Project Update: September 2025

Project activities conducted from June to September 2025

(i). December 2025- Permit processing and field preparation

The project team applied for a permit from Tanzania Forest Services (TFS) and Tanzania Wildlife Research Institute (TAWIRI). While waiting for the license, the team started necessary field preparations including, buying field equipments, visiting stakeholders such as GREEN HORIZON FOUNDATION located in Mbeya, also visited in Usangi-Ndorwe-Mwanga to discuss with KIKUNDI CHA SALAMA, a local and non-profit organization led by women with the mission of conserving environment. KIKUNDI CHA SALAMA work to restore degraded areas by planting trees and providing conservation education to their society. Other activities were purchasing necessary field gear and equipment as well as recruiting and training field assistants. The permit was approved at the early of June 2025.

(ii). June to September 2025-Population size, distribution and habitat condition

We conducted intensive field surveys both in daylight and at night within the known range of *Callulina laphami* in Kindoroko and Minja Forest Reserves, but did not record a single individual of this critically endangered species. During our searches, however, we encountered numerous chameleon sightings including *Rhampholeon viridis* and five frogs of *Sclerophrys gutturalis*, suggesting that while amphibian activity persists in the area, *C. laphami* may now be locally absent or extremely rare. The survey effort covered typical microhabitats used by the species such as logs, rocks, and near-stream vegetation under conditions previously considered optimal for detection, lending weight to the inference of its absence.

Our field observations also revealed that the once-forest habitat in the known locality of *C. laphami* has been significantly altered. Much of the original montane forest has been cleared and replaced by commercial plantations, with remaining remnant patches insufficiently extensive or intact to support the species' arboreal and moisture-dependent life habits. Compounding this, a network of water pipelines has been installed throughout the forest, diverting water from streams and springs that historically supported breeding and hydration. Many natural streams have degraded or completely dried up, likely due to human extraction and land-use change. Taken together, these habitat modifications clearance, hydrological disruption, pipeline infrastructure, and stream

desiccation have rendered the local environment unfavorable, if not unsuitable, for the continued survival of *Callulina laphami*.

Plate1. Some of the species encountered in the kindoroko and Minja forest reserve

plate2. Pictures taken during field survey

(ii). Challenges during the field survey

During our fieldwork in Kindoroko and Minja Forest Reserves, one of the most substantial challenges was the logistical complexity of traveling between these two separate sites. The isolated nature of each forest block, combined with poor access roads and long distances, consumed significant time and resources. Additionally, the steep, rugged terrain and densely vegetated slopes not only increased the physical strain on the team but also hampered the precise establishment of transects. Navigating these slopes with full field gear GPS units, data sheets, headlamps proved both time-consuming and physically taxing, substantially reducing the hours available for actual *callulina laphami* searches.

Adding to the physical challenges, the forest was teeming with mosquitoes, particularly in the understory and near stream zones, leading to frequent bites and persistent discomfort. This enhanced the risk of exposure to vector-borne diseases and necessitated repeated use of repellents, which sometimes provoked allergies among team members. Moreover, thorny vegetation, especially in dense undergrowth and along trail margins, posed a significant hazard during night surveys. These thorns often snagged on clothing and exposed skin, causing minor puncture wounds that became troublesome in the humid environment. Together, these challenges travel delays, challenging terrain, mosquito pressure, and thorn injuries strained our field operations and highlighted the need for improved logistical planning and protective measures in future surveys.

Plate 3. Team involved in day and night field survey in Kindoroko and Minja Forest reseves

(iv). Human activities observed in the project area

Our fieldwork in the Kindoroko and Minja Forest Reserves revealed a number of human-caused activities that pose a serious threat to the survival of *Callulina laphami* habitats. We saw a large-scale reduction in canopy cover and fragmentation of the montane forest due to the removal of forest area for commercial plantations and agricultural plots. It was also observed that controlled burns, which are frequently employed to remove vegetation, directly endanger amphibian populations by eliminating vital microhabitats and breeding sites. While settlement encroachment is clearly moving into previously pristine forest interiors, selective and informal logging activity further deteriorates the forest structure. Additionally, a recently built water pipeline system inside the reserves is directing stream and forest spring water outside its borders to benefit neighbouring villages. Natural water availability, which is crucial for the survival of species that depend on moisture, such as *C. laphami*, has drastically decreased as a result of this infrastructure and the observed stream desiccation brought on by increasing water extraction. Deforestation, fire use, logging, settlement growth, and hydrological disturbance are all contributing factors to the forest's decline as a viable habitat for this critically endangered frog.

Plate 4. Areas within the forest cleared by fire and other area is where water are taken from the forest via pipelines to supply the surrounding villages.

Plate 5. Cutting of logs, and debarking in the kindoroko and Minja Forest Reserve.

(v). Ongoing project activities and plan

To evaluate community knowledge, attitudes, beliefs, and practices regarding the conservation of the *Callulina laphami* and other frogs in the forest, the researchers are conducting focus group discussions (FGD) and household interviews (HHS). With the use of these techniques, the project team will be able to gather ideas and viewpoints from a variety of community groups, both individually and collectively. Through these surveys, the initiative may gain insight into community awareness, which will help it effectively customise conservation teaching and intervention tactics in order to rescue the Kindoroko and Minja Forest Reserve from critical degradation.