

Project update: January, 2025



Background

Dombeya ledermannii is a rare plant species found only in Nigeria (the Jos-Plateau and Mambilla-Plateau) and Cameroon (the Bamenda Highlands). It is critically endangered (CR) globally due to habitat loss and overexploitation for bast fibre (Cheek and Pollard 2000; Borokini, 2014). These threats are compounded by lack of knowledge of the plant ecology (local and scientific knowledge). For effective conservation intervention, knowledge of its ecology at small and large scale and awareness on the threats to the species are essential. This work is therefore driven by the need for information on the ecology of *D. ledermannii* needed for its immediate and long-term conservation and urgent conservation intervention/action for the species. This project is carried out in Amurum Forest Reserve (AFR) in one of *D. ledermannii* range of occurrence in Nigeria; the Jos Plateau. Preliminary field observation identified fire outbreak as a factor impeding the establishment of wildlings in AFR and fire outbreak and cutting as a factor impeding regeneration of wildlings from harvested adults around AFR. This project therefore aims to provide information on the ecology of *D. ledermannii* and create awareness on the threats (both global and local; cutting and bush burning) facing the species while training field assistance and community volunteers (mainly Laminga community members farming around AFR) on monitoring of wildlings, in and around AFR.

Specific Objectives

The specific objectives of this project are;

1. To map the spatial distribution and determine the population density of *D. ledermannii* in Amurum Forest Reserve (AFR), Jos Nigeria.
2. Determine the soil nutrient characteristic/requirement and floral interactions of *D. ledermannii* in AFR.
3. Create awareness on the local threats facing the species and initiate conservation actions (after training field assistance and community volunteers) to monitor the establishment and regeneration of wildlings, in and around AFR respectively.

The objectives categorized the project into three phases and are carried out following the order listed above. However, we will be carrying out the awareness campaign and training part of objective 3 at the same period with soil collection. This is to start monitoring in January 2025 after knowing the distribution of *D. ledermannii* in AFR (Objective 1).

Table 1: Timeline of overall project activities

Note: the change in the project proposed date to the present date (working date) is because the grant was awarded in June, 2024, fund was received by my affiliate Institute in August 2024 and I received the fund from the institute by September 2024.

S/N	Activity	Proposed date	Working date	Status/Output
1	Meeting with APLORI management, head of Laminga community, community members farming around AFR and purchase of required field equipment	1 week: 1 st to 7 th March, 2024	1 week: 23 rd - 29 th September, 2024	Done: The APLORI management and Laminga community gave approval to start the project. We purchased all required equipment.
2	Field work for mapping the spatial distribution and determination of population density of <i>D. ledermannii</i> in AFR	3 months: 2 nd week of March 2024 to 2 nd week of June 2024	3 months: 1 st October, 2024 to 20 th December, 2024	Done: we now have GPS coordinates of <i>D. ledermannii</i> for mapping spatial distribution in AFR.
3	Field work for the collection of soil samples for laboratory analysis, and determination of floral interactions of <i>D. ledermannii</i> in AFR	2 months: 3 rd week of June to 3 rd week of August, 2024	2 months: 13 th January, 2025 to 13 th March, 2025	Upcoming
4	Conservation awareness on the local threats facing the species and initiation of conservation actions to monitor the establishment and regeneration of wildlings, in and around AFR respectively	1 year: June 2024 to June 2025	1 year: January 2025 to December 2025	Upcoming: training of field assistance and community members on monitoring protocols will be carried out in January and monitoring will commence immediately lasting till December, 2025

Update of activities carried out.

The activities carried out so far are for starting the project and achieving the objective 1 of the project; mapping the spatial distribution and determine the population density of *D. ledermannii* in Amurum Forest Reserve, Jos Nigeria.

Method used

We generated 50 random plots of 100 m X 100 m within AFR in ArcGIS. In each plot, we surveyed and count the number of wildlings and adult of *D. ledermannii* and took the geographical coordinate of each located individual (both wildlings and adults) to produce a heat map of the spatial distribution of *D. ledermannii* in ArcGIS. To determine the population density of wildlings and adult in AFR, we will divide the total number of *D. ledermannii* (wildlings and adults) by the total area surveyed.

Results of field work for objective 1

Based on absolute survey of the entire Amurum Forest Reserve in addition to the generated plot, we recorded 115 adults *D. ledermannii* and 66 wildlings. We are yet to create the heat map of the spatial distribution of *D. ledermannii* in ArcGIS.



Figure 1: Team member in discussion with a land owner (farmer) in his farmland around Amurum Forest Reserve, Nigeria, © John



Figure 2: Team member taking GPS coordinate of a *Dombeya ledermannii* wildling in Amurum forest Reserve, Nigeria, during a survey © Glory



Figure 3: *Dombeya ledermannii* wildlings encountered in Amurum forest Reserve, Nigeria, during filed survey © Simon



Figure 4: Team member taking records of counts of *Dombeya ledermannii* wildlings and adults in Amurum forest Reserve, Nigeria, during filed survey © Simon



Figure 5: Regenerating stumps of *Dombeya ledermannii* adults encountered around Amurum forest Reserve, Nigeria, during filed survey © Simon

References

- Borokini, T. I. (2014). A systematic compilation of IUCN red-listed threatened plant species in Nigeria. *International Journal of Environmental Sciences*, 3(3), 104-133.
- Cheek, M. and Pollard, B.J. (2000). *Dombeya ledermannii*. The IUCN Red List of Threatened Species 2000: Cheek, M.; Pollard, B.J. (2000). e.T39747A10262363. [doi:10.2305/IUCN.UK.2000.RLTS.T39747A10262363.e](https://doi.org/10.2305/IUCN.UK.2000.RLTS.T39747A10262363.e)
[n](#)