

Project overview

Duration: The project will operate for 36 months from August 2018 – July 2021.

Location: the project will operate in three sites in Eastern Arc Mountain Forests (EAM): Uluguru, East and West Usambara Mountains; this forests are biodiversity hotspot home to hundreds of fauna and flora species found nowhere else on earth.

Project investigators

The project will involves investigators and staff from Tanzania Wildlife Research Institute (TAWIRI) and partner institutions. These includes the College of African Wildlife Management – Mweka (CAWN), University of Dar es Salaam (UDSM), Usambara Field Studies Centre (UFSC), Tanzania Commission on Science and Technology (COSTECH), Tanzania Forest Conservation Group (TFCG) and Natural History Museum of Utah (NHMU).

The output from the project will be used to refine and prioritize conservation strategies to establish forested linkages, regenerated forest connections in EAM and will be shared with national and international project beneficiaries and donors.



Tanzania Wildlife Research Institute (TAWIRI)

Mission: To facilitate an effective provision of wildlife research findings and acquisition of sufficient wildlife information in collaboration with all stakeholders. TAWIRI was established by Act of the parliament in 1980 to conduct, supervise and coordinate wildlife research in the United Republic of Tanzania and disseminate timely and quality scientific information that will enhance the management and utilization of wildlife resource in the country. TAWIRI is the project lead.

Contact information

<http://tawiri.or.tz>

info@tawiri.or.tz

+255 27 254 9571

The Tanzania Forest Conservation Group (TFCG)



Mission: To reduce poverty in rural communities and to conserve the biodiversity of globally important forests in Tanzania for the benefit of the present and future generations. We achieve this through capacity building, advocacy, research, community development, and protected area management, in ways that are sustainable and foster participation, gender equity and partnership. TFCG was established in 1985 and has promoted innovative solutions to conserve Tanzania's high biodiversity forests and reduce poverty in forest-adjacent communities.

Contact information

<http://www.tfcg.org>

tfcg@tfcg.or.tz



Butterflies and Bird Pollinators Project



Project funded by:

JRS – Biodiversity Foundation

Problem in conservation or Sustainable Development

The project seeking to address with to improve biodiversity data and knowledge systems.

Climate change is among the most important threats to pollinators worldwide. However; our understanding of the impacts of climate changes on tropical pollinators is limited and especially so in sub Saharan Africa. Tropical species are predicted to be especially sensitive to climate change because they are believed to have narrower ecological niches and elevational ranges than temperate species.

Over the last century mean annual temperatures in the Uluguru, and East and West Usambara Mountains have risen by 1.8C while mean annual precipitation has declined by up to 350 mm.

The EAM are important sites to assess the impact of climate change on flower-pollinators in the EAM because of magnitude of the climatic changes that have occurred at Uluguru, and East and West Usambara sites and because they are one of the 17ntropical biodiversity hotspot, sites that contains usually large number of plant and animal species and lost over 70% of their original forest cover.

Butterflies and birds are two of the more important flower-pollinating taxa in montane forests in Africa.

This project will assess the impact of climate change on flower pollinating butterflies and birds in montane forests at a landscape level in Tanzania by constructing and updating climatic, elevational range and demographic databases.



Project Goal

The goal of the project is to assess landscape level impacts of climate change on flower-pollinating butterflies and birds in montane forest in Tanzania for the purpose of enhancing their conservation.

Project Objectives

The project aims to:

- ❖ Develop web based databases to assess impact of climate change on flower pollinating butterfly and birds.
- ❖ Train and capacity development in web-based database design, management, and analysis.
- ❖ Educate project beneficiaries and future partners about the impact of climate change on flower-pollinating butterflies and birds and prioritize the establishment of forested linkages among the largest and closet forest fragments in the EAM.

Project activity

Activities will be performed to achieve objective 1

The following activities will be performed:

- ❖ Develop and update a baseline elevation range database for flower – pollinating butterfly and bird species and conduct elevation transects.
- ❖ Upload MARK input files for flower-pollinating bird species and continue long-term mark recapture and nest survival surveys in Usambara Mountains.
- ❖ Assess impact of climate change on elevational range shifts of flower-pollinating butterfly and bird species and vital rates of flower-pollinating bird species.

Activities will be performed to achieve objective 2

The following activities will be performed:

- ❖ Training senior staff and Technicians at TAWIRI how to establish and manage the online data for butterflies and birds.
- ❖ Training technicians in compiling, digitizing and standardizing baseline elevational range data for butterflies and birds and uploading the baseline elevational range data for butterflies and birds to the TAWIRI and COSTECH BIMT database.
- ❖ Train Technicians in butterfly and bird and bird surveys methods and data recording and management and train technicians in butterfly identification and mountings.
- ❖ Train senior project staff to generate MARK input files and calculate vital rates and metrics of elevation range shifts.

Activities will be performed to achieve objective 3

The following activities will be performed to achieve objective three:

- ❖ To develop a MOU between TAWIRI with TFCG;
- ❖ Prepare educational project flyers;
- ❖ Produce special issue of the Arc Journal;
- ❖ Conduct a workshop to educate beneficiaries, future partners, and donors about the impact of climate change on pollinators and prioritize the establishment of forested linkages among the largest and closet forest fragment at two locations in EAM.