

V. EXPEDITIONS AND OTHER EXPLORATION*(continued from page 2009)*

C e y l o n

In April 1973, Dr. B. C. Stone of Kuala Lumpur participated in the Ceylon Flora project under the aegis of the Botanic Gardens, Peradeniya, and the Smithsonian Institution. A month's stay was devoted primarily to the collecting and preparation of a draft manuscript on the Pandanaceae of Ceylon, and notes toward a similar draft for the Rutaceae. Visits to the Lucknow Botanic Gardens and the Smithsonian Office in New Delhi formed part of the trip.

Dr. A. J. Kostermans of Bogor conducted exploration work in the first half of 1973. His material is still being processed; this done, we hope to give a complete account in the next issue.

T h a i l a n d

During 1972, Professor Kai Larsen of Aarhus conducted a 4 months expedition, in which also participated Mrs. Supee S. Larsen, M.Sc. and Mr. Ivan Nielsen. About 2000 collections were made, mainly in Peninsular and NE. Thailand.

Mr. C. F. van Beusekom and Mr. R. Geesink, both of the Rijksherbarium and engaged by NUFFIC for promotion of the Flora of Thailand project, made an expedition from October 1971 to January 1972. Seven stations were visited (none in the Peninsula): Sakaerat in the SE. (21-27 Oct.), a small reserve of dry evergreen forest. Three stations in Kanchanaburi in the SW. (3 Nov.-3 Dec.), mixed deciduous forest, limestone hills, evergreen forest, marshland, dry dipterocarp forest. Cha Yapum in the E. (8-22 Dec.), the Nam Phrom river appearing to be rich in rheophytes, an old savanna rich in herbs, and remnants of evergreen forest. Phu Kradung in the E. (23-27 Dec.), collections made on the plateau of 1300 m, some forest remnants in the deep gorges. Phrae in the N. (3-11 Jan.), hills were explored to 1200 m, with hill evergreen, dry evergreen, and mixed deciduous forest. Of Trigonobalanus doichangensis immature fruits were found. Thanks to the good assistance of the BKF-personnel, 1565 numbers were taken, in the name of Van Beusekom & Geesink, 3267-4832. Set 1 will go to L, set 2 to BKF, set 3 to HON, set 4 to MO, set 5 to K (pteridophytes to KYO), set 6 to CO (pter. to BM), set 7 to P, set 8 to KYO (pter. to B). Mr. Tem Smitinand and his staff

proved as helpful as always in the preparation and organisation. Their unflinching effective collaboration is here happily acknowledged.

Mr. R. G e e s i n k made another expedition, this time on his own and accompanied by his wife, from 16 April to 5 August 1973. First 6 stations in the Peninsula were visited (24 April-5 May, numbers 4850-5502), then 4 stations in the North (29 May-5 June, 5508-5901), then 4 stations in Kanchanaburi (2-13 July, 6050-6246), then 4 stations in the SE. (2-5 August, 6250-6351). The harvest, 1500 numbers, in the same series as the former but now in the name of Geesink, is now in the process of distribution.

Two more expeditions have been planned, one in the wet season, with Mr. T. A. H a t t i n k, in April, May, June 1974, and one in the dry season, with Mr. Paul H i e p k o of the Berlin Herbarium, in October, November, December 1974.

M a l a y a

Honours Field Course. Each year the Botany Honours students of the University of Malaya and some staff spend a week or ten days in an expedition somewhere in Malaya. This year it was in southern Pahang in the upper waters of the Sungei Endau, a most interesting and relatively unexplored area. Extensive collections from this region were made and in due course will be distributed from the Kuala Lumpur Herbarium. Trip leader this year was Dr. David W. L e e of the Botany Division.

I n d o n e s i a : hints

For field work in Indonesia, a number of formalities must be fulfilled, of which here an approximate account is given, non-official and subject to alteration.

First, permission of LIPI, the National Research Council is needed. Such permission may be given on advice of the Herbarium Bogoriense. There must be a written assurance that there are sufficient funds to cover all expenses. Details of the proposed itinerary must be known well in advance; this itinerary is also to be inscribed on a 'Surat Mabak', a kind of permit to be issued by the Head Quarters of the police in Jakarta. For work in a nature reserve, permission is also required from the Dinas P.P.A. at Bogor.

Customs formalities may be extensive, particularly when luggage is sent by ship, also on the domestic lines. It may be easier — and cheaper — to transport all the gear by

plane, between islands. Cooking equipment and newspapers can usually be bought in the larger cities. Alcohol is often not available or very expensive, but spiritus is sold everywhere.

On arrival in the area where the work is to be done, it is peremptory to report to the governor and local civil authorities, the police, and the regional forestry officer, all in person. The elaborateness of the procedure varies, however, with the region.

S u m a t r a

Dr. W. J. J. O. d e W i l d e of the Rijksherbarium and his wife Mrs. B. E. E. d e W i l d e - D u y f j e s, supported by a WOTRO grant, made a collecting trip in and about the Gunung Leuser Nature Reserves in Atjeh, as part of a great project to develop these reserves (see Conservation). They operated in the area from 16 May to 3 September 1972, from a base camp at 350 m by the confluence of the Ketambe and Alas Rivers. Three mountain expeditions were made, interspaced by intensive collecting in the lowlands primary forest near the base camp.

Bandahara (3012 m) was the first mountain to be attacked. A party of 16 started from 250 m in N. and NE. directions. On the 7th day, having passed through dense thickets of rattan and mossy forest, an open 'blang' was reached, several square kilometres in area, and botanically very rich, at 2600-2800 m. The soil was peaty, drained by small brooks which occasionally disappeared in the ground for some distance. Beastly weather in the unknown country prevented them from reaching the top.

A second trip went to a mountain 10 km inside the Leuser Reserve W. of Ketambe, with a peculiar serrated crest 2400 m high, of limestone and sandstone, with a most interesting flora, among them a huge Monophyllaea (Gesner.), its leaf 1 m long, with yellow flowers. The third expedition penetrated the unmapped interior for about 20 km. A ridge of 2700 m was reached, but again the lofty peaks could not be climbed because of fog and rain, although a rich harvest was taken.

Altogether, 2456 numbers were collected, in their joint name, numbers 12,000-14,456. The 1st set goes to the L Herbarium, the 2nd to BO, the 3rd to K, the 4th to KEP, the 5th to US, the 6th to PNH, the 8th to HBG.

Funds have been voted for a second expedition on which Dr. & Mrs. De Wilde will set out towards the end of 1974.

Dr. J. D r a n s f i e l d and Dr. M. R i f a i, both of the Herbarium Bogoriense, worked for three weeks in February-March 1973 mainly near Bohorok on the eastern side of the Leuser Nature Reserves in Atjeh. "The palm flora was rich and exciting (for instance, 6 different taxa of Pinanga, often all growing together) and has a very Malayan flavour, with many specimens in common with the Peninsula, which are apparently absent from the rest of the island." At Berastagi, East Coast Residence, they succeeded in retrieving palm species described by Ridley and Burrett.

R. J. M o r l e y and J. R. F l e n l e y, Department of Geography, University of Hull, U.K., worked between 28 June and 10 September 1972 on lake sites between Medan in the North and Kerinci in the South. They visited 35 sites, taking cores of organic material, in order to reconstruct the vegetational history from the micro-fossils. In an effort to make observations on present-day ecology, they collected 647 numbers of plants in the Kerinci-area; these were deposited at Bogor. A few names of plants were mentioned in their tour report, published in the mimeographed Sumatra Research Bulletin vol. 2 number 2 (May 1973) p. 50-60, 1 map. This Bulletin is an issue of Hull University. More field work is announced, and so is a paper in the Malayan Nature Journal.

J a v a

Dr. A. J. K o s t e r m a n s of the Bogor Herbarium has made efforts in W. Java to retrieve some Lauraceae described by Blume in the sterile state which never have been found again. There is a chance that the identity of some Cinnamomums thus will be cleared up.

In the Bodjonglopang area (Djampang Tengah) a transect was made through a supposed forest reserve. It appeared that half of the forest has been destroyed. The trespassers are clever and leave a strip along the trails of 100-200 m intact, to cut down all the forest beyond that!

B o r n e o

Sarawak. The SAR-Herbarium at Kuching kindly communicated the following items:

(i) Collecting trip to the Segan F.R. and coastal hills in Bintulu in the 4th Division from 11th Sept. to 1st Oct. 1972. A total of 181 numbers were collected of which 14 were Dipterocarps. Duplicates distributed mainly to L, K, SING, SAN, A, BO, and KEP.

(ii) Collecting trip to Ulu Medamit in the 5th Division from 3rd to 23rd October, 1973. Of the 236 numbers collected 62 were Dipterocarps. Duplicates distributed as above.

(iii) Collecting trip to the Maligan Range in the 5th Division from 1st to 25th March, 1973. This is our first visit to the Range which rises to above 1,500 metres with extensive Heath (Kerangas) forest. Agathis is common. A total of 283 numbers were collected and duplicates distributed as above.

(iv) A short trip also spent in Limestone forest in the 1st Division (from 11th to 20th January, 1973). 104 numbers were collected and distributed as above.

North Borneo. From the SAN-Herbarium at Sandakan we got the following news:

Since the Sabah Forest Department was last mentioned in these pages a large number of collections have been made all over the State of Sabah.

In 1972, 2113 collections were made in Sabah, special expeditions being conducted to Mt. Templer, and the Benkoka peninsula, Sipitang, and Mt. Silam. A lengthy river trip to Sungei Inarat (Kinabatangan) had to be cancelled through lack of funds, however it is hoped that this will be possible later this year.

One long expedition took place in April, May, 1973, to the foot hills of Kinabalu, on the East side, an area much neglected by previous collectors. Over 500 numbers were collected.

Training expedition to Mt. Kinabalu. In May 1973 a joint University of Malaya—National University of Malaysia (Universiti Malaya—Universiti Kebangsaan Malaysia) expedition ascended Mt. Kinabalu, Sabah, and spent several days in the vicinity of the Kinabalu National Park Headquarters. Representing the University of Malaya were Prof. W. R. Stanton, Dr. J. B. Lowry, Dr. B. C. Stone, Dr. D. W. Lee, Mr. S. K. Yap, Miss Lim Ah Lan, Encik Mahmud Sider, and Encik Nasir Alang, while the Universiti Kebangsaan was represented by Mr. W. Litke, Mr. G. Waggen, Encik Shafie Ahmad and Dr. Ardean Leith. The expedition ascended by the customary route. Its function was mainly to familiarize the participants with the region, and to provide the opportunity of obtaining teaching materials for use in the Universities. However, some research interests were forwarded. Drs. Lowry and Lee initiated a study of variability in Lep-tospermum recurvum in the context of differential survival after the prolonged drought of early 1973 (which was highly visible, as many plants of various species had died in the

upper summit zone). Dr. Stone obtained materials of pandans which include some undescribed taxa. Herbarium records of the trip are being retained in the University of Malaya Herbarium. The season was also of interest for the magnificent display of higher fungi, which were studied by Mr. Littke; he estimates at least 60 species were seen just in the vicinity of Park Headquarters, with especially numerous Boletes. The Malaysian Film Negara unit filmed much of the expedition, and a natural history film of Mt. Kinabalu is planned from these takes.

Mr. Gary Shea, a CUSO volunteer, from Lakehead University, Ontario, U.S.A., has left Sabah after a two year assignment. While there he collected 1800 vascular plants, and a further 2500 bryophytes. The latter have gone to the Hattori Botanical Laboratory with instructions that SAN should be sent duplicates when the collections have been processed. Vascular plant collections are distributed as usual to the K, L, SING, KEP, A, BO, and OXF Herbaria.

Kalimantan. Mr. E. F. de Vogel, accompanied by Mr. Ary Everaarts, a student of the Agricultural Faculty at Wageningen, Netherlands, revisited the grounds in SE. Kalimantan (Djaro, Mt. Sarempaka), where he had collected previously. They gathered seeds of trees, and herbarium material, numbers 1585-2142, from 10 October to 15 November 1972.

From 3 to 21 March 1973 Mr. E. F. de Vogel for the third time worked in the Djaro area, expecting, on account of observations made during the second trip, that the fruiting season would be now. This turned out to be right. It must be said that fruiting time is often unpredictable, and very local; when it is during or just after a wet season, an area may be difficult to reach. The total number of collections amounted to 217, in 8 duplicates as far as possible; 155 samples of ripe seeds from primary forest trees were taken. Again, Professor Anwari Dilmy, rector of the Banjarmasin University, gave most valuable help in logistics and administration.

Mr. Opid Sardiwinata, Mr. De Vogel's assistant at Bogor, accompanied the expedition, and made some collections in his own name: 31 living plants, mostly orchids, and 9 numbers of seeds.

New Guinea (in the wide sense)

At the Lae Herbarium, work is in progress on an account of all the collections made in the NGF-series and in the

LAE-series, giving details about the collectors, numbers and places. Publication is scheduled in 1975.

While the number sequence of the institutional series issued by the Lae Herbarium has been unbroken since World War II, the prefix NGF (for New Guinea Forces) was replaced by the more meaningful prefix LAE (the Index Herbariorum code), at the number 50001.

An expedition to Mt. Suckling, in the tail of New Guinea, was made in a joint effort by the Rijksherbarium, the Division of Botany, Lae, and the Division of Land Research, CSIRO, Canberra, from 7 June to 26 July 1972. Instigator was the ardent amateur botanist Rev. Canon N. E. G. Cruttwell, of the Anglican Mission at Agaun, near the mountain. The expedition was split into two parties, one remaining in the lowland area (Mr. G. Leach, Mr. P. Kattik, both of Lae, and Mr. R. Pullen of Canberra), the other going up the mountain (Dr. P. Stevens, Mr. Yakass, both of Lae, Mr. J. F. Veldkamp of Leiden). The latter party was flown by helicopter to a plateau at 1700 m, where a base camp was established (Mayu II). From there, nine secondary camps were set up at altitudes between 1400 and 3545 m.

Veldkamp left Leiden on 11 May, visited Canberra, arrived at Lae on the 22nd, made some excursions, arrived in the area on 6 June. Mr. Cruttwell was a guest at the Mayu II camp for 12 days, Dr. D. G. Frodin of Port Moresby paid a shorter visit. Several ridges, peaks and plateaus were explored, the highest one, Manurep, on 7-9 July. On 27 July the party was back at Lae. The harvest gathered by the mountain party, amounted to + 600 numbers in Veldkamp's name, and + 1100 in the NGF- and LAE-series. The lowland party gathered + 1300 collections. Some living specimens went to Lae and Edinburgh.

On the home journey, Veldkamp visited the Herbaria at Brisbane and Sydney, spent some weeks in Indonesia, making excursions in Bali and Java, also working at Bogor; on 22 September he was back at Leiden. Financial support was given by WOTRO and some other funds. He published a preliminary stencilled report: J.F. Veldkamp, A botanical expedition to Mt Suckling (Goropu Mountains) Papua—New Guinea, 1972, 11 pages, available on request.

Supported by a WOTRO grant, Dr. M. Jacobs of the Rijksherbarium collected in the lowlands and hills of Papua New Guinea during the second half of 1973. He began at Kasanombe in the Sarawaket Mts. N. of Lae, from 27 August to 3 September at 1650-1900 m; then worked for a few days near Lae in a formerly logged over area now rich in climbers. On

21 September he arrived at Mt. Bosavi, a former volcano in the heart of Papua. For ten days he was accompanied by Mr. K. P a i j m a n s of CSIRO, Canberra; they were the first botanists to work in the area, which is still very much under primary forest. They climbed the mountain which was found to be c. 7600 ft or 2350 m, considerably lower than most maps indicate. After Paijmans had left, Jacobs worked on till 31 October, between 600 and 1200 m on Bosavi and also at Waro, an airstrip at 550 m amidst primary forest on limestone, halfway between Bosavi and Lake Kutubu. The collection amounted to 830 numbers; a big harvest of fruiting material could be made. A paper on the botany of Bosavi under joint authorship is planned.

From 9 to 26 November, collecting was done SE. of Lae in primary forest on the coast between Salamaua and Morobe. Altogether 1102 numbers were taken, in 8 duplicates where possible. The 1st set will go to Leiden, the 2nd to Lae; the decision about the others will be announced in the next issue. The Lae Herbarium excellently processes his collection.

Dr. Jacobs concentrated on woody climbers since these are poorly represented in the collected record. This is understandable, as the young parts are very tender and easily get lost in the crash of felling. Besides, it is often hard to discover the manner of climbing, and there is great danger of confusion if more than one species occur in the same tree. The wood structure often gets lost in the drying, so pieces (of various thickness) must be preserved in liquid. No doubt such collecting in other islands, too, will be rewarding.

WOTRO has agreed to finance an expedition by Dr. A. T o u w for mosses and Dr. J. F. V e l d k a m p, both of the Rijksherbarium, to explore the alpine zone of the Carstensz Mountains in western New Guinea. They hope to spend December 1974, January and February 1975 in the field. Logistic support has been promised by Freeport Sulphur Mining Company, which recently has begun exploiting the big copper deposits at high altitude there.