

ACTIVITIES REPORT

(From October 2017 to March 2019)

Project identifier: BID-AF2017-0251-SMA

Country: Cote d'Ivoire

Project title: Extension and management of the reference collections of bee pollinators in West Africa (Burkina Faso and Côte d'Ivoire)

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End date: March 2019

Investigation area: Cote d'Ivoire and Burkina Faso

Introduction

In many parts of the world, pollinators and pollination services are threatened by land-use changes that result in degradation of semi-natural habitats or conversion to agricultural land. Such disturbances often result in a decrease in the abundance or diversity of pollinators, which increases the risk to humans, for example lower crop yield.

Our project is the first of its kind in West Africa to monitor bee communities and their provision of ecosystem services, for example pollination of cash crops. We initiated the first reference collection of bee pollinators from West Africa in 2015, collected so far in the South Sudanese savannahs of Burkina Faso and Côte d'Ivoire. The collection to date includes a hundred species of bees divided into 4 families (Apidae, Halictidae, Megachilidae and Colletidae). The proposed project aims to continue and expand data collection in various habitat types, such as the savannah transition zone and tropical forest in Lamto, Côte d'Ivoire. In a previous study, we identified several species of wild bees that were very effective in improving the quality of yield and the amount of cash crops. The need to protect these species and all bee species in general is a major challenge for the

conservation of biodiversity and the improvement of agricultural yields. This is only possible when tracking and identifying species and trends of their populations. As a result, this collection provides a sound scientific basis for future pollination studies and will allow the use of pollinators to be incorporated into new strategies for managing natural habitats and agricultural areas in West Africa. In addition, the collection will be a valuable tool for environmental education and student training.

Activity 1. Reorganization of sampling plots and assistants training

From the first month of the project (October), we reorganized some of our sample plots to continue the capture of the bees. Although we already had a range of specimens collected before the start of the project, we felt that the continuation of the catches would allow us to expand the collection because it would allow us to find new species not yet identified. The capture techniques using colored cupels were taught to 6 assistants. A total of eight (8) participants took part in this activity.

Activity 2. Continuation of bee capture

The same assistants trained during Activity 1 continued to capture bees on our sampling plots.

Activity 3. Pinning and identification of bees

Four (4) participants took part in this activity, which consisted to teaching the techniques for pinning and identifying bees. Before the beginning of the project, we had a large number of bee specimens. It was therefore important to proceed as much as possible with pinning a large number of these specimens to prevent their deterioration

Activity 4. Management of reference collections

The currently established reference collection is kept in the laboratory. The specimens are continuously treated with the thymol.

A laboratory is located in Bingerville (Pole de recherche scientifique). This laboratory will allow the good management of the reference collection of bees.

Activity 5. Training and information workshops

A knowledge dissemination plan for the training workshop has been established. We have already organized the dissemination of knowledges with the members of our project team. We extended this to other participants in March 2019. The members of the project who received the training has been considered as the main trainers.

The courses concerning the reference collection have not been taught at the university, yet. But, we have already organized a conference in April 2018 with the Master's students of the Scientific Research Pole from Bingerville. This conference provided a lot of informations about bees and their pollination activities.

Activity 6. Publishing data to gbif portal

We have published occurrence data and 'Sampling event' data to gbif portal. Updates are planned because we continue to record data.

Conclusion

The activities carried out from October 2017 to March 2019 were made according to the schedule established during the final proposal of our project.

The results of the trainings that take place during the project period are documented through the activity reports. These are theoretical and practical training. In a practical way, assistants were trained in bee sampling techniques, students learned how to sort, pin specimens and manage the bee collection. Throughout the project we worked constantly with 6 assistants and 3 students. In addition to a conference organized with WABES students in Bingerville, an internal activity was initiated to share the knowledge gained during the two workshops held in Cape Town (South Africa). We obtained a basic badge to the first workshop in Cape Town. A final workshop has been organized at the end of March 2019, to allow wide dissemination of the results of our research to facilitate decision-making at the political level. This last workshop could not be held in Burkina Faso as planned but, only in Ivory Coast. Certificates will be give later to some participants and digital media of our project results will be send to the political decision-makers to

definitively close the activities of the project. Successive self-evaluations throughout the project helped to improve the quality of our work.

Abidjan, 30th March 2019

Project Lead
(on behalf of all team members)

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