NATIONAL MUSEUMS OF KENYA
WHERE HERITAGE LIVES ON

POST CONFERENCE TRAINING WORKSHOP

FUNDAMENTALS OF SAMPLING INSECT POLLINATORS, IDENTIFICATION PROCEDURE, AND COLLECTION DATA MANAGEMENT

6th and 7th June 2024



Course contact: ekioko@museums.or.ke jaynemmacharia@gmail.com and alecksers@gmail.com

Brief course introduction:

Pollination is an essential ecosystem service contributing to food security and environmental health. Worldwide, there is an increasing concern about the decline of pollinators. Data on insect pollinators are however scarce limiting clear understanding about this pollinator crisis and calling for efforts to bridge the information gap. This calls for efforts in understanding the fundamentals of sampling insect pollinators, their identification processes and management of the data.

Aims of the Course:

- To undertake experiential learning on various sampling methods for insect pollinators
- Preparation and preservation of the field samples
- Basic insect taxonomy focusing on insect pollinators
- Insect collection data management

Some resource materials for reference:

- www.nhm.ac.uk › research › projects › manual-afrotropical-diptera
- https://abctaxa.naturalsciences.be/?s=ABC+TAXA+BEES
- A-field-guide-to-Taita-Hills-butterflieS-NMK-JRS-2021.pdf
- https://genent.cals.ncsu.edu/insect-identification/order-lepidoptera

Course Program:

The two days of training will include brief lectures and experiential learning field and laboratory sessions as outlined in this program.

Day 1: 5th June 2024		
Time	**Activity**	**VENUE**
8.00 am-8.40 am	Registration & introduction	Louis Leakey Auditorium, NMK
8.40 am-8.50 am	Course Overview	Invertebrate Zoology Training Lab
8.50 am -9.30 am	Tour of the insect reference collections	Invertebrate Zoology Section Natural History Collection, Zoology Department, NMK
9.30 am-10.00 am	Field Work Introduction and Methodology for Sampling Insect Pollinators	Invertebrate Zoology Training Lab
Tea Break		
10.30 am -1.00 pm	Field Work: Sampling Insect Pollinators	NMK Botanic Gardens and Michuki Park, Nairobi
1.00 pm -2.00 pm	Lunch Break	
2.00 pm- 3.00 pm	Field Work: Sampling and collecting Insect Pollinators	NMK Botanic Gardens and Michuki Park, Nairobi
3.00 pm-5.00 pm	Preservation of field samples	Invertebrate Zoology Training Lab
5.00 pm -7.30 pm	Sampling insect pollinators: Light trapping	NMK Botanic Gardens
Day 2		
Time	**Activity**	

8.00 am -8.30 am	Registration and Recap	Invertebrate Zoology Training Lab
8.30 am-9.00 am	Identification of insect pollinators	Invertebrate Zoology Training Lab
9.00 am -10.00 am	Field Work: Sampling Insect Pollinators	NMK Botanic Gardens and Michuki Park, Nairobi
Tea break		
10.30 am-1.00 pm	Identification of insect pollinators	Invertebrate Zoology Training Lab
1.00 pm -2.00 pm	Lunch Break	
2.00 pm -3.00 pm	Insect Collection Management	Invertebrate Zoology Training Lab
3.00 pm - 3.45 pm	Digitization of Collections	Invertebrate Zoology Training Lab
3.45 pm- 4.15pm	Course evaluation	Invertebrate Zoology Training Lab
4.15 pm- 4.30 pm	Closing Ceremony	Louis Leakey Auditorium, NMK
4.30 pm-5.00 pm	Tea Break	

What to bring:

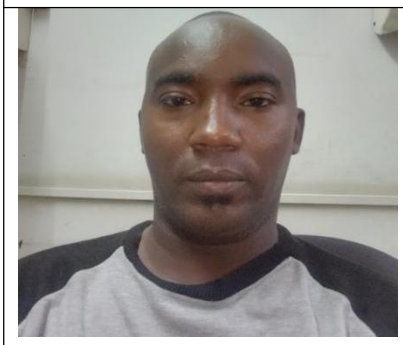
- Lab coat
- Comfortable shoes for field work

Trainees will:

- Take part in lectures, discussions, field survey, specimen processing and specimen identification
- Prepare and submit a report after the training
- Fill a simple training survey

TRAINING WORKSHOP FACILITATOR PROFILES:

 Dr. Esther Kioko ekioko@museums.or.ke	Esther Kioko is a Kenyan Entomologist/environmentalist working as a Principal Research Scientist in the Zoology Department, National Museums of Kenya (NMK). She also heads the Zoology Department at the NMK. Esther has a PhD in Agricultural Entomology with research interests in insect ecology with a focus on butterflies and moths, biodiversity assessments, environmental assessments/audit, insect based enterprises and climate change. She has a long-standing interest in the management of Museum collections and has lead a regional project on the assessment of Lepidoptera pollinator species diversity data in Museum collections in East Africa.

 **Jane Macharia** mmuthoni@museums.or.ke	Jane Macharia is a research scientist at the National Museums of Kenya. She is based at the Center for Bee Biology and Pollination Ecology. Ms Macharia holds an MSc In Agriculture Entomology. She has expertise in bee taxonomy, bee ecology, pollination and beekeeping. She is passionate about bees and environment. Her current research interest is in urban pollination and melliponiculture (stingless bees farming).
 **Alex Musyoka**-alecksers@gmail.com	Research Scientist, Zoology Department. An entomologist with passion in pollination ecology, specialized in invertebrate assessment, taxonomy and conservation awareness creation.

Brief Introduction: The National Museums of Kenya

NMK is a State Cooperation established by the Museums and Heritage Act. It is a registered Multidisciplinary Research Institution and a center of excellence in heritage research, conservation and management. The Directorate of National Repository and Research (DNRR) coordinates research at NMK and manages the National Scientific Reference Collections. DNRR collaborates with National and International institutions in implementing its mandate, and has a mission to collect, preserve, study, document and present Kenya's past and present cultural and natural heritage. Affiliates from all over the world are accommodated at the NMK for collaborative research. The vision of DNRR is to be a center of excellence in heritage management and research for posterity. The directorate has various departments whose mandate is research dissemination through publications, exhibitions, industrial attachments and training. The Zoology Department has a rich archive of invertebrates collected over time. The collection is the second largest in Africa with some of the oldest collections dating back to the 18th century. It

comprises of over 3 million invertebrate collections with about 60 % being from Kenya and the rest from other countries in Africa. This invertebrate zoology collection is still growing as researchers continue to undertake field expeditions in diverse ecosystems and deposit samples in the NMK.