

V. EXPEDITIONS AND OTHER EXPLORATIONa) Field Work (*continued from page 3736*)

## I n d i a

The Botanical Survey of India continued to make collections during 1982, with the following results: Andaman & Nicobar Is.: Shola Bag, Mt

Harriet, Jirkathang, Poona Nallah, Saddle peak, Diglipur, Rutland I. & Little I., 2875 specimens. Arunachal Pradesh: Various areas of Kameng Distr., Subansiri Distr., 9750 specimens. Assam: Garampani, 60 specimens. West Bengal: Darjeeling, Jalpaiguri, Hollong, Jaldapara, Chilapata, Sal-kumar, Daidaighat, Barasat, 2665 specimens. Bihar: Madhuban, Nimiaghat, Paresnath Hills, 315 specimens. Dehra Dun: Chakrata, Missoori, 325 specimens. Gujrat: Catchment and submergence areas of Sipu Reservoir Project, 1505 specimens. Kerala: Trichur, Idduki, Silent Valley, Valra Reserve Forest, Cannanore, Trivandrum, 3770 specimens. Madhya Pradesh: Kanha National Park, Chhodarpur Distr., 1190 specimens. Maharashtra: Areas of Jalgaon Distr. and Buldhana Distr., 4390 specimens. Manipur: Cherrapunjee, Mawphlong, Sorharim, areas of West Khasi Hills Districts, 2000 specimens. Rajasthan: Bharatpur, Desert National Park, 1605 specimens. Sikkim: Rangpo, Singtham, Bumbing, Mamring, Duga, Pandam, Takchi, Meli, areas of Gangtok, Chungtham, Lachi, Thanga, Panthang, 2590 specimens. Uttar Pradesh: Gori & Kali Valley, Chittoragarh Distr., 500 specimens.

#### T h a i l a n d

T. S h i m i z u (Matsumoto) and F. K o n t o (Shizuoka) made collections during the period June-September 1982 (limestone flora, Impatiens). H. K o y a m a and H. T e r a o (Kyoto) were in Thailand from November 1982 to March 1983 (Compositae, Strobilanthes especially). A. M i y a w a k i (Yokohama) and his group made preliminary observations on the vegetation in N. Thailand in addition to their mangrove studies.

#### M a l a y a

Plant collecting expeditions were carried out from KEP in the following localities: Keledang Saiong F.R., Perak (February); Gunong Jerai F.R., Kedah (March); Lesong F.R., Pahang (May); Bukit Bauk F.R., Trengganu and Ulu Sat F.R., Kelantan (June); Kedah-Changlun, Sintok & Nami areas for bamboos (June); Taman Negara, Tembeling & Tahan valleys, Pahang (mainly to collect ripe seeds for the National Arboretum at Bukit Kiara, Kuala Lumpur) (August); Western & Penang Hills, Penang (September).

University of Malaya, Kuala Lumpur. The Honours Year Field Trip in 1982 was in Kelantan. Some 36 staff and students participated. The base camp was the Forest Training School at the base of Bukit Baka, in Hulu Sungei Sat. Day collection trips were made between May 28 and June 4, 1982, to the Virgin Jungle Reserve, Kg. Sg. Bedal Dalam; to the stretch of the Sg. Kelantan between Kuala Krai and Dabong; to the Jeram Pasu reserve and forest recreation area; to Semarak (a mangrove/beach zone); and to the summit of Bukit Baka (c. 600 m). Collections were comparatively few (some 200 numbers). The duplicates are now being processed and distributed, the first set to KLU, a large second set to L, and others to various herbaria.

Dr. A. L a t i f f and Dr. A. A z i z B i d i n of Botany Department, Universiti Kebangsaan Malaysia, spent two weeks in Taman Negara (Pahang)

in October 1982. They botanised Sungai Tahan, Sg. Kenyam, Sg. Trenggan, Sg. Peria and Sg. Sak and collected 289 numbers of angiosperms and 203 ferns, in duplicate.

#### S u m a t r a

M. Hotta and M. Ito (Kyoto) continued their work in Central Sumatra under the Sumatra Nature Study Project, pursued by Anadolas University, Padang, and Kyoto University. They were in the field from Dec. 1982 to March 1983. Some groups like Araceae will be the subject of statistical character analysis.

From 8-28 Sept. 1981 Dr. Made S. Prana and Mrs. T.K. Prana of Bogor Botanical Garden explored Mentawai Island. More than 50 numbers of wild and cultivated living plants were collected.

To study the distribution of *Johannesteijsmannia altifrons* (Daun Sang) Mr. U. Warsita (BO) visited Langkat, N. Sumatra from 15 Sept.-5 Oct. 1981. He also collected seeds and 2 numbers of living Daun Sang and 53 numbers of herbarium specimens.

Messrs. S. Wirjoatmodjo, Barnas (Bogor Zoological Museum), R. Yusuf and Dirman (BO) studied forest and freshwater ecology in Ketambe, Gunung Leuser, SE. Aceh from 13 Sept.-24 Oct. 1981. They have collected herbarium and animal specimens.

On 28 Febr.-27 March 1982, again Messrs. S. Wirjoatmodjo, D. Hardjono (Bogor Zoological Museum), Rochadi A., R. Yusuf and Dirman (BO) visited Katambe, Gunung Leuser to continue the study of forests and freshwater ecology in the area. More than 1000 numbers of voucher and animal specimens were collected.

From 7 March-8 April 1982 Mr. H. Soedjito and Miss K. Kramadibrata explored Katambe and Blang Kejeran, SE. Aceh and collected more than 400 numbers of herbarium specimens.

In continuing ecological study in Katambe, SE. Aceh, Messrs. S. Wirjoatmodjo, Ike Rachmatika (Bogor Zoological Museum), H. Soedjito and R. Yusuf (BO) visited the area on 7-30 June 1982, and collected 22 numbers of herbarium specimens and 1604 numbers of vouchers.

From 10-19 August 1982 Messrs. Rochadi A., T. Partomihardjo, Ismail and A. Ma'roef (BO) made an ecological study of logged-over forest near the Sekundur Reserve, Aceh. During this trip 42 numbers of herbarium and 152 numbers of vouchers were collected. The study had to be discontinued due to the death of Mr. A. Ma'roef (see Obituaries and Biographical Notes).

In August 1982 Messrs. Supardi, Suroto and M. Siluba (Bogor Zoological Museum) visited Jambi areas. Some 100 numbers of herbarium and 162 numbers live plants were collected.

Dr. Usep Soetisna (Bogor Botanical Garden) and Messrs. Hasan B. Munaf, A. Saim and Eman Sulaeman (Bogor Zoological Museum) explored forests at Gn. Batee Meucica and Tadoo, Aceh from 3 August to 9 Sept. 1982. Many live plants were collected.

Between 7 Sept. and 11 Oct. 1982, Mr. M. Djajasasmita, Miss R. Marwoto (Bogor Zoological Museum) and Mr. U. Warsita (BO) visited Riau islands and vicinity, and collected 162 nos of herbarium specimens.

On 15 Sept.-16 Oct. 1982, Mr. B. Tappa (Bogor Zoological Museum), Mr. T. Kuswara (Bogor Botanical Garden) and M. Yusuf (Treub Lab.) explored Bengkulu forests. During the trip, they collected more than 200 numbers of live plants.

Messrs. Hasan B. Munaf and T. Toha (Bogor Zoological Museum) and H. Immanudin (Bogor Botanical Garden) visited Aceh and Sabang (Weh Island) on 5 Nov.-14 Dec. 1982. Living plants were collected in this trip.

#### J a v a

On 25 Sept.-10 Oct. 1981, Mrs. S.H.A. Lubis and Mrs. N.W. Soetjipto visited Purwodadi Botanical Garden. They collected 26 numbers of legumes, 6 of citrus and 5 of ethnobotanical artefacts.

Between 26 and 28 Sept. 1981, Mr. I. Hardjono and Karjono of Purwodadi Botanical Garden collected 45 numbers of living plants from Ampel Gading, Malang.

Messrs. Doerasim, Tarmudji, J.B. Comber and Sutikno of Purwodadi Botanical Garden explored Jolosutro, Water and Blitar areas on 27 Sept. 1981 and collected 12 numbers of living plants. On 11 Oct. 1981 they also visited forest at Gn. Samongan. Another group, G. Subroto and T. Hartoyo visited forest near Jember. Altogether 35 numbers of plants were collected during these trips.

Kukusan forest near Lumajang was explored by Messrs. L. Purnomo, A. Suprpto and G. Subroto of Purwodadi Botanical Garden on 28 Oct.-Nov. 1981. The total harvest was 241 numbers of living plants.

Mr. D. Darnaedi, together with staff members of the Kali Konto Watershed Management Project explored Gn. Biru and Gn. Anjasmoro on 18 Nov. to 18 Dec. 1981 and 40 numbers of herbarium specimens were collected.

Mr. G. Sumaatmadja and Mr. Atik of Bogor Botanical Garden visited Garut and Tasikmalaya from 5 to 14 Jan. 1982 and collected 107 numbers of herbarium specimens.

In connection with the celebration of the 100th anniversary of the Krakatau eruption, an integrated biological study has been carried out by 12 staff members of the National Biological Institute at Sumur District, Pandeglang, West Java from 9-27 Jan. 1982. More than 3000 numbers of herbarium specimens, live plants and animal specimens were collected.

From 29 Jan. to 2 Feb. 1982, Messrs. Kiswojo, M. Ichwan and Supriadi of Purwodadi Botanical Garden visited Ponorogo and collected 45 numbers of live plant specimens.

Dr. David R. Given (Christchurch) and Mr. D. Darnaedi on 4 March 1982 visited Ratu Pondok Cangkuang, near the crater of Gn. Salak to study plants around the proposed geothermal pioneer plants.

Forests at Southern Bandung were explored by Messrs. G. Sumaatmadja, Ato, Atik and T. Usin of BO from 8-14 March 1982; 131 numbers of live orchids and 61 of other plants were collected.

Mr. I. Hardjono and Gasim of Purwodadi Botanical Garden visited forest near Ngawi, East Java and collected 72 numbers of live plant specimens.

From 31 May to 5 June 1982, Mr. D.I. Hartoto (Bogor Zoological Museum) and S. Prawiroatmodjo (BO) surveyed the Taman Jaya area near Ujung Kulon National Park, West Java and collected more than 100 numbers of plant and animal specimens.

Bawean Island N of Java has been visited by Messrs. L. Purnomo, Soejono and Karyono of Bogor Botanical Garden on 2-7 June 1982. 100 numbers of live plants were collected. On 10 June 1982 forests near Ciampea, Cibitung and G. Malang were visited by Messrs. E.A. Widjaja (BO), N. Sumiasri and S.H. Rahayu (Bogor Botanical Garden). They collected 1 number of bamboos and 4 numbers of banana specimens.

From 2-12 July 1982, Mr. T. Partomihardjo (BO) joined the expedition of Kagoshima University, Japan to Krakatau islands. He collected 78 numbers of herbarium specimens.

Drs. J.P. Mogeia accompanied Dr. M.M.J. van Balgooy (L) on a trip to Gn. Luhur, W of the Bogor Puncak Road. Some 20 specimens were collected, including some living.

An integrated study of forest and rural areas were carried out by 16 staff members of National Biological Institute at Sumur District, Pandeglang, West Java from 11-30 August 1982. In this study 194 numbers of herbarium specimens and 10 of live plants were collected.

Messrs. Kiswojo, M. Wujud and G. Subrata of Purwodadi Botanical Garden visited Nusa Barung Island and Jember areas on 26-31 Oct. 1982 and collected 56 numbers of live plants. On 27 Oct.-1 Nov. 1982 Messrs. Fachruddin, A. suprapto and M. Hamim of Purwodadi Botanical Garden visited Ampelgading and 214 numbers of living plants were collected.

On 16-30 Oct. 1982 Mr. T. Partomihardjo accompanied the expedition of the Kagoshima University, Japan, to Peucang island, Panaitan island and Krakatau island, and collected 75 numbers of voucher specimens.

In connection with the forthcoming centennial commemoration of the Krakatau Eruption in August 1983, the Kagoshima University research team undertook ecological studies in Krakatau and its vicinity. The team con-

sisted of Japanese and Indonesian personnel and was led by Prof. Dr. Hideo Tagawa. The Indonesian members were from BO (Mr. Tukirin Partomihardjo) and the Directorate of Conservation and Wildlife Management (PPA). The team investigated the vegetation, animals and soils in Krakatau islands, Peucang Island and Panaitan Island on 22 June-20 August 1982 and on 5 Oct.-3 Dec. 1982. The herbarium specimens (mostly voucher specimens) collected amounted to 1599 numbers.

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

Bali. — Mr. I.W. Mudarsa and Mr. I.W. Tapa of Bali Botanical Garden explored Pupuan forest on 28-30 Sept. 1981. During this trip 64 numbers of orchids and 9 of herbarium specimens were collected.

Messrs. I.B.K. Arinasa, I.G. Tirta, I.G. Wedra and I.G. Mudika of Bali Botanical Garden visited Candi Kuning and Tegal Gangkring Forest near Jembrana, from 17-20 Dec. 1981. They collected 134 numbers of orchids and 49 of live plants.

Mr. I.B.K. Arinasa of Bali Botanical Garden visited Buleleng area on 7 June 1982 and collected 20 numbers of live plants.

On 30 Nov. 1982, Mr. I.B.K. Arinasa and G.M. Radhita of Bali Botanical Garden visited Klungkung area and collected 9 numbers of live plants.

Lombok. — On 3-18 Nov. 1981, Dr. P. Citreorekso (Treb Lab.), H. Roemantyo (BO), Anita H. Atmowidjojo and Mr. L.A. Sukanto (Bogor Zoological Museum) visited Gn. Rinjani. They collected 90 numbers of herbarium specimens, 416 of live plants and 28 of ethnobotanical artefacts.

Sumbawa. — On 16 Feb.-2 March 1982, Miss Irawati and Mr. Supardiyono (BO), Mr. H.B. Munaf and Wahyudi (Bogor Zoological Museum) visited Suranadi, Pulau Moyo and Gn. Tambora. More than 300 numbers of live and herbarium specimens were collected.

On 12 Sept.-12 Oct. 1982, Messrs. S. Danamihardja, Sulastri of Bogor Botanical Garden, H. Imanuddin and H. Fauzi of Bogor Zoological Museum visited Distric Dompoo and Bima. During this trip 116 numbers of live plants and 62 of herbarium specimens were collected.

Messrs. Z. Fachrurozi, A.H. Wawo (Bogor Botanical Garden), A. Saim and D. Wowor (Bogor Zoological Museum) explored forests near G. Takon, Jaranpusang, from 5 Oct.-4 Nov. 1982. They collected 106 numbers of live plants and 30 of herbarium specimens.

Timor. — Dr. S. Adisoemarto, Mrs. A.H. Atmowidjojo (Bogor Zoological Museum), Messrs. R. Harahap, H. Imanuddin, Sukendar, L.A. Sukanto and Siagian (Bogor Botanical Garden) and H. Wiriadinata (BO) made ecological studies in the Camplong area, East of Kupang, on 15 Feb.-13 March 1982 and collected 160 numbers of herbarium specimens and more than 250 of seeds and live plants.

Alor. — Mr. B.P. Nailola (Bogor Botanical Garden) and Mr. Asep A. Adhikarena (Bogor Zoological Museum) explored Western and Eastern Alor,

Kalabahi and Gn. Maru (Pura island) from 21 June-14 July 1982. They collected 294 numbers of live plants and 40 of herbarium specimens.

## B o r n e o

Sarawak. Several botanical expeditions were made by the Kuching herbarium (SAR). They visited Bungoh Range, Ulu Engkilili, Bukit Kana, Gunong Murud, Niah F. R., Bukit Sadok and Ulu Belaga. This yielded c. 1300 collections.

Sabah. Hunting for Nepenthes in Sabah. Dr. R. S c h m i d - H o l l i n g e r (Unterentfelden, Switzerland), who works since many years on Nepenthes and made formerly explorations in Madagascar and the Seychelles on which he published, has received a Swiss grant enabling him to stay for some months (May 1983 onwards) in Sabah for collecting plants and gaining field knowledge on the genus.

Independently Mr. J. M a r a b i n i of the University at Herzogenaurach (Germany) spent over one month (mid-March to end May) in Sabah. He reported to have found a new hybrid (*N. lowii* x *N. edwardsiana*) on Mt Trusmadi. He grows Nepenthes in greenhouses and studies their germination. He could also locate a second locality of *N. macrovulgaris* described as new a few years ago by Turnbull & Middleton.

Brunei. The University of Leeds, U.K. organized an eight weeks expedition to Brunei to carry out a comparative study of primary and selectively-felled mixed Dipterocarp forest.

Kalimantan (Indonesian Borneo). From 16 Oct.-15 Nov. 1982, Mr. H. Wiriadinata (BO), R. Harahap (Bogor Botanical Garden) and Noerdjito (Bogor Zoological Museum) visited Palangkaraya, Kuala Kurun and Kuala Kapuas, Central Kalimantan. They collected 199 numbers of live plants, 19 of seeds, 1062 numbers of herbarium specimens and 28 of ethnobotanical artefacts.

On 25 Oct.-20 Nov. 1981, Messrs. Rochadi A, S. Sunarti and A. Ma'roef (BO), Mr. Tahan Uji (Bogor Botanical Garden) and S. Abdulkadir (Treib Lab.) visited Wanariset forest, East Kalimantan for continuing ecological study in this forest. More than 1200 numbers of live plants, voucher and herbarium specimens and also ethnobotanical artefacts were collected.

Forests at Kersik Luwai Nature Reserve and Melak Mahakam Ulu, East Kalimantan were visited by Messrs. Eko B. Walujo, Kartini Kramadibrata (BO) and E.R. Rasmandi, Dulhaer (Bogor Zoological Museum) on 21 Dec. 1981 till 26 Jan. 1982. During this trip they collected 196 numbers of live plants and 1069 of herbarium specimens.

Messrs. Rochadi A., R. Yusuf, S. Sunarti, A. Ma'roef and Maskuri (BO) and S. Abdulkadir (Treib Lab.) visited Wanariset Forests, East Kalimantan on 15 Jan.-18 Feb. 1982 for continuing ecological study in this area. They collected 3500 numbers of voucher and 25 of herbarium specimens.

On 16 Feb.-6 March 1982, Mr. D. Gandawidjaja (Bogor Botanical Garden), U. Warsita and J.J. Afriastini (BO) explored Sampit and Palangkaraya Areas, Central Kalimantan. During this exploration, they collected 248

numbers of live plants and 330 numbers of herbarium specimens.

From 15 March-5 April 1982, Messrs. T. Partomihardjo, S. Sunarti and A. Ma'roef visited Wanariset Forest, Samboja, in connection with the continuation of ecological study in this forest. During this visit, they collected 2000 numbers of vouchers and live plants, incl. *Durio kutejensis*, *D. lanceolatus*, *D. aquatifolius* and *D. oxeylanus*.

Messrs. Rochadi A., T. Partomihardjo and A. Ma'roef (BO) visited Lem-pake Forest Samarinda, East Kalimantan on 10-22 May 1982. They collected 700 nos of vouchers; at the same time, Miss E.A. Widjaja explored Apokayan forest, near the boundary with Sarawak, for collecting bamboos. She collected 135 numbers of herbarium specimens and 124 numbers of live plants.

On 20 Sept.-20 Oct. 1982, Messrs. S. Abdulkadir (Treub Lab.), S. Sunarti and Ramlanto (BO) visited Wanariset Forest, Samboja for continuing ecological study. During this study, they collected 55 numbers of live plants, 46 of herbarium specimens and 284 of vouchers.

For ecological work on hornbills (see Research & Publications), Dr. Mark Leighton spent considerable efforts during the years 1977-1979 to make a botanical collection, in the East Kutai Reserve, by the Sengata and Mentoko Rivers, i.e. on the northern side of it. His numbers run from 1 to 1141 (the compound numbers like OB13.40E5 on the handwritten labels refer to plots and have no other standing), but not all of these numbers were used. Only trees and climbers were collected, with special attention paid to fruits, many of which were preserved in alcohol. The best represented families are Annonaceae, Burseraceae, Euphorbiaceae, Lauraceae, Meliaceae, Moraceae (with c. 49 spp. of *Ficus*, in many samples), Myristicaceae, Myrtaceae, Rubiaceae, Sapindaceae, while many Anacardiaceae, Bombacaceae, Dilleniaceae, Dipterocarpaceae, Fagaceae, Guttiferae, Melastomataceae and Vitaceae were also taken. After sets had been split off for the BO and DAV Herbaria, the collection was received 'raw' at Leiden, where the essential curating work was done, errors in the numbering corrected, identification work was organized (with the kind assistance of many specialists), and standard labels were added. The quality of the material was uneven; at L were retained c. 400 numbers, with 180 alcohol samples; the remainder and duplicates were sent to the Arnold Arboretum, where Dr. Leighton is now on the staff as a rain-forest ecologist.

The Bukit Raya Expedition, financially sponsored by WOTRO, Dir. Gen. Wetenschapsbeleid (Min. of Ext. Affairs) and Bureau Buitenland (Leiden University) was carried out between Nov. 1982 and March 1983, by an interdisciplinary team consisting of the following persons: Dr. H.P. Nootboom (L, leader), the only full time member of the expedition; Mr. A. Brader and Prof. R.A.A. Oldeman (Wageningen); Mr. H. van Reuler (MAB Unesco); Mr. J.P. Moge and Mr. H. Wiriadinata (both BO); Dr. I.G.M. Tantra (For. Res. Inst. Bogor); Dr. E. Torquebiau (Biotrop); Dr. J.F. Veldkamp and Dr. W.J.J.O. de Wilde (both L).

Purpose of the joint undertaking was to establish an integrated image of the lowland forest in the Bukit Raya Nature Reserve based on aerial

photographs and ground observations, and to make a preliminary inventory of plant species. Hardly any botanical collecting has been done in the area so far. A soil reconnaissance was carried out in a number of plots laid out to study regeneration patterns and tree architecture.

The team had to overcome considerable logistic problems at the start. As a result of extremely low rainfall in the last five months the rivers were nearly dry, making transportation by boat next to impossible.

The area studied ranges from 50 m a.s.l. to 2278 m (the summit of Bukit Raya). The vegetation consists of various types of rain-forest except in the summit area which is covered by small-leaved Ericaceous shrubbery. At least part of the lowland forest is destined to disappear in the near future by logging. Most of the forest in the lower regions grows on rugged terrain. During the rainy season even under forest cover erosion takes place and would assume disastrous proportions should the forest be removed.

The herbarium specimens collected number about 3500, and appear to include several species new to Kalimantan or even to science. A preliminary report was produced by Dr. Nooteboom.

#### P h i l i p p i n e s

Dr. Romualdo M. del Rosario went on a short collecting trip in Quezon, Palawan.

Dr. Domingo A. Madulid and Messrs. Ernesto J. Reynoso and Generoso dela Cruz explored the forests of Mt Mayon, Albay and Bulusan, Sorsogon and collected about 900 herbarium specimens, mostly palms.

Dr. Paciente A. Cordero Jr and Mr. Wilfredo Vendivil on separate trips collected marine algae and explored the mangrove swamps and nearby forests of Jawili, Tangalan, Aklan where the National Museum is establishing a Biological Station. The site of the station, facing the Sibuyan Sea and about 1.5 hectares was donated by the present Vice-Mayor of the town. A task force, chaired by Dr. P.A. Cordero Jr has done preliminary studies in the area.

Mrs. Lolita J. Bulalacao, Museum Researcher, has conducted a field survey of Las Piñas, Metro Manila, in an attempt to define plant communities which are possible sources of modern pollen rain. Multivariate statistics was employed to show plant associations and therefore evaluate vegetational changes observed. Statistical techniques was also used in correlating the seasonality and composition of the modern pollen rain to the incidence of inhalant allergy in the area.

In Oct. 1982 Dr. Tan and Mr. Regalado (Los Baños) visited the mountains in Cavinti, Laguna, which forms part of the Sierra Madre Range. Most of the primary Dipterocarp forest is disturbed, although some protective measures have been undertaken. About 40 specimens were collected.

#### C e l e b e s . (= Sulawesi)

Mr. Jan. Th. Johansson, Ms. Hilde Nybom and Ms. Susanna Riebe (Inst. of Systematic Botany, University of Lund, Sweden) visited Karaenta Nature

Reserve (lat. c. 5° S, c. 119°50' E) near Maros, Sulawesi Selatan, on 15-18 Feb. 1981 and the primary rain-forest area around the village of Tongoa and on the mountain Gunung Nokilalaki (lat. c. 1°10' S, c. 120°10' E) c. 60 km SE of Palu, Sulawesi Tengah, on 23 Feb. to 26 March 1981. The expedition was carried out in cooperation with Dr. Kuswata Kartawinata (BO) and Dr. Nengah Wirawan (Ujungpandang). In Karaenta N. R., a rain-forest area of limestone hills at c. 800 m alt., 34 numbers were collected. In the granite rock area around Tongoa by the river Sg. Sopu (at c. 650 m alt.) and on G. Nokilalaki about 570 numbers were collected. Apart from c. 100 bryophytes and lichens, these were mostly herbs, shrubs and smaller trees. The rain-forest area around Tongoa will be felled, probably within 10 years. The G. Nokilalaki, however, is included within the suggested extension of the Lore Kalamanta (Lore Lindu) National Park. Some fern spores were sent to Leiden for cultivation. Delicate flowers of Orchidaceae, Zingiberaceae and other groups, as well as large fleshy fruits, were preserved in 70% alcohol and deposited at BO and L. All specimens collected were labelled with 'JNR'. The first sets are kept at BO and L, and duplicates were also deposited in Ujungpandang and LD.

#### M o l u c c a s

On 6-28 Oct. 1981, Messrs. A. Budiman (Bogor Zoological Museum), S. Prawiroatmodjo, Maskuri (BO), S.E. Pratignyo, I.G.G. Muditha and Supardi (Bogor Botanical Garden) studied ecosystem of Mangrove at Teluk Elpaputih and Teluk Piru, Seram island. Altogether, they collected 84 numbers of live plants and 101 numbers of herbarium specimens.

Messrs. B.P. Naiola, A. Hepiyanto, E. Sulaeman (Bogor Botanical Garden), J.P. Mogeia and U. Warsita (BO) explored Moluccas islands (Seram, Ambon, Serua, Angiwormasse, Kei and Tanimbar) from 3 Nov.-6 Dec. 1981. They collected 620 numbers of live plants, 295 numbers of herbarium specimens, 65 of fungi, 10 of mosses and 8 of ethnobotanical artefacts.

From 5-26 Feb. 1982, Messrs. Rusdy E. Nasution, H.J.D. Latupapua, Ismayadi, M. Budiman (Bogor Botanical Garden), J.P. Mogeia (BO) and M. Siluba (Bogor Zoological Museum) explored Ambon, Halmahera, Seram and Huruku islands. More than 400 numbers of plants and animal specimens were collected.

Buru island was surveyed by Messrs. A.S. Adhikarena, D. Hardjono, G. Sumaatmadja of Bogor Zoological Museum and I.B.K. Arinasa of Bali Botanical Garden on 5 Oct.-4 Nov. 1982. They collected 243 numbers of live plants, and herbarium specimens.

#### N e w G u i n e a (West)

Dr. Kostermans and Dr. Laumonier (Biotrop) and Ir. Hilligers (Wagenin-gen) visited the lower Mamberamo region as guests of Shell Oil Co. The expedition was partly financed by WWF. Three transects were studied. A report is being prepared.

Mr. J.M. Mangen (Luxembourg) visited the Baliem valley and Mt Trikora in August 1982. He returned with a series of slides of plants and landscapes and some 250 herbarium specimens.

P a c i f i c

A team of ORSTOM at Nouméa, New Caledonia consisting of Drs. Morat, Veillon and Hoff paid three visits to Wallis, Futuna and Alofi during 1982 and collected 1200 herbarium specimens.

b) Cyclopaedia of Collectors. Additions. VI

(continued from page 3736)

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