

Name	Counterpart	Title
Sri S. Tjitrosoedirdjo, Dirga S. Pradana, Mei Linda Mardalena, Harry Imantho	B06	The development of database of plant specimen collected from core plots of EFForTS

Research summary

Starting in Phase 1 (2012) of EFForTS, B06 collected plant specimen (trees, shrubs, herbs) in the core plots of the project. The collected specimens were sent and processed into herbarium specimens at SEAMEO BIOTROP Herbarium (BIOT) Bogor. The process included mounting, labelling, identification, specimen picture capture, and transferring and compiling the data into an Excel file. Up to now, about 10,200 plant specimen have been collected and identified. Herbarium specimen were deposited in different herbaria in Indonesia (Herbarium Bogoriense (BO), Herbarium UNJA, SEAMEO BIOTROP Herbarium (BIOT), and in Germany (Göttingen University Herbarium (GOET)). These specimens are voucher specimen that are used by the students and researchers. They contribute to a better understanding of the flora of Jambi, Sumatra.

The objectives of the study was to develop a database to collate and organize the information on the flora of Jambi, and to make it available to students, researchers and the public.

The database was created by MySQL program, using the Excel file of the collected specimen (Fig. 1). The Excel file contains data on the herbarium specimens including families, genera, species, photos of the herbarium specimens, location, collectors, date of the collection or information where duplicates have been sent to (Fig. 2).

No2	Coll numb	Coll. Name	duplicate	sheet	Herbarium	Species	Family	Genus
1	AW0001	Arne Wenzel			UNJA	<i>Nephrolepis acutifolia</i>	Nephrolepidaceae	Nephrolepis
2	AW0006	Arne Wenzel			BIOT	<i>Drynaria quercifolia</i>	Polypodiaceae	Drynaria
3	AW0007	Arne Wenzel			BIOT	<i>Drynaria quercifolia</i>	Polypodiaceae	Drynaria
4	AW0008	Arne Wenzel			BIOT	<i>Pyrrosia piloselloides</i>	Polypodiaceae	Pyrrosia
5	AW0009	Arne Wenzel			UNJA	<i>Pyrrosia lanceolata</i>	Polypodiaceae	Pyrrosia
6	AW0010	Arne Wenzel			BIOT	<i>Drynaria quercifolia</i>	Polypodiaceae	Drynaria
7	AW0011	Arne Wenzel			UNJA	<i>Asplenium nidus</i>	Aspleniaceae	Asplenium
8	AW0012	Arne Wenzel			GOET	<i>Asplenium nidus</i>	Aspleniaceae	Asplenium
9	AW0013	Arne Wenzel			GOET	<i>Vittaria ensiformis</i>	Vittariaceae	Vittaria
10	AW0014	Arne Wenzel			BO	<i>Davallia denticulata</i>	Davalliaceae	Davallia
11	AW0015	Arne Wenzel			BIOT	<i>Dendrobium leonis</i>	Orchidaceae	Dendrobium
12	AW0016	Arne Wenzel			BIOT	<i>Pyrrosia longifolia</i>	Polypodiaceae	Pyrrosia
13	AW0017	Arne Wenzel			UNJA	<i>Drynaria quercifolia</i>	Polypodiaceae	Drynaria
14	AW0022	Arne Wenzel			BO	<i>Monogramma sp.</i>	Vittariaceae	Monogramma
15	AW0025	Arne Wenzel			BIOT	<i>Pyrrosia lanceolata</i>	Polypodiaceae	Pyrrosia
16	AW0026	Arne Wenzel			GOET	<i>Pyrrosia lanceolata</i>	Polypodiaceae	Pyrrosia
17	AW0029	Arne Wenzel			BO	<i>Vittaria elongata</i>	Vittariaceae	Vittaria
18	AW0030	Arne Wenzel			BO	<i>Thelasis sp. 1</i>	Orchidaceae	Thelasis
19	AW0031	Arne Wenzel			UNJA	<i>Acriopsis liliifolia</i>	Orchidaceae	Acriopsis
20	AW0032	Arne Wenzel			UNJA	<i>Polypodiaceae sp. 1</i>	Polypodiaceae	Polypodia
21	AW0033	Arne Wenzel			UNJA	<i>Vittaria ensiformis</i>	Vittariaceae	Vittaria
22	AW0035	Arne Wenzel			BIOT	<i>Microsorium punctatum</i>	Polypodiaceae	Microsorium
23	AW0036	Arne Wenzel			BIOT	<i>Asplenium nidus</i>	Aspleniaceae	Asplenium
24	AW0039	Arne Wenzel			UNJA	<i>Phymatosorus scolopendria</i>	Polypodiaceae	Phymatosorus

Figure 1. Excel file containing data of the herbarium specimens.

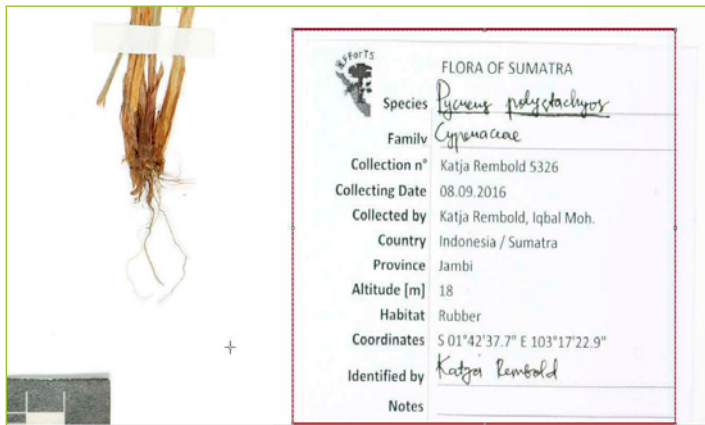


Figure 2. An example of the specimen image after opening by paintbrush.

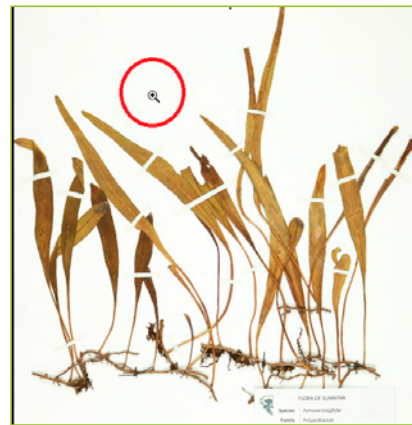


Figure 3. The results of enlarging the photo.

During the development of the database, the website of SEAMEO BIOTROP was used temporarily and will be transferred to the CRC 990-EFForTS website.

The prototype was tested by numerous researchers from Göttingen, Biotrop and MSIB (Magang dan Studi Independen Bersertifikat, Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi Indonesia). A user Manual has been developed. The final database will be included in the Darwin core (<https://dwc.tdwg.org>) and GBIF (Global Biodiversity Information Facility). Further ideas are to include the herbarium specimen from Biotrop as well into the database. Suggestion for improvement of the database are: 1) Photo specimens should be completed for all numbers of the specimens, 2) some special terms are not familiar for the layman or users, it is necessary to include equivalent general terms, 3) the symbol for the location of the specimen on the distribution map is not clearly visible, 4) addition of an interactive feature on the map menu for more specific species, genera, and families will be helpful and more interesting, and 5) specimen collected by Indonesian collectors could be added to the database.