# Final Evaluation Report

| Your Details | |
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| **Full Name** | Mary Ann Cortez Bautista |
| **Project Title** | Addressing the knowledge gaps on the taxonomy, distribution, population, and conservation status of *Psychotria* species in Palawan, Philippines |
| **Application ID** | 30133-1 |
| **Date of this Report** | April 3, 2023 |

**1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.**

| Objective | Not achieved | Partially achieved | Fully achieved | Comments |
|---|---|---|---|---|
| Provide a list of the remaining *Psychotria* (including their conservation status) in Palawan, Philippines | | | ■ | Species distribution modelling was used to determine the extent of occurrence (EOO) of some species but for those species with restricted distribution and low occurrence records, EOO calculator was used for the preliminary conservation status assessment. |
| Give an overview of the extinction threat for *Psychotria* species in Palawan, Philippines | | ■ | | Since the project sites were severely damaged by the typhoon, the decline in the number of individuals cannot be clearly attributed to either anthropogenic or natural threats alone. |
| Determine those species of *Psychotria* in Palawan which conservation effort is seriously needed, for instance identifying species for in situ and ex-situ conservation | | | ■ | Low elevation *Psychotria* needs serious conservation effort, as most of the lowland forests (not included in the protected areas) were converted to croplands due to slash-and-burn agriculture. |
| DNA barcode the remaining *Psychotria* in Palawan, Philippines | | | ■ | First batch of samples was already sequenced. Recently collected samples will be sent for additional sequences. |
| Provide taxonomic descriptions of the *Psychotria* species in Palawan, Philippines | | | ■ | Most species of *Psychotria* recorded in the high elevation areas were undescribed (new species). Voucher specimens with reproductive parts were examined and measured to properly describe the species. |

**2. Describe the three most important outcomes of your project.**

After implementing the project for one year, we were able to record and list *Psychotria* species from low-elevation to high-elevation forests in Palawan. Most of the high elevation *Psychotria* were newly recorded as the survey in the past focused more on the low to mid-elevation forests. Descriptions and preliminary conservation status of these newly recorded species are being drafted. The samples were also sent for molecular sequencing and will be deposited in the GenBank as references. This will aid in the identification and conservation of *Psychotria* species in the Philippines. In addition to listing, describing, sequencing, and assessing the

*Psychotria* species, local communities, and indigenous people were also involved in surveying the areas and propagating the plants. The indigenous people in Palawan greatly assisted in the survey and resurveying the areas a year after the typhoon while a community organization named PUNLA assisted in the trial propagation of *Psychotria* species through seeds and wildlings for ex-situ conservation. *Psychotria* species can be propagated through wildlings and seedlings, but success rate was higher in wildlings.

**3. Explain any unforeseen difficulties that arose during the project and how these were tackled.**

The COVID-19 pandemic delayed the commencement of the project and the permissions necessary to conduct field activities were hampered by the community quarantines. Upon lowering the restrictions, the project site was hit by a Category 5 typhoon. The typhoon damaged about 60% of the forested areas in central and northern Palawan. Trees were either defoliated or uprooted, crushing the understorey vegetation (like *Psychotria*) underneath the canopy layer. With this post-disaster scenario, conducting fieldwork was extremely challenging as the trails were hardly accessible and canopy gaps resulted in higher ground temperatures during daytime. Most of the recorded individuals in the central and northern parts of Palawan were also not flowering due to the stress brought by the typhoon. The large canopy openings exposed the common understory plants like *Psychotria* to direct sunlight. With the help of the Puerto Princesa Subterranean River National Park (PPSRNP) Protected Area Management Office (PAMO) and indigenous people, several surveys were conducted (together with the post-disaster assessments) in central and northern Palawan. The local university (Palawan State University) and a local NGO (Philippine Taxonomic Initiative, Inc.) also assist in conducting field activities in other areas in the South with intact vegetation.

**4. Describe the involvement of local communities and how they have benefitted from the project.**

Local communities were engaged during the field activities and trial propagation. The indigenous people (Tagbanua, Batac, Palaw'an tribes) assisted during the conduct of field activities. They learned how to recognise inconspicuous species like *Psychotria* and the reason why we need to conserve them. They serve as guides in forested areas. The field activities for this project were included in the post-disaster assessment after the typhoon and revealed the extent of damage and conservation needs not only in *Psychotria* species but for other vegetation. The local communities, indigenous people, and protected area management officers who participated in the field survey had an actual observation of the current conditions of their forest. Moreover, a community organisation assists in the trial propagation of *Psychotria* species. The successfully grown seedlings can be used for the restoration activities needed after the typhoon.

**5. Are there any plans to continue this work?**

The work is still preliminary, and we are planning to continue working on *Psychotria*. We will participate in the upcoming ground validation surveys to check the post-

disaster recovery of the forested areas, which involves surveying the *Psychotria* species. In the future, we are also planning to assess the *Psychotria* species on isolated islands of Palawan so we can have a more comprehensive view of the extent of occurrence and better data for conservation assessments. Trial propagation will continue, and we are hoping to include the *Psychotria* seedlings in rewilding and restoration activities.

**6. How do you plan to share the results of your work with others?**

We are drafting some papers to share the results with the scientific community, and we are also planning to present at national and local conferences. The results of the study will be presented to the Protected Area Management Board (PAMB), which might contribute to the management plans for various flora and fauna in the protected area. After translating the results to 'digestible' infographics, results can be presented to indigenous people and various local communities in Palawan.

**7. Looking ahead, what do you feel are the important next steps?**

It is urgent to finalise the results of the project and share them with the communities and stakeholders. Presenting the result to the community members and other stakeholders is important in engaging them in various conservation activities. It is also essential to conduct follow-up assessments or monitoring activities to check whether the *Psychotria* species recovered after the extreme natural (typhoon) and anthropogenic (slash-and-burn agriculture) disturbance.

**8. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?**

The foundation logo was used in all presentations involved in the project. For instance, the project was presented at Palawan State University during their seminar series and all the materials and infographics used have the Rufford logo. Presentations in the protected area management board (PAMB) highlighted The Rufford Foundation. All incoming presentations have Rufford logos as well.

**9. Provide a full list of all the members of your team and their role in the project.**

**Mary Ann C. Bautista –** Project Lead, responsible for project management, coordination, and overall data analysis.

**John Lister Bibar –** Responsible for mapping the distribution and photo documentation of Psychotria species.

**Melissa Pecundo –** Responsible for DNA extraction and sequencing of collected Psychotria samples.
**Jhonny Wyne Edano –** Assist in permit acquisition and species distribution modelling.

**Jennica Paula Masigan –** Provides technical assistance in population estimates of indicator species.

**Augusto Araniel Asis Jr. –** Responsible in field collection and specimen pressing.

**Bibem Jala –** Assist in field collection and geo-tagging of Psychotria species.

**Raffy Mark Failon -** Assist in field collection and geo-tagging of Psychotria species.

**10. Any other comments?**