Report on

5-days workshop on Entomology collection at Geed-deeble Botanical Garden

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18 August **- 22** August **2024**

Entomology Collection

University of Hargeisa

CONTENTS

Introduction

Entomology, the scientific study of insects, is a crucial field with various applications and significance, especially in regions like Somaliland

- Insects are the most diverse group of organisms on Earth. Studying them can help document species diversity in Somaliland, contributing to global biodiversity databases also Insects play vital roles in ecosystems as pollinators, decomposers, and food sources for other animals. Monitoring insect populations can provide insights into environmental health and ecosystem changes, and have Agricultural Impact like Understanding pest species and beneficial insects can enhance agricultural practices. Entomological research can lead to sustainable pest management strategies, reducing reliance on chemical pesticides.

entomology has far-reaching implications for biodiversity conservation, agriculture, public health, and education. Initiating entomological research and collections in Somaliland could yield significant benefits for both local communities and the broader scientific community.

it is so Importance to made Entomology Collections for Biodiversity Studies. Collections provide a historical record of insect diversity anddistribution, aiding in the understanding of changes over time. By studying insect populations and their habitats, entomologists can identify species at risk and develop conservation strategies.

Collections can help educate the public about the importance of insects in ecosystems and encourage conservation efforts.

From **18** august to **22** august **2024**, a group of enthusiastic agriculture students from the University of Hargeisa participated in a specialized 5-day workshop held at the Geed-deeble Botanical Garden, focused on entomology collection. This workshop was a collaborative effort led by Tharina Bird, Curator of General Entomology, Ditsong National Museum of Natural History, South Africa alongside Professor Faysal from our university's Biodiversity center, and representative Yusuf Yasiin from the Barwaqo Organization, which played a crucial role in establishing the Geed-deeble Botanical Garden.

Place:

Geed-deeble Botanical Garden

Geed-deeble Botanical Garden is a verdant haven located in Somaliland, dedicated to the conservation of native plant species and the promotion of environmental education. This garden not only serves as a sanctuary for a diverse array of flora but also offers a glimpse into the region's unique biodiversity. Exploring Geed-deeble Botanical Garden can spark curiosity about the ecological importance of preserving native plants, the role of botanical gardens in conservation efforts, and the rich natural heritage of Somaliland, it is home to a variety of insects, contributing to its rich biodiversity. The presence of different insects plays a crucial role in the ecosystem, including pollination, decomposition, and serving as a food source for other wildlife. Delving into the types of insects found in Geed-deeble can open up fascinating discussions about their ecological roles, their interactions with plants, and the overall health of the garden's environment. This exploration can also lead to a deeper appreciation of the intricate web of life that sustains natural habitats, which make it suitable for Entomology collection.

Objectives of the workshop

The primary objectives of workshop are:

- To learn Basic skill in collecting insects
- To Know how to prepare insects for depositing in a natural history collection
- Understanding the important of correct data report
- Game some skill for evaluating Agricultural methods, evaluating ecological integrity of an area reporting on diversity
- Greater appreciation for All life

- Contribute to start of national Entomology Museum
  To understand the significance of insects in agriculture and ecosystems.
- to learn proper techniques for collecting, preserving, and identifying insect specimens.
- To explore the role of entomology in sustainable agricultural practices.
- To foster collaboration between students and experienced professionals in the field.

Day-by-Day Overview

Day 1: Introduction to Entomology

The workshop began with an introduction to entomology and Collection strategy, led by Tharina. She discussed the diversity of insect species and their ecological roles, particularly in agriculture. We learned about the importance of insects as pollinators, decomposers, and pest controllers. The day included a discussion on ethical considerations in insect collection.

Day 2: Insect Collection Techniques

On the second day, we focused on various techniques for collecting insects.

- By hand

- Sweep Netting: Using a net to sweep through vegetation to capture insects.

- Pitfall Traps: Setting up containers in the ground to trap crawling insects.

We participated in a hands-on session where we practiced these techniques in nearby habitats, allowing us to gain practical experience in field collection.

Day 3: Preservation Methods

Day three Morning we collected divert insect by using Hand, sweep nets and beating method






Day three Afternoon was dedicated to learning about insect preservation methods. Tharina guided us through the process of preparing specimens for long-term storage, including:

- Pinning: Attaching insects to pins for display and study.
- Drying: Ensuring specimens are dried properly to prevent decay.
- Labeling: Creating accurate labels that include collection data (date, location, collector).






We also discussed the importance of maintaining accurate records for scientific research. Each student had the opportunity to prepare their own collected specimens.



We delved into the identification and classification of insects. Therina introduced us to key identification tools, including dichotomous keys and field guides. We worked in groups to identify our collected specimens, enhancing our understanding of insect taxonomy and biodiversity.

Day 4: Mountain Expedition and Insect Collection

On the fourth day of our workshop, we embarked on an exhilarating expedition to the nearby mountains. The early morning air was crisp and invigorating as we set out with our collecting tools and specimen jars. The diverse ecosystem of the mountain provided an excellent opportunity to encounter a wide variety of insects in their natural habitats.

We divided into small groups and explored different sections of the mountain; each group assigned to collect as many different insects as possible. The experience was both thrilling and educational as we observed the unique behaviors and adaptations of various species. We found everything from brightly colored butterflies to camouflaged beetles and even some rare species that piqued our curiosity.

After a fruitful day of collection, we returned to our base camp and began the meticulous process of preparing our specimens. Under the guidance of experienced entomologists, we learned how to properly preserve and label each insect, ensuring that they would be valuable additions to our study collection. The hands-on experience not only deepened our understanding of entomology but also fostered a greater appreciation for the intricate world of insects.






Day 5: Preparation for Departure to Hargeisa

The final day of our workshop was dedicated to packing up and preparing for our return to Hargeisa. We spent the morning organizing our collected specimens and ensuring that all our equipment was accounted for. The instructors reviewed our findings and provided valuable feedback, highlighting the significance of our contributions to the ongoing research.

As we packed our belongings and reflected on the week's activities, there was a sense of accomplishment and camaraderie among the participants. The knowledge and experiences gained during the workshop were invaluable, and many of us were inspired to continue exploring the fascinating world of insects in our future studies.

By midday, we were ready to depart, leaving the Geed-deeble with a sense of fulfillment and a deeper connection to the natural world. The journey back to Hargeisa was filled with discussions about our discoveries and the memories we had created together, marking the end of an enlightening and unforgettable workshop.

Conclusion

The 5-day workshop on entomology collection at Geed-deeble was an enlightening experience that significantly enhanced our understanding of insects' roles in agriculture and ecosystems. The collaboration between experts from Curator of General Entomology, Ditsong National Museum of Natural History, South Africa, our university, and local organizations created a rich learning environment that fostered both knowledge and practical skills.

As agriculture students at the University of Hargeisa, we are eager to apply what we have learned about entomology to promote sustainable agricultural practices in our communities. We extend our heartfelt thanks to Tharina, Professor Faysal, and the Barwaqo Organization for their invaluable support and guidance throughout this workshop.

Acknowledgments

We would like to express our sincere gratitude to the following individuals and organizations:

- Tharina from the South Africa for her expertise and engaging teaching style.
- Dr Abdirisak, Our honorable dean
- Professor Faysal for his guidance and insights into entomology and biodiversity.
- Barwaqo Organization for facilitating the workshop and providing logistical support.
- Geed-deeble Botanical Garden for hosting us in such a conducive learning environment.

Their contributions were instrumental in making this workshop a success.

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Recommendations:

1. Field Research Projects: Encourage students to undertake field research projects focused on local insect populations.
2. Continued Learning: Organize follow-up workshops on advanced topics in entomology and pest management.
3. Community Education: Develop outreach programs to educate local farmers about beneficial insects and sustainable practices.

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Appendices:

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