Updates on wet season data collection at Uluguru Forest Nature Reserve

Title: The abundance and distribution of Geata Mouse Shrews (*Myosorex geata*) and their environmental and anthropogenic drivers in the Uluguru mountains, Tanzania.

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The data was collected between late May to mid-late June 2025 at Uluguru Nature Forest reserve. This time is when the area experiences rainfall and colder temperatures. As proposed, *Myosorex geata* and other small mammals were trapped in three different sites: lower elevation (1200 m asl), mid-elevation (1950m als) and higher elevation (2430masl). The purpose was to ascertain the distribution of *M. geata* and other small mammals across different elevations. At lower-level elevations, the forest had more secondary growth with more understory vegetation (Fig 1). This is because this part of the forest experienced human disturbance years ago, and now it is left for regeneration. This part had more planted trees (exotic), including *Grivelia robusta, Eucalyptus* spp and Pines spp. In addition, as compared to other sites, the lower elevation had more signs of human activities such as tree cutting, exotic trees and footpaths (fig. 1).

Figure 1 (left) showing a Sherman trap placed near the remains of a tree (after being cut) and some planted trees (right) at the lower elevation.

At the middle and higher elevations, the forest appeared more natural, with a greater presence of native trees and less understory vegetation (Fig. 2). Litter depth was also greater at the higher elevation, likely due to cold temperatures that slow down the decomposition process.

Figure 2: Vegetation at the upper elevation (left) and the middle elevation (right)

To maximize capture, each elevation/site included two plots (100 × 100 m each), spaced 200–300 m apart. Each plot contained 100 Sherman traps and 11 bucket pitfall traps, totalling 200 Sherman traps and 22 bucket pitfall traps per site. Together with researchers from the university of Dar es Salaam, we used local forest guardians as they know the forest well and as a way of supporting their livelihoods. We worked with more than 10 local youths in different activities, including setting of traps, cooking, guiding and portering services (Fig 3).

Figure 3: Researchers from the university of Dar es Salam (Udsm) together with the local youths in the forest at Likwangule area (Photo by Antony Albert).

The trapping was conducted using two types of live traps: Sherman traps and bucket pitfall traps. A total of 200 Sherman traps and 22 bucket pitfalls were installed at each site simultaneously and left in place for four days and nights. The details and procedures followed were in accordance with Shilereyo et al. (2023). Sherman traps were baited with roasted coconut chips mixed with sardines coated in peanut butter, while the bucket pitfalls were left unbaited, allowing animals to fall in accidentally. Each trap was checked twice daily: in the morning from 6:00 to 7:00 AM and in the evening from 2:00 to 6:00 PM. All captured animals were identified (see Fig. 4), marked, and released at the site of capture, except for a few voucher specimens that were collected for further identification. At each sampling plot, vegetation parameters including tree height, crown cover, ground cover, grass height and cover, and shrub cover and height were estimated (see Fig. 4).

Figure 4: Showing field identification process in the field (left) and vegetation recording (right) (Photo by Christina Malekani).

Results

A total of 94 individuals belonging to the orders Rodential and Eulipotyphla and nine species were collected. Amongst these individuals, 36 individuals belong to the order Eulipotyphla and 58 belong to the order Rodentia. At the lower elevation, there was a higher abundance (49), followed by the middle (25), while the higher elevation was the least abundant (20). Since the focus of the study was on *Myosorex geata,* full identification was not done in the field, so some pictures and two individuals have been sent to Sokoine University of Agriculture, Pest Management, pest management Centre, for identification before publishing them in public. The species from the order Rodentia were *Mus minutoides, Thamnomys sp, Lophuromys flavopunctatus, Dendromus melanotis, Priomys jacksoni, Thamnomys* sp., and *Graphiurus murinus* while species from order Eulipotyphla are *Crocodura* spp., *Sylvisorex* spp., and *Myosorex* spp.

Way forward: Return back to the field in early September for dry season field work and conduct villages workshop in late September before compilation of the final report in October 2025.

OTHER PHOTOS FROM THE FIELD

A researcher doing a trap (Sherman trap) check-up and rebaiting the in the morning in Uluguru Forest Reserve (Photo by Christina Malekani)

Lophuromys flavopunctatus; A common in all elevations of Uluguru Forest Nature reserve

Researcher from UDSM, preparing to set the traps at the middle elevation