

V. EXPEDITIONS AND OTHER FIELDWORK*(continued from page 3895)*

A directory of tropical research sites where British ecologists, incl. undergraduate students, would be positively welcomed has been prepared by Dr. A. G. M a r s h a l l, Department of Zoology, University of Aberdeen, Aberdeen AB9 2UD, Scotland, U.K. The aim is: a) to assist ecologists to find a suitable site for research, b) to help those running ecological stations in the tropics to find suitable workers to assist in the maintenance of these stations. He has information on 30 sites in 24 countries. Information on each site is available in the form of a two A4-page questionnaire.

T h a i l a n d

In February 1983 Dr. J. E. V i d a l (P) and Mr. C. N i y o m d h a m (BKF) visited Phuu Luang National Park, Prov. Loei. This is a mountain massif reaching to c. 1500 m.

In May 23-30, 1983, W. M e i j e r (KY) searched for Rafflesia in the Kao Sok and Thaleban National Park. In one place Meijer nearly had a stroke when a well-meaning guide severed a large flowering bud from its host before his very eyes.

V i e t N a m

At the occasion of an international symposium in Ho Chi Minh City (January 1983, see under Congresses) Dr. P. S. A s h t o n, Dr. J. E. V i d a l and others visited the mountain area of Dalat (forests of *Pinus kesyia* and *P. merkusii*) and some forest areas of lower altitudes which had been treated with defoliants. Now these are covered by rice fields or *Imperata* savannahs. The latter maintains itself because of annual fires. In North Viet Nam the Cuc Phuong National Park, c. 120 km SW of Ha Nôi was visited, a dense forest on limestone with very beautiful trees, e.g. *Annamocarya*, *Caryodaphnopsis*, *Cinnamomum*, *Shorea anamica*, *Terminalia myriophylla*, etc.

M a l a y a

From May 31-June 2, 1983, Dr. W. M e i j e r (KY) visited Thaiping in his search for Rafflesia but found the whole locality destroyed. He visited Bt. Timah on July 3.

Collecting trips were made by various parties of the Universiti Kebangsaan Malaysia (UKMB) to the following localities: G. Ledang, G. Mun-

tahak, G. Panti, G. Pulai (Johore), G. Jerai (Kedah) and G. Maxwell (Perak). About 800 numbers with duplicates were made.

Dr. A. J. M. L e e u w e n b e r g (WAG) visited the Botanic Garden, Singapore, between 22-25 April 1984, where he collected Apocynaceae both in the Garden and in Bukit Timah accompanied by Mr. S i d e k b i n K i a h.

I n d o n e s i a

The Lembaga Biologi Nasional (LBN) has initiated a program for the botanical exploration of a number of localities mainly in the Eastern part over the next few years. The trips will be of short duration, 3-6 weeks in the field. Some of these will be made with the cooperation of the Rijksherbarium (L). Among the places to be visited are Buru, Sumatra and New Guinea (Mt Carstensz).

S u m a t r a

Ms. B. A x e l i u s (S) hunted for *Lerchea* and *Xanthophytum* in Central Sumatra for a month in early 1983.

From January 10 to February 20, 1983, Mr. E. H i d a y a t (BO) visited Nias. Collections were made of seeds, orchids and a small amount of herbarium specimens. Some zoological specimens were obtained by Mr. S u d a r m a n u of the Bogor Zoological Museum.

Between January 12 and February 27, 1983, Mr. R. A b d u l h a d i, Mr. M a s k u r i (BO) and Mr. D. H a r d j o n o (BZM) undertook field work and ecological research in the Leusir National Park (Agusan, Gelombang, Ketambe, Sekundur). About a thousand herbarium specimens were made. Nearly 600 zoological collections were brought together by Mr. S. W i r - j o a t m o d j o of the Zoological Museum, Bogor.

From March to December 1983 Mr. H. S i m o n s, Mr. M. J. S i l v i u s and Mr. W. V e r g h e u g t (U), students, were conducting forest ecological studies at Berbak Nature Reserve, Jambi.

Between February 22 and April 10, 1983, Padang Sidempuan, N. Sumatra, was visited by Mr. S. D a n i m i h a r d j a and Ms. E. A. W i d j a - j a (BO), Mr. D j o j o s u w i t o and Mr. Z a h r o (Treub Laboratory, Bogor). Living plants and 630 herbarium specimens were brought back.

For her revision of *Aglaia* (c. 110 species, 550 names to choose from) Ms. C. P a n n e l l (OXF) obtained a grant from the Royal Society to do field work. In Sumatra many species only known from their types have been described. This in spite of the fact that *Aglaia* is significant in the lowland and hill forest. The genus is also important for providing food (fruits) for a number of primates (gibbons, orang utan) and birds (barbets, broadbills, hornbills). She visited 16 sites between May 9 and August 9, 1983: Bukittinggi, Bt. Sibela, nature reserves in Central W. Sumatra, Basar Basar Logging Concession, G. Sago, G. and Ulu Gaduk, peat swamps near Marbau, Dolok Simarsompah, Bohorok, Alas Valley, G. Kemiri and Sekundur (Gajo Lands), P. Simeuleu (Simalur). She succeeded in (re)collecting at least 14 rare or new species and many others which are better known. She paid extra attention to the mode of seed dispersal and found the trip a most rewarding experience.

Between June 7-14, 1983, Dr. W. M e i j e r (KY) visited Medan, Bras-tagi, G. Sibayak and Bandar Baru for Rafflesia localities. From June 15-29 he went to Padang and with Dr. Y. L a u m o n i e r to Bukittinggi, Batang Palupuh (Rafflesia found!), Pajakumbuh, G. Sago (R. arnoldii), Anei canyon (Pentastemona!), Ulu Gadut and Bt. Gambir. After a short trip to Bogor he went via Palembang back to Padang (11-22) and Ulu Gadut, G. Sago (no R.), Bukittinggi (some R. near Panorama Baru) and Harau Canyon. Various local governments were actively assisting in the protection of the Rafflesia sites.

Between July 25 and August 20, 1983, Asahan, N. Sumatra was visited by Mr. U. W. M a h y a r (BO), Mr. T. D a r a j a t and Mr. J u s u f (Treub Laboratory, Bogor). They returned with living plants (45 out of 97 orchids), some herbarium and 265 zoological specimens.

Between July 31 and August 29, 1983, Mr. H a m z a h, Mr. A. M u - n a n d a r and Ms. M. R a h a y u (BO) collected living material and 76 herbarium specimens in Jambi. Zoological records were obtained by Ms. E. T. M a r g a w a t i of the Zoological Museum, Bogor.

From August 24 to September 9, 1983, Dr. T. C. W h i t m o r e (FHO) and T. K a l i n a, K. S i d i y a s a, U. S u t i s n a and M. W a r - d a n i (BZF) made an excursion to the G. Leusir National Park. They visited Bohorok, Ketambe, Sekundur and the G. Sibayak. Sets of the c. 215 collections will be distributed to BO, BZF, K, L.

J a v a

From November 22-December 6, 1982, Ms. J. J. A f r i a s t i n i (BO), Mr. S. D a n i m i h a r d j a (Botanic Garden, Bogor) and Ms. S. H. R a h a y u (Treub Laboratory, Bogor) collected living and herbarium specimens on G. Lawu.

Between December 25 and 30, 1982, Mr. S i j a d i and Mr. T a r - m u j i (Purwodadi Botanical Garden) went to G. Menyan and G. Raung, Kalibaru-Banyuwangi, for orchids and ferns.

Ms. B. A x e l i u s (S) collected on G. Gedeh in March, 1983.

A field trip was made on April 17, 1983, to the forests of Lebakhard-jo, Malang, by Mr. B i m a n t o r o (Bogor Botanical Garden), Mr. D. N a r k o, Mr. E. R o h a n d i, Mr. S i j a d i and Mr. T a r m u j i (Purwodadi Botanical Garden) and Mr. J. C o m b e r. Some living plants were brought back.

Between July and end September, 1983, Dr. T. C. W h i t m o r e (FHO) visited the FRI Gunung Batu to help set up the Tree Flora of Java Proj-ect.

Between August 13 and 16, 1983, Ms. E. A. W i d j a j a and Mr. R a m l a n t o (BO) and Mr. J. B o m p a r d went to the Baduy settle-ment S of Rangkasbitung, W. Java.

From August 26 to 31, 1983, an excursion was made by staff members of the Botanical Garden to Madura and the Puteran islands bringing back living plants, 60 herbarium specimens and some insects.

A small group from BO visited G. Gombong, Surakarta, and Cikidang, Sukabumi, W. Java, on October 18, 1983.

Staff members of the Purwodadi Botanical Garden collected living plants in Jember and Trenggalek, E. Java.

Dr. A. J. M. L e e u w e n b e r g (WAG) and Mr. R u d j i m a n (Gadjah Mada University, Yogyakarta) collected on the Dieng Plateau, in Imogiri, Kaliurang, Kulon Progo and Srandakan, S of Yogyakarta, looking especially for Apocynaceae. Leeuwenberg alone visited Bogor between March 27 and April 22, where he studied the herbarium and collected Apocynaceae, about half of them in the Kebun Raya, the others in Jasinga, Miramare and Pelabuhanratu, the latter two with Dr. A. J. G. H. K o s - t e r m a n s (BIOTROP).

L e s s e r S u n d a I s l a n d s

Bali. — Mr. I K e t u t N g u r a h R a i and Mr. I M a d e M a r t a (Bali Botanical Garden) explored the Buleleng regency between June 28 and July 7, 1983. Meanwhile their colleagues Mr. I d a B a g u s M e r t a A d n y a n a and Mr. I G u s t i P u t u W e n d r a went to the forests of Munduk Karang, Batulempoh, Gunung Sari. Living plants were acquired.

Staff members of the Bali Garden collected some more in November 1983 on a trip to Singaradja and Tabanan.

Sumbawa. — Between August 4 and 31, 1983, Mr. G u s w a r a and Mr. S. D a n i m i h a r d j a (Bogor Botanical Garden) collected living and dried specimens on G. Tambora.

Timor. — Mr. J. P. M o g e a (BO) and Mr. K i s w o j o (Purwodadi Botanical Garden) collected here between August 2 and 31, 1983, living plants and 211 herbarium specimens. Mr. M. S i l u b a (Bogor Zoological Museum) took care of the zoology.

B o r n e o

Sabah. — Prof. J. H. B e a m a n, Michigan State University, and Fulbright visiting professor at the Sabah Campus of the National University of Malaysia, initiated in July 1983 an exploration in Sabah in which he will be supported by two American graduate students. After his formal appointment has ended he contemplates to remain for another five months in the area to extend exploration on the Crocker Range, Mt Kinabalu, Mt Trusmadi and in other areas with unusual edaphic conditions. The extreme drought of this year will permit observation on possible drought-induced phenomena such as mast-fruiting, different mortality of primary forest trees and effects of edaphic aridity on evolution in a rain forest climate.

Looking for *Rafflesia* and assisting Dr. J. H. B e a m a n in the orientation for the Forest Flora of Sabah, Dr. W. M e i j e r (KY) visited the Bt. Hampuan, Kinabalu National Park, Bt. Padang, Pulau Gaya, Poring, Ranau, Sandakan, Sepilok, Sinsuran from July 26-August 8, 1983. Destruction was evident on the Pinosok Plateau of the Kinabalu and on the Sandakan Peninsula partly by large forest fires. After his visit new localities of *Rafflesia* were fortunately discovered near Nalumad and Poring by Ms. A. P h i l l i p p s.

In March-April 1984 Dr. D. A r g e n t, Mr. B r i g g s (Brunei), Ms. A. P h i l l i p p s (Kinabalu National Park) and Dr. M. S a n d s (E) explored Mt Trusmadi.

We understand that the Royal Society's initiative with Malaysian institutions concerning long-term research in the Danum Valley will be launched in 1984. To coordinate the activities of the Scottish counterparts Dr. M. D. S w a i n e (ABD) has arranged a meeting on May 14, 1984, for tropical biologists to discuss their research efforts.

Sarawak. — At the end of 1982 Ms. B. A x e l i u s (S) hunted for *Lerchea* and *Xanthophytum* for a month.

Kalimantan. — Ms. B. A x e l i u s (S) spent two months at the end of 1982/early 1983 looking for *Lerchea* and *Xanthophytum* in NE. Kalimantan.

A group of staff members of the Bogor Botanical Garden visited East Kalimantan between February 1 and March 9, 1983, and returned with living plants and 58 herbarium specimens.

Ecological research was continued between April 3 and May 19, 1983, at Wanariset, Balikpapan, by a party from BO. Not less than 1500 vouchers were obtained.

Ms. J. J. A f r i a s t i n i (BO) and Mr. A. M u n a n d a r explored the areas around Batu Ampar, Putusibau and Selimbau, W. Kalimantan between April 15 and May 20, 1983. Living orchids were their prize.

Mr. E. M i r m a n t o (BO) from August 6 to 25, 1983, went to the Barito River estuary, Banjarmasin, to do ecological research. Some herbarium specimens were brought back. Dr. K. K a r t a w i n a t a accompanied him until the 10th.

Staff members of the Treub Laboratory were in Kumai and Lamandau, Central Kalimantan between July 19 and August 19, 1983. They collected living material only.

Between 10-18 February, 1984, Dr. A. J. M. L e e u w e n b e r g (WAG) and Mr. R u d j i m a n (Gadjah Mada University, Jogjakarta) made a collecting trip to Kenangan, W of Balikpapan, looking especially for Apocynaceae.

P h i l i p p i n e s

Luzon. — Dr. W. M e i j e r (KY) visited Mt Makiling on August 9, 1983, to look for *Rafflesia manillana*, but the locality had disappeared due to hurricanes, landslides and climber cutting by illegal hunters.

Mindanao. — A field trip to Lake Maughan was made from October 9-21, 1983, by Mr. T. B o r r o m e o, Ms. J. G e o n z o n, Ms. R. M e n d o z a, Fr. E. S c h o e n i g, Ms. M. T u m i l a p and Ms. N. V i l l a n o from St. Theresa's College (Cebu City) and Mr. J. d e l o s R e y e s and four students from Notre Dame College (Cotabato). Lake Maughan, 35 km W of General Santos City at 400 m, is surrounded by a rich virgin forest. The relatively low temperature (18-20°C), high humidity (± 95%) provide for an abundance of mosses, ferns and epiphytic orchids. The party from STC also collected along Lake Maughan, at the base of Mt Parker, in an equally rich forest.

Palawan. — Between March 1 and June 1, 1984, Dr. J. D r a n s - f i e l d (K), Dr. D. M a d u l i d (PNH), Dr. A. C. P o d z o r s k i (Landskrona) and Dr. C. E. R i d s d a l e (L) will make an expedition to Palawan held under the auspices of the Ministry for Natural Resources of the Philippines and the Swedish Match-Hillesthög Philippines Inc. Its aim is to make a botanical survey of the island to aid conservation, while especially the virtually unexplored northern section of the island and Bugsuk Island will be studied. Results ought to be interesting as two geological formations not represented elsewhere on the islands are found in this area. An unusual feature of the flora is the absence (so far) of taxa well-represented in nearby Sabah (e.g. Shorea) and a high percentage of endemics, many of which are only preserved as single collections due to the few field trips made until now. Even species of genera which are normally abundantly collected (e.g. Myristica) are often represented by less than ten specimens. All plant groups will be collected with an emphasis on trees and other groups of known economic and/or conservational importance. Sets will be deposited at least in K, L, PNH and S.

C e l e b e s (= Sulawesi)

Between April 17 and May 31, 1983, Mr. U. W. M a h y a r (BO) explored the Sangir islands. Some herbarium specimens were obtained. Zoological collections were made by Mr. D. H a r d j o n o of the Zoological Museum, Bogor.

A trip was made to Kebun Kopi, G. Malino, Podi and Pompangeo by Ms. E. A. W i d j a j a (BO), Mr. M. T o h a and Mr. T. U s i n from June 13 to July 8, 1983. Live material and 68 herbarium collections were obtained.

About 100 people from outside Indonesia will be joining Indonesian biologists for the Wallace Project in the Domoga-Bone National Park throughout 1985. This commemorative expedition run jointly by the Royal Entomological Society of London and the Indonesian Institute of Sciences is largely entomological; however, other biologists are also welcome to participate if space is available. Currently some periods are already fully booked but others remain undersubscribed. For further details write to Dr. W.J. Knight, Royal Entomological Society, 41 Queen's Gate, London SW7 5HU, U.K.

As botanists Mr. J. J. V e r m e u l e n, Dr. G. J. C. M. v a n V l i e t and Dr. E. d e V o g e l (L) hope to participate.

M o l u c c a s

Ceram. — The University of Tokyo botanical expedition in collaboration with the Herbarium Bogoriense under the LIPI umbrella stayed between October 24 and December 24, 1983. Participants were Dr. K. I w a t s u k i, Dr. M. K a t o (TI), Dr. K. U e d a (KYO) and Drs. U. W. M a h j a r (BO). Several places in Ambon, lowlands near Masohi, near Kairatu and localities in the Manusela mountain area, incl. the summit G. Binaya, were explored resulting in 2185 numbers of vascular plants, even more Pteridophyta, some packets of Bryophyta, FAA collections for

morphological studies and some 40 living stocks of ferns. It is intended to go back to the island again in December 1984, to study the mangrove ecology in 1985 and study the inland flora again in 1986.

Halmaheira. — Mr. J. P. M o g e a and Mr. E. S u l e i m a n (BO) visited between March 24 and April 29, 1983. They collected mainly palms and orchids, alive and dried.

N e w G u i n e a

During an exploration made by Mr. A r i s a n a (Bali Botanical Garden), Mr. A t i k (Bogor Botanical Garden), Mr. M. T o h a (Zoological Museum, Bogor) at Teluk Cendrawasih Regency, Paniai and Manokwari between February 16 and 22 March, 1983, living plants and animals were collected. The first two collectors visited Dokarin Island, Moraid, Sansapar, Waigeo Aims island and other small islands around Sorong between August 5 and 25, 1983.

Mr. J. M. M a n g e n (Luxembourg) visited Mt Wilhelmina (G. Trikora) again in the summer of 1983. A small but very interesting collection was made. There is no glacier anymore on the summit.

The same mountain was visited recently by a team composed mainly of students and some staff (16 persons, no biologist) of the Parahyangan University, Bandung. A report was written in 1984 (in Indonesian) omitting date and duration of the trip but containing data on geomorphology, logistics (!), mountaineering and speleology.

Mr. M. C. R o o s (U) visited Papua New Guinea from October 14 to November 10, 1983, to collect herbarium and living material, incl. mature spores, of polypodiaceous ferns, especially of the drynarioid Polypodiaceae. In cooperation with Mr. J. R. C r o f t (LAE), Rev. N. E. G. C r u t t w e l l and Mr. R. J. J o h n s (UNITECH, Lae) he made several field trips in the Eastern Highlands and Morobe Provinces. In total 85 living plants and 63 spore samples were obtained for the botanical gardens of LAE and U. The 122 herbarium collections will be deposited in U, LAE, L, K, BM and B in that order.

Mr. M. S w a i n spent a month in Papua New Guinea with his student S. S a u l e i who is studying species immigration to forest sites following clear felling in Madang Province. A Japanese/New Guinea company (JANT) has been operating a chip-logging program since 1973 on a 98,000 ha concession in the Gogol Valley. Large areas have been replanted largely of course with *Eucalyptus deglupta*, but there are many areas remaining which have regrown naturally and now offer a series of different age classes for the study of forest succession.