

Project Update: August 2021

Introduction

After estimating the population sizes, present threats and ecological status of each population, in project phase 1 in 2020, we planned for phase 2. In phase 2, we sought to conduct propagation trials and actively involve the local community through advocacy seminars and re-visited the project sites for ecological monitoring. The activities were conducted between February and May 2021, during a short dry season in Kenya. As a result, we were able to relatively access some in-accessible areas reported in phase 1. The following were some notable achievements.

Ecological monitoring

The status of African violets in Cha Simba: This population was observed to have opened-up due to dry and hot conditions in this season. Unfortunately, the vegetation 'clouding up' the wetter central parts of the population seemed withered too (**Figure 1**). Despite the central areas having notably mature trees, seasonal climber plants cover up the tiny spaces, ensuring conducive shade for African violets to thrive well during the rainy seasons. However, since the seasonal plants wither or completely die-off during the dry season, the African violets are directly hit by sunlight, leading to withering and some dying-off. As a result, the number of individuals had reduced, and the existing ones looked withered (**Figure 2**).



Figure 1: Images demonstrating withered vegetation cover in Cha Simba.





Figure 2: Images of same spot in Cha Simba population, demonstrating the changes between seasons.

Emerging threat - unfortunately, a survey in the neighboring forest fragments adjacent to Cha Simba recorded an emerging threat of deforestation (to create more land for crop cultivation) (**Figure 3**) through bush burning.



Figure 3: Images showing the emergence of vegetation clearance through bush fires in Cha Simba environs.

The status of African violets in Pangani rocks (Mwarakaya): This population also suffers from dry conditions, leaving the individuals of African violets exposed to sunlight and majority withering (**Figure 4**). During field investigations phase 2, very few patches/individual African violet plants could be spotted in the thicker and shady areas of the site. Our assessment confirms a decreasing population size, unless habitat restoration initiatives are implemented. However, we have initiated tree seedlings propagation in the area for subsequent habitat restoration initiatives.

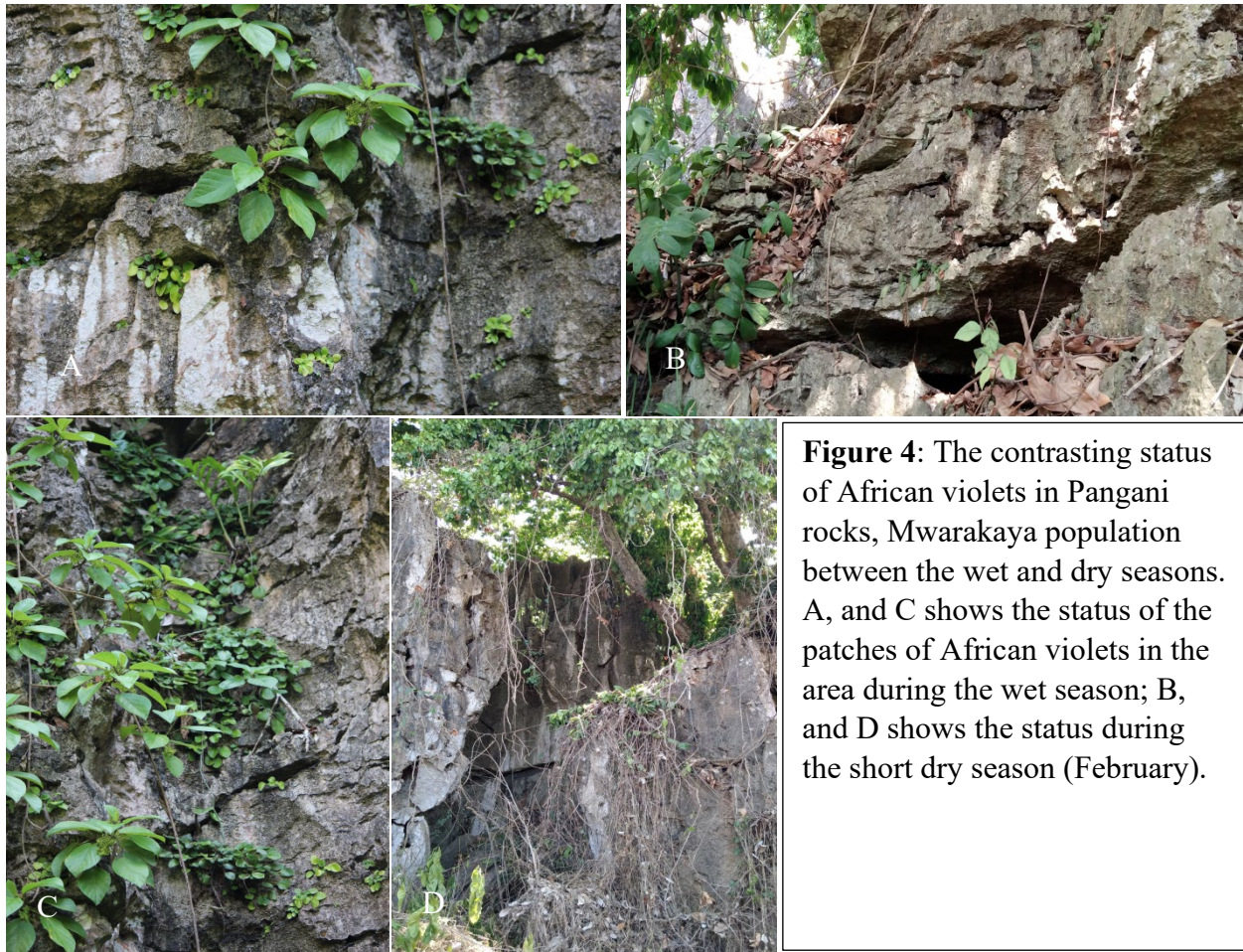


Figure 4: The contrasting status of African violets in Pangani rocks, Mwarakaya population between the wet and dry seasons. A, and C shows the status of the patches of African violets in the area during the wet season; B, and D shows the status during the short dry season (February).

The status of African violets in Kachororoni: although Kachororoni is considered the largest habitat in which the African violets occur in Kenya, the population is quickly becoming unsuitable for the African violets. This is because the area has attracted unsustainable human activities; cattle grazing (creates paths and destroys vegetation cover), and charcoal burning. This has led to reduced area under constant shade and wetness, and not funny that it is hard to spot an African violet individual. Contrary to normal observations, during our visit, no single juvenile was spotted, bringing to doubt the recruitment rate of this population. We propose to study the recruitment rate in future projects.



Figure 5: The status of African violets in Kachororoni population in the short dry season.

Community awareness

Community awareness is evidently an important part of biodiversity conservation. This is because the local communities are the custodians to the world's natural resources and ought to be included in practical conservation initiatives. In the case of African violets, the extant populations occur in community areas, characterised by human activities. Unfortunately, the locals are not aware of the importance of the areas in terms of special biodiversity. Therefore, raising the awareness of the locals on the conservation status of this species is a step in the right direction. We organised for awareness seminars in the three project sites (**Figure 6**), to practically interact with the locals and enlighten them on sustainable natural resources utilisation. During the seminars, the locals turned up in large numbers, and positively demonstrated interest in environmental matters. From our discussion, the following challenges were highlighted as key hindrances to environmental conservation.

1. *Poverty* - the locals argued charcoal burning was a source of income to support their families.
2. *Hunger and famine* - since the area receives little rainfall, crop farming could not fetch enough food to sustain the families, leading to forest clearance.
3. *Lack of awareness* - the locals were not aware of the biodiversity potential of their localities, how their activities were impacting on the environment, and how they can venture into nature-based sustainable economic ventures.
4. *Lack of incentives* - although they understood the importance of environmental conservation after our awareness seminars, the locals were reluctant to leave environmentally destructive activities, due to lack of alternatives.



Figure 6: Awareness seminars in the project sites

Propagation trials

The growth and propagation of African violets has been reported a challenge in continued survival and conservation initiatives. As a course of action towards African violets conservation, we sought to test different methods of propagation. We tested for both seed and leaf propagation, using different soils, resulting in different outcomes. Seed propagation was observed to be the most successful approach, as leaf propagation is delicate, took longer time (2-5 months depending on the maturity of the leaf used), and exhibited low success rate. However, both methods worked to some extent (**Figure 7**) and a larger room for propagation is required for mass propagation.



Figure 7: A representation of propagation trials conducted on African violets. A Leaf propagation in polythene tight plastic dishes; B, the leaves sprouting; C, the leaves after successful propagation; D & E, Seed propagation; and F, Mature African violets in the propagation room.

Conclusion

In conclusion, to conserve and ensure continued survival of African violets in Kenya, we will need to upscale our efforts on several key angles; (1) local community awareness, (2) improving the ecological suitability of the habitats, and (3) intervening on the seedling's recruitment. Although this project has introduced the awareness campaign to some extent, it is important to also teach the locals on alternative sources of livelihoods suitable in the area, reducing pressure on African violet habitats. Further, since the populations are drying and affecting the ecological requirements for African violets, intensive tree planting exercises in the populations need to be done in subsequent conservation

projects. For instance, the seedling recruitment of African violets in the area was observed to be high. However, very few seedlings/juveniles survive after the rainy seasons, due to the dry conditions. Therefore, on this project, we harvested some seedlings and transferred them into a propagation center where we are nurturing them, with the hope of taking them back to the wild once the habitat is healthy.