V. EXPEDITIONS AND OTHER EXPLORATION

a) Field Work *(continued from page 3392)*

I n d i a

During 1980 The Botanical Survey of India had again collections made. We list them in the same manner as on *pages 3382-3383*. In Andaman Circle: Great Nicobar I., 118 specimens. In Arunachal Pradesh: Kameng District, 644. In Assam: Silonijan & Sibsagar Gauhati, 205. In West Bengal: Darjeeling District, 100. In Himachal Pradesh: Gori Valley, 56. In Jammu & Kashmir: Ladakh, 2295. In Karnataka: Nagu Valley, 1280. In Kerala: Aruvikar, Coralum, Nadayar, Ponmudi, Pulimath, and Varkala of Trivandrum District & Chandanathode; Baveli R.F., Kannoth R.F., Kottiyoor R.F., Peria,

Tirunathi R.F. of Cannanore District; Silent Valley, Palghat District, Quilon District; Trichur & Idukki District, together 12,418. In Madhya Pradesh: Damoh District, 644. In Maharashtra: Akola, Chikhawal, Fetra, Kalakamta, Kashmar, Kinhiraja of Akola District; Kolhapur District, 3280. In Meghalaya: West Khasi Hills, 432. In Orissa: Mayurbhanj Forest area, 1680. In Rajasthan: Nohar & Anupgarh in Ganganagar District, 636. In Sikkim: Changulake, Gangtok, Kupup, Rumtek in Gangtok, 636. In Tamil Nadu: Coimbatore, Ramanathapuram, Tirunelveli Districts, 1729. In Uttar Pradesh: Kanhar Irrigation Project, Mirzupur District, Dhanaulti Tehri District, 90.

South India was revisited in February-April 1980 by Dr. C. E. R i d s d a l e of Leiden, in collaboration with the Botanical Survey of India, Southern Circle. In various stations in the Western Ghats c. 385 numbers were collected, and 130 wood samples. Processing is done at L.

For a description of the area, see WWF Yearbook 1978-9, p. 65-68.

C e y l o n (= Sri Lanka)

Following previous harvesting, Dr. A. J. K o s t e r m a n s, during the period 18 May 1978 to 15 October 1980, collected 2760 field numbers, with varying amounts of duplicate. One set was deposited in the PDA-Herbarium where he was based; sets also went to AAH and G. A considerable lot came to Leiden for further distribution (with part of the labels remade), to BR, BO, K, KEP, KYO, LE, HON and others later to be determined.

His total stands at c. 6000, "the largest collection of herbarium specimens ever made by one man in Sri Lanka."

F o r m o s a (= Taiwan)

Swiss fern expedition. In October and November 1980, Professor K. U. K r a m e r of the ZT-Herbarium, together with E. Zogg and Helen Gassner, made collections mostly in the montane forests. Funds came from the Stiftung für wissenschaftliche Forschung an der Universität Zürich, and the Georges & Antoine Claraz-Schenkung, also of Zürich. Most praiseworthy support came from the Botany Department, National Taiwan University, the Taiwan Forestry Bureau (which kindly issued a 'mountain permit'), and the Taiwan Forestry Research Institute.

Work was done near Chitou in the NW. and the Alishan-Yü Shan area in the centre. The montane forests are scarcely inhabited, and seem carefully managed. Reforestation is mostly done with indigenous and often endemic tree species, so the undergrowth remains natural. In the lowlands on the W. and S. side, however, very little original vegetation is left. Denuded hills in the tropical South have often been replanted with exotics like Casuarina and Acacia confusa; in such places there is hardly any accompanying indigenous flora.

A sizeable expanse of original tropical lowland forest has been set aside as a nature reserve adjacent to (partly inside) the Tropical Botanical Garden at Kenting near Hengchun, just north of the southern tip of

Formosa. The botanists from Switzerland spent a week in the excellent guesthouse of this Botanical Garden, collecting in the nearer and farther vicinity, particularly in the forest reserve, also on the nearby hill of Nanjeng Shan which is botanically particularly rich and partly undisturbed and is the intended site of another nature reserve. The Kenting reserve itself is on coral limestone substrate; the strongly weathered rocks crop up in ragged mounds and crags and are mostly entirely overgrown by the dense forest vegetation; in this tropical evergreen forest tree-strangling Ficus species play an important part. The striking absence of large trees is due to the frequent occurrence of typhoons, and the vegetation is in no way comparable to a tropical high forest. A tiny reserve on the nearby coast preserves what is perhaps the last stretch of original coastal forest with trees like Barringtonia, Pisonia, and Hernandia.

The next stop was Taitung in the southern part of the East coast. The lower mountain sides near the coast are mostly cleared or replanted with exotics, but more remote parts of the mountains, which here approach the coast much more closely than in the West, are still fairly wild country with much original forest, thinly populated by aboriginals (Ami tribe). The botanists were most hospitably received in a catholic mission centre. The nearby mountains are not very easily accessible, and a 'mountain permit' is required. With the help of Bro. Augustinus Büchel all difficulties were overcome, and a most rewarding excursion was made in the Haituan area along the southern Cross Island Road. The montane forests above 2000 m (mainly Theaceae; higher up much Tsuga) proved particularly rich; the area has, as yet, been little explored botanically.

The last leg of the trip took the travellers to the famous scenic Taroko Gorge which north of the town of Hualien on the East Coast extends far west into the mountains. The lower parts of this National Park have been touristically developed (still mostly unspoiled thanks to the very steep cliffs), but the upper parts are hardly inhabited and are often only accessible by small tracks used by the aboriginals (Bun-un tribe), some roads being under construction. This is a limestone area that supports many interesting species. There was good collecting in some valleys near the small town of Tienhsiang between 700 and 850 m, in an area of evergreen broad-leaved forests.

After returning over the mountains to Taipei, the botanists made another rewarding excursion to the extreme North of Taiwan. They visited a fine stand of mangrove consisting entirely of Kandelia candel on the eastuary of the Keelung R. near Tamsui, and the coastal sandstone hills at Yeh-liu, northwest of Keelung, which support interesting coastal scrub.

The last week of the trip was spent in Hong Kong. There again, much worthwhile field work could be done thanks to very active support by members of the Botany Department of the University of Hong Kong, mainly in the New Territories but also on Hong Kong Island. There is a fine stand of ± original forest in the Tai Po Kau Forest Reserve on the mainland, but even quite close to the skyscrapers of Hong Kong there are places with botanically rich, not too much disturbed thickets or low woods.

Altogether, about 850 numbers were collected (ca. 60% pteridophytes),

over 700 in Taiwan, the remainder in Hong Kong, many of them with duplicates. The first set will be deposited in the herbarium of the University of Zürich; duplicates will be distributed to various other Herbaria.

Off the southern tip of Taiwan, to the East, is the tiny volcanic island of Lan Yü (= Orchid Island; also known as Botel Tobago), politically part of Taiwan but geologically, climatically, and botanically more akin to the Philippines. (It does, however, not belong to the Flora Malesiana area — Ed.) It harbours a considerable number of Malesian species (some of which extend to the southernmost Hengchun Peninsula of Taiwan), as well as a number of endemics, some shared with Lü Tao (= Green Island) to the North. Lan Yü is very hilly; most of its inhabitants belong to the aboriginal tribe of the Yami. The visit proved disappointing; the accessible parts of the island have all been cleared, or replanted with sterile exotic forests of Casuarina and Acacia confusa, a process that is still going on. The small patches of original forest left in the interior are very difficult to reach. Small remnants of original vegetation could also be found in the steep creek ravines. A number of interesting local species, are still frequent, like Excoecaria kawakamii and Alyxia insularis, but by and large the former richness of Lan Yü seems to have disappeared, the remnants of original forest being at present also destroyed or degraded. The Taiwanese botanists are apparently aware of this situation but are unable to change it. The stay in Lan Yü was shorter than originally planned because of this state of affairs.

M a l a y a

Dr. A. L a t i f f Mohamed of UKM and students in January 1980 made a trip to P. Pemanggil — an island between P. Tioman and P. Aur in the South China Sea: 87 numbers, in duplicate.

A similar crew in November 1980 made a trip to P. Langkawi: 156 numbers, in duplicate.

S u m a t r a

From 15 January to 15 February 1980 Messrs. Harry W i r i a d i n a t a, Maskuri (BO), Sarkat Danimihardja and Endat Hidayat (Bogor Botanical Garden) made an exploration and vegetation study at the Bohorok Nature Reserve area in North Sumatra. The collection made includes herbarium specimens (525 nos. general collection and 90 nos. vouchers), live specimens (667 nos. orchids, 77 nos. seedlings), seeds (180 nos.), tubers and fruits (143 nos.).

At the same time another group comprising Messrs. Rochadi A b d u l h a d i, Dirman (BO), Yatna Supriatna of the Museum Zoologicum Bogoriense, and Dr. C.H. Lamoureux of Botany Department, University of Hawaii, spent one month at the Ketambe Research Station, Gunung Leuser National Park to do some ecological studies in the lowland forest and the Alas River. The collection made include 292 nos. herbarium specimens, 118 nos. live specimens and 950 vouchers.

From 7 February to 7 March 1980, Messrs. Johanis P. M o g e a, A. Latief Burhan and Afandi Ma'roef (BO) explored the forests at Biak Mentelang (550 m alt.), Kubur Panjang (750 m), Lawe Sikap (500 m), and Datuk Danau (200 m) on the western side of the Alas River, Kutacane, S.E. Aceh. The collection made include herbarium specimens (658 nos.), vouchers (152), live specimens (74 orchids and seedlings) and some collection of seeds and tubers. At the same time another group consisting of Messrs. Suhardjono Prawiroatmodjo, Eko Baroto Waluyo and Djuaeni (BO) did a similar work on the eastern side of the Alas River, i.e. Gunung Bandahara (3020 m), Alur Penanggalan (450 m), Berawan Nage (750 m) and Lengkudu (350 m), all within the Kecamatan (District) Badar, S.E. Aceh. They collected herbarium specimens (341 nos.), vouchers (598 nos.) and live specimens (269 nos.) including orchids, tubers and seeds of various species.

Dr. Kuswata K a r t a w i n a t a joined for ten days the trip made in 16 September-11 October 1980 by Messrs. Rochadi Abdulhadi and fellows, collected 51 nos., including the host of Rafflesia ? acehense, (Tetrastigma sp.) and 2 species of Cyrtandra, the dominant undergrowth species in the forest. The forest is dominated by Meliaceae (e.g. Aglaia cauliflora, Dysoxylum alliaceum, D. caulostachyum, D. arborescens, D. macrocarpum, Chisocheton sp.). Live specimens (including fruits and seeds) collected by Imanudin and Sukamto were 356 nos.

Messrs. Rochadi A b d u l h a d i (BO) and Yatna Supriatna (Museum Zoologicum Bogoriense) made a survey to North Siberut (Muara Sijabaluan, Sinaki, Tiniti and Simaligi) on 10 March-3 April 1980 to study various habitat conditions in the area that will be designated as wildlife reserves. Some live and herbarium specimens were collected.

Chikusichloa found. A mysterious oryzoid grass, collected by De Wilde in Kutacane, N. Sumatra, turned out to be C. mutica, a very rare species of SE. China. This E. Asian genus is new for Malesia. See Blumea 26: 390.

J a v a

From 3 to 11 January 1980, Messrs. Rochadi A b d u l h a d i and Suhardjono Prawiroatmodjo (BO) and Miss Rahayuningsih (of Museum Zoologicum Bogoriense) visited Meru Betiri Nature Reserve East Java and collected herbarium specimens (53 nos.) and living plants (37 nos.) as well as fruits and seeds (18 nos.).

Mr. Rusdy E. Nasution of the Purwodadi Botanical Garden, Lawang, together with Mr. J.B. Comber, an amateur orchidologist in Surabaya, and some technicians from the Botanical Garden explored the Purwodadi Banyuwangi and Ranupeni (Lumajang) forest areas in East Java during the month of June 1980 and brought back 35 nos. of live specimens. They made similar exploration in Argowayang, Pujon, Coban Rondo, Wagir, Puntir and Grati (East Java) in July 1980 and collected 27 nos. live specimens.

Herbarium specimens (30 nos.) and live specimens (Amorphophallus, Orchids and Zingiberaceae) were collected by Miss Elizabeth A. Widjaja (LBN) and Miss J.J. Afriastini Soemarsono (BO) from teak forests at Kesamben, east of Blitar, and East Hyang Plateau north of Jember, East Java, on 28 February to 9 March 1980.

Starting from July 1980 for a period of about 9 months Herbarium Bogoriense is helping the Dutch ATA-PERHUTANI joint project on the development of the Konto River Basin (Kalikonto Project) in plant collecting, building reference herbarium, identification and training personnel in plant identification. Mr. Johanis P. Mogea initiated the exploration of the forests in Coban Ronda-Coban Nganten area and in the vicinity of G. Kawi from 8 July to 8 August, and collected 481 nos. herbarium specimens. The specimens are stored in the Project's Field Station and the duplicates in BO. During the months September-October Messrs. Sukristijono Sukardjo and Harry Wiriadinata explored the area.

Lesser Sunda Islands

Ende and Sikka of the Island of Flores, Kupang and Central Timor, Lesser Sunda Islands, were the places that Dr. Padmono Citroreksono (Treub Laboratory), Mr. Endi Rochadi (Bogor Botanical Gardens) and Miss Elizabeth A. Widjaja (LBN) visited from 28 January to 28 February 1980. They collected 396 live plants (orchids, tubers, fruit species), 389 nos. herbarium specimens, and 12 nos. of botanical materials for laboratory analyses.

Dr. Charles H. Lamoureux (University of Hawaii, and a guest Scientist at the Bogor Botanical Garden), Mr. Beth Paul Naiola (Bogor Botanical Garden) and Mr. A. Suyanto (Museum Zoologicum Bogoriense) explored Western Timor (Kupang, Camplong, Soe, Kapan, Kefa, Oemofa, Fatukona and Bipolo) from 15 to 29 July 1980, and collected 260 nos. herbarium and live specimens. Observations on environmental conditions, traditional and ethnobotany were also made and are supplemented with colour slides.

Mr. Robinson Harahap and some technicians of the Ekakarya Botanical Garden, Bali, collected 90 nos. live orchids and 6 nos. other plants from G. Batukan, Tabanan, Bali, on 26-27 July 1980. Mr. I. Wayan Sumatera and some technicians visited Bukit Teluk Biu and Bukit Abang in the Karangasem forest area, Bali, and brought back 5 nos. herbarium specimens, 35 nos. live orchids and 63 nos. other live plants. On 18 September they visited also Bukit Andeng (Baturiti) and collected 111 nos. live orchids.

On 26-27 July 1980, Messrs. Robinson Harahap, I Gusti Made Raditha and I Made Sukiada explored Bukit Meshe, Bukit Merbuk and Bukit Kelataka in Jembrana area, Bali, and collected live specimens of orchids (78 nos.) and other plants (34 nos.).

Borneo

Sarawak. Five tours were made during 1980, to Tg. Po, Tg. Datu, Sg. Insungai, Hose Mts, and G. Silantek. They yielded c. 1400 collections to the SAR-Herbarium, whence duplicates will be distributed.

Dr. Ruth K i e w, University of Agriculture, Serdang, Malaya, surveyed Semunsam Wildlife Sanctuary (for proboscis monkeys, in the 1st Division), collecting 102 nos. mostly of herbs and palms, for the UPM-Herbarium at Serdang (see Herbaria), and SAR.

Kalimantan. Mr. Herwasono S o e d j i t o spent 5 months (31 October 1979-31 February 1980 and 20 June-July 1980) at Long Sungai Barang, Kayan Hulu, near the border of Sarawak and Long Segar, Muara Wahau (1 March - 26 May 1980), East Kalimantan, doing ecological studies in primary forest and secondary forests as well as plant collecting. The study is a part of the joint Indonesian MAB (Man and Biosphere) and U.S. MAB on 'Interactions between people and forests', an integrated study that involves biologist and social scientist. During this period 1205 nos. of herbarium specimens (503 spp.) were collected from Long Sungai Barang and 1095 nos. (304 spp.) from Long Segar, and 34 nos. of living plants were collected also.

Dr. Kuswata K a r t a w i n a t a and Dr. Andrew P. V a y d a (a human ecologist of Rutgers University, U.S.A.) visited Long Sungai Barang on 25-29 February 1980 and Long Segar on 3 March 1980. The herbarium specimens collected by Kuswata are in Soedjito's name. On 19 May Miss Harini M. Sangat (BO) joined Mr. Soedjito and spent three months at Long Sungai Barang. She investigated the use of plants by the villagers (Kenyah) and its impact on the forests and other plant communities, and she studied also other aspects of ethnobotany of the area. The voucher specimens (294 nos.) for her study are deposited at BO. The village of Long Sungai Barang (c. 800 m alt.) with a population of 370 is rich in useful plants that have potentials to be developed, including fruit trees such as Euphorbia cinerea, Nephelium sp., N. eriopetalum, N. maingayi, Xanthophyllum sp., Litsea garciae, Mangifera torquenda, M. rigida, and Baccaurea spp. Altogether Soedjito recorded 42 species of fruit plants growing in the home garden, and Harini M. Sangat recorded 263 species of wild plants from the secondary and primary forests used by the villagers as medicine, food, handicraft, construction, animal feed, etc.

From 22 November to 19 December 1979, Mr. Johanis P. M o g e a and party visited forests at Kelampi, Kasungai River and Kebinai River in the upper Kandilo River area, as well as Muara Pasir in the mouth Kandilo River, Pasir, southern East Kalimantan (they collected 350 nos.).

From 7 to 27 February 1980 Messrs. Soedarsono R i s w a n (BO) and party continued their ecological studies at the Wanariset Field Station (of the Forest Research Institute), 38 km from Balikpapan. During this period 17 nos. of general herbarium specimens, 612 nos. of vouchers and 83 nos. live specimens (including fruits and seeds) were collected. On 10 September-3 October they revisited the area and collected 70 nos. herbarium specimens and 656 vouchers.

On 10 September-15 October 1980 Messrs Johanis P. M o g e a and party (BO) made an exploration in Kong (Mt) Kat (1950 m), and its vicinity which forms a continuous range with G. Menyapa (2050 m). 346 nos. herbarium specimens and 34 nos. of live plants were collected.

On 16 February-30 March 1980 Messrs Tatang Kuswara and Agus Cahyono (Bogor Botanical Garden) visited the districts of Dusun Hillir, Katingan and Bukit Batu, Central Kalimantan, and collected 103 nos. herbarium specimens, 30 nos. live palms (9 genera), 84 nos. live orchids and tubers and fruits.

Dr. Setijati Sastrapradja (Director of LBN), Dr. Soenartono Adisoemarto (Head of Museum Zoologicum Bogoriense) and Ir. Lukito Darjadi (Direc-

rector of PPA) visited Tanjung Puting Nature Reserve (Biosphere Reserve) on 3-8 May 1980. The visit was made in the framework of improvement and development program of Natural area reserves.

On 17-30 March 1980 Dr. Made Sri Prana and Mr. Zamroni of the Bogor Botanical Garden made a trip to G. Sarantak (Kabupaten Singkawang) and G. Bunga (Kabupaten Ketapang), West Kalimantan to collect live specimens of orchids, tubers, and fruit plants (188 nos.).

Dr. Jean Hanson of the Treub Laboratory and Miss Irawati of Bogor Botanical Garden visited G. Senjuju, Danau Sepedang, G. Pemangkat, G. Tanjung Gung and Danau Pitpo Lunau in West Kalimantan on 2-15 January 1980. They collected living specimens of orchids (202 nos.), ornamental plants (21 nos.), legumes (18), fruit plants (48), ginger (22), vegetable species (6), mosses (10), and herbarium specimens incl. fungi (28 nos.).

In the East Kutai Reserve, Mr. Mark L e i g h t o n (born 1951) and his wife Dede, from the Department of Anthropology, University of California, Davis, Calif. 95616, U.S.A. did ecological field work during the years 1977-1979. They were based in a camp near the junction of Sengata and Mentoko Rivers, studying relations between fruit-eating animals (mainly monkey and hornbills) and the plants supplying them. On the observation platform they built, see the article on *pages 3432-3434*.

They collected a quantity of material, herbarium, mostly in fruit, with often fruits in alcohol, in M. Leighton's name, nos. 1-1141. Sets were deposited in the Herbaria BO, DAV, L, and perhaps others. Standard labels were made at Leiden, where lately an amount of (pre)identification work was done. Leighton himself made field notes, in considerable detail, in longhand on blank Davis Herbarium labels; those of numbers 653 and upward were seen and copied at Leiden.

Part of the material consists of elements which were obviously picked up from the forest floor; it was found that leaves and flowers or fruits under a number don't always match. Occasional errors in digits were also found, hence two different spirit collections may bear the same number. A name list is retained at Leiden by Dr. M. Jacobs.

C e l e b e s (= Sulawesi)

Mr. Deddy D a r n a e d i (BO) and Mr. Arie Budiman (Museum Zoologicum Bogoriense) joined the Operation Drake Expedition to Morawali, Central Sulawesi, from 18 January to 12 March 1980. They studied the mangrove and dryland forests in the area and brought back 30 nos. general herbarium collection and 452 nos. vouchers.

N e w G u i n e a (East)

Mrs. B. S. P a r r i s Croxall of CGE late in 1980 spent 2½ months in Malesia, examining ferns in the SING, BO, LAE and BFC Herbaria. She carried out field work on ferns in East New Guinea, viz. the Provinces Western and Southern Highlands, Morobe, and Madang. Duplicates to to LAE. She also collected on Mt Kinabalu, N. Borneo; duplicates go to the Kinabalu National Park Herbarium. The top set she will retain.

Paul & Jackie S i l l i t o e, Archaeology & Anthropology, University of Cambridge, U.K., made 256 collections in late 1976 and early 1977 as vouchers for their anthropological studies of the economics of the Wola Tribe, at Haelaelinja Settlement, Was River Valley, near Nipa, Southern Highlands. The results will be published in book form. All vouchers are in CGE.

Dr. E. C o p p e j a n s and Mr. P. G o e t g h e b e u r, of the Botany Department, University of Ghent, Belgium, stayed in the course of 1980, for 3] months, on Laing Island Biological Station, Papua New Guinea. They collected some 1500 numbers of plants, amongst which c. 500 algae.

A u s t r a l i a

Botanists M. L a z a r i d e s and L. C r a v e n of CANB made a month's collecting trip in Kakadu National Park, Arnhem Land, in April-May 1980.

The BRI-Herbarium sponsored the following field trips during 1980:

N. B. B y r n e s visited the Proserpine area to inspect and collect plants from a proposed dam-wite west of the town. He and J. Clarkson then collected in the Stannary Hills and Newcastle Range area near Georgetown. They were searching for Kunzea material.

J. R. C l a r k s o n undertook several trips from Mareeba. He had extended visits to McIlwraith Range, Chillagoe area, Iron Range, Almaden-Chillagoe-Wrotham Park, and Koyanama and Edward River Aboriginal Reserves on the western side of Cape York Peninsula. In association with entomologists engaged in tagging for Oriental Fruit Fly Program, he undertook an aerial reconnaissance by helicopter of Cape York Peninsula visiting many centres.

T. D. S t a n l e y spent time in Townsville, Mackay, Rockhampton, Gladstone, Bundaberg and Maryborough systematically collecting weeds in suburban streets. He aims to produce a weed-list for Queensland coastal cities.

B. K. S i m o n collected in several areas throughout Australia and visited several herbaria in connection with his studies of Australian Aristida species. He visited Atherton-Mareeba, Alice Springs, Darwin, Kununurra, Carnarvon, Perth, Adelaide, Melbourne, Canberra and Sydney.

b) Cyclopaedia of Collectors. Additions. IV

(continued from page 3004)

Density indexes updated. In Fl. Males. i 1 (1950) cvii-cxii it was proposed to compare the achievements in collecting herbarium specimens through averages of collections made in 100 sq.km for each island or province. In i 8 (1974) iii-iv, the figures were updated for the 9 main sub-areas. While for the smaller islands this way of calculation is less satisfactory, it accurately reveals the state of exploration for the larger. At L, Dr. W. V i n k made an effort to calculate the indexes for

Sumatra, Borneo (whole island, of which Kalimantan, the Indonesian part, is poorly collected in comparison with Sarawak, Brunei and Sabah), and Celebes or Sulawesi. The results are as follows:

	land area sq.km	number of collections made (x 1000)/ / density index, up to year 1950	1972	1980
Sumatra and adjacent islands	479,513	88 / 18	99 / 21	106 / 22
Celebes	182,870	33 / 18	34 / 19	42 / 23
Borneo	739,175	92 / 12	194 / 26	228 / 32

The differences in density between Kalimantan and the other parts of Borneo were also computed by Vink. He found:

Sarawak, Brunei & Sabah	196,360	52 / 26	145 / 73	171 / 87
Kalimantan	542,815	39 / 7.3	49 / 5.1	57 / 10.5

These figures convincingly show the backward state of collecting in Indonesian Borneo; in fact, the Kalimantan index is the lowest of all major parts of Malesia. The causes for this are in history; the point now is: what to do about it? The richness of the Bornean flora was estimated by E.D. Merrill in 1921 at some 10,000 species, and this figure is still accepted. The large numbers of species involved make the imbalance the more striking, and in view of the logging programs now under way, a collecting drive seems most urgent.

Addition to F. R. M i t c h e l l, see *page 3001*. Mrs. B. S. P a r r i s Croxall, now at CGE, received the top set of the ferns he collected on his expedition in 1971; they are in her herbarium. The Christchurch Herbarium (CHR) has the duplicate set. None was apparently deposited in LAE.

Highland orchid collection numbering system. There are currently 4 different sets of numbers in use here. It may not be ideal but it is convenient when one has to be involved with botanical research as well as cataloguing and exporting of orchids.

1) RFN (Reeve Field Number). This series only commenced in 1977 and all plants collected on trips are given a RFN number and the details of origin recorded in a notebook.

2) PNGH (P.N.G. Highlands). When plants were first collected for export (1975), and later for the collection at Laiagam (1976), they were just grouped into different 'species' and given a PNGH number. This is quite handy, especially for assistants, who can learn the numbers much more readily than Latin names. Records of distribution, times of flowering and other notes are kept at Laiagam. Tags placed on new acquisitions should now show both PNGH and RFN numbers.

3) LGM (Laiagam). This prefix is used for plants in cultivation at Laiagam from families other than Orchidaceae (e.g., Rhododendron, Begonia, Nepenthes). This is only a small series of numbers as orchids are the main line.

4) TMR (T.M. Reeve). This is the prefix for all herbarium and alcohol specimens. A register is kept at Laiagam in which the corresponding RFN, PNGH or LGM numbers are entered. Quite a few of these numbers are unicates, deposited in LAE. Herbarium sets are being prepared mainly for the following Herbaria: LAE, K, L, E and CANB. Specimens may be sent to other institutions upon request, but priority will be given to herbaria undertaking revisions.

Officer in charge: T.M. R e e v e, Primary Industry, Laiagam, Enga Province, Papua New Guinea.