results.

11. Describe concisely how your gained capacity will help you in your professional duties / Décrivez succinctement comment vos nouvelles capacités vous aideront dans vos obligations professionnelles *

The skills I have acquired will enable me to improve the quality of my analyses, to interpret biological and ecological data more effectively, and to better manage scientific collections. Furthermore, these competencies will strengthen my contribution to research projects, the writing of scientific publications, as well as the training of students and the conservation of biodiversity, in direct connection with my scientific responsibilities.

12. Describe concisely how your gained capacity will help you in your professional duties / Décrivez succinctement comment vos nouvelles capacités seront utilisées dans votre institution *

The skills I acquired in taxonomy and collection management during my training in Belgium through the GTI project will significantly enhance the scientific quality of my research on amphibians. Indeed, they will enable me to: (1) identify species and their prey with greater accuracy, (2) improve the reliability of the data collected during field excursions, and contribute to the creation of local reference databases useful in the long term. Furthermore, within my institution, I will share these skills by mentoring students and improving the management of existing biological collections in our laboratory, with the aim of effectively supporting research, teaching, and biodiversity conservation efforts.

13. Describe concisely what other support you eventually would need / Décrivez succinctement quel autre support pourrait vous être encore utile *

Eventually, institutional support to strengthen research and training efforts would be valuable. Access to scientific mentors for remote guidance would further enhance my skills. However, access to updated taxonomic databases and specialized literature is also crucial. Furthermore, I will need support in basic laboratory equipment (e.g. binocular microscopes, dissection tools, specimen preservation materials, labels, absolute alcohol (96%), formalin, etc.). These materials are essential to apply the skills I have acquired and field research.

14. Describe concisely what infrastructural and human resources you and your institution still need to become fully functional / Décrivez succinctement de quelles infrastructures et ressources humaines vous et votre institution auriez éventuellement besoin pour un meilleur fonctionnement *

The Centre de Surveillance de la Biodiversité de l'Université de Kisangani still requires appropriate laboratory infrastructure, including a well-equipped taxonomy room, conservation systems (climate-controlled cabinets, freezers), and a stable electricity supply capable of running these devices, as well as internet access for managing biological databases. However, in terms of human resources, strengthening the capacity of specialized taxonomists is needed, as well as hiring technical staff to support research, laboratory work, teaching, and the management of biological collections. The goal is to better utilize field data and thus contribute to conservation efforts.

15. Describe concisely how you think the Belgian GTI National Focal Point could further construct capacity for you and your institution / Décrivez succinctement comment vous pensez que le Point focal Belge pour l'ITM peut encore augmenter votre capacité ou celle de votre institution *

The Belgian National Focal Point of the GTI could further enhance my skills and those of my institution in several ways, including: a) Institutional collaboration, b) supporting advanced training in applied taxonomy, c) facilitating scientific exchanges with Belgian institutions, d) providing access to digital pedagogical and taxonomic resources. Furthermore, support for establishing local reference collections would also enable the dissemination of skills within our institution and among other local researchers.

PART III – TAXON SPECIFIC INFORMATION / INFORMATIONS SPECIFIQUES AU TAXON

16. What is your taxon of interest ? / Quel est le taxon qui vous a intéressé ? *

I am interested in amphibians, particularly anurans (frogs and toads). As bioindicators of the health of tropical ecosystems, my focus is on their feeding ecology and their response to environmental disturbances in both degraded and non-degraded protected areas.

17. Describe concisely the steps to be taken to manage collections of your taxon / Décrivez succinctement la conduite à tenir pour la gestion des collections de votre taxon *

It all starts with the collection of amphibians. To achieve this, we proceed with collection and recording in the field. Using both auditory and visual methods, we capture them at night between 6 PM and 11 PM, by hand, following field protocols and ethical guidelines. The associated data is recorded (location, date, habitat, GPS coordinates, observer, photos, photo numbers, labels, etc.). We euthanize the specimens ethically (e.g., with MS-222, oral gel), then fix them in 10% formalin for 24 to 48 hours to preserve the tissues. To preserve the tissues for the long term, the specimens are transferred to 70% ethanol for conservation, after proper internal labeling (inside the jar) and external labeling (collection sheets) are performed. This process involves assigning a unique number to each specimen and recording all information in both a physical register and a digital database. The jars (plastic) are stored in a ventilated room at a stable temperature, protected from direct light and equipped with safety devices. During open days, access to the collections is granted to researchers, students, and visitors. However, we ensure the traceability of the materials and their proper conservation. We monitor the alcohol levels (replacing it as needed). If necessary, the collection manager updates new information (to be revised) while keeping the physical and electronic database up to date.

18. Describe concisely how you intend to make your taxonomic data available to other colleagues / people in your homeland / Décrivez succinctement comment vous pensez diffuser vos données taxonomiques auprès de vos collègues ou d'autres interlocuteurs dans votre pays *

I plan to disseminate my taxonomic data by integrating it into an accessible digital database and sharing it through national or regional platforms (such as GBIF, CHM, the Faculty of Science Museum, or university networks). I will publish identification guides for local amphibians or open-access scientific articles. Whenever possible, I can organize a scientific meeting in collaboration with local academic and conservation institutions to facilitate the dissemination and access to my taxonomic data. Scientific exchanges can be held with the goal of initiating and promoting the use of this data by researchers, students, and protected area managers. At the local community level, with the support of CEBioS, I will organize the dissemination of my research results through stakeholder awareness, the production of toolkits, and more.

19. Describe how your taxonomic work helps improving the status of biodiversity in your country / Décrivez succinctement comment votre travail aide à améliorer l'état de la biodiversité dans votre pays *

My taxonomic work contributes to improving the state of biodiversity, primarily by enabling a better understanding of amphibian species, which are often poorly documented in the tropical ecosystems of the DRC. By accurately identifying the species present, especially in degraded and intact protected areas, I provide key data for ecological monitoring, assessing the impact of environmental disturbances, and implementing targeted conservation plans. In this way, my work also helps detect rare, endemic, and even common species in these various habitats, which can justify specific protection actions while strengthening local capacities for inventory and sustainable biodiversity management.

20. Describe how your project could help reduce poverty in your country / Décrivez succinctement comment votre travail aide à lutter contre la pauvreté dans votre pays *

My project contributes to reducing poverty by valuing local biodiversity at multiple levels, notably as a scientific, educational, and potentially economic resource. By training students, researchers, and local communities in taxonomy and the sustainable management of amphibians, local skills will be enhanced, which will promote the emergence of jobs in research, as well as in conservation and ecotourism. Furthermore, this approach encourages responsible management of natural resources. Beyond that, raising awareness among populations about the ecological value of amphibians helps develop sustainable alternatives to destructive activities, thus supporting conservation while improving local livelihoods by introducing and training communities in frog farming (Raniculture : the species *Hoplobatrachus occipitalis*, whose meat is highly valued in the region), not only as a source of income and animal protein but also as an effective biodiversity conservation strategy.