

VI. MISCELLANEOUS INFORMATION
continued from p.1412)

a) Research and Publications:

Gazetteers for location. The finding of localities and of the coordinates of longitude and latitude required to plot them on a distribution map is so time- and patience-consuming to the botanist, that we were happy to get wind of a collection of Gazetteers containing just these data. For instance: TJIBODAS STRM 6 38 S 107 14 E 474 11. This STReAM occurs in Java (code number 474) on the topographical map series indicated under code number 11.

The above item can be found in the 2-volume Gazetteer no 13: Indonesia, Netherlands New Guinea, Portuguese Timor (1955), containing 50,000 names. Similar books exist of other countries, all over the world; part of them out of print, but new editions frequently appear, some of them costing a few dollars, others free on request. A catalogue is available with the U.S. Board on Geographic Names, Office of Geography, Department of the Interior, Washington, D.C. 20240, U.S.A.; communications to the Executive Secretary.

The B.P.Bishop Museum, Honolulu, Hawaii, U.S.A., has issued a List of New Guinea Localities (1966) 19 pp. + map, of the collections of their own staff members, many of them zoologists, but valuable to the botanist, too.

Once again, collectors are urged to give on their labels the coordinates of longitude and latitude. This will enable the makers of range maps to skip the laborious consultation of atlases. The indication of the locality on a small map printed at the back of labels is a cumbersome method and not particularly precise. If a rare station is concerned in a large country, authors who desire to mention it in a publication with its latitude and longitude, will be glad if they find these figures ready for use.

On microfiche are available with the Inter Documentation Company, Poststrasse, Zug, Switzerland: C.L.BLUME, Rumphia, sive commentationes botanicae imprimis de plantis Indiae orientalis, 4 vols. 1836-1849. US \$ 25.40.; P.W.KORTHALS, Verhandelingen over de natuurlijke geschiedenis der Nederlandsche Overzeesche bezittingen. Botanie. 1839-1844. 259 pp. 70 pl. US \$ 11.90.

Paphiopedilum in the Solomons. From Honiara a considerable amount of information, living and preserved plant material, etc. has been sent overseas in response to requests. Such information included a colour slide of a large-flowered Paphiopedilum sp., taken by Mr. Dennis in the mountains of Central Guadalcanal in Oct. 1962. Unfortunately, no herbarium material is in existence; it appears to have been the first and only record of the genus in this part of the Pacific.

Research in Progress at Kuala Lumpur, at the University of Malaya. 1. Survey of algal succession in rice fields (Anne Johnson). 2. Distribution of Malayan bryophytes (Anne Johnson). 3. Mycostasis and associated phenomena in Malayan soils (D.A.Griffiths). 4. Bibliographic studies in the ferns (E.A.O. Turnau). 5. Monographic studies on Freycinetia and Pandanus (B.C.Stone). 6. Morphogenesis of gametophytes of polypodiaceous ferns (V.Raghavan). 7. Growth and development of Salvinia and Marsilea (J.Gaudet). 8. Studies in microbial genetics and nucleic acid biochemistry (V.Prakash). 9. Cytogenetics

and taxonomy of Globba (Lim Siew Ngo). 10. Autecology of Dryobalanops aromatica (Lee Peng Choong). 11. Generic and tribal relationships of the genus Leptaspis (Leong Yueh Kwong). 12. The effects of flucrinated pyrimidines on the growth and development of plant embryos (K. Paranjothy). 13. The ecology of tin tailings (V.M. Palaniappan). 14. The infraspecific variation of chromosome number in Macaranga and Mallotus (Soh Kim Gai). 15. Growth effects of Cycocel and other growth regulators on roots (Tung Heng Fong). 16. Aspergillus associated with food fermentation process in Malaya (Yee Chee San). 17. The differentiation of the fern gametophytes of Phymatodes (Yeoh Oon Chye). 18. Studies on the padang soils of Sarawak and Malaya (J. Carrick).

A new palynological journal. The first volume of 'Review of Palaeobotany and Palynology' has appeared in mid-1967. As was already announced in the previous Bulletin, the first five volumes of this journal are expected to be filled entirely with papers presented at the 2nd International Conference on Palynology at Utrecht, last year. Thereafter, the journal will be issued as a quarterly. Although it is expected that papers on palaeobotany will predominate, it is the intention to include also papers on pollen morphology, which according to the editorial introducing the new journal is the oldest branch of palynology and still occupies a central position.

The publisher is the Elsevier Publishing Company, Amsterdam, Netherlands.

Flora North America. A project under this name was started in a meeting on 30 Jan. 1967 at Washington. Chairman of the editorial committee is Dr. P. H. R a v e n of Stanford University, California. Professor V.H. Heywood, secretary of the Flora Europaea, served as consultant in the discussions. The purpose is to produce a concise diagnostic manual to the vascular plants of America north of Mexico, in about 4 volumes. The whole effort is expected to last 12-15 years.

Secretary is Mr. S. G. S h e t l e r, Smithsonian Institution, Washington, D.C. 20560, U.S.A. In Sept. 1967, Mr. Shetler, on a tour through Europe for an exchange of ideas in the main botanical institutes, also paid a visit to the Rijksherbarium, where he had a conference with the staff. He told us that part of this project consists of a pilot study in order to investigate the usefulness of computers for the processing, storage, and reproduction of taxonomic information. The results of such a study are expected in about two years; they are eagerly awaited because they would give us hard facts in a field rich in emotions pro and contra.

Dr. D. B u r g e r, formerly on the Netherlands Indies Forest Service, now living at Wassenaar, Netherlands, started to make his manuscript on seedlings of important trees in Java ready for the press. About 185 species of seedlings have been meticulously described in two stages of development, and beautiful illustrations are now available of about 140, all of them made from living and carefully identified collections. The translation into English is now being completed and re-checked by him.

Dr. P. S. A s h t o n's supplement to his 'Manual of the Dipterocarp Trees of Brunei' is now in the press and publication is expected by early 1968. This supplement will include descriptions of all Dipterocarps that occur in Sarawak but have not been recorded from Brunei. In addition there are keys for all Sarawak species.

Numbers of bb-wood samples. In the years 1913 to about 1954 the Forest Research Institute at Bogor (in Dutch: Boschbouwproefstation, Buitenzorg) had extensive collections made. Those from Java were numbered in the Ja-series; those of the other Indonesian islands in the bb-series, altogether over 37,000. Five duplicates were made; two were retained at the Forest Research Institute, the other three went to the Herbarium Bogoriense, which kept one and distributed two, one of the latter always to Leyden.

In the great majority of the cases wood samples were taken with the herbarium material and sometimes more than 5 duplicates of the latter were distributed, for instance to the School of Forestry of Yale, at New Haven, Conn., U.S.A. Unfortunately, the wood samples each received a number in one continuous series, independent of the number series of the herbarium samples. The two series run parallel, but as not all herbarium specimens were accompanied by wood material, there is a growing difference towards the end of the series. Since cross references on the labels have not been made, the result is that it is impossible to match herbarium specimen and wood sample without a list - and outside the Forest Research Institute such a list was not in existence.

In the years 1963-1966, however, through the good care of Dr. A.J.G.H. Kostermans, and with financial support from the Foundation Flora Malesiana, that list has been copied at Bogor and also was sent to the Netherlands, where copies have been deposited at the Institute for Wood Technology of the organization T.N.O., Delft, and at the Royal Institute for the Tropics, Amsterdam (both of them having a set), and at the Rijksherbarium, Leyden (where there is a growing collection of wood samples, chiefly containing materials from Borneo and BW-blocks from New Guinea, but no bb-samples).

This list, a massive pile of paper, ends with "33656 (wood) = 35707 (herbarium): *Mammea timorensis* Kosterm." It

has been brought up to date with incoming identifications to a considerable degree, which means that it in this respect differs from a list issued long ago giving the identifications of the first 10,000 bb-numbers. Through the mimeographed Identification Lists issued by the Flora Malesiana, and the printed records of "Specimens examined" often given at the end of monographs and revisions, the bb-list can be kept up to date in order to provide wood anatomists with the name of their materials.

Flora of Australia. There are obviously plans towards the establishment of a taxonomic research institute at Canberra with the aim of producing a new Australian Flora. At present work is done towards the working out of a research policy for the Institute and a scheme for the preparation and publication.

Dr. H. K e n g has written a teaching textbook for taxonomy class in Singapore University named "The Orders and Families of Malayan Seed Plants". It is now to be printed and will be published by the University of Malaya Press.

Philippine Aquatic Plants and Ferns by D. R. M e n d o z a & R. M. d e l R o s a r i o. A National Museum Publication now in the press. This enumeration covers a total of 42 families, 88 genera, 152 species of flowering plants; 4 families, 4 genera and 4 species of ferns. Their habitats are varied from salt to fresh water, such as the mangrove swamps, fishponds, and fresh water marshes, along rivers of tidal waters, lakes and ponds, rice paddies and streams. Some plants included in the enumeration may not actually be found submerged but growing on marginal water edges or water soaked soils. The altitudinal ranges where the plants grow are also included.

Some Benthic Algae of Batan and Sabtang Islands, North Philippines by Mr. Paciente C o r d e r o Jr, is awaiting publication. This paper deals on the algae found in the Batanes Islands: 30 species of red algae, 24 greens, 3 browns, with information on habitat.

Bibliography of Philippine Bryology by R. M. d e l R o s a r i o, National Museum, and Nieva V. d e l R o s a r i o, University of the Philippines, was scheduled for publication in Sept. 1967. The reference relating to the identification, distribution, and occurrence of bryophytes in the Philippines are very few and widely scattered. The present bibliography, therefore, attempts to assemble all those that have been published in the field of Philippine Bryology with the hope that the authors may enlighten the task of finding other researchers' way through the maze of published literature pertaining to Philippine Bryology. The bibliography includes titles from

the earliest publication in which Philippine bryophytes are described or recorded.

Phenology of Philippine Orchids by Dr. Eduardo Q u i - s u m b i n g, former Director of the National Museum, and Hermes G u t i e r r e z, Museum Researcher. Published in Araneta Journal of Agriculture 14 (1967) 100-133.

The paper records the flowering and fruiting of orchids found in different regions of the Philippines: 72 genera, 333 species, 9 varieties. A knowledge of the flowering of Philippine orchids is of great value to orchid collectors and breeders. A flower calendar for Philippine orchids has been added; useful for staging orchid shows in the country.

Materials for Flora of Banaue. Messrs. D. R. M e n d o z a and R. M. d e l R o s a r i o are engaged in the preparation of the "Flora of Banaue" supported by the Philippine National Museum. Banaue in N. Luzon has very rough terrain without flat lands except the rice terraces and river beds. An estimated 20% of the land area is covered by rice terraces and cleared slopes for planting sweet potatoes, 30% by grasslands and secondary forests, the remaining 50% by primary forest. The tremendous amount of rice terraces covering the hill and mountain sides was due to the hard work of the natives' ancestors about 2,000 years ago. Considered as the 8th wonder of the world, the terraces attract a considerable number of tourists. The greater portion of the grasslands and secondary forests was the result of the wanton destruction of the forests by kaingin system (shifting method of agriculture), known also as 'swidden'. The only purpose was to plant sweet potatoes to supplement the inadequate rice supply for their food consumption. The virgin forests are only in the mountain ranges passing through Mt Polis in the barrios of Sumigar and Hapao on the north and western side, and on the northeastern of Banaue proper. These forests give plenty of supply for the local wood carving industry, which supply novelty stores in Bontoc, Baguio City and Manila with curio products for tourists and the general public. Camella lanceolata (halinghingon), Fraxinus griffithii (lapidikon), Radermachera pinnata (bagaybayon), Viburnum odoratissimum (behong), Weinmannia sp. (tabangawon), Clethra and Eurya spp. (umug), and Litsea sp. (hangadan) are the main species used. Only small patches of pine trees were found growing along the mountain road to barrio Sumigar in the northern side and almost wanting towards the southern and eastern side facing the Nueva Vizcaya province.

Professor F. K. M. S t e u p, who now lives at The Hague, composed, at the request of UNESCO, a MS survey of secondary vegetation in the Indo-Malesian Tropics, with special reference to climate, soils, and human interference.

In collaboration with Dr. T. C. Whitmore and the Kepong staff several families have been treated by Dr. P. S. Ashton for a Manual of Sarawak trees, similar to that which is already in an advanced state for Sabah under Dr. W. Meijer. The following families have been treated: Alangiaceae, Aceraceae, Apocynaceae, Bombacaceae, Capparaceae, Celastraceae, Combretaceae, Connaraceae, Convolvulaceae, Datisceae, Erythroxylaceae, Gnetaceae, Myricaceae, Pittosporaceae, Proteaceae, Rhizophoraceae, Sonneratiaceae, Sterculiaceae, Tiliaceae, Trigoniaceae. The following families he hopes also to complete, the rest being left to his successor in Sarawak: Burseraceae, Clusiaceae, Dilleniaceae, Euphorbiaceae, Flacourtiaceae, Hypericaceae, Leguminosae, Loganiaceae. For the most part Flora Malesiana accounts are used as a basis, preferring not to venture into families yet to be treated in order to avoid creating further nomenclatural confusion.

Vegetation map of Thailand. 1967. Scale 1:2,500,000. Coloured. A new vegetation map was prepared for the Environmental Sciences Division, Royal Thai Military Research & Development Centre, by T. Smitinand & Anan Nalampun, assisted by Mr. David V. Vaneek, all of the Forest Department. A result of studying 450 locations throughout Thailand, 1963-1966. It is a physiognomic map comprising 13 types: agricultural, hill evergreen, tropical rain-forest, dry evergreen, moist upper mixed deciduous, dry upper mixed deciduous, lower mixed deciduous, pine forest, scrub forest, savannah forest, swamp forest (only a tiny spot in the extreme south), mangrove, and dry Dipterocarp forest.

Flora of West Australia. Mr. R. D. Royce of Perth, who there succeeded Dr. Gardner as Government Botanist and Curator of the Herbarium, wrote us that he and his collaborators have started work on a Flora of the State of West Australia.

Organization for Flora Neotropica by Mr. B. Maguire, *Brittonia* 18 (1966) 225-228. It is planned to have a sequence of monographs.

Danish Noona Dan Expedition 1961-1962 to the South Philippines, the Bismarck Archipelago, and the Solomon Islands. The Botanical Report has just been published in *Dansk Bot. Arkiv* 25 (2) (1967) 1-88, 27 fig. There are good detail maps of the localities and itinerary. Twelve families have been worked out by specialists; the 27 smaller ones represented in the collections are by B. Hansen & S. E. Sandermann Olsen. This publication must obviously be a very small portion of the total collection which consists of 2800 numbers (6000 specimens). Judging from this paper in which only in the Filices some 4 new species have been described as new, much material was collected in secondary growths.

Nature and Life in Southeast Asia. This is the name of a serial reflecting the exploration by scientific expeditions sent by Osaka City University to SE. Asia, in particular Thailand. Four volumes have appeared, with 58 articles, covering 1400 pp. (1961-1965). Unfortunately, apart from a few agri-ethnobotanical studies, the majority is zoological, so that botanical institutes will hesitate to purchase these volumes (together \$ 52.50) as the botanical papers are scattered through the volumes. Both for the sale and for the diffusion of botanical knowledge the mixing of these papers seems to be disadvantageous, not fitting the specialisation on botany.

Khumbu Nepal. This is the name of a similarly mixed journal containing zoological, botanical and ethnographical studies of German expeditions to the Nepal Himalaya. Of the first volume 5 numbers have appeared, in which only a few botanical papers have been included, which botanical institutes will hesitate to purchase. Properly such mixed works will only be fit to be put into general and University libraries. The intention of this is not clear; with more profit for all parties concerned matter could be divided up into parts or volumes devoted to one discipline by which more people would be served.

Botanical science victim of politics! We have learned with dismay that the publication of that important work "Flora Zambesiaca" is upheld because of political friction with Rhodesia. It is a pity that Governments and politicians think in terms of ephemeral petty politics instead of maintaining a strong stand for the real benefit of the people and their future. Obviously they have no idea that taking measures as such mentioned here does little harm to their present few opponent politicians, but does harm to the welfare of all Zambesians, now and in future, irrelevant of the construction of the future government. These silly politicians claim to be 'progressive' but what they really do is being destructive to the benefit of their so-called goal. Because it will be clear to everybody that this Flora must form the basis of all future botany, botanical education, forestry policy, etc. It must be edited irrespective of political quarreling. Such standard works can only be achieved by highly trained experts. And such experts are few. And they are mostly older experienced people. There are several parts of the Flora Zambesiaca ready for the press. It must be particularly discouraging, especially to Mr. E x e l l, who put all his energy behind the planning and execution that his publication is lamed.

b) Herbaria, Gardens:

Bogor Herbarium. By the end of 1966, construction work on the new building was resumed. It was expected that in 1967 the basement would be completed (7) m long, 30 m wide, 4 m high) for storage of specimens, and one floor with working rooms and library. It is hoped that another floor can be added, notably a double one of $2\frac{1}{2} + 2\frac{1}{2}$ m high; then there will be space enough for 25 years ahead. For the time being, the walls of the first floor are made of hardboard plates, in order to bring the specimens from the Pedological Institute where they were temporarily housed, back to their new home. Funds have been found for enough mounting paper to clear the whole backlog of unmounted specimens. The collections are regularly inspected, box by box, for insect damage and for need of re-mounting.

Brisbane Herbarium. The construction of a new building is well ahead of schedule, and Dr. S.L. Everist hopes to have it ready for opening about Sept. 1968. The building will be two-storied. Offices, library, preparations and work rooms and identification laboratory come on the ground floor, together with a reference set of Australian plants for routine use. On the upper floor come the airconditioned herbarium, five research rooms, and a conference room. The new Herbarium is at Meiers Road, Indooroopilly, about 5 mile SW of the centre of the city and a mile or so beyond the University. There is a fair amount of ground available in the vicinity in which plants can be grown, but the collection of living plants in the Botanic Gardens will be missed. We hope that possibility for later extension has been included in the planning, as the building will be too small again within a decade. Lack of funds prevented its being built on a larger scale at the present.

North Queensland Herbarium (CAIRNS in the Index Herbariorum). A small building in the Council Gardens at Edge Hill, Cairns, has been granted to house the Herbarium of the North Queensland Naturalist Club. Some repairs, renovations and additions will probably be necessary for which money of the Building Fund will be used. People wanting to study material have to get into touch with the president, Mr. A.J. Cassels, or the Curator of the Herbarium, Dr. L.J. Brass, Box 991, Cairns (J. North Queensl. Nat. Club 142). The latter wrote us recently: "Here in Cairns, while in working condition (he has been ill) I have been fully occupied with the Flecker Herbarium of the North Queensland Naturalists' Club. Insects, which rather badly damaged the collection through several years of neglect after the death of Dr. Flecker, left a mess which can not be quickly cleaned up. It is slow work, going over every sheet with a soft brush, saving fragments, and

doing a certain amount of remounting. Every now and then I get in to the field to do some collecting. This has not amounted to very much, but whenever possible I have collected a sheet for the Rijksherbarium. I propose to send one sheet to Brisbane, another to Kew."

Canberra Herbaria. It is planned to combine all the herbaria and pertaining libraries of C.S.I.R.O. Division of Plant Industry and Land Research into one working unit. A blessing!

Florence Herbarium. Fortunately the disastrous flood which struck Florence on 4 Nov. 1966 has not done essential damage to the Herbarium. In the cellar most of the stock of 'Webbia' and some other journals were lost. Necessary repairs to the Institute, including also a rearrangement of the Herbarium and Museum, were carried out in July-Sept. 1967 during a period of closing.

Honiara, Solomons. The B.S.I.P. botanical collections, formerly housed in a small airconditioned room at the Forestry Department headquarters, were transferred to a new, air-conditioned, spacious single-storey concrete herbarium building, located in the Rove Creek valley, western Honiara, in August 1966. This building provides adequate specimen storage and other facilities for several years, with provision in the construction plan for future extension, when required. All specimen preparation, including mounting, is very satisfactorily done by a semi-literate Solomon Islander, who is also employed as a botanical collector.

A horticultural nursery was established in the area in Sept. 1966, and the herbarium environs - a mile-long, lightly forested valley watered by a permanent clear stream and several springs, completely protected from strong winds by 150 ft high thickly forested limestone cliffs - is being developed as a public botanic garden, with living collections of native plants based on a natural ecological pattern, and rare and interesting exotics for comparison and ornamental display. The objects of the development are primarily educational, scientific, and amenity, with emphasis on the native plant collections to supplement the herbarium collections. Exchange of living plant material with overseas botanic gardens and institutions, and private individuals has been carried on, over 100 species of ornamental trees, palms, and smaller plants having been introduced throughout the year, and about half that number of native plant species of potential or proven ornamental and/or other value has been distributed overseas. Local distribution of such horticultural material for public and private planting has become an important function of this development also.

Extension of the Kew Herbarium. A new wing of the building has now been completed and will probably be in full use by the end of 1967. The Herbarium has now the shape of a rectangle, the new part making up one of the long sides, parallel with the Herbarium front, at the side of the River Thames. The basement will be used for various purposes; on the first floor a number of rooms are waiting for the staff who hitherto mostly had to sit unrestfully in the Herbarium bays by the windows; on the second floor comes the complete library (its present site then to be filled up with plant materials); on the third floor come herbarium cabinets, providing an increase of 45% of the formerly available space. There will be room enough for accretion of decades to come.

The freer breathing in the Kew Herbarium will, as far as the new wing is concerned, even be airconditioned, not so much for comfort of temperature, as with regard to air pollution. When long ago the planning began, the gas works on the opposite bank of the Thames were still in operation. Since they recently have been dismantled, the air is much better. But with now every one or two minutes a big plane coming over on its way to or from nearby London Airport, people at work in the Herbarium will probably be thankful if the windows can remain closed in hot weather.

University of Malaya, Kuala Lumpur (KLU in Index Herbariorum). The School of Biological Sciences came into being on April 1st 1967 by fusion of existing facilities in the old departments of Botany and Zoology which ceased to exist from this date. The new School consists of five Units: Botany, Ecology, Genetics, Physiology and Zoology. Affairs of the School are decided by a Committee of which Professor Anne Johnson has been elected Chairman. Apart from the existing staff, the School has been fortunate in obtaining the services of two visiting Fulbright lecturers: Dr. A. Wiedemann and Dr. Adela Baer; three lecturers on the Aberdeen Exchange Scheme: Dr. G. Hadley, Mr. M. Goldsmith and Mr. A. Marshall; and one A.V.A. volunteer: Mr. Russell Sinclair. There are twenty research students reading for M.Sc. or Ph.D. degrees. A new building should be completed in March 1968.

During 1966, a total of 487 herbarium collections were made, mostly in triplicate or larger series, by Dr. B. C. Stone. In addition, Che Kasim and Che Mahmud added some materials of their own collecting. They also received as a gift from the Forest Research Institute (Kepong) about 500 sheets of material from Borneo, mostly from Sabah. This material has now been for the most part mounted, and the sheets are stamped "Gift of the F.R.I.". Three large crates were received from Dr. M. E. D. Pore, being Malayan materials. These are still being processed. Students also added some collections, especially Mr. Soh Kim Gai and Mr. Leong Yueh Kwong

and Mr. Palaniappan. A gift of 100 sheets was received from the Department of Botany, Kyoto University, Japan, comprising Araliaceae of Borneo.

The extension to the Sarawak Forest Department Herbarium, Kuching, was completed in Oct. 1966. This will provide for the storage of an additional 24,000 specimens.

Lae Herbarium. About 12,000 sheets from all sources were added to the collections in the year 1966/67, while about 18,000 duplicates, mostly in the NGF-series, were distributed. A new and quicker system of label reproduction will result in a more rapid distribution of NGF-numbers than has been possible before now.

Rijksherbarium, Leyden. Late in 1966 a part of the collection was moved into a new, second collection floor in the West building, namely the families to the Connaraceae inclusive in the Engler & Prantl system, i.e. 127/280 part of the whole number. This involved the transportation of 9000 herbarium boxes from the first floor in one building to the ground floor in another, by 7-8 men, and the rearrangement of at least 15,000 others, by 8 men. The whole work was performed within two weeks. We wonder how much time the operation would have cost and what the material would have suffered if it were not in our good old familiar herbarium boxes of 15½ cm high. The number of mounted specimens during the year Sept. 1966-1967 was 28,433. The total number of acquisitions was 34,072 specimens. Out on loan went 10,031 sheets to 60 institutes; received on loan came 25,316 sheets from 93 institutes. The number of duplicates distributed was 1806, to 21 institutes. There is a buffer of about two years in mounting, of about one year in inserting.

The scientific staff including the director now consists of 24 persons and 10 honorary collaborators. The tropical department has 10 staff members including the director. The technical staff consists of 37 persons.

Manokwari Forest Herbarium. It was planned to remove the collections of this institute, built up by the Netherlands Government 'Boswezen' service, to Bogor, in order to keep it safe from disintegration, as no personnel was there to supervise it. As the director of the Rijksherbarium always took great care to send Bogor a duplicate of all the collections received from Manokwari, the increase at Bogor of BW-numbers so far unrepresented would be comparatively small.

Laboratoire d'ethnobotanique du Muséum National d'Histoire Naturelle, 57 Rue Cuvier, Paris Ve, France. Founded by A. Chevalier (1873-1956) in 1911 as Laboratoire d'Agronomie Coloniale, subsequently renamed Laboratoire d'Agronomie Tropicale, and again so in 1965. Its first periodical, Revue de

Botanique Appliquée et d'Agriculture Tropicale, existed from 1921 till 1953; the present periodical, Journal d'Agriculture Tropicale et de Botanique Appliquée was founded in 1954. Work in the institution has been focussed on ethnobotany; 11 fields in which research is going on, enumerated by R. Portères, J. Agr. Trop. Bot. Appl. 7 (1965) 1-4.

The Singapore Herbarium received considerable collections from the Herbaria at Lae, Honiara, Sandakan, and Kuching. During 1966, the mounters prepared 19,068 specimens, while 15,509 sheets were intercalated in the collections. Outgoing loans amounted to 11,332 sheets, which clearly indicates the importance of Singapore for taxonomic study.

c) Symposia, Congresses, Societies, and Meetings:

11th Pacific Science Congress. In addition to our brief report on page 1408-1409 of this Bulletin, it must be mentioned that a great number of resolutions were adopted by the Congress. These can be found in the Pacific Science Association Information Bulletin vol. 18, nos 4-6 (1966, issued 1967).

Recent advances in Tropical Ecology was the title of a symposium organised by the International Society for Tropical Ecology, in Varanasi (Banaras), on 16-24 Jan. 1967. The symposium was convened by Dr. C. M i s r a, Head of the Department of Botany of the University, who there founded a centre of ecological studies which already has attracted many pupils. The secretary of the Society is Dr. K. C. M i s r a, of the same Department; the retiring president, Dr. F. R. F o s - b e r g, was Chairman of the symposium.

The International Society for Tropical Ecology exists now 9 years, has 197 members, 163 institutional subscribers from 40 countries. The symposium was financially supported by the University of Varanasi, the Indian Scientific Council, the State of Madyah Pradesh, the U.S. National Academy of Sciences, Washington, and more than 20 non-Indians were enabled to attend the symposium with support of surplus funds administered by the Smithsonian Institution, which also has designed a large-scale biological programme for India and Pakistan.

The organisation of the symposium was perfect to such a degree that even a bus-strike did not interfere. The weather was cool and agreeable. There were 46 lectures, in the course of 5 days, with mostly time for discussion, for which the participants were prepared through distribution of the abstracts in advance. Subjects: climate 3, soil 3, forests and vegetation 7, grasslands 3, competition 1, water flora 9, succession 4, epiphytes 2, physiological ecology 2, alps 1, animals 7, miscellaneous 4. All these lectures were attended by numbers of 80-100 persons, and the enthusiasm of many

young Indian botanists was stimulating. Some were too detailed, or unripe, but a number was up to high standards, and these will be published in the Society's "Journal of Tropical Ecology".

Apply for membership to The Secretary of the International Society for Tropical Ecology, Botany Department, Banaras Hindu University, Varanasi 5, India. Admission Fee is Rs. 5 or US \$ 1.50 or 15 Shilling; annual subscription is Rs. 15 or US \$ 5 or 35 Shilling.

The XI International Botanical Congress will be held in Seattle, Washington, U.S.A. at the University of Washington, from August 24 to Sept. 2, 1969. The Congress is being organized under the auspices of the Plant Science Societies of the United States, the American Institute of Biological Sciences, and the National Academy of Sciences-National Research Council. The program will be organized by sections. The sectional organization has been designed to emphasize common interests and to facilitate interdisciplinary communication among botanists. The organization provides ample room for contributions originating from disciplines such as plant physiology, plant pathology, paleobotany and applied botany, as well as contributions arranged according to taxonomic groups or special kinds of plants (such as crop and forest plants). Areas of overlapping interest will be brought together in joint sessions.

The sections are: 1. Molecular botany, 2. Metabolic botany, 3. Structural botany, 4. Developmental botany, 5. Genetical and cytogenetical botany, 6. Environmental and evolutionary botany, 7. Systematic botany, 8. Ethnobotany, 9. History of botany.

Papers may be presented in any language. No simultaneous translation service will be provided. For purposes of convenience printed communications and correspondence from the Congress Committee will be in English.

Two types of pre- and post-congress field trips are planned - general and plant-group oriented. The general field trips will be broadly ecological, with emphasis upon vegetation, plant geography and taxonomy. The western sections of North America offer excellent opportunities to study and observe a great diversity of plants and plant habitats. The scientific field excursions will provide access to these botanical and scenic riches. To see these to best advantage, bus transportation will be provided.

Address communications to: Secretary XI International Botanical Congress, 3900 Wisconsin Avenue, NW, Washington, D.C. 20016, U.S.A.

Malayan Society for Experimental Biology. The Sixth Scientific Meeting was held on Oct. 14th, 1966, in the Faculty of Agriculture, University of Malaya. Abstracts of this

meeting are published in the Malayan Nature Journal 20, 145-148. Botanical papers were "Studies in the growth and respiration of *Riccia rhenana*" (Anne Johnson) and "Correlation between interallelic complementation maps and genetic maps" (V.Prakash).

Second Symposium on Scientific & Technological Research in Malaysia and Singapore (Febr. 1-4, 1967). The second STREMS symposium was held at the University of Malaya, with the theme of "Natural Resources Research". Papers included "National Parks as a National Resource" (B.C.Stone); "Uses of Seaweeds" (Anne Johnson); "Ecological Research and Natural Resource Utilisation" (J.A.Bullock). It is planned to publish papers submitted to the Conference as "Proceedings of STREMS II".

Flora of Thailand project. At the Rijksherbarium at Leyden a conference to discuss the means and the way of execution was held on 21-25 Nov. 1967. Participants of organising and collaborating institutes included Mr. C.F.van Beusekom (Leyden, secretary), Dr. B.L.Burt (Edinburgh), Mr. L.L.Forman (Kew), Professor Kai Larsen (Aarhus), Mr. C.Phengkhilai (Bangkok), Mr. Tem Smitinand (Bangkok), Professor C.G.G.J.van Steenis (Leyden, chairman), and Dr. J.Vidal (Paris).

The Report which has been drawn contains the considered guiding lines, hints to collaborators, etc. A sample treatment is made and will be published at Bangkok by the Siam Society. A list is also made of contributors by the Editorial Board. Also the contents were fixed for the Introductory volume.

The Flora will be published in English, in a rather concise way, but provided with ample keys. Family sequence will be opportune; volumes will contain c. 500 pp. and be published in instalments.

d) Conservation:

International Biological Programme. The IBP is an attempt to get biologists of the world to cooperate in order to establish the biological basis of productivity, a many-faceted problem which has never yet received a satisfactory answer and upon which so much depends. The parent body of IBP is the International Council of Scientific Unions, which has established a Central Office for the Programme at 7 Marylebone Road, London N.W.1, with Dr. E.B.Worthington as Scientific Director. The planning phase of IBP is just approaching completion, and the active phase begins in July, 1967. The program officially concludes in July, 1972, but many of the projects started under IBP auspices will continue beyond that date.

The title of the whole program is "The Biological Basis of Productivity and Human Welfare." Its objective is to ensure the world-wide study of (a) organic production on the land, in fresh waters, and in the seas, and the potentialities and uses of new as well as of existing natural resources, and (b) human adaptability to changing conditions. The program will not range through the entire field of biology but should be limited to the basic biological studies, related to productivity and human welfare, which will benefit from international collaboration, and are urgent because of the rapid rate of the changes taking place in all environments throughout the world.

While IBP is organized under international auspices, the backbone of the program will be the national projects. The Pacific Science Association will interest itself in IBP through its Standing Committees and through the national programs of the member countries and areas of the Association. The Pacific Science Council recommended to Chairmen of Standing Committees that they encourage the work of IBP whenever they can appropriately do so. Resolutions of the 11th Pacific Science Congress under the heading of Botany (3.6, 3.7, 3.8.) emphasize protection of natural ecosystems, encouragement of descriptive studies of them, and cooperation with IBP in this. Discussions on IBP were held during the 11th Congress and included plans for an international survey and scientific assessment as a basis for a conservation program for islands in the Pacific as a joint enterprise between IBP and the Association (through its Standing Committees). The international planning committees of IBP have also suggested that the Twelfth Pacific Science Congress (Australia, 1971) include in its program a symposium on the productivity of coral reefs and one on IBP progress in the field of biological control.

IBP issues two current publications: IBP News, the first issue of which appeared in 1964; and The Biosphere, no 1 appearing in Jan. 1967. Enquiries should be addressed to the Central Office.

Malaysia: Forest Productivity. A National Committee for IBP in Malaysia, where an informal group of scientists has been at work for some time, was set up in Febr. 1967. This will facilitate the establishment of an important Malaysia/UK bilateral project for the study of the productivity of rain forests. The site for this, consisting of a substantial area in the Pasoh Forest Reserve, is to be made available by the Forestry Department and has already been examined by a number of IBP scientists.

U.S.A.: Hawaii Project. The U.S. National Committee for the International Biological Program has been organized by the National Academy of Sciences-National Research Council.

Two sub-committees of the national committee, those on Systematics and Biogeography and on Conservation of Ecosystems, are cooperating in a major project on The Terrestrial Biology of the Hawaiian Islands. The Planning Committee for the project met in Bishop Museum, Honolulu, March 20-23, 1967, conferring with Hawaii biologists and with representatives of government, state and private agencies in Hawaii on plans for a detailed, long-term, comprehensive investigation of the endemic and invading biotas of Hawaii. The islands support one of the most critical biotas in the world - critical because of its exceptionally high endemism and the rapidity with which it is disappearing before the onslaught of man and of introduced species of plants and animals. The islands are an outstanding natural laboratory for the study of evolutionary processes. Among plants, it has been estimated that approximately 1,700 species have evolved from about 270 original immigrants, the seeds of which found their way to the islands during five to ten million years and over thousands of miles of ocean. Director of the Hawaii project is Dr. W.H. Wagner Jr, Director, Botanical Gardens, University of Michigan, Ann Arbor. Chairman of the U.S. National Committee for the IBP is Dr. Roger Revelle.

(From Pacific Science Ass. Inf. Bull. 19, 1967.)

Sabah. Virgin Jungle Reserves from 200-1600 acres extent are being constituted now in all lowland forests of Sabah's East Coast, logging areas. Timber Companies now give this their full support. The large VJR at Mile 45, Labuk Road, West of Sandakan about 1600 acres, has been the subject of extensive forest enumerations by Mr. J. E. D. Fox. A sample of 78.8 acres was taken with all trees above 5 ft girth representing the whole VJR while a plot of 250 acres is being laid out.

Malaya. There are plans in Malaya (Dr. Bullock, University Department of Zoology) for a new Nature Reserve in lowland Dipterocarp forest for studies under the International Biological Program.

Solomons. There are plans to preserve representative examples of the main forest types as strict nature reserves. It has been suggested to give an area at Kolombangara, S. of Choiseul, preferably in the form of a continuous stretch of land from coast to crater, a high priority.