

V. EXPEDITIONS AND OTHER EXPLORATION

a) Field Work (*continued from page 3567*)

I n d i a

During 1981 the Botanical Survey of India had again collections made. We list them in the same manner as on pages 3559-3560. In Andaman & Nicobar Is.: Great Nicobar, 300 specimens. In Andhra Pradesh: Anantagiri, Endrika Hills, Ganganaju-medugula, Paderu, 1590. In Arunachal Pradesh: Ganganagar, Hapoli, Naharlagan, Namdapha Biosphere Reserve of Tirap Distr., Tamer Road, Tiruli of Subansiri Distr., Ziro, 1054. In West Bengal: areas of Jalpaiguri, Bankura and Midnapur Districts, places of Bangaon, Tantulia and Basirhat of 24-Parganas Districts, Jaldapara Reserve, Totopara,

&c., 2240. In Gujrat: Lalpur and vicinity, 1090. In Karnataka: vicinity of S. Karnataka River-Mulla Periyar and catchment areas, 500. In Kerala: Alleppey, Anathode, Cannanore, Devicolam, Kakki, Kasargod, Kokharjam, Munnar Peermade, Muzhiyar, Pachakanam, Pamba Dam areas, Peruvanzuzhi, Ponnambala Medu, Sabarigiri, 4150. In Madhya Pradesh: areas of Panna Distr., 800. In Maharashtra: Bhimsankar, Janar, Purandar, 985. In Meghalaya: Cherrapunjee, Nongapoh, Sunnapahar of Khasi Hills, Jowai, Jorain of Saintea Hills, Tura of Garo Hills Distr., 3500. In Nagaland: areas of Mekokchung, Tuensang, Wokha, Zunbeato Districts, 500. In Rajasthan: Jaisalmer and areas of Barmer Distr., 1000. In Sikkim: Burtuk Busty, Chakung, Changu, Chuten, Enchy Monastery, below Honuman Top, Jorethang, Lower Bustak, Ranipal, Reumtek, Sang Ratepani, Sinchey, Singtham East, Soren, Suntale forests, Tadong, 4800. In Tamil-Nadu: Kannayakumari, Sethur Hills, Srivilliputhur R.F., 2090. In Uttar Pradesh: Agra-Khal, Ballaieri, Chamoli Chakrata, Dudhwa Nat. Park, Govana, Khan-Khaliadha, Mussoorie, Pam Vali-Kantha, Panwali, Parbagi, Rajkhark, Saharshradhara, 2500.

M a l a y a

Meliaceae (especially Aglaia) and other plants were collected by Dr. Caroline M. P a n n e l l, who worked in Malaya all of 1978 and August-September 1979. She took c. 400 collections, numbering them from 1000 onwards. Sets are deposited at FHO, KLU, KEP, but not all has yet been distributed.

Dr. A. L a t i f f and Dr. A. A z i z Bidin of University Kebangsaan, with party made a trip to Ulu Kelantan in October 1981. Visited Gua Musang, Kuala Betis (orang asli settlement) and Jeli (near the new East-West Highway). They collected 202 numbers, in duplicate, including 37 ferns, an interest of Dr. Aziz.

S u m a t r a

Under a joint programme between Kyoto and Andalas University of Padang, which is to run for several years, M. H o t t a of Kyoto, H. O k a d a of Osaka, and other plant ecologists collected in Central Sumatra. Specimens will go to BO, KYO, Andalas, L and other Herbaria.

Meijer's Rafflesia tour. Splendid photographs of the world's largest flower dot all popular publications on rain forest, but the latest comprehensive and at least partly firsthand account of the genus, by S.H. Koorders, dates of 1918. In 1981, Dr. Willem M e i j e r, professor of Botany, University of Kentucky, Lexington, KY 40506, U.S.A. (whose paper in Ann. Bogor. 3: 33-44. 1958, contains already important observations), spent his sabbatical on the first lap of a long journey that is meant to end in a Flora Malesiana revision of the family, a monographic book with colour plates, and effective protection of a network of reserves in Malaysia West of Wallace's line. Several agencies supported the trip. Plenty of airletters kept those at the homefront who are capable of deciphering

his terrible handwriting informed, and the present account is to some extent a reconstruction, supplemented with the typed reports that were welcomed by a wider circle.

In the beginning of May he was in N. Sumatra, where he visited Brastagi and got near the G. Leuser Reserves, with cooperation of the Environmental Centre of the University of Medan, and Mr. K.S. Depari (who in the Jakarta newspaper Kompas of 3 September published a substantial account of *Rafflesia* and Meijer's work). He was lucky enough to find fertile the species that Koorders named *Rafflesia gibbosa*; fine pictures and collections were taken.

In June, he proceeded to Padang, where staff of the Universitas Andalas were glad to see their former teacher of nearby Payakumbuh. He visited 3 localities of *R. arnoldii*, one c. 15 km from Padang, behind the new campus of the University (with 10 sites), the classical one 10 km N of Bukittinggi-Batang Palupuh, "now visited to death by tourists (only 3 buds at one site remaining) and my old hunting place on G. Sago. Hopefully the tigers (got two pictures of their prints!) will keep the place safe for *Rafflesia*." Prolonged scouting by his local guide Kadir produced a whole series of additional sites, with *Rafflesia* in all stages of development, both sexes, one even in secondary forest 15 years after clearing. Extensive explorations around the type locality of *R. hasseltii* near Muara Labu, further South, revealed host localities but no actual sightings were made. The continuous effort of some foresters to pass off *Amorphophallus* as *Rafflesia* proved difficult to correct. But *Rhizanthus zippelii* was discovered near the *Rafflesia* localities, with one ripe fruit.

After a visit to Singapore to renew his visa, he went, again by way of Padang, to Bogor. In the Herbarium, he found c. 105 glass jars to study with *Rafflesiaceae* in liquid, c. 14 dried specimens in boxes, and 40-50 mounted on sheets. "So far we did a lot of reconstructions of labels and sorting out of these collections." He encouraged Bogor staff to describe these in a paper. He found the Lembaga Biologi Nasional hospitable as ever, and also stirred an interest with the Directorate of Conservation (PPA) to check old records of *Rafflesia* in Sumatra and to inventorize new ones.

He gave a lecture in the office of the Minister of Environment on *Rafflesia* hunting and conservation, well-reported in the press, although illustrated with an *Amorphophallus* picture, too. He now moved eastward to the Meru Betiti Reserve in SE. Java, whence *Rafflesia* is on record, but none was found. Then to Sydney, to attend the Botanical Congress, lecturing on this most sexy plant which spends such a great portion of its biomass on reproduction. Meanwhile, a film crew accompanied by Mr. Tom Moss of the PPA visited some sites near Padang. They noted that it took a flower 34 hours to open fully, and filmed the pollination by carrion flies.

At some point of the tour, "it was discovered that young, probably 4-5 years old, host plants with heavy branches near ground level could easily be dug up, near the margin of the secondary forests around the houses of local fruit tree gardeners who unwittingly had cut the woody climber off

near the ground while cleaning the regrowth around their fruit trees. These plants were transplanted to the Singapore botanical garden, waiting there for further transportation to the climatron of the Missouri Botanical Garden. Had the project lasted two more months, inoculation with *Rafflesia* seeds might have been possible."

In the Philippines, where Los Baños and Mt Makiling were visited, no localities of the rare, small-flowered *R. manillana* were found, and all he could do was to move minds toward searching. On 10 September he had actually arrived in Sabah, where during his stay in 1959-1967 he learnt much about *Rafflesia*. "Predictions that the Kinabalu National Park, c. 250 sq. mi. of real estate, would be the most magnificent area in Malesia for long-term protection of viable *Rafflesia* populations were proven to be far too optimistic. New devastation caused by a Japanese copper mine finished off one locality of *R. schadenbergiana*, the species illustrated on the cover of *BioScience* 26(10), 1976. Two other localities of this species were destroyed after the Prime Minister of Sabah ordered his National Park Board to go along with a 5 sq. mi. excision on the Pinosuk Plateau at the southern side of the mountain, which was the base camp for the second Royal Society Expedition 20 years ago. This expedition discovered here the first locality of *Mitrastemon* (another *Rafflesiaceae*) in Borneo, now the site of a cattle farm and sawmill. The localities of another taxon very close to *R. arnoldii* ssp. *arnoldii* inside the National Park appeared partly depleted by too diligent climber cutting of touristic trails or through vandalism. Fortunately along one of the trails above the Hot Springs near Poring, a new locality of *Rhizanthus lowii* was discovered." In the Crocker Range, also in Sabah, some new localities could be visited. "Part of these had already disappeared with a quick excision of 100 acres of montane forest for the benefit of cabbage gardeners sponsored by the Prime Minister inside the proposed Crocker Range National Park."

In a final climactic exploration spurge in Malaya, three sites of *R. hasseltii*, so dearly missed in Sumatra, were discovered in the State of Perak, with help of aborigines. This story has been written up for the *National Geographic*. From the same area, and further North at the isthmus of Kra, scrutiny in the Herbarium revealed a new locality of *R. arnoldii* for Malaya and a new species of *Rafflesia* for Thailand — collected 50 years ago by A.F.G. Kerr. *Rhizanthus zippelii* was established as the second species for Malaya. This sets the total score of *Rafflesiaceae* at 4 for Malaya, 6-7 for Sumatra, and at least 8 for Borneo. The latter are the worst known and the most endangered by loggers. It could be proven that *Rhizanthus* is almost an obligate parasite on *Tetrastigma papillosa*, and that *Rafflesia* can live in at least three different species of this genus, other than *papillosa*.

What we still don't know is the way of dispersal of the minute seeds and the way of infection. Meijer suspects that rather ground squirrels than big ungulates are the agents. In view of the consequences for the size of *Rafflesia* areas to be conserved — they must comprise the territory of the animals involved — this is an important question to answer.

J a v a

For more than one year the Herbarium Bogoriense has been helping the Kali Konto Watershed Management Project — a project supported by the Dutch Government — on botanical exploration and vegetation survey in the Pujon area (vicinity of Gunung Kawi and Arjuno), Malang, East Java. Several staff members of the Herbarium have worked in the area and collected herbarium specimens: 10 Dec. 1980-10 Jan. 1981, Tukirin P a r t o m i - h a r d j o, 100 nos.; 13 Jan.-14 Feb. 1981, Deddy D a r n a e d i, 131 nos.; 26-30 Jan. 1981, Kuswata K a r t a w i n a t a, 60 nos. mosses; 26 Feb.-18 March 1981, Johanis P. M o g e a, 135 nos.; 4 April-15 May 1981, Rochadi A b d u l h a d i, 120 nos. The specimens are deposited at the project's Field Station at Pujon and the duplicates at BO.

The staff members of the Purwodadi Botanical Garden, frequently joined by Mr. J.B. C o m b e r, an amateur orchidologist, made a series of trips to various parts of East Java to collect living specimens: Feb. 1981, 700 nos. from S. Malang, Blitar, Gunung Kawi, Pacet and Tretes; March 1981, 457 nos. from Purwo Blambangan, Gunung Wilis and Gunung Pandan; April 1981, 191 nos. from Gunung Dorowati and Gunung Ijen. May 1981, 207 nos. from Lumajang, Pasuruan and Banyuwangi (incl. 1 no. herbarium specimens of *Rafflesia*); 18-24 August, 110 nos. from Nganjuk; 26 August, 6 nos. from Gunung Bromo; 27 August, 28 nos. from Tretes (Dr. R.D. Hoogland joined the trip); 12-13 Sept., 35 nos. from Nongkojajar and Gunung Kawi.

Miss J.J. A f r i a s t i n i of Herbarium and Mr. S u r a h s o of Bogor Botanical Gardens collected 50 nos. herbarium specimens, especially grasses on Gunung Lawu, Central Java, from 19 May to 26 June 1981.

On 4-6 March 1981, Prof. and Mrs. W e b s t e r of Sheffield University, U.K., together with Dr. M.A. R i f a i, Miss Kartini K r a m a d i - b r a t a and Miss M a r t a t i of BO collected 15 nos. of fungi and 50 aquatic fungi isolated at Cibodas and Gunung Tangkuban Perahu, West Java.

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

The staff members of the Eka Karya Botanical Garden at Bedugul, Bali, made frequent trips to various parts of Bali to collect living specimens: 24 Dec. 1980, 24 nos. orchids from Bukit Pangelengan; 29 Dec. 1980, 95 nos. from Bukit Sangayang; June 1981, 109 nos. plus 16 nos. herbarium specimens from the Petang forest area; 29 June 1981, 118 nos. plus 12 nos. herbarium specimens from the Tabanan area.

From 12 Jan. to 12 March 1981 Messrs. Sarkat D a n i m i h a r d j a, S o e p a r d i j o n o, Albert H. W a w o of the Bogor Botanical Gardens explored forests in West Timor (Takari, Camplong, Baun, Batupelat) and Flores (Gololubang, Lewu, Cibal, Borong, Embu Lombok, Nanga Roro, Bajawa) and collected 900 nos. live and herbarium specimens.

While on a visit to Kupang on 7-21 July 1981 to formulate a cooperative research and training project to be sponsored by the Lembaga Biologi Nasional and the Nusa Cendana University, Kuswata K a r t a w i n a t a had an opportunity to visit various areas in West Timor (Camplong, Baun,

Lelagama, Soë, Atambua, etc.) and collected 62 nos. herbarium specimens, in particular *Eucalyptus alba* and *E. urophylla*. Suspected hybrid specimens between the above-mentioned species were noticed in Lelagama and Soë.

B o r n e o

Sarawak. Drs. J. Dransfield & S. Soenarko Dransfield, of Kew, together with M.J. Marsh of the Gardens, collected c. 400 numbers of palms (to go to SAR, K, BH, L, SAN, BO) and 40 bamboos in April and May 1981, in a joint effort with the Sarawak Forest Department. They visited G. Matang, Bau, Pedawan, Bako, Lambir Hills, Marudi, Semengoh, G. Pueh, Pasir Jangka, G. Gading, Sempadi, G. Gaharu, G. Buri.

S. C. Chin of KLU has completed field work on subsistence farming at the village of Long Selatong, Baram, Sarawak. Several visits were made between Nov. 1976-April 1980, including a continuous nine months stretch between Nov. 1976-August 1977. More than 500 numbers (nos. 2500-3091) were collected, consisting of a very assorted lot (including some bryophytes). Material will go to L (except for some 'firsts' which were retained by SAR).

By the SAR-Herbarium one major botanical trip was organized to Ulu Belaga. A total of 823 specimens were collected from the one-month trip. Minor trips each lasting two weeks were also made to Semengoh Forest Reserve, Mulu N.P. and Gunong Lesong. A total of 408 specimens were collected from these trips. Other minor collecting trips were organized to Pueh, Lundu, Padawan, Bau, Matang and Stapok F.R. Altogether there were 128 botanical specimens collected from these trips. Towards the end of 1981 (beginning September) heavy flowering and fruiting occurred throughout the forest in Sarawak.

Drs. A.C. Jeremy & Josephine Rankin (BM) did field work with emphasis on ferns in Sarawak (nos. 14832-15263) and Sabah (nos. 15301-15530), late in 1980. The total harvest was 661 numbers; one set was given to the Kinabalu Park Herbarium.

Sabah. By Mr. Charles Phillips (SAN) a survey was made into the inland swamp forest growing on podsols. *Dacrydium pectinatum*/*Tristania bilocularis* forest was the most extensive vegetation type on the podsols with a taller type dominated by *Shorea multiflora* on better drained stream side sites. As regeneration of potential timber trees was sparse it appears the area is most suitable as a national park or similar type of conservation area. The great beauty of this — unique to Sabah — vegetation adds to the importance of preserving it. A good number of fruit trees including *Durio* sp. (poss. *D. carinatus*) were found growing in swamps infested with *Pholidocarpus maiadom*.

A survey of the Bod Gaya/Bohai Dulang group of islands off the Semporna peninsula was held jointly with National Parks and some Government Departments. Five species of *Dipterocarp* were encountered including Para-

shorea tomentella growing near the top of Bod Gaya. Memecylon and Canarium were the most common trees often growing in almost pure stands covering large areas. Both these genera and most of the other trees found there are mainly bird-dispersed. It is possible these forests were started off by pigeons and doves, possibly also hornbills, flying with fruits from the mainland.

A survey was made into the northern part of Kinabalu National Park where some very interesting Dipterocarps were found.

An ecological survey of the Shorea laevis dominated hill forests in Sabah's interior has revealed many interesting facts. One is the great number of Parashorea malaanonan trees which cover the lower and mid-valley slopes; previously this tree was thought not to be so common in the western interior. Parashorea tomentella is also common but to a lesser extent and favours the flatter areas.

Attempts have been made to collect seeds of the 20 or more species of wild Durio growing in Sabah. Fruits of some probable new species have been collected and are soon to be planted in Sepilok arboretum. An interesting observation is that fruits of at least two species of mountain durian (Durio sp. growing at about 3,500-4,000 feet) grow upright on the branches rather than downwards as is the case for most lowland Durios.

Kalimantan. Harry Wiriadinata (BO) and Dr. M. Kato (Kyoto University) during Jan.-Feb. 1981 explored the Sebulu, Sangkulirang, Kong Kat, Kong Botak, Tabang and Berau areas in East Kalimantan, and collected 1400 nos. herbarium specimens, many of them ferns. At about the same time a team of the Osaka City University ecologists led by Prof. H. Ogawa was in the Sebulu area, north of Samarinda, to study the productivity of the lowland dipterocarp forest; Mr. S. Sukardjo of Herbarium Bogoriense joined this group.

Herwasono Soedjito and Tukirin Partomihardjo (BO) and party conducted ecological studies of a lowland dipterocarp forest at Wanariset, 38 km NE of Balikpapan, East Kalimantan, and collected 164 nos. herbarium specimens of flowering plants and fungi, on 10-30 Sept. 1981. On 10 Sept.-15 Oct. 1981, Mr. J. P. Moge (BO) made a collecting trip to Wanariset, S. Kalinju, Kong Kat, and Gunung Menyapa; 349 nos. herbarium specimens and 34 nos. live specimens were brought back to Bogor.

A Japanese-Indonesian-Dutch team, consisting of Prof. Dr. K. Iwatsuki, Dr. M. Kato, Mr. K. Ueda (all Kyoto), Dr. M. Okamoto (Osaka) and Dr. K. Matsui (herpetologist, Kyoto), Mr. Dedy Darnae-di and Mr. Eko Baroto Walujo (both BO) and Mr. R. Geesink (L) made an exploration-expedition in East Kalimantan from 6 July to 1 Sept. 1981. The trip was not completely successful because of extreme drought; no rain at all during 2 months!

The team collected together near Malinau (lowland rainforest 3°36'N 116°40'E), around Long Bawan (sandstone hill forest 3°52'N 115°42'E) and in Berau (lowland rainforest, limestone hills 1°50'N, 117°15'E). Most of

the collections were gathered by two separate groups; the first group (Kato, Okamoto, Baroto Walujo) visited the area around Batu Harun (up to 2000 m, 4°8'N 115°47'E) and Pa Rian (sandstone hill forest 3°50'N 115°42'E); the second group (Uéda, Darnaedi, Geesink) walked to Pa Nado (sandstone hill forest up to 1800 m, 3°52'N 115°32'E) and Pa Milau (sandstone hill forest up to 1600 m, 3°52'N 116°0'E). Besides herbarium (about 4000 collections, where possible in 8 sets) living material was collected, specially orchids, sent to the Gardens at Bogor and Leiden. Much separate alcohol material was collected. Geesink made about 1000 colour slides, and a super 8 30-minutes sound movie. After the expedition he organized in Bogor and in Kyoto a practical course entitled "How to use Thonner's key in practice", which was received enthusiastically in both places.

Material will be deposited in BO, KYO, L, with duplicates earmarked for A, K, MO, TI, and others.

Natuna. At the invitation of an oil company, Mr. Johanis P. M o g e a was from 22 August to 12 Sept. 1981 on Natuna Island to explore the possible environmental impact of the establishment of a liquefied natural gas loading port; during this occasion he got a chance to collect 292 nos. herbarium specimens.

C e l e b e s (= Sulawesi)

During the journey of operation Drake which explored Morowali (see page 3566, and Conservation in this issue), collections were made by Andrew L a c k (Botany, University of Swansea, U.K.) and Geoff G r i m e s (Kew), also by Dedy D a r n a e d i and Ari B u d i m a n (both BO), in 1980.

Mr. Jeremy M. B. S m i t h (Geography, University of New England, Armidale, NSW 2351, Australia) and party botanized on Mt Rantemario (3440 m), the highest mountain of Celebes, in the SW. central part, in February 1981. His typed report describes the trip, with accessibility; map given. There were 65 plants collected. Expenses were listed for the 9-day trip as Rp. 81,000 per man, excluding air fare.

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

A party from LAE visited Manus Island in March 1981, after a short preliminary survey had been made by the Assistant Director (M. Galore) in February. Bulky equipment was shipped to Lorengau by sea beforehand.

The main party arrived by air at Momote on 5-3-81: J. Croft (leader), Karl Kerenga, Yakas Lelean, Simeon Obedi and Anos Ninjio (the two latter concentrating on live plants). A week was spent working from Buyang village (in the middle of the island about 25 km from Lorengau) in mixed forest. The party then moved to Rambutyo Island, east of Manus, with mangrove, mixed forest on the more even terrain, and on the steeper slopes and ridges (to c. 220 m) Calophyllum, in almost pure stands, apparently even-aged. Then the Lorengau area was re-visited, before departure to

Pelipowai, about halfway along the south coast. Four days were spent exploring and collecting, to the summit of Mt Dremsel (700 m), mostly in mixed forest. The next station was Silin, at the western end of the island, where more *Calophyllum* forest was encountered. On the 31st the party re-embarked and returned to Lorengau along the north coast.

A total of 590 preserved specimens was collected (149 trees with 44 wood samples, 275 ferns). Live collections totalled 273, including 35 trees (seeds mostly) and 157 orchids.

Duplicates of preserved specimens have been distributed following the standard Lae list: L, BRI, CANB, A, K, etc. First duplicates of *Calophyllum* (mostly sterile) have been sent to Dr. P.F. Stevens, at Arnold.

From East to West, not so easy. Irian Jaya province was relatively accessible after 1978, but in November 1981 the province was closed. Even representations by the authorities in the province were unable to allow Geoff Hope (ANU) and Paul Gorecki (Sydney) to take up invitations to lecture to Cenderawasih University. Relations between PNG and Indonesia are cool at present and access to Jayapura very difficult. G. Hope is continuing to plan for field work in the Wissel Lakes and Weyland mountains, aimed at late 1983, but local fighting is reported in the area.

On the other hand, the approach from inside Indonesia and further west is reported to be quite feasible.

A u s t r a l i a

In connection with the 13th Botanical Congress at Sydney, large numbers of botanists joined field excursions to attractive places. It is not possible to record these collections. Instead, we refer to excursion guides which participants should have received, and afterwards duly deposited in the files of their institute.

Mr. J. Clarkson of BRI undertook several field trips into Cape York Peninsula, for his flora inventory and vegetation map. He extended visits to Massey Creek, Aurukun, Torres Strait area, Holroyd, Rutland Plains and Hann River areas. Mr. Clarkson continued work north of 16°S.

New records of Indo-Malesian plants in Australia, established in 1981 by the BRI-Herbarium. Amaranthaceae: *Aerva lanata*, at Magowra Sta., 17° 40'S 140° 50'E. Gramineae: *Aristida cumingiana*, at Weipa, Cape York Pen.; *Arthraxon castratus*, in Horn I.; Labiatae: *Leucas cephalotes*, near Guthalungra, N of Bowen. Loganiaceae: *Mitreola petiolata*, from Edward River, Cape York Pen. Nymphaeaceae: *Nymphaea nouchali*, at Kowanyama, Cape York Pen.; *N. macrosperma* and *N. pubescens*, both in the N. Territory. Olacaceae: *Anacolosa papuana*, at Chester R., Cape York Pen. Rubiaceae: *Anthocephalus chinensis*, from logging areas; *Uncaria cordata* var. *cordata*, from Bellenden-Ker.

P a c i f i c

Dr. N. H a l l é (P) made a trip to Rurutu in April 1981, collected 300 numbers.

Dr. B. C. Stone (KLU) collected 330 numbers, mainly Pandanaceae, in various islands, most in New Caledonia; some in East New Guinea.

Revisiting loci classici. Dr. F. R. Fosberg (US) had three weeks in the Society Islands in July 1981, collecting and looking especially for things based on the collections of such early collectors as Banks and Solander, the Forsters, Lay & Collie, Nadeaud, etc. Many of these species have apparently disappeared. Then a week in extreme northern New Zealand, then attending the 13th International Botanical Congress, afterward the very interesting North Queensland Field trip, then, accompanied by Dr. Ralf Buckley of ANU Canberra he spent two weeks on Mornington, Groote Eylandt, and other islands in the Gulf of Carpentaria, N. Australia, collecting, with special emphasis on some of Robert Brown's species from there. Substantial collections were gathered, for the short time available. These explorations were aided by a grant from the National Geographic Society. Many of Brown's names are commonly applied to widespread Pacific Island species, in some cases incorrectly. It is hoped that some of these names can be more satisfactorily interpreted with more ample material.

b) Cyclopaedia of Collectors. Additions. V
(continued from page 3569)

D i h m, H u g o

(Cycl. Coll. Fl. Males. I, 1, 1950, 137; H. Hertel, Mitt. Bot. München 17, 1981, 549-564, portr., facsim. handwriting). (1867-1942).

Little was known about the exploration and collections of this Bavarian botanist, the gap being now admirably filled by Hertel's paper, containing a biography and account of Dihm's very large collection of mosses.

From 1889 to 1892 he studied botany in the universities at Munich and Berlin; in the latter year he was invited by Prof. K. von Goebel to write a thesis on the annulus of the mosses, published in 1894, his sole publication. In 1899 he accompanied the Kustos of the Munich institute, Dr. K. Giesenhagen, on a long voyage to the East, starting 22 July 1899, returning in Munich 7 April 1900. His main collecting activities in Malesia took place in Java (29 Aug.-16 Oct. 1899 and 6 Dec. 1899-23 Jan. 1900), S. Sumatra (6 Nov.-4 Dec. 1899) and Singapore (& Johore) (16-21 Aug. 1899). Besides mosses, his hobby, he collected also Pteridophytes and Angiosperms, the total cited by him as 442 numbers. His Malesian collections comprise some 250 flowering plants and c. 100 Pteridophytes. These collections have been named, but no new records were found.

Dr. Dihm was a man of independent means and worked for his pleasure, with meticulous care, and his collections were in excellent state and well-labelled and mounted. After his death his collections were bequeathed to the 'Technische Hochschule' in Munich and were only transferred to the Botanical Institute in March 1980, the total of his herbarium being 42,000 sheets Phanerogams and 2,830 Cryptogams. — Van Steenis.

P o r t e r , G e o r g e

(Cycl. Coll. Fl. Males. I, 1, 1950, 412).

According to John Bastin (J. Mal. Br. R. As. Soc. 54, 1981, 43-44), the surname is rightly P o t t e r (see there), as he is recorded in the 'List of European inhabitants' of Bengal in The East India Register and Directory for 1822, p. 165, where he is designated botanist and 1816 is given as the year of his appointment there.

P o t t e r , G e o r g e *

(d. Febr. 10, 1833, Calcutta, India).

His name was wrongly cited to be P o r t e r which name was also used in Cycl. Coll. Fl. Males. I, 1, 1950, 412; see there).

R a f f l e s , S i r S t a m f o r d

(Cycl. Coll. Fl. Males. I, 1, 1950, 424).

Collecting localities. 1822. Malay Peninsula. Add: Cape Rachado, P. Pangkor and the coast of Kedah.

Biographical data. J. Bastin (Ed.): 'The letters of Sir Stamford Raffles to Nathaniel Wallich 1819-1824' (J. Mal. Br. R. As. Soc. 54, 1981, 73 pp.). Additional collecting localities in Note 74.

S o r g d r a g e r , P i e t e r

(Cycl. Coll. Fl. Males. I, 1, 1950, 495).

(1906-18 June 1982). Pharmacist, later professor at Utrecht.

W a l l i c h , N a t h a n i e l

(Cycl. Coll. Fl. Males. I, 1, 1950, 557).

Biographical data. J. Bastin (Ed.): 'The letters of Sir Stamford Raffles to Nathaniel Wallich 1819-1824' (J. Mal. Br. R. As. Soc. 54, 1981, 73 pp.).

Marelaan 55

Oegstgeest, The Netherlands

M.J. van Steenis-Kruseman

* an asterisk marks a new entry for the Cyclopaedia.