VI. MISCELLANEOUS INFORMATION

(continued from p. 1800)

a) Research and Publications:

Flora of Thailand. Of this new project (see p. 1556 of this Bulletin) the first part of volume 2 appeared, dated Sept. 1970 (received Leyden 8 Dec.), containing revisions of Haloragaceae (R. van der Meijden), Rhizophoraceae (Ding Hou), Oxalidaceae (J.F. Veldkamp), Rosaceae (J.E. Vidal), Ochnaceae (A.Kanis), and Icacinaceae (H. Sleumer).

The octavo volume looks attractive, well-printed on excellent paper. This first number covers 92 pp. The only figures in it are 3 of Rosaceae, but they are not of high quality. For convenient tracing of localities a loose map of Thailand is added indicating the floristic provinces and

regions of Thailand, with a name list of these. All taxa are described and there are keys to genera and species. Each species is provided with synonymy, general and Thailand distribution, ecology, uses and vernacular names. All text is in English; vernaculars are also in Thai characters. No new names are proposed.

A well-executed instalment; a second one of volume 2 is underway. The 1st volume, containing the introductory chapters is partly finished in MS.

Flora of Malaya. Vol. III. 'Grasses of Malaya' by H.B. Gilliland, late professor of Botany, University of Singapore, edited by H.M. Burkill, lately director of the Singapore Botanic Gardens, is published by the Botanic Gardens and is anticipated for issue early 1971.

Tree Flora of Malaya (see p. 1791 of this Bulletin). Vol. 1 should be out during 1971 and vol. 2 should go to press end 1971 and be out 1972. These two volumes will cover half the tree flora of Malaya, about 45 families and over 1000 species. During 1970 the following families have been completed for vol. 2: Euphorbiaceae, Lythraceae, Flacourtiaceae, Apocynaceae, Rosaceae, Thymelaeaceae, Lecythidaceae (T.C. Whitmore and collaborators), Sterculiaceae, Tiliaceae (K.M. Kochummen).

Silvicultural studies in Malaya. Mr. P.F. Burgess occupies a post at Kepong Forest Research Institute, as sylvicultural ecologist under the Colombo Plan, for studying the ecology and regeneration of steep hill forests. He has just completed his first 3-year contract; he went on leave in November but will return for another two years.

Rimba Indonesia. This was a journal originally intended for communication of semi-academical personnel of the Indonesian Forestry Service. The earlier volumes appeared in printed 8°. This has now been abandoned starting with vol. 11, dated 1966 (received July 1970), and the new issue is now mimeographed in 4°. The volume covers nos. 1-4 (pp. 1-56) and consists of 4 articles, viz. on Planting of Maesopsis eminii in S. Bandung, Paper problems in Indonesia, the Baluran Game Reserve, E. Java, and the Role of Forage Crops within the Frame of Greening-movement, all by Indonesian forest officers. The text is in Bahasa Indonesia; each article is preceded by a tolerably long summary in English. It is the intention to work up the backlog and the issue of volumes for 1967 and following is anticipated. Subscription amounts per year to US$ 8. to be paid in advance. Of volumes 8-12 (incl.) 1959-1968, back-volumes can be obtained at US$ 8. each; vol. 13 only US$ 4. Editors: Rimba Indonesia, c/o Forest Research Institute, P.O.Box 66, Bogor, Indonesia.

Laporan Lembaga Penelitian Hutan. Bogor. (Mimeographed; Indonesian language). This is the continuation of the 'Rapporten van het Bosbouw-Proefstation' (Reports of the Forest Experiment Station). The same sequence has been maintained in the numbering. In 1969 4 numbers appeared, nos. 100-103.

No. 103 is the first of a series dealing with the key characters of timber trees for export or suitable for that purpose. It deals with 20 Shorea species, all with a description and plate-drawing, vernaculars in Indonesia, ecology and uses. The MS and plates were, I am told, already made in 1954, by F.H. Hildebrand and supplied to Mr. H. Essche, with a list of 300 other tree species to be treated and drawn for future instalments. They are not all timber producing species, but also resin and tengkawang producers.

The scientific names adopted are from 1954. Corrections necessary are the following: p.1 Shorea acuminatissima (damar pakit) must be S. polyandra Ashton; p.7 S. gysbertsiana is now a synonym of S. macrophylla (De Vr.) Ashton; p.11 S. koordersii Brandis is now S. assamica Dyer forma koordersii (Brandis) Symington; p.19 of Shorea ovalis Bl. Ashton recognizes 3 subspecies, and meranti belungkung (daun) must be ssp. sericea which, however, neither occurs in Borneo nor in Java.

The plates are well reproduced.

Borneo Research Bulletin. Of this stencilled issue No. 1 appeared March 1969, No. 2 Sept. 1969, 5 and 20 pp. respectively. Chief editor is G.N. Appell, Brandeis University, Phillips, Maine 04966, U.S.A. It is chiefly a newsletter on alpha sciences, anthropology, museums in Borneo, ethnography, ethnology, archaeology, languages, but also on conservation. It emanates from an International Borneo Research Committee.

Brunei Museum Journal. A new periodical started Oct. 1969 the first number of which contains contributions on ethnology, culture, prehistory; said also to contain some 40 pp. on biology.

Acta Manilana. The first number received by us is vol. 4, ser. A (Natural & Applied Sciences), no. 2, Dec. 1968, because of the revision of Hopea in the Philippines, by H.G. Gutierrez. The journal is printed in the Philippines, the auspices and copyright being by the University of Santo Tomas Research Centre, Manila. Two other papers are by J.S. Domantay, on breeding habits of Chelonia mydas and by B. Vargas O.P. on Camiguin Island 2, history and resources.

Botany Bulletin. Department of Forests, Lae. The first number of this new series is occupied by A Manual of the Grasses of New Guinea. 1969, 215 pp. offset, 71 plates, by E.E. Henty. This is intended as a full manual, with keys, a

full general introduction, enabling to identify grasses. Under each species there are brief descriptive notes. An excellent achievement.

The Field Guide to the Alpine Plants of New Zealand. 1968 by J.T. Salmon (see Bibliography in this Bulletin, p. 1862) seems to contain not a few errors, identification mistakes alone adding up to 78 of the 481 plates, as explained by G.C. Kelly (assisted by A.P. Druce & C.J. Burrows) in an extensive critical review published in the Wellington Bot. Soc. Bull. No. 36 (Dec. 1969). Those buying the book would do good to add to it a xerox of the correction list given.

Aquatics of Australia. Miss Helen Aston, Melbourne, prepares a practical flora of aquatic plants of Australia.

Poisonous plants of Australia. Mr. S.L. Everist used his three months long-service leave, mid-1970, to complete the MS for his book on this subject, which he started two decades ago and which occupied all his spare time during the last 6-7 years.

Biogeography and Ecology in Tasmania. A book of c. 500-600 pp. is planned by Dr. W.D. Williams, Monash University, Clayton, Victoria, to contain in 20 chapters by different authors all aspects in the fields of geography & geology, limnology, plants, animals, aboriginal man, and conservation.

Pacific botanists. Supplement 1969. In 1963 the Pacific Science Information Centre, B.P. Bishop Museum, Honolulu, Hawaii 96818, issued a list of persons under this title who worked in or on Pacific plants. This is more or less replaced by the present one, though not entirely. Names are alphabetically arranged and there is a residence index; no subject index.

Island Bibliographies. From Dr. Fosberg we heard that he is getting Supplements to the 'Island Bibliographies' volume and Merrill & Walker's 'Bibliography of Pacific Botany' into shape for publication in offset reproduction.

G.Peekel, Flora des Bismarckarchipels. The original MS has been returned to the 'Provinzialat der Hiltruper Missionare', Warendorferstrasse 14, 4400 Münster, Germany. A microfiche is deposited in the Library of the Rijksherbarium at Leyden.

Hassan Flora Project. This is a 4-year project on the vascular plants of Hassan District (W. Mysore, India) intended to produce a full illustrated Flora. Investigators are Dr. D. Nicolson, Washington, and Dr. Cecil J. Saldanha, St.Joseph's College, Bangalore. Started Nov. 1968. Mr. W.D. Stevens worked in 1969 on Apocynaceae and Asclepiadaceae and

Miss F.M. Jarrett collected ferns in 1970, Dr. Nicolson aroids. The project is supported by grants through the Smithsonian Institution.

National Museum of Natural Sciences, Canada: Publications in Botany. Of this new journal, printed by The Queen's Printer, Ottawa, Canada, the first number is filled with 'A Taxonomic Revision of the genus Plagiothecium for North America, North of Mexico' by R.R. Ireland. Beautifully illustrated, on glossy paper, this first number makes an exceedingly good impression.

African Plant Areas. The Botanic Gardens, Brussels, has started the edition of a counterpart of Pacific Plant Areas in editing and publishing a loose-mapped series, called 'Distributiones plantarum Africanarum'. The first instalment appeared Dec. 1969 and contains 29 maps of Guttiferae, prepared by Mr. Bamps. The plates are octavo and excellently reproduced, localities are dotted.

Pflanzenreich. It has obviously been decided that future issues of this serial will also contain revisions of separate genera. Furthermore, the use of Latin is declared no longer compulsory. We hope these reasonable changes will give an impetus to rehabilitate publication.

Research on Thomas Horsfield. Dr. J. Bastin, of the Department of History, University of London, is engaged in research on the Raffles period and became deeply absorbed in biographical data of Horsfield. For this purpose he spent 4 months in Holland, searching Dutch archives.

Palynology and taxonomy in Mimosaceae. Dr. Ph. Guinet has published a large study on this group in which pollen diversity is promising for taxonomical purposes; he extracted data from 1900 herbarium specimens. This study is published in Inst. de Pondichéry, Trav. Sect. Scient. & Techn. vol. 9, 1969, 293 pp., 20 pl. with English summary. Compound grains are within a group supposed to be more primitive; simple porate more primitive than tricolporate. It is not possible to divide the family into two subfamilies as far as pollen is concerned. Among the many conclusions the following are important for Malesian botany: Prosopis insularum (Melanesia), Piptadenia novoguineensis (New Guinea) and Xylia hoffmanii (Madagascar) should be united into a reinstated genus Schleinitzia Warb.; Entada should be split into two genera; most segregates of Pithecellobium distinguished by Kostermans should better remain as sections or be suppressed, but do not deserve generic rank. The palynological results are better in agreement with the generic concepts of Bentham, which were largely based in floral and inflorescence morphology,

than with fruit structure criteria taken up by later authors. Presence or absence of albumen has been overestimated. A remarkable parallelism was found between occurrence of stipular spines and highly differentiated pollen grains.

Mimosaceae may be derived directly from Rosales-Myrtales independently of Caesalpiniaceae.

b) Herbaria, Gardens, and Organisations:

Rijksherbariumfund Professor Lam. This is a small foundation established by Prof. H.J. Lam from funds handed to him on his retirement. It intends to promote the work on systematic botany sensu lato at the Rijksherbarium. The Board has decided as one purpose to assign a biennial prize for the best report by a graduate student for his doctoral examination. For the years 1967/68 this was awarded for the first time during a party on Dec. 3, 1970, to Mr. C.F. van Beusekom for his revision of Indo-Malesian Gaertnera.

News from the Botany Division, School of Biological Sciences, University of Malaya, Kuala Lumpur. In 1970 Prof. W.R. Stanton joined the Botany Division, coming from the Tropical Products Institute, London. Prof. Stanton was previously in Malaysia (in the Faculty of Agriculture). His interests center on microbiological aspects (including food technology, especially fermentations), economic botany, and allied subjects. A plan has been formulated to obtain University land for a large new University Botanical Garden and Herbarium. Prof. Stanton, whose prior tropical experience in Africa has made him a vocal supporter of Botanic Gardens, envisages a good-sized institution which will complement Kepong and enable the rapidly-expanding University collections of both living plants and Herbarium specimens to be properly stored and with plenty of expansion space.

Dr. A. Nawawi continued his mycological and phytopathological studies.

Dr. N. Prakash joined the Division. He is initiating some research on embryological problems in tropical tree fruits, and also accumulates materials for general research of taxa which are unknown or poorly known embryologically.

Mr. M. Ratnasabapathy, in collaboration with Dr. G.A. Prowse of the Tropical Fish Culture Institute, Malacca, has prepared a paper on the freshwater algae of Gunong Jerai. He is presently working on collections obtained from Tasek Bera, Pahang.

Dr. E. Soepadmo finished the MS revision of Fagaceae for the Flora Malesiana and is tackling the Ulmaceae, while also whittling away at some marginal areas (Nepal, etc.) for the Fagaceae. He continued to accumulate needed materials and

publications for work in palynology, and has in process a long-term study of pollen rain in tropical forest.

Dr. B.C. Stone continued working toward a revision of Pandanaceae, and completed a brief treatment of Malayan Rutaceae for the forthcoming 'Forest Flora' edited by T.C. Whitmore. He has been awarded a grant from the Forest Dept. New Guinea for study of the Papua–New Guinea Pandans, especially to elucidate the cultivars, and will proceed to Lae for field work lasting 4 to 5 months, towards the end of February 1971.

Of the Honours Students this year, several undertook projects which may have more than passing interest. Miss Savithri investigated the pollen morphology of several species of Pandanaceae; Miss Chu is preparing a (further) study of foliar anatomy in Pandanus; and Mr. Yeap prepared a special study of some critical species of Freycinetia. Other projects included a study of natural hybrids in Globba, a survey of higher basidiomycetes in the Pantai area, etc.

Mr. Chin See-Chung began work toward the M.Sc. degree; his study will attempt to produce comparative floras of several selected isolated limestone hills in Malaya, including Bukit Takun and B. Anak Takun (Selangor), Gua Musang (Kelantan), and probably one or two more in Perak or Langkawi. It is hoped to produce 'florulae' and then to analyze the results.

A long-term visiting student from Cambridge, Miss Ruth Evans, worked assiduously toward a fuller taxonomic and ecological understanding of the genus Iguanura (Palmae) in Malaya, and has recently extended her interest to Borneo (where a remarkable undescribed species has turned up).

Dr. Brian Lowry, of the Chemistry Department here, continued his friendly collaboration with the Botany Division as he worked further in his area of anthocyanin pigments and related phenomena. Lately, with Dr. Stone and Dr. Stauffer (of the Geology Department), he located an unusual species of Citrus in the main range (near Gunong Nuang), which is presently being studied by Dr. Stone.

Dr. J.R. Lewis, of the Department of Chemistry, University of Aberdeen, arrived in Sept. for a 3-month stay to study flavonoid compounds in Rutaceae (again in collaboration with Dr. Stone.

The University Herbarium was as usual active, and accessioned nearly 3000 specimens.

News of our former students overseas is of interest. Miss C.H. Cheah is presently working toward her Ph.D. in Cambridge (Agriculture Dept.), on genetical problems; her M.Sc. thesis is being prepared for publication; Miss Y.K. Kam transferred from the University of Toronto to the University of British Columbia, and is taking up a study of ontogeny in

Stipeae under Dr. J. Maze; a condensed version of her M.Sc. thesis (on systematic anatomy of Malayan Pandans) will be appearing in the Linnean Society's Botanical Journal in 1971; Mr. Leong Y. K. is continuing his Ph.D. work at the University of Western Ontario. Mr. Cheong Y. Y. is writing up his M.Sc. (on essential oils in Euodia) and has accepted employment in Singapore. Mr. Palaniappan, who formerly submitted a thesis on plant succession in tin-tailing areas, is now an assistant lecturer in the Ecology Division here.

Field work included an Honours Course week in Tasek Bera, Pahang (which was delightful and yielded much of interest), and Dr. Soepadmo's ascent of Gunong Tahan in the Taman Negara, Pahang. Earlier work by visiting graduate student W. Null on various montane summits here yielded numerous interesting collections (Mr. Null has now returned to the State Forestry College in Syracuse, New York, to write up his doctoral dissertation).

Dr. Stone wound up his work on Madagascar Pandanus (for the time being) but will resume it later after M. Guillaumet and Herr Bogner provide further collections.

Singapore Botanic Gardens. As from March 1970 the administration of the Herbarium and the Library reverted to the former status i.e. under the Botanic Gardens w.e.f. March 1970. Dr. Chew Wee Lek, Acting Director, left the Department to take up an appointment in Australia and was succeeded by Mr. A.G. Alphonso (Curator) w.e.f. 1 March 1970. Dr. (Miss) Chang Kiaw Lan is currently Keeper of Herbarium and Editor of the Gardens' Bulletin. Mr. Hardial Singh is on study leave at the University of Hawaii and Miss Geh Siew Yin has joined the Department as the third Botanist.

The Herbarium received considerable collections from Herbaria at Kepong, Lae, Honiara, Sabah and Hawaii. During 1970 the mounters prepared 11.560 specimens; 10.431 sheets were indexed and catalogued; and 6.070 sheets were incorporated in the herbarium. Outgoing loans amounted to 1.743 sheets.

Kebun Raya Indonesia. The Garden was struck by a cyclonic storm, Jan. 4, 1970, which caused severe damage, 426 trees being uprooted, while a large number were so badly damaged that they had to be felled. The loss included some of the old Canariums of the big avenue, many Leguminosae and Meliaceae, while also the palm and bamboo divisions suffered. Expeditions are planned to collect seed of native trees of Borneo, Celebes and the Moluccas to replace the losses.

Herbarium Bogoriense. Dr. M.A. Rifai spent the greater part of the first half of 1970 planning and supervising the moving and rearranging of the huge number of collections of Herbarium Bogoriense from the old and temporary building to the new one. This building was opened April 3, 1970. It

provides excellent facilities for taxonomical work at Bogor. Plan is now being laid down to put up an additional storey to the three-storeyed building. Adjoint to it a similar building is in erection for housing the very large Bibliotheca Bogoriensis.

Bibliotheca Bogoriensis. The old building of this most important library in Southeast Asia needed expansion and moreover had never been termite-free, requiring constant attention. Behind it a new concrete library building is now in course of erection in a similar style as Herbarium Bogoriense. Mid-1970 it was up to the first floor. This is a joint enterprise by the Indonesian and Dutch Government.

Netherlands University grants. During 1970 a large sum was allotted to Netherlands universities for various research in the tropics. Among the proposals was one emanating from the Rijksherbarium, viz. to make a study of seeds and fruits, their germination and seedling upgrowth. Grounds will be allotted at Bogor where the research will be centred. The project is for three years and will hopely prove to be of great value to both the knowledge of blastogeny of tropical plants in general but also contribute toward a regeneration of Kebun Raya Indonesia in which many old trees are overmature and show signs of decay and moreover because the Garden suffered a severe loss by a cyclone striking various parts of the garden and thereby causing great destruction. The project will start early 1970 and will be executed by Mr. W. de Vogel, at present assistant in the Rijksherbarium.

Sabbatical in Indonesia. The National Biological Institute, which includes the gardens at Bogor and Tjibodas, the Herbarium and the zoological museum at Bogor, is considering making available laboratory facilities and other amenities to foreign biology professors who are interested in spending a sabbatical year in Indonesia. It is anticipated that the foreign professor would be expected to supervise the graduate work of two or three students working in his field. When official confirmation of this program has been secured, a further notice will appear in this publication. Further details of this planned program may be obtained by writing directly to Dr. Otto Soemarwoto, Botanical Gardens, Bogor, Indonesia.

Herbarium of Forest Department, Sarawak. A second extension of the herbarium was started in Oct. 1970. This will provide greater working space and will initially accommodate all the Forest Research staff.

The Philippine National Herbarium has constructed a mezanine floor to accommodate the expanding local and foreign collections and pre-war specimens returned to the National

Museum by the Arnold Arboretum. Twenty additional herbarium cases were constructed for this purpose. The Herbarium now contains over 108.000 mounted specimens.

Botanical activity at the University of Sydney. Under supervision of Prof. R.C. Carolin various subjects on the taxonomy and ecology of Australian plants are elaborated. Miss Obchant Na-Thalang of Chulalongkorn University, Bangkok, attained a Ph.D. on a taxonomic study of the genus Riccia in Australia; Miss S. Donnell commenced the study of Australian Pimelea; Mrs. C. McInnis completed a study of hybridisation of Banksia and Conospermum in eastern New South Wales; Mr. N. Byrnes (Darwin) studies Terminalia in Australia; Mrs. J. Pully the genus Hibbertia in New South Wales; Mrs. M. Sale (Waga-Waga) the floral morphology of various Australian Myrtaceae; while Dr. Carolin himself makes a monograph of Goodenia and a study of the indument of Goodeniaceae. Ecological work is done by R. Malik (saltbush vegetation patterns), S. Jacobs (Triodia spp.) and Yaeesh Siddiqui (effects of fire on heathland in New South Wales).

The Pacific Tropical Botanical Garden acquired 180 acres of sugarcane land in the Upper Lawai valley of Kauai I., to be developed as the first of the Pacific Garden's sites in Hawaii. Dr. W.S. Stewart, Director of the County of Los Angeles Department of Arboreta and Botanic Gardens has been engaged as scientific consultant to the garden from 1 Jan. 1970.

Jodrell Laboratory. Dr. Metcalfe retired from the Keepership of the Jodrell Laboratory in Sept. 1969 and has been succeeded as Keeper by Dr. Keith Jones. Work on the anatomy of Monocotyledons will still be performed at the Jodrell and the series of books will be edited by Dr. Metcalfe, who is also planning a new edition of 'Anatomy of the Dicotyledons'. In connection with this work, the Jodrell Laboratory shall be pleased if exchange of reprints is continued.

c) Symposia, Congresses, Societies, and Meetings:

A Symposium on 'Water relations in Malesian Forests' was held from 11-12 July, 1970, at the Geography Department, University of Hull, organized by Dr. J.R. Flenley. Subjects were mostly on Borneo and Malaya. Topics were: Does Malaysia really have a hot wet climate?; Water balance of catchments; Water and nutrient cycling; Ecological significance of drought in Sarawak.

This is the first of a series of symposia to be held on Malaysian ecology. They are organized jointly by the Geography Dept., University of Hull, and the Institute for South East Asian Biology, University of Aberdeen.

Gondwanaland Symposium. In July 1970 a symposium on this topic of wide bearing was held at Cape Town and Johannesburg in South Africa.

A.N.Z.A.A.S. 42nd Congress, Port Moresby, 17-21 Aug. 1970. The theme of the Austr. & New Zeal. Ass. Adv. Science was: "Science in emergent countries". There were 26 sections, that on Botany being organized by Dr. D. Walker, Canberra, under chairmanship of Mr. J.S. Womersley, Lae; secretary Miss J. Vandenberg. Topics were the biogeography of New Guinea, Nothofagus forests, post-glacial vegetation of New Guinea, Phytochemistry and mineral nutrition under rain--forest conditions. Various tours could be made pre- and post-Congress to Lae, Mt Hagen, Goroka, Bulolo, etc.

Symposium on Hybridisation, Evolution and Systematics. Held at the Missouri Botanical Gardens, 16-17 Oct. 1970. Moderator was Prof. G.L. Stebbins.

4th International Symposium, Association for Tropical Biology. The ATB's Fourth International Symposium is the first to be held outside tropical America. The biota of the Amazon Basin was the subject of the first two symposia which were convened in Belém, Brazil (1966), and in Florencia and Leticia, Colombia (Jan. 1969). In June 1969, a Third International Symposium, held in Mayagüez, Puerto Rico, dealt with 'Adaptive Aspects of Insular Evolution'. The topic of the Fourth Symposium was 'Comparative evolution of lowland tropical forest ecosystems in Africa and South America'. It was held from 1-9 Febr. 1971 at Accra, Ghana. Forest ecosystems of the Congo and Amazon Basin will be mainly discussed, evolution of flora and fauna, evidence for interchanges between the continents.

Pre-Congress, 12th Pacific Science Congress, Tjipajung, W. Java. This is planned for Aug. 12-17, 1971. About 150 participants are expected to be accommodated. Aug. 12-14 are dedicated to the symposium of which the main topic is 'Planned utilization of the lowland tropical forests'. Two alternative tours are planned for the other 3 days, viz. one to Bali, the other to Krakatao & Udjon Kulon, the famous rhino Nature Reserve.

The symposium will have 5 sections: 1) Inventory of plants, 2) Lowland tropical forest bioclimatic and biogeocoenotic ecosystems (in various countries of Indo-Malesia & West Pacific), 3) Natural products, 4) Planned use on multiple purpose basis, 5) Education and communication of information.

President of the symposium is Prof. Sarwono Prawirohardjo, chairman of LIPI. The organizing committee of the Pacific Science Association consists of Prof. M.S. Doty, Hawaii,

Prof. O. Soemarwoto, Bogor, and Prof. V.J. Krajina, Vancouver; the latter will be the convener.

Besides by the Pacific Association the symposium is sponsored by the Indonesian Institute for the Sciences (LIPI), Djakarta, the National Biological Institute at Bogor (formerly Kebun Raya Indonesia), the Regional Centre for tropical biology (SEAMEC), and UNESCO.

d) Conservation:

Nature Conservation in Malesia. Through the heads of the nature conservancy, Messrs. Basjarudin, Sinaga, and Depari energetic efforts are launched towards progress in this most important field of biology. Much is being said about ecosystems of forests, and this talking is useful, but we must keep in mind that forests must be preserved in the first place. In Indonesia no less than 20 million hectare of forest concessions have been given out for exploitation during the past five years! And similar ruthless measures are employed in the neighbouring countries, Sarawak, Sabah, the Philippines and New Guinea. In Africa and tropical America the situation is similar or worse, but more specifically due to the immense land-hunger caused by the population explosion.

This was the main subject of the Nature Conservation Symposium at the Centenary of the Botanical Gardens & Herbarium of Brussels, held 14-19 Sept. 1970.

One important item is of course to preserve the officially recognized reserves, which cover in Indonesia some 2½ million hectare, for a great deal forest, in Sumatra and Borneo. For this aim they must be explored, better known, and better guarded.

WOTRO and the Netherlands Committee for International Conservation of Nature have planned to start with the North Sumatra Losir reserve and adjoining other forests and minor reserves, where rhinoceros and orang-utan still occur. To start, botanical exploration and reconnoitring will be done in 1971 by Mr. W.J.J.O. de Wilde.

Nature conservation in West Malaysia. From Dr. P. Wycherley, Head of the Botany Division, Rubber Research Institute of Malaya, an ardent promotor of nature conservation, chairman of the local IBP program, and honorary advisor on conservation, we heard that Master Plans for the development of two important lowland and hill rain forest reserves in Johore, Johore Tengah covering 150.000 ha and Tandjong Pengerang covering 130.000 ha, are in progress. He wrote:

"I am drafting proposals for the Gunong Blumut massif to become a Johore State National Park, also for the whole watershed plus Gunong2 Sumalayong, Muntahak and Panti (al-

though outside the area) and part of Ulu Sedili to be preserved. A small outcrop of limestone has been found in Ulu Sedili near Gunong Sumalayong, the planners want it to quarry and grind into fertiliser. At first sight it does not seem to have a very distinctive flora, perhaps because sandstone boulders have fallen over it, the whole flora is dominated by the sandstone and the site is isolated. Despite the departure of Dr. Chew Wee Lek, I hope to persuade the Botanic Gardens, Singapore, to do some intensive collecting there. The possibilities of an isolated outcrop are intriguing. Like so many things, this may be a last chance."

"Much of the Pengerang peninsular is disturbed. However, I have tracked down by aerial photographs and visits some areas of almost untouched beach forest and coastal freshwater swamp forest. Fortunately or otherwise, there is a good sandy beach and an extensive lallang area in the middle. We may be able to make the beach the tourist centre, chalets in the lallang, and have a nature reserve with the above forest types plus some coastal lowland dipterocarp forest surrounding it. However, the exploiters have their eyes on the silica sand of the beach forest and there is already oil pollution of the beach."

Dr. Wycherley sent us also a large annotated list of sites for conservation.

It is hoped that through such drafts and proposals the interest of Malaysians will be roused. From former communications in this Bulletin we have shown that there are sure signs that at least in forestry circles, and especially among the younger generation, the idea of conservation is distinctly awake. They have the task to open the eyes of the public and the Government to take pride in the country's nature resources and take measures to protect it, before these unique sites will be destroyed forever.

Udjung Kulon, the Land of the last Javan Rhinoceros is to be the title of a book which is published through the Netherlands Committee for International Nature Conservation. The Publishers are the well-known firm of Brill, Leyden, Netherlands, with financial assistance of the Van Tienhoven Foundation of the Committee. It covers c. 500 pp., 3 maps and c. 150 plates. The author is Mr. A. Hoogerwerf, former Head of the Nature Conservation Division of the Botanic Gardens, Bogor, whose speciality was the study of this Peninsula in the extreme southwest corner of Java. The book is expected to appear early 1971.

Rare and endangered species of Hawaii. May 7-8, 1970, a colloquium was held on this subject at the Smithsonian Institution, Washington, D.C., convened by Dr. Dale W. Jenkins, director of the Ecology Program, Office of Environmental

Studies of the Institution. An abstract is given in Newsletter 22 of the Association of Tropical Biology. A second colloquium was scheduled to take place in Hawaii, Dec. 1970.