

DAVIS EXPEDITION FUND

REPORT ON EXPEDITION / PROJECT

Expedition/Project Title:	Systematics and biogeography of <i>Cyrtandra</i> (Gesneriaceae) in Sumatra, Indonesia
Travel Dates:	01 October -14 November 2024
Location:	Gunung Leuser National Park and Karo Regency, North Sumatra – Indonesia
Group Members:	Syadwina H Dalimunthe; Abdulrokhman Kartonegoro (Research Center for Biosystematics and Evolution – BRIN); Yusran Efendi Ritonga (Independent Researcher); Annajmi Tajriani (State University of Medan); Muammar (State University of Medan)
Aims:	To collect key samples for taxonomic revisionary and phylogenetic work on <i>Cyrtandra</i> in Sumatra for my PhD; to provide herbarium collections for E, BO and Sumatran herbaria from under-collected areas to support ongoing work on the genus; to foster multi-institute collaboration and strengthen links between Indonesia and the United Kingdom to facilitate research on the large genus <i>Cyrtandra</i> in Sumatra and elsewhere in Southeast Asia

Photography consent form attached: Yes
(please refer to your award letter) No

Outcome (a minimum of 500 words):-

The primary aim of this fieldwork was to provide samples for my PhD on the Systematics and biogeography of *Cyrtandra* (Gesneriaceae) in Sumatra, Indonesia, and specifically from the under collected areas of North Sumatra which are a focus of this study. These included Gunung Leuser National Park at altitudes below 10 m asl and Karo Regency, North Sumatra to sample higher altitude (1600 m asl) plants. A total of 10 sites were visited and multiple collections were made at these sites (Figure 1).

Several days were spent finalising the relevant paperwork on arrival to ensure we had all the relevant permits. I collaborated with Abdulrokhman Kartonegoro (Research Center for Biosystematics and Evolution – BRIN), Yusran Efendi Ritonga (Independent Researcher), Annajmi Tajriani (State University of Medan), Muammar (State University of Medan) as the permanent member of each travel. As per the National Park and Conservation Area Authority regulation, we were guided by 2-5 people at every research site (Table 1). Different vehicles, such as boats, minibuses, off-road vehicles and motorcycles were provided due to the remote and difficult research site area.

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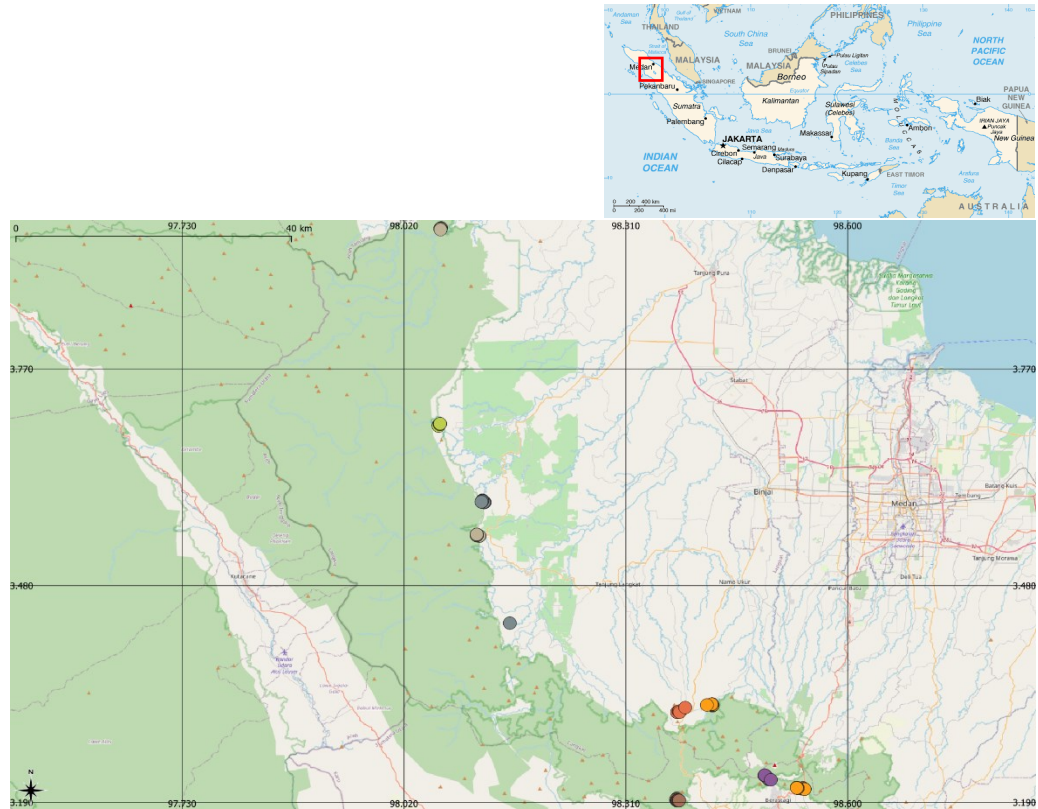


Figure 1. Research sites in Gunung Leuser National Park and Karo Regency, North Sumatra, Indonesia

Table 1. Research schedule and fieldwork locations

Gunung Leuser National Park		Karo Regency	
Date	Location	Date	Location
01-Oct-24	Medan – Simolap	04-Nov-24	Medan - Sibolangit Nature Reserve
02-Oct-24		05-Nov-24	
03-Oct-24		06-Nov-24	
04-Oct-24	Batu Katak	07-Nov-24	Bukit Barisan Forest Park
05-Oct-24		08-Nov-24	
06-Oct-24		09-Nov-24	
07-Oct-24	Bukit Lawang	10-Nov-24	Mt. Sibayak
08-Oct-24		11-Nov-24	
09-Oct-24		12-Nov-24	Deleng Lancuk Nature Park
10-Oct-24	Tangkahan	13-Nov-24	
11-Oct-24		14-Nov-24	Telagah
12-Oct-24		15-Nov-24	
13-Oct-24	Sikundur	16-Nov-24	Return To Medan
14-Oct-24			
15-Oct-24			
16-Oct-24	Return to Medan		

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An abundance of *Cyrtandra* including suspected new species were collected (Figure 2). A total of 288 herbarium and silica collection numbers were gathered (Table 2). The result of the research collection is a set of herbarium specimens, focusing on *Cyrtandra*. The top set will be left in the Herbarium Bogoriense in West Java, with duplicates to be distributed to relevant Sumatran herbaria, Edinburgh, Kew and other international herbaria with an interest in SE Asia.

The final output will be a series of papers covering the phylogeny, biogeography and systematics of the *Cyrtandra* of Sumatra as well as those describing a number of species new to science. In addition to scientific papers, the research will also be communicated at international conferences such as Flora Malesiana 12, which will take place in Papua in June 2025. This research will form part of a wider project on *Cyrtandra* and be disseminated through the developing *Cyrtandra* Resource Centre (CRC). This work enhances collaboration between the Research Center for Biosystematics and Evolution, (BRIN – Indonesia), The University of Edinburgh (UoE), Royal Botanic Gardens of Edinburgh (RBGE) and Royal Botanic Gardens of Kew (RBGK).

Table 2. *Cyrtandra* spp. collection during the fieldwork

Species	Total number of specimens
<i>Cyrtandra bicolor</i> Jack	26
<i>Cyrtandra</i> cf. <i>carnosa</i> Miq.	3
<i>Cyrtandra</i> cf. <i>oblongifolia</i> (Blume) Benth. & Hook.f. ex C.B.Clarke	8
<i>Cyrtandra</i> cf. <i>rubriflora</i> P.E.Sm. & H.J.Atkins	4
<i>Cyrtandra dispar</i> DC.	25
<i>Cyrtandra</i> cf. <i>macrophylla</i> Jack	1
<i>Cyrtandra pandurata</i> Ridl.	3
<i>Cyrtandra pauciflora</i> Ridl.	25
<i>Cyrtandra pendula</i> Blume	21
<i>Cyrtandra rubriflora</i> P.E.Sm. & H.J.Atkins	3
<i>Cyrtandra</i> sp. 1.	14
<i>Cyrtandra</i> sp. 2.	12
<i>Cyrtandra</i> sp. 3.	14
<i>Cyrtandra</i> sp. 4.	10
<i>Cyrtandra</i> sp. 5.	20
<i>Cyrtandra</i> sp. 6.	13
<i>Cyrtandra</i> sp. 7.	12
<i>Cyrtandra</i> sp. 8.	9
<i>Cyrtandra</i> sp. 9.	4
<i>Cyrtandra</i> sp. 10.	13
<i>Cyrtandra</i> sp. 11.	11
<i>Cyrtandra</i> sp. 12.	21

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The regulation from Indonesia for material transfer to foreign countries requires that all collections are accompanied by a Material Transfer Agreement (MTA) - Working Collections, Shipping Invoices and Certification by Material Transfer Commission - BRIN. At this time, the MTA for the *Cyrtandra* collections from this fieldwork is still in process and shipping of the collections to the UK is not complete.

Full details of expenditure are included with the report (see the attachment). Some unexpected costs were incurred due to the requirement for a higher number of guides in some locations and the increase in the overall number of localities visited. Unfortunately, the research permit for the original expedition member, Dr Hannah Atkins from RBGE, was not ready by the time of the planned trip. As discussed with Convenor of the Davis Expedition Fund Committee, these costs were transferred to the general budget to ensure that experienced researchers were present on the expedition at all times.

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Figure 2. Collection of *Cyrtandra* spp. A. *Cyrtandra bicolor*; B. *Cyrtandra pendula*; C. *Cyrtandra* cf. *carnosa*; D. *Cyrtandra rubriflora*; E. *Cyrtandra dispar*; F-G. *Cyrtandra pauciflora*; H. *Cyrtandra pandurata*; I. *Cyrtandra* cf. *oblongifolia*

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Figure 3. Research location and activities during the fieldwork