

Final report

Expedition to Sumatra

30 May – 15 July 2011

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Introduction and objectives

Sumatra is part of the Sunda Islands, in the Western part of Indonesia. Located right across the equator, Sumatra hosts a highly diverse flora. This appears to have originated both locally and overseas and to have profusely speciated across the island, especially along the Barisan Range, thanks to the variety of geological and climatic factors present.

The aim of this expedition was to collect specimens of the herbaceous flora focusing on Gesneriaceae, *Begonia* (Begoniaceae) and Zingiberaceae. Accompanied by Dr Mark Hughes (Royal Botanic Garden Edinburgh), our counterparts Deden Girmansyah (Herbarium Bogoriense), Wisnu Ardi Handoyo (Kebun Raya Bogor) and Nurainas (Universiti Andalas Herbarium), and local guides and students, I have visited several localities in the provinces of Sumatera Barat, Bengkulu and Sumatera Utara (figure 1).

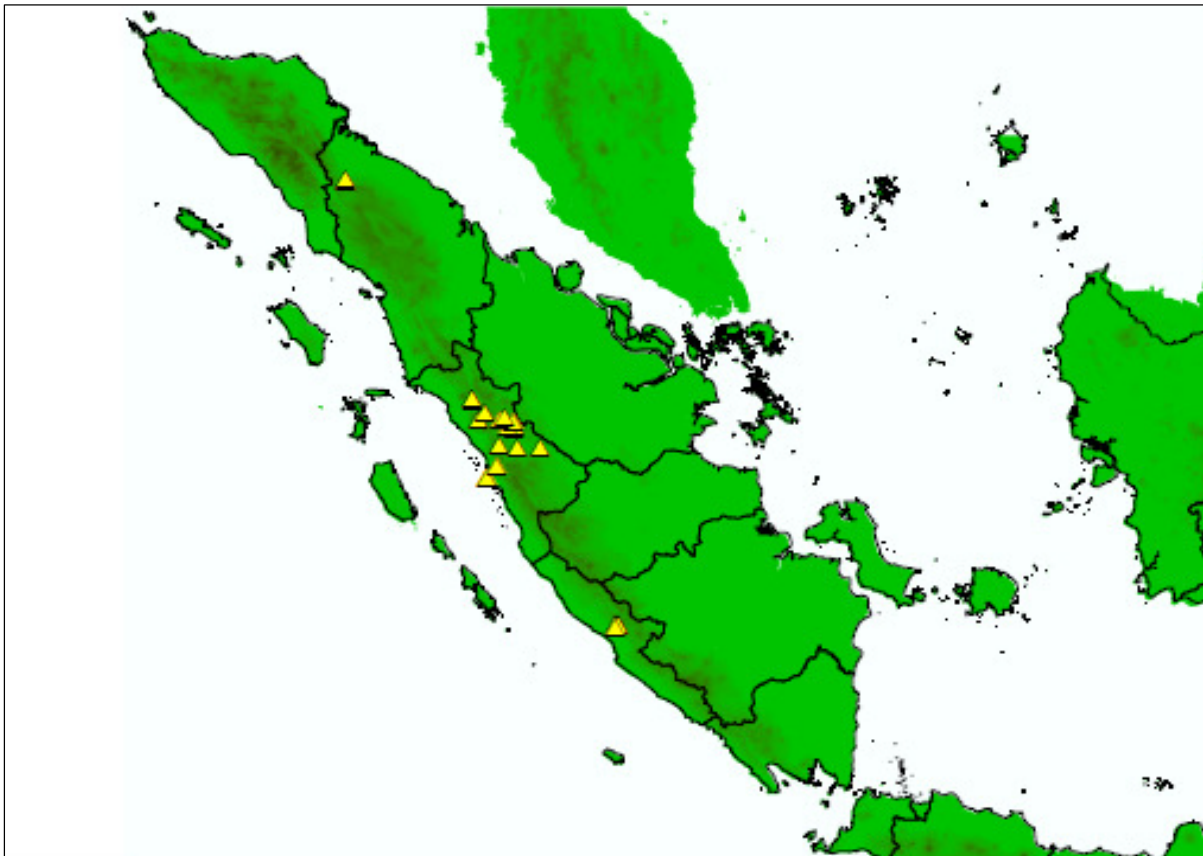


Figure 1. Collection localities.

Collection targets

Gesneriaceae. The Gesneriaceae are a rather large family with an estimated 3500 species in 140-150 genera, distributed mostly in the tropics and subtropics, but with some excursions into the temperate areas of both hemispheres. In Sumatra there are about 150 species in 17 genera, although this is certainly an underestimation due to the low collection density over much of the island. Many of the genera found in Sumatra are horticulturally significant. Other groups need to be re-circumscribed and the acquisition of material from the Indonesian archipelago is essential to resolve their taxonomy and phylogeny. This is the case of the genus *Paraboea*, the main research focus of my PhD project at the Royal Botanic Garden Edinburgh and the University of Edinburgh.

Begonia. *Begonia* is one of the largest angiosperm genera, at 1400 species. Indonesia has 151 known species, with over a third of these (56) occurring on Sumatra, most being endemic. However, examination of herbarium collections shows that this is likely to be an underestimate of around 50%. (Information provided by M. Hughes, Royal Botanic Garden Edinburgh).

Zingiberaceae. The family Zingiberaceae counts over 1200 species in 53 genera across the tropics. In Sumatra there are at least 17 genera with over 82 species. The most specious genera found in the island are *Etilingera*, *Alpinia*, *Amomum*, *Globba* and *Zingiber*. Many Zingiberaceae are used as medicines or spices, the most common of all being ginger. Although SE Asia is the centre of endemism for the family, little is known of it. The lack of collections is probably due to the typical structure of the plants, with thick, fleshy inflorescences and long vegetative stems (Figure 2). Such plant body causes collections to be of poor quality and rather difficult to process. (Information provided by J. Droop, Royal Botanic Garden Edinburgh).

Counterparts

As required by the Indonesian Government, we were guided by the following counterparts:

Deden Girmansyah (deden_bo@yahoo.com)
Herbarium Bogoriense
Botany Division, Research Centre for Biology - LIPI
Cibinong Science Center
Cibinong 16911
Jawa

Wisnu Handoyo (prabu_samiaji@yahoo.com)
Kebun Raya Bogor
Botany Division, Research Centre for Biology - LIPI
Cibinong Science Center
Cibinong 16911
Jawa

Nurainas (nas_herb@yahoo.com)
Nana Hernawati
Jurusan Biologi FMIPA
Kampus Limau Manis
Universiti Andalas
Padang
Sumatra

Visa and permits

Applications for visa and permits were submitted long before starting field work. At that stage a research proposal, agreed with LIPI (Indonesian Institute of Sciences), our counterpart institution, was required by both the Indonesian Embassy in London and RISTEK (State Minister for Research and Technology). Once in Jakarta, like all foreign researchers, we reported to RISTEK, Police HQ, Home Affairs Department, Immigration Office and Forestry Department. They all provided the necessary permits and approvals we needed for the Government Office and Police HQ in each of the Sumatran provinces we visited. In Sumatra we also contacted the herbaria in Padang, Bengkulu and Medan and the local Forestry Departments, in order to get logistic support and advice from those who know well the territory. Locally, we sought permission from the head of the village.

Localities

Prior to departure we were granted permission to collect in the following localities:

Nanggroe Aceh Darussalam: Taman Nasional Gunung Leuser.

Sumatera Utara: Taman Nasional Gunung Leuser (including Sikundur Forest Reserve), Tapanuli Selatan, Tapanuli Utara.

Sumatera Barat: Taman Nasional Kerinci Seblat, Batang Pangean Nature Reserve, Gunung Merapi, Gunung Sago, Gunung Singgalang Protection Forest, Lembah Harau Nature Reserve, Danau Maninjau, Melampah Alahan Panjang, Rimbo Panti, Pulau Pegang, Payakumbuh environs, Bukittinggi environs.

Jambi: Taman Nasional Kerinci Seblat, Taman Nasional Bukit Tiga Puluh, Taman Nasional Bukit Duabelas.

Bengkulu: Taman Nasional Kerinci Seblat, Taman Nasional Bukit Barisan Selatan, Bukit Daun Protection Forest, Bukit Hitam Protection Forest.

We applied for access to a much greater number of localities than practically feasible because we wanted to allow for flexibility in case of disruption or change of itinerary. In fact, our planned itinerary changed several times following the advices of local researchers and villagers. This was, for example, the case in Kerinci Seblat, where we decided not to go after being told about recent sightings of Sumatran tigers in the outskirts of the park.

Schedule

30 May: Arrive in Jakarta, processing research permits

12 June: Fly to Padang and arrange local guides

14 - 15 June: Collect on Pulau Pagang

16 - 17 June: Collect in Bukit Karang Putih

18 June: Collect in Maninjau area

19 June: Collect in Batang Sinamar

20 June: Collect in Malampah region

21 June: Collect in Lubuk Sikaping region

22 June: Collect in Bukit Gagoan

23 June: Collect in Sijunjung vicinity

24 June: Collect in Solok Ambar

25 - 28 June: Drive to Bengkulu and Kemumu

29 June – 3 July: Collect in Gunung Kemumu

4 - 8 July: Fly to Medan and arrange local guides

9 - 12 July: Collect in Simolap, Gunung Leuser NP

13 - 15 July: Send specimens to Cibinong and exit Indonesia

Collections

Field days

On every “field day” we set off to a different locality, with few exceptions when we needed to return to a place to proceed further into the forest. Localities were chosen between those covered by the permit, according to accessibility, weather forecast and the type of habitat. The typical collecting day would run from 8am to 5pm, with the rest of the day spent recording and pressing the specimens (see below) and often driving to the next locality.

Collections

We collected 5 types of material: herbarium specimens, silica dried leaves, seeds, cuttings and spirit samples. In most cases collections were accompanied by photos too. All collections consist of at least one herbarium specimen, although we normally collected at least 3 duplicates to distribute to the Herbarium Bogoriense (BO), the Royal Botanic Garden Edinburgh Herbarium (E) and any other interested herbarium. The supplementary material (silica gel, etc.) was taken for our target taxa only.

To make herbarium specimens we collected fertile plants (or parts of plants, according to the size), i.e. flowering and/or fruiting individuals. This makes the plant fully represented and more easily identifiable. For dry samples in silica gel we picked young, healthy leaves which provide better quality DNA and less fungal contamination. Cuttings were made from healthy stems and spirit material included flowers, fruit and leaves, according to availability and size. Spirit collections and cuttings are particularly important elements of the Zingiberaceae collection, given the poor morphological resolution of the herbarium specimens.



Figure 2: Wisnu collecting Zingiberaceae

Processing collections

At the end of each day, plants for herbarium specimens were arranged on newspaper sheets and pressed overnight. The following day they were put in a sealed plastic bag, damp with 70% alcohol to prevent rot. Whenever possible, we posted these parcels to Bogor to be appropriately dried at the herbarium. Leaves in silica gel were stored in a sealed container to protect them from humidity.

Seeds were put in paper envelopes and kept out of humidity, too. Samples in spirit were kept in zip lock bags or plastic bottles with 70% alcohol. Cuttings were wrapped in paper and kept inside plastic containers until posted to the Kebun Raya Bogor. While processing,

specimens were labelled and recorded in the collection book, where additional information gathered in the field, such as plant description, habitat, locality and GPS coordinates, were added.

What happened to our collections after fieldwork?

While seeds and silica gel samples were taken to the UK upon our return to the country, the remaining material was sent to Bogor for processing. Cuttings have been potted at the Kebun Raya Bogor where Wisnu Ardi Handoyo, one of our counterparts and collaborators, is looking after them. Some of them are already flowering. New, healthy cuttings will be made and posted to the Royal Botanic Garden Edinburgh at a later stage.

Herbarium specimens were dried in Bogor, at the herbarium. The main set of duplicates was retained by the BO herbarium as agreed, while the rest was sent to us in E. The specimens have now been sorted taxonomically, labelled and passed to the specialists for identification. The extra duplicates will be sent to collaborators in other institutions, according to their taxa of interest. Similarly, the silica gel samples, which were collected in 2 duplicates, have been divided into a set for researchers based in Edinburgh and a set for collaborators in Indonesia. Seeds have been sown in appropriate substrates; with a bit of luck they will germinate and grow at the Royal Botanic Garden Edinburgh. Some of the seeds were deposited in the RBGE seed bank, some kept for morphological studies and some sent to the Kebun Raya Bogor.

Outputs

A total of 255 herbarium specimens were collected (Appendix 1), mainly with a minimum of 3 duplicates. These will provide a permanent record of the Sumatran montane flora. Associated to the main herbarium collections are about 30 cuttings for the living collection of Kebun Raya Bogor, 26 seeds collections for cultivation in Kebun Raya Bogor and the Royal Botanic Garden Edinburgh, silica-dried material and alcohol samples, mostly of Gesneriaceae, Zingiberaceae and *Begonia* for phylogenetic and morphological research.

Shortly, our collection consists of 14 *Paraboea*, 35 Gesneriaceae from other genera, 43 *Begonia* and 13 Zingiberaceae, the remaining being specimens of plants from other families.

Of the *Paraboea* specimens already identified to species, *P. capitata* is a new record for Indonesia,

P. leuserensis an endemic to Gunung Leuser NP, *P. trubii* a controversial species newly recorded in Sumatera Utara and *P. paniculata* a new record for Sumatera Barat. Additionally there are a number of unidentified specimens. Between the other Gesneriaceae it is worth mentioning the variety of *Cyrtandra* species found, plus some *Didymocarpus*, *Epithema* and *Monophyllaea*.

The other main focus of this expedition was the genus *Begonia*, which is being studied by Mark Hughes. We found around 11 species of *Begonia* new to science and collected precious information about other poorly known species. The Zingiberaceae have been already passed onto the expert hands and microscopes of the RBGE Gingers group and will support their work and that of collaborators in Indonesia and Singapore.

Conclusions

The expedition to Sumatra proved very successful under many aspects. We collected a vast amount of material and strongly consolidated new and existing collaborations between the Royal Botanic Garden Edinburgh and LIPI. On a more personal side, it was a great learning experience. The only regret is not having been able to stay longer to visit more of Sumatera Utara or Aceh. This was due to time and financial constraints and I hope to go back there in the near future.

I am very grateful to Mark Hughes and our counterparts for the support they provided. Indonesia is not the easiest country to conduct research in and their help proved essential to overcome the language barrier and to go through the complex bureaucracy in place. As I understand these aspects could be an issue for other potential field biologists and as I highly recommend people to visit and study the Sumatran forests, I have written down a few tips which I hope can be of help.

Advice for prospective travellers to Sumatra

First of all, do follow all the steps indicated by the counterpart institution or the government. The amount of paperwork can seem senseless, but failing to provide any of the many permits and letters can turn into a great deal of time and money spent in Jakarta's offices rather than in the field.

As for any travel destination, it is useful and polite to learn at least few basic words in the local language. A phrasebook is essential as English is not spoken in remote places. Equally recommended is some prior knowledge of the local culture and social rules.

Within-cities public transport is easy and cheap, but it is wise checking the actual bus route with the driver beforehand. I recommend public transport while in Jakarta or major Sumatran cities. Travelling between cities can be slightly more complicate, especially in Sumatra, where infrastructures are not quite up to date. Although there are long distance coaches running across the island, we found that renting a car (with driver) was not only faster and more practical, but also not so much more expensive than public transport, considering we were a group of almost always 4 people loaded with baggage and equipment. Hiring a car also allowed for flexibility and the opportunity to stop along the way, which can mean many more collections!

We found it helpful to speak to local people, being forestry officers or villagers, who know where to find specific plants or habitats, the best trails or the right way to reach specific sites. It can be frustrating to rely on other people, but a bit of patience pays back in terms of optimising our efforts in the field. Accommodation was not a problem. There is no such thing as online booking in most of Sumatra, but thanks to our Indonesian-speaking counterparts it was easy enough to ask around and find accommodation on the spot.

Malaria is not present in most of Sumatra and mosquitoes are a nuisance only in the coastal areas. Nonetheless, I cannot highlight enough the importance of a safe field conduct. Mosquito repellent suitable for tropical areas and nets are essential, as is adequate clothing. DEET, the main component of the repellent is also very useful against leeches. Common sense and a bit of care will ensure most people a trouble-free trip.

Final budget

International flight £700

Internal flights (incl. counterparts) £220
Accommodation (incl. counterparts) £1290
Food (incl. counterparts) £525
Counterparts fee £400
Visa and permits £303
Equipment and medical supplies £60
Car hire and petrol £288
Trains, taxis, angkot (minibus) and ojek (scooter) £260
Local guides £124
Laundry £60
Postage £70
Total £4300*

* Counterparts and car costs were equally shared with Mark Hughes. The amounts reported are the 50% of the total we paid.


Funding available:

Davis Expedition Fund £3500
Royal Horticultural Society £800

Acknowledgements

This field trip was made possible by the kind contributions of the Davis Expedition Fund and the Royal Horticultural Society. My gratitude goes to Dr Mark Hughes for sharing his knowledge and experience with me and for his support throughout the trip. Our counterparts Deden Girmansyah, Wisnu Ardi Handoyo and Nurainas have been an invaluable help with the logistics. Support also came from members of staff of Universiti Andalas, Bengkulu Herbarium and Universiti Medan. All the students and local guides who joined us did a great job and made the trip successful. I also want to thank the horticulturists of the Royal Botanic Garden Edinburgh for looking after the living material we collected.

Edinburgh, 10/10/2011

A handwritten signature in blue ink, appearing to be 'C. J. ...', written over a light blue horizontal line.

Appendix 1: collection book

Coll no	Date	Collectors	Family	Name	Province	Locality
CP 33	14/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sublobata	West Sumatra	Pulau Pagang
CP 35	14/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Memecylaceae	Memecylon acuminatissimum	West Sumatra	Pulau Pagang
CP 36	14/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rutaceae	Rutaceae sp.	West Sumatra	Pulau Pagang
CP 38	15/06/11	M Hughes, D Girmansyah, Roki	Loranthaceae	Cuscuta sp.	West Sumatra	Pulau Pagang
CP 39	15/06/11	M Hughes, D Girmansyah, Roki	loranthaceae	Cuscuta sp.	West Sumatra	Pulau Pagang
CP 40	15/06/11	M Hughes, D Girmansyah, Roki		Gmelina sp.	West Sumatra	Pulau Pagang
CP 41	15/06/11	M Hughes, D Girmansyah, Roki	Euphorbiaceae	Macaranga sp.	West Sumatra	Pulau Pagang
CP 42	15/06/11	M Hughes, D Girmansyah, Roki	Theaceae	Eurya sp.	West Sumatra	Pulau Pagang
CP 43	15/06/11	M Hughes, D Girmansyah, Roki	Verbenaceae	Vitex sp.	West Sumatra	Pulau Pagang
CP 44	15/06/11	M Hughes, D Girmansyah, Roki	Theaceae	Gordonia sp.	West Sumatra	Pulau Pagang
CP 45	15/06/11	M Hughes, D Girmansyah, Roki	Rutaceae	Acromyia sp.	West Sumatra	Pulau Pagang
CP 46	15/06/11	M Hughes, D Girmansyah, Roki	Rubiaceae	Larienthus sp. (Rubiaceae)	West Sumatra	Pulau Pagang
CP 47	15/06/11	M Hughes, D Girmansyah, Roki	Euphorbiaceae	Bridelia sp. (Euphorbiaceae)	West Sumatra	Pulau Pagang
CP 48	15/06/11	M Hughes, D Girmansyah, Roki	Thymeleaceae	Daphne sp.	West Sumatra	Pulau Pagang
CP 49	15/06/11	M Hughes, D Girmansyah, Roki		Calophyllum sp.	West Sumatra	Pulau Pagang
CP 50	15/06/11	M Hughes, D Girmansyah, Roki		Rhodomyrtus sp	West Sumatra	Pulau Pagang
CP 51	15/06/11	M Hughes, D Girmansyah, Roki	Connaraceae	Ignota	West Sumatra	Pulau Pagang
CP 52	17/06/11	M Hughes, D Girmansyah, Roki	Araceae	Ignota	West Sumatra	Bukit Karang Putih, near Padang
CP 53	17/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sect. Reichenheimea	West Sumatra	Bukit Karang Putih, near Padang
CP 54	17/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea (paniculata?)	West Sumatra	Bukit Karang Putih, near Padang
CP 55	17/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea capitata?	West Sumatra	Bukit Karang Putih, near Padang
CP 56	17/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Urticaceae	Elatostemma sp.	West Sumatra	Bukit Karang Putih, near Padang
CP 57	17/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sect. Reichenheimea	West Sumatra	Bukit Karang Putih, near Padang
CP 58	18/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Rhynchoglossum	West Sumatra	Jorong Gasang, waterfall near Lake Maninjau
CP 59	18/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp.	West Sumatra	Jorong Gasang, waterfall near Lake Maninjau
CP 60	18/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Jorong Gasang, waterfall near Lake Maninjau
CP 61	18/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Epithema sp.	West Sumatra	Jorong Gasang, waterfall near Lake Maninjau
CP 62	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Sungayang
CP 63	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia longifolia	West Sumatra	Sungayang
CP 64	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea sp.	West Sumatra	Batang Sinamar
CP 65	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Didymocarpus sp.	West Sumatra	Batang Sinamar
CP 66	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp nov	West Sumatra	Batang Sinamar
CP 67	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp nov	West Sumatra	Gunung Batu Kuda
CP 68	19/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Sapindaceae or Meliaceae	Ignota	West Sumatra	Gunung Batu Kuda

CP 69	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	On road to Melampah
CP 70	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Rhynchoglossum	West Sumatra	On road to Melampah
CP 71	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sect. Bracteibegonia	West Sumatra	On road to Melampah
CP 72	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia pasamanensis	West Sumatra	On road to Melampah
CP 73	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Ignota	Ignota	West Sumatra	Forest in Lembah Malampah
CP 74	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rubiaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 75	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rubiaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 76	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Forest in Lembah Malampah
CP 77	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Forest in Lembah Malampah
CP 78	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sect. Bracteibegonia	West Sumatra	Forest in Lembah Malampah
CP 79	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Forest in Lembah Malampah
CP 80	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Forest in Lembah Malampah
CP 81	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	(Cyrtandra?)	West Sumatra	Forest in Lembah Malampah
CP 82	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 83	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 84	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp	West Sumatra	Forest in Lembah Malampah
CP 85	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Zingiberaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 86	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Balsaminaceae	Impatiens	West Sumatra	Forest in Lembah Malampah
CP 87	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Zingiberaceae	Ignota	West Sumatra	Forest in Lembah Malampah
CP 88	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Equisetaceae	Equisetum sp	West Sumatra	Palupuh, road from Lubuk Sikaping to Halaban
CP 89	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea sp.	West Sumatra	Road from Lubuk Sikaping to Halaban
CP 90	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Piperaceae	Peperomia	West Sumatra	Road from Lubuk Sikaping to Halaban
CP 91	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp	West Sumatra	Ngalo Sampi, Road from Lubuk Sikaping to Halaban
CP 92	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea sp.	West Sumatra	Ngalo Sampi, Road from Lubuk Sikaping to Halaban
CP 93	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea sp.	West Sumatra	Ngalo Sampi, Road from Lubuk Sikaping to Halaban
CP 94	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea sp.	West Sumatra	Bukit Batu Ranjau, near Halaban
CP 95	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Piperaceae	Piper 1	West Sumatra	Ngalo Sampi, Road from Lubuk Sikaping to Halaban
CP 96	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Piperaceae	Piper 2	West Sumatra	Ngalo Sampi, Road from Lubuk Sikaping to Halaban
CP 97	21/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp	West Sumatra	Bukit Batu Ranjau, near Halaban
CP 98	20/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Fern	Ignota	West Sumatra	Forest in Lembah Malampah
CP 99	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Liliaceae	Dianella	West Sumatra	Bukit Gagoan, secondary forest
CP 100	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Polygalaceae	Polygala	West Sumatra	Bukit Gagoan, secondary forest
CP 101	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	Bukit Gagoan, secondary forest
CP 102	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Ignota	Tacca	West Sumatra	Bukit Gagoan, secondary forest
CP 103	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Myrsinaceae	Ardisia	West Sumatra	Bukit Gagoan, secondary forest
CP 104	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Cyrtandra sp.	West Sumatra	Bukit Gagoan, secondary forest
CP 105	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia atricha	West Sumatra	Bukit Gagoan, secondary forest

CP 106	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia longifolia	West Sumatra	Bukit Gagoan, secondary forest
CP 107	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Rhynchoglossum	West Sumatra	Bukit Gagoan, secondary forest
CP 108	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Euphorbiaceae	Baccaurea	West Sumatra	Bukit Gagoan, secondary forest
CP 109	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Memecylaceae	Memecylon acuminatissimum	West Sumatra	Bukit Gagoan, secondary forest
CP 110	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rubiaceae	Mycetia	West Sumatra	Bukit Gagoan, secondary forest
CP 111	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rubiaceae	Ignota	West Sumatra	Bukit Gagoan, secondary forest
CP 112	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Acantheceae	Ignota	West Sumatra	Bukit Gagoan, secondary forest
CP 113	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Caprifoliaceae	Ignota	West Sumatra	Bukit Gagoan, secondary forest
CP 114	22/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea	West Sumatra	Bukit Gagoan, secondary forest
CP 115	23/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Didymocarpus sp.	West Sumatra	Cupitan, between Solok and Sijunjung
CP 116	23/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sect. Reichenheimea	West Sumatra	Gua Perkaulan, Sijunjung
CP 117	23/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp aff stictopoda	West Sumatra	Gua Perkaulan, Sijunjung
CP 118	23/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea capitata?	West Sumatra	Gua Perkaulan, Sijunjung
CP 119	23/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Acantheceae	Ignota	West Sumatra	Gua Perkaulan, Sijunjung
CP 120	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Zingiberaceae	Etlingera sp	West Sumatra	Solok Ambar, Sijunjung
CP 121	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Zingiberaceae	Hornstaedia sp	West Sumatra	Solok Ambar, Sijunjung
CP 122	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Monophyllaea sp	West Sumatra	Solok Ambar, Sijunjung
CP 123	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia droopiae	West Sumatra	Solok Ambar, Sijunjung
CP 124	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Rubiaceae	Ignota	West Sumatra	Solok Ambar, Sijunjung
CP 125	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Myrtaceae	Syzygium sp	West Sumatra	Solok Ambar, Sijunjung
CP 126	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea capitata?	West Sumatra	Solok Ambar, Sijunjung
CP 127	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	Solok Ambar, Sijunjung
CP 128	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Acantheceae	Ignota	West Sumatra	Solok Ambar, Sijunjung
CP 129	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia sp	West Sumatra	Solok Ambar, Sijunjung
CP 130	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Ignota	West Sumatra	Solok Ambar, Sijunjung
CP 131	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Balsaminaceae	Impatiens	West Sumatra	Solok Ambar, Sijunjung
CP 132	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Gesneriaceae	Paraboea (treubii?)	West Sumatra	Solok Ambar, Sijunjung
CP 133	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Piperaceae	Peperomia	West Sumatra	Solok Ambar, Sijunjung
CP 134	24/06/11	C Puglisi, M Hughes, D Girmansyah, Roki	Begoniaceae	Begonia puspitae	West Sumatra	Solok Ambar, Sijunjung
CP 135	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Zingiberaceae	Zingiber sp	Bengkulu	Bovenlaes
CP 136	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Gesneriaceae	Cyrtandra sp.	Bengkulu	Bovenlaes
CP 137	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Gesneriaceae	Aeschynanthus sp	Bengkulu	Bovenlaes
CP 138	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Begoniaceae	Begonia sect. Bracteibegonia	Bengkulu	Bovenlaes
CP 139	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Melastomataceae	Ternandra	Bengkulu	Bovenlaes
CP 140	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Euphorbiaceae	Antidesma	Bengkulu	Bovenlaes
CP 141	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Begoniaceae	Begonia vuijckii	Bengkulu	Bovenlaes
CP 142	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Lowiaceae	Lowia	Bengkulu	Bovenlaes

CP 143	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Begoniaceae	Begonia sect. Reichenheimea	Bengkulu	Bovenlaes
CP 144	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Begoniaceae	Begonia sect. Reichenheimea	Bengkulu	Bovenlaes
CP 145	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Moraceae	Ficus	Bengkulu	Bovenlaes
CP 146	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Rhamnaceae	Ignota	Bengkulu	Bovenlaes
CP 147	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Actinidiaceae	Saurauia	Bengkulu	Bovenlaes
CP 148	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Gesneriaceae	Didymocarpus sp.	Bengkulu	Bovenlaes
CP 149	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Araliaceae	Schefflera	Bengkulu	Bovenlaes
CP 150	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Polygalaceae	Polygala venenosa	Bengkulu	Bovenlaes
CP 151	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Urticaceae	Fillebrounia rubescent	Bengkulu	Bovenlaes
CP 152	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Gesneriaceae	Cyrtandra sp.	Bengkulu	Bovenlaes
CP 153	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Rutaceae	Luvunga	Bengkulu	Bovenlaes
CP 154	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Commelinaceae	Folia	Bengkulu	Bovenlaes
CP 155	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Rubiaceae	Trichalisia	Bengkulu	Bovenlaes
CP 156	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Rubiaceae	Psychotria	Bengkulu	Bovenlaes
CP 157	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Theaceae	Ignota	Bengkulu	Bovenlaes
CP 158	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Meliaceae	Ignota	Bengkulu	Bovenlaes
CP 159	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Meliaceae	Dysoxylum	Bengkulu	Bovenlaes
CP 160	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Meliaceae	Aglaya	Bengkulu	Bovenlaes
CP 161	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Rubiaceae	Urophyllum	Bengkulu	Bovenlaes
CP 162	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Myrtaceae	Syzygium sp	Bengkulu	Bovenlaes
CP 163	29/06/11	C Puglisi, M Hughes, D Girmansyah, T Aprianto	Annonaceae	Ignota	Bengkulu	Bovenlaes
CP 164	30/06/11	M Hughes, D Girmansyah, Suryadi	Annonaceae	Artobotrys sp	Bengkulu	Foothills of Gunung Kemumu
CP 165	30/06/11	M Hughes, D Girmansyah, Suryadi	Elaeocarpaceae	Elaeocarpus sp	Bengkulu	Foothills of Gunung Kemumu
CP 166	30/06/11	M Hughes, D Girmansyah, Suryadi	Euphorbiaceae	Elateriospermum	Bengkulu	Foothills of Gunung Kemumu
CP 167	30/06/11	M Hughes, D Girmansyah, Suryadi	Myrtaceae	Syzygium sp	Bengkulu	Foothills of Gunung Kemumu
CP 168	30/06/11	M Hughes, D Girmansyah, Suryadi	Melastomataceae	Medinilla sp	Bengkulu	Foothills of Gunung Kemumu
CP 169	30/06/11	M Hughes, D Girmansyah, Suryadi	Verbenaceae	Vitex sp.	Bengkulu	Foothills of Gunung Kemumu
CP 170	30/06/11	M Hughes, D Girmansyah, Suryadi	Elaeocarpaceae	Elaeocarpus sp	Bengkulu	Foothills of Gunung Kemumu
CP 171	30/06/11	M Hughes, D Girmansyah, Suryadi	Sonneratiaceae	Ignota	Bengkulu	Foothills of Gunung Kemumu
CP 172	30/06/11	M Hughes, D Girmansyah, Suryadi	Annonaceae	Polyalthia sumatrana	Bengkulu	Foothills of Gunung Kemumu
CP 173	30/06/11	M Hughes, D Girmansyah, Suryadi	Lauraceae	Litsaea sp	Bengkulu	Foothills of Gunung Kemumu
CP 174	30/06/11	M Hughes, D Girmansyah, Suryadi	Fern	Ignota	Bengkulu	Foothills of Gunung Kemumu
CP 175	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Dipterocarpaceae	Shorea	Bengkulu	Route to Gunung Kemumu
CP 176	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Gesneriaceae	Cyrtandra sp.	Bengkulu	Route to Gunung Kemumu
CP 177	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Begoniaceae	Begonia sp	Bengkulu	Route to Gunung Kemumu
CP 178	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Ignota	Ignota	Bengkulu	Route to Gunung Kemumu
CP 179	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Melastomataceae	Ignota	Bengkulu	Route to Gunung Kemumu

CP 180	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Rubiaceae	Lazianthus sp	Bengkulu	Route to Gunung Kemumu
CP 181	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Gesneriaceae	Aeschynanthus	Bengkulu	Route to Gunung Kemumu
CP 182	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Rubiaceae	Ixora sp	Bengkulu	Route to Gunung Kemumu
CP 183	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Annonaceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 184	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Begoniaceae	Begonia sect. Sphenanthera	Bengkulu	Route to Gunung Kemumu
CP 185	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Theaceae	Adinandra	Bengkulu	Route to Gunung Kemumu
CP 186	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Gesneriaceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 187	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Hamamelidaceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 188	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	gesneriaceae	Cyrtandra sp.	Bengkulu	Route to Gunung Kemumu
CP 189	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	gesneriaceae	cyrtandra sp.	Bengkulu	Route to Gunung Kemumu
CP 190	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Acantheceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 191	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Melastomataceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 192	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Ignota	Ignota	Bengkulu	Route to Gunung Kemumu
CP 193	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Cyperaceae	Mapania sp	Bengkulu	Route to Gunung Kemumu
CP 194	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Annonaceae	Artobotrys sp	Bengkulu	Route to Gunung Kemumu
CP 195	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	zingiberaceae	Amomum	Bengkulu	Route to Gunung Kemumu
CP 196	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Sterculiaceae	Sterculia sp	Bengkulu	Route to Gunung Kemumu
CP 197	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Ignota	Ignota	Bengkulu	Route to Gunung Kemumu
CP 198	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Zingiberaceae	Ignota	Bengkulu	Route to Gunung Kemumu
CP 199	01/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	zingiberaceae	Hornstaedia sp	Bengkulu	Route to Gunung Kemumu
CP 200	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Fern	Ignota	Bengkulu	Along Sungai Kemumu
CP 201	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Araceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 202	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Melastomataceae	Medinilla sp	Bengkulu	Along Sungai Kemumu
CP 203	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Melastomataceae	Medinilla sp	Bengkulu	Along Sungai Kemumu
CP 204	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Tiliaceae	Microcos	Bengkulu	Along Sungai Kemumu
CP 205	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Euphorbiaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 206	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Dilleniaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 207	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Gesneriaceae	Aeschynanthus sp	Bengkulu	Along Sungai Kemumu
CP 208	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Theaceae	Eurya sp.	Bengkulu	Along Sungai Kemumu
CP 209	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Chloranthaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 210	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Flacourtiaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 211	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Elaeocarpaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 212	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Urticaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 213	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Myristicaceae	Ignota	Bengkulu	Along Sungai Kemumu
CP 214	02/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi	Zingiberaceae	Hornstaedia sp	Bengkulu	Along Sungai Kemumu
CP 215	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Myrsinaceae	Ignota	Bengkulu	Gunung Kemumu
CP 216	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Annonaceae	Ignota	Bengkulu	Gunung Kemumu

CP 217	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Begoniaceae	Begonia sp nov	Bengkulu	Gunung Kemumu
CP 218	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Melastomataceae	Medinilla sp	Bengkulu	Gunung Kemumu
CP 219	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Rubiaceae	Argostemma	Bengkulu	Gunung Kemumu
CP 220	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Myrtaceae	Ignota	Bengkulu	Gunung Kemumu
CP 221	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Euphorbiaceae	Ignota	Bengkulu	Gunung Kemumu
CP 222	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Pandanaceae	Freycenetia	Bengkulu	Gunung Kemumu
CP 223	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Arecaceae	Liquala	Bengkulu	Gunung Kemumu
CP 224	03/07/11	C Puglisi, M Hughes, D Girmansyah, Suryadi, T Aprianto	Lycopodiaceae	Lycopodium sp.	Bengkulu	Gunung Kemumu
CP 225	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia laruei	Sumatera Utara	Simolap, TNGL
CP 226	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sect. Platycentrum	Sumatera Utara	Simolap, TNGL
CP 227	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Ignota	Ignota	Sumatera Utara	Simolap, TNGL
CP 228	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sect. Reichenheimea	Sumatera Utara	Simolap, TNGL
CP 229	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sect. Reichenheimea	Sumatera Utara	Simolap, TNGL
CP 230 CP 230A	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sect. Reichenheimea	Sumatera Utara	Simolap, TNGL
CP 231	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Paraboea leuserensis	Sumatera Utara	Simolap, TNGL
CP 232	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Urticaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 233	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia aff stictopoda	Sumatera Utara	Simolap, TNGL
CP 234	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia hybrid cp233xcp230	Sumatera Utara	Simolap, TNGL
CP 235	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Urticaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 236	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Epithema sp.	Sumatera Utara	Simolap, TNGL
CP 237	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Zingiberaceae	Hornstaedia sp	Sumatera Utara	Simolap, TNGL
CP 238	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Araceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 239	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia aff stictopoda	Sumatera Utara	Simolap, TNGL
CP 240	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Annonaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 241	09/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Cyrtandra sp.	Sumatera Utara	Simolap, TNGL
CP 242	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Cyrtandra sp.	Sumatera Utara	Simolap, TNGL
CP 243	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Cyrtandra sp.	Sumatera Utara	Simolap, TNGL
CP 244	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sp	Sumatera Utara	Simolap, TNGL
CP 245	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sp	Sumatera Utara	Simolap, TNGL
CP 246	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	?Euphorbiaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 247	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Cyrtandra sp.	Sumatera Utara	Simolap, TNGL
CP 248	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Urticaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 249	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia aff stictopoda	Sumatera Utara	Simolap, TNGL
CP 250	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Urticaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 251	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Urticaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 252	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Leeaceae	Leea	Sumatera Utara	Simolap, TNGL

CP 253	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Fabaceae	Saraca cauliflora	Sumatera Utara	Simolap, TNGL
CP 254	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Ignota	Ignota	Sumatera Utara	Simolap, TNGL
CP 255	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Liliaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 256	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Rubiaceae	?Psychotria	Sumatera Utara	Simolap, TNGL
CP 257	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Zingiberaceae	Amomum	Sumatera Utara	Simolap, TNGL
CP 258	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia aff stictopoda	Sumatera Utara	Simolap, TNGL
CP 259	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia (bracteate)	Sumatera Utara	Simolap, TNGL
CP 260	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gnetaceae	Gnetum	Sumatera Utara	Simolap, TNGL
CP 261	10/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Paraboea leuserensis	Sumatera Utara	Simolap, TNGL
CP 262	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Annonaceae	Artobotrys sp	Sumatera Utara	Simolap, TNGL
CP 263	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	?Rubiaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 264	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Rubiaceae	Ixora sp	Sumatera Utara	Simolap, TNGL
CP 265	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Moraceae	Ficus	Sumatera Utara	Simolap, TNGL
CP 266	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Zingiberaceae	Amomum	Sumatera Utara	Simolap, TNGL
CP 267	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia sect. Reichenheimea	Sumatera Utara	Simolap, TNGL
CP 268	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Acantheceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 269	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Paraboea leuserensis	Sumatera Utara	Simolap, TNGL
CP 270	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Annonaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 271	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Begoniaceae	Begonia aff stictopoda	Sumatera Utara	Simolap, TNGL
CP 272	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Fabaceae	Cynometra sp.	Sumatera Utara	Simolap, TNGL
CP 273	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Paraboea	Sumatera Utara	Simolap, TNGL
CP 274	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Averrhoaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 275	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Paraboea treubii	Sumatera Utara	Simolap, TNGL
CP 276	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Costaceae	Costus sp.	Sumatera Utara	Simolap, TNGL
CP 277	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Zingiberaceae	Zingiber sp	Sumatera Utara	Simolap, TNGL
CP 278	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Ignota	Ignota	Sumatera Utara	Simolap, TNGL
CP 279	11/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Gesneriaceae	Didymocarpus sp.?	Sumatera Utara	Simolap, TNGL
CP 280	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Rubiaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 281	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Memecylaceae	memecylon excelsum	Sumatera Utara	Simolap, TNGL
CP 282	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Memecylaceae	Memecylon sp.	Sumatera Utara	Simolap, TNGL
CP 283	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Annonaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 284	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Zingiberaceae	Zingiber sp	Sumatera Utara	Simolap, TNGL
CP 285	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Vitaceae	Ignota	Sumatera Utara	Simolap, TNGL
CP 286	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Ignota	Ignota	Sumatera Utara	Simolap, TNGL
CP 287	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Vitaceae	Vitis sp.	Sumatera Utara	Simolap, TNGL
CP 288	12/07/11	C Puglisi, M Hughes,W Ardi, Bangkey and local guides	Myrtaceae	Ignota	Sumatera Utara	Simolap, TNGL