

XV. BIBLIOGRAPHY
(contd from p.966)

- Abeywickrama, B.A.: The vegetation of the lowlands of Ceylon in relation to soil (Trop. Soils & Veget. - Proc. Abidjan Symp. 1961, 87-92).
- Abraham, A., C.A. Ninan & P.M. Mathew: Studies on the cytology and phylogeny of the Pteridophytes. VII. Observations on one hundred species of South Indian ferns (J. Ind. Bot. Soc. 41, 1962, 339-421, 115 fig., 23 tables).
- Agnihothrudu, V.: Notes on fungi from North-East India. VII. Tunstallia gen. nov. causing the "Thorny Stem Blight" of tea (Camellia sinensis (L.) O.K.) (Fungi) (Phytopath. Z. 40, 1961, 277-282, 5 fig.). Based on Aglaospora aculeata Petch.
- : Notes on fungi from North-East India. VIII. Some foliicolous Hyphomycetes (Fungi) (J. Ind. Bot. Soc. 41, 1962, 456-464, 10 fig., 2 tables).
- : Notes on fungi from North-East India. IX, XI. Hypocreates (Fungi) (J. Ind. Bot. Soc. 41, 1962, 465-477, 23 fig.; ibid. 478-490, 28 fig.).
- Ahmad, Sultan: Further contributions to the Fungi of West Pakistan. II (Biologia 8, 1962, 123-150).
- Amakawa, T.: A new genus Diplocolea (Hepat.) from Eastern Himalaya (Jap. J. Bot. 37, 1962, 274). Diplocolea sikkimensis (Jungermanniaceae).
- Anderson, D.E.: Taxonomy and distribution of the genus Phalaris (Gram.) (Iowa St. Journ. Sc. 36, 1961, 1-96).
- Anderson, J.A.R.: The flora of the peat swamp forests of Sarawak and Brunei, including a catalogue of all recorded species of flowering plants, ferns and fern allies (Gard. Bull. Sing. 20, 1963, 131-228, 10 pl., 3 tables, 1 map). On p. 817 of this Bulletin the author gave a summary of his work. The present paper is a discussion of the floristic composition of the swamps, which is very uniform. It is intended to deal with the ecological aspects elsewhere; here only 6 "phasic communities" have been outlined in a few lines each. The List contains 243 species in the category of trees; there are brief annotations, including those on common occurrence in peat swamps and heath-forest (over 100 spp.). In an appendix the species have been arranged according to habit; a special table has been devoted to the occurrence of Dipterocarpaceae. Extremely valuable paper.

- Ando, H. & T. Seki: A remarkable range extension of Symphyodon perrottetii Mont. (Musci) (Hikobia 3, 1962, 80-85, 4 fig.).
Also map of distribution; occurs in Malaysia.
- Anonymus: Species and varieties of Flemingia (Legum.) (Malaya Planters' Bull. Rubber Res. Inst. Malaya 61, July 1962, 78-85, 3 fig.).
3 varieties of *F. congesta* and contrasting this species in a key-table against *F. strobilifera*.
- Arnell, S.: Hepaticae collected by Dr. O.H. Selling in Central Australia, Tasmania and New Zealand in 1949 (Bot. Not. 115, 1962, 311-317, 3 fig.).
- : Two new Hepaticas from Queensland (Svensk Bot. Tidskr. 57, 1963, 190-192, 2 fig.).
- Arora, C.M.: New chromosome report (Bull. Bot. Surv. India 2, 1960, 305, 1 fig.).
15 spp. of Phanerogams.
- : New chromosome report II (Bull. Bot. Surv. India 3, 1961, 37).
Of 19 Indian plants.
- Arora, R.K.: New plant records from North Kanara (Bull. Bot. Surv. India 2, 1960, 169).
- Ashton, P.S.: Some new Dipterocarpaceae from Borneo (Gard. Bull. Sing. 19, 1962, 253-319, 32 pl.).
A large number of new spp. of various genera from Borneo.
- Aubréville, A.: Savanisation tropicale et glaciation quaternaires (Adansonia 2, 1962, 16-84, 14 fig.).
Desiccation in tropics ascribed to Ice Age as a hypothesis.
- : Notes sur les Sapotacées de la Nouvelle Calédonie (Adansonia 2, 1962, 172-200, 11 pl.).
- : Notes sur les Sapotacées (Adansonia 3, 1963, 19-42, 7 pl.).
Achras recognized against Manilkara.
- Awasti, D.D.: Some foliose and fruticose lichens from Assam and North-East Frontier Agency of India (Proc. Ind. Ac. Sc. 54B, 1961, 24-44, fig. 1-7).
72 spp. reported from Bot. Surv. Ind. tours.
- Aziz, K.M. Sultanul: A new species of Fritschella Iyengar from East Pakistan (Algae) (Trans. Am. Micr. Soc. 81, 1962, 185-189).

Babu, C.N. & K.Srinivasan: Chromosome numbers in the genus Erianthus (Gram.) (Sci.and Cult. 26, 1960, 230-231).

The following are the n chromosome numbers obtained by the authors for various species and forms of Erianthus: E.arundinaceus Retz. 15, 20, 25, 30; E.munja Roxb. 30 (20 for material from Java); E.ravennae Beauv. 10; E.elephantinus Hook. and E.fulvus Nees 10 each.

Baird, A.M.: Notes on the regeneration of vegetation of Garden Island after the 1956 fire (J.R.Soc.West.Austr. 41, 1958, 102-107).

Interesting.

Baker, H.G. & B.J.Harris: The pollination of Parkia by bats and its attendant evolutionary problems (Legum.) (Evolution 11, 1957, 449-460, 21 fig.).
On Parkia clappertoniana in Africa.

----- & ----- : Bat-pollination of the silk-cotton tree, Ceiba pentandra (L.) Gaertn. in Ghana (Bombac.) (J.West Afr.Ac.Sc.Ass. 5, 1959, 1-9, 1 pl.).
Role of bats is discussed.

Bakhuizen van den Brink, R.C., Ding Hou & C.G.G.J.van Steenis: Proposal to conserve the generic name Microtropis (Celastr.) (Taxon 11, 1962, 225-226).

Balakrishnan, M.S.: Reproduction of some Indian Red Algae and their taxonomy (Proc.Symp.Algology 1960, 85-98).
Corynomorpha is made into a new monotypic family; new comb. in Sebdenia.

----- : Studies on Indian Cryptonemiales. II. Corynomorpha J.Ag. (Algae) (Phytomorphology 12, 1962, 77-87, 29 fig.).

Balakrishnan, N.P.: Nomenclatural notes in Euphorbiaceae (Bull.Bot.Surv.India 3, 1961, 39-40).

New name for Croton oblongifolius Roxb. non Delile nec Spr.

----- : A new species of Argyreia from South India (Bull.Bot. Surv.India 3, 1961, 163-165, 12 fig.).

----- & K.Subramanyam: A new species of Euphorbia from South India (Euph.) (Bull.Bot.Surv.India 2, 1960, 175-176, 11 fig.).

----- & ----- : A new species of Pimpinella from Tirupati Hills, South India (Umbell.) (Bull.Bot.Surv.India 2, 1960, 427-428, 9 fig.).

Very much like P.candolleana.

- , K.Thothathri & A.N.Henry: Some Indian Ophioglossums. Taxonomy and distribution (Bull.Bot.Surv.India 2, 1960, 335-339, 14 fig., 1 map).
Key to 4 spp.; synonymy; descriptions.
- Bamber,R.K.: The anatomy of the barks of Leptospermoideae (Myrtac.) (Austr.J.Bot. 10, 1962, 25-54, 7 pl., 5 fig.).
- Banerji,M.L.: The Ophioglossales in Nepal (J.Bomb.Nat.Hist. Soc. 58, 1961, 554-556).
Ophioglossum vulgatum L., *O.reticulatum* L., *Botrychium lunaria* (L.) Sw., *B.lanuginosum* Wall., and *B.ternatum* (Thunb.) are listed for Nepal from the author's collections; of these, *O.reticulatum* and *B.ternatum* are mentioned as first records for Nepal.
- Bapna,K.R.: A new species of Riccia from Mount Abu (India) (Hepat.) (Trans.Brit.Bryol.Soc. 4, 1962, 249-253, 16 fig.).
- & G.G.Vyas: Studies in the Liverworts of Mount Abu (India). I. A preliminary account (Hepat.) (J.Hattori Bot.Lab. n. 25, 1962, 81-90, 2 maps, 1 table).
- Baranov,A.I.: On the economic use of the wild plants in N.E. China (Quart.J.Taiwan Mus. 15, 1962, 107-115).
Discussion poisonous and medicinal plants; list edible plants.
- Baren,F.A.van: The pedological aspects of the reclamation of tropical, and particularly volcanic, soils in humid regions (Trop.Soils & Veget. - Proc.Abidjan Symp. 1961, 65-67, 1 fig., 4 tables).
- Barlow,B.A.: Studies in Australian Loranthaceae. I. Nomenclature and new additions (Proc.Linn.Soc.N.S.W. 87, 1962, 51-61, 1 fig.).
List; some new spp.; key to genera.
- Barnett,E.C.: Gesneriaceae (of Thailand) (Dansk Bot.Ark. 20, 1962, 199-203).
Records; 1 new sp. in *Didymocarpus* and 1 in *Paraboea*.
- : Contributions to the Flora of Thailand. LVI. Descriptions of new species from Dr. Kerr's manuscript (Kew Bull. 16, 1963, 485-492).
Description of new spp. of Solanaceae and Scrophulariaceae.
- Barry Jr,D.: New Caledonia for palms (Principes 7, 1963, 20-26, 5 photogr.).
Popular report of trip.

- Bartram, E.B.: Northwestern Himalayan Mosses. 2 (Musci) (Rev. Bryol. & Lichénol. 29, 1960, 165-172 (1961)). 104 spp. listed among which 4 are new.
- Batista, A.C. & R. Ciferri: The Chaetothyriales (Fungi) (Beih. zur Sydowia, Ann. Mycol. Ser. II, Beih. III, 1962, 1-129, 92 fig.).
- Benl, G.: Ein Gattungsschlüssel der Aquarienpflanzen nach vegetativen Merkmalen (Ber. Bayer. Bot. Ges. 35, 1962, 5-11).
- Berrie, G.K.: Australian Liverworts. I. Haplomitrium intermedium, sp. nov. (Calobryales) (Hepat.) (Proc. Linn. Soc. N.S.W. 87, 1962, 191-195, 2 fig.).
- Beurlen, K.: Die paläogeographische Entwicklung des südatlantischen Ozeans (Nov. Act. Leop. N.F. 24 (n. 154), 1961, 1-36, 8 fig.).
Plea for origin of Atlantic Ocean, by diverging of the American and African continents, from south to north, in the epoch from Upper Triassic to Upper Cretaceous. Only from the latter era the distance between the continents became distant.
- Bharucha, F.R. & V.M. Meher-Homji: Bibliography of work on "plant-ecology" in India, with special reference to the "plant communities" (Excerpta Botanica, Sectio B, Bd 5, Heft 1, 1963, 54-77).
366 titles arranged under 6 headings.
- Bisset, N.G.: Cardiac glucosides VI. 1. The genus Antiaris (Morac.) (Planta Medica 10, 1962, 143-152).
- c.s.: Identifizierung von Thevenerin mit Ruvosid und Differenzierung von Thevefolin und Nerifolin (Helv. Chim. Act. 45, 1962, 938-943).
- Blair, I.D.: Studies on some diseases of plants indigenous to New Zealand. II. Septoria myopori Cooke & Massee (Fungi) (Trans. R. Soc. New Zealand 1, 1962, 231-233, 4 fig.).
- Blake, S.T.: Observations on insects, pollen, and seed-set in the Asclepiadaceae (Queensl. Natur. 16, 1962, 99-100).
Exper. on Stapelia; at least some spp. have self-fertilisation.
- Blasdell, R.F.: A monographic study of the fern genus Cyrtopteris (Mem. Torr. Bot. Club 21, 1963, 1-102, 23 pl.).
Morphology; karyology; hybridization; geography; key and description.

Boedijn, K.B.: Stigmatomycosis in Indonesia (Fungi) (Mycopath. & Mycolog. Appl. 13, 1960, 243-246, 2 fig.).

Fungi inoculated into plants by means of the stinging oral parts of insects cause symptoms known as Stigmatomycosis. From Citrus fruits from Java injured in this way the author isolated the fungi *Eremothecium cymbalariae* Borzi and *Nematospora coryli* Peglion. In fam. Spermophthoraceae, related to the Endomycetaceae, genera are listed.

----- : The Sordariaceae of Indonesia (Fungi) (Persoonia 2, 1962, 305-320, 12 fig.).

7 genera and 18 spp.; one new genus; 3 new comb.

Boivin, B.: Persoon and the subspecies (Brittonia 14, 1962, 327-331).

Discussion of the designation variety and subspecies.

Bor, N.L.: Two confused species of Panicum (Gram.) (in Fedde, Rep. 63, 1960, 328-331).

Panicum miliare Lamk is later synonym of *P. antidotale* Retz. The Indian plant thus named is *P. sumatrense* Retz. *P. montanum* Roxb. must be called *P. notatum* Retz.

----- : Gramineae (of Thailand) (Dansk Bot. Ark. 20, 1962, 141-178).

Records; 1 new *Coelachne*, 1 new *Digitaria*, 1 new comb. in *Coelorhachis*.

Bose, R.B.: A note on an abnormal *Nymphaea pubescens* Willd. (Nymph.) (Bull. Bot. Surv. India 3, 1961, 41, 1 fig.). Curious proliferation.

Bose, S.R. & S.K. Sen Gupta: Wilting of big rain trees in Calcutta (Fungi) (Curr. Sci. 30, 1961, 307-308).

Death of well-grown trees of *Samanea saman* (Benth.)

Merr. in Calcutta is primarily caused by *Fusarium solani* affecting the roots.

Bougher, A.S.: The explosive development of a floating weed vegetation on Lake Kariba (Nyasaland) (Adansonia 3, 1963, 49-61, 2 photogr., 2 pl.).

Salvinia auriculata and *Scirpus cubensis* as a pest.

Bouharmont, J : Recherches cytogénétiques chez quelques hybrides interspécifiques d'*Oryza* (Gram.) (Trav. Biol. Inst. Carnoy, Louvain n. 82, 1962, 53-132, 132 fig., 3 pl.).

----- : Évolution de l'ovule fécondé chez *Musa acuminata* Colla, subsp. *Burmannica Simmonds* (Musac.) (Trav. Biol. Inst. Carnoy, Louvain n. 84, 1963, 261-279, 20 fig., 4 pl.).

- Boulos, L.: On the synonymy and distribution of Sonchus arvensis L. (Compos.) (Bot. Not. 114, 1961, 57-64, 4 fig., 2 maps).
East Asiatic and Malaysian 'arvensis' belong to *S. brachyotus* DC. (shorter pappus).
- Bradshaw, A.D.: The taxonomic problems of local geographical variation in plant species (System. Ass. Publ. n. 4, 1962, 7-16, 2 fig.).
General about sampling of ecotypes and populations.
- Bremekamp, C.E.B.: Remarks on the position of some Australian Acanthaceae (Acta Bot. Neerl. 11, 1962, 195-200).
On some Ruellias and Justicias; some new spp. and a new genus Sarojusticia.
- Brenan, J.P.M.: Murdannia axillaris Brenan (Commel.) (in Hook. Ic. Pl. t. 3578, 3 pp.).
Contains also *Murdannia blumei* (Hassk.) Brenan, comb. nov., formerly known as *Aneilema hamiltonianum* Wall. ex Clarke.
- Briggs, B.G.: The New South Wales species of Darwinia (Myrtac.) (Contr. N.S.W. Nat. Herb. 3, 1962, 129-150, 6 fig., 2 pl.).
Key; description.
- : Interspecific hybridization in the Ranunculus lappa-ceus group (Ranunc.). (Evolution 16, 1962, 372-390).
- Brizicky, G.K.: Taxonomic and nomenclatural notes on the genus Rhus (Anacard.). (J. Arn. Arb. 44, 1963, 60-80).
Definition, discussion, and synonymy of 5 subgenera.
- Brownlie, G.: Additional chromosome numbers. New Zealand ferns (Trans. R. Soc. New Zeal. 1, 1961, 1-4, 4 fig.).
Haploid numbers of 30 spp.
- Buchheim, G.: Beobachtungen über den Bau der Frucht der Familie Himantandraceae (Ber. Ges. naturf. Freunde Berlin N.F. 2, 1962, 78-92, 6 fig.).
- Bulmer, G.M.: A key to the divaricating shrubs of New Zealand (Tuatara 7, 1958, 48-61, 5 pl.).
- Bunting, G.S.: The genus Schizocasia (Arac.) (Baileya 10, 1962, 113-120, fig. 35-40).
Opposed to *Alocasia*.
- Burger, W.C., J. Lanjouw & J.G. Wessels Boer: The genus Sorocea St. Hil. (Morac.) (Acta Bot. Neerl. 11, 1962, 428-477, 23 maps, 13 pl.).
Rev.; key; descr. *Balanostreblus ilicifolius* Kurz again reduced to *Sorocea guilliminiana*.

Burkill, I.H.: Chapters on the history of botany in India (J. Bomb. Nat. Hist. Soc. 58, 1961, 678-706).
To be continued.

Burrows, C.J.: Studies in Pimelea. II. Taxonomy of some mountain species (S. Island, New Zealand) (Thymel.) (Trans. R. Soc. New Zeal. 1, 1962, 217-223, 3 fig.).

Burtt, B.L.: Studies in the Gesneriaceae of the Old World. XXIII. Rhynchoglossum and Klugia (Not. R. Bot. Gard. Edinb. 24, 1962, 167-173).

Klugia reduced to Rhynchoglossum; all transfers made; 1 new sp.; 10 spp. from Ceylon to Taiwan and New Guinea; 3 spp. from Mexico to Columbia.

— : Studies in the Gesneriaceae of the Old World. XXIV. Tentative keys to the tribes and genera (Not. R. Bot. Gard. Edinb. 24, 1962, 205-220).

A very important welcome survey; 2 new tribal names; Brookea is referred to Scrophulariaceae; list of genera with synonyms.

Campbell, E.O.: The Mycorrhiza of Gastrodia cunninghamii Hook. f. (Orchid.) (Trans. R. Soc. New Zeal. 1, 1962, 289-296, 7 fig.).

The symbiont is Armillaria mellea, itself a root-parasite of trees.

Cannon, J.F.M.: The new botanical exhibition gallery at the British Museum (Curator 5, 1962, 26-35, 8 fig.).

Cannon, J.R., H. Corbett, K.P. Haydock, J.G. Tracey & L.J. Webb: An investigation of the effect of the dehydro-angustione present in the leaf litter of Backhousia angustifolia on the germination of Araucaria cunninghamii. An experimental approach to a problem in rain-forest ecology (Austr. J. Bot. 10, 1962, 119-128, 5 tables).

In experiments leaves contained toxic matter; in the field this was not observed.

Capuron, R.: Contributions à l'étude de la flore forestière de Madagascar (Adansonia 2, 1962, 268-285, 4 pl.).
Certain Burseraceae; first Alangium reported from Madagascar.

Carlquist, S.: Trematolobelia: seed dispersal; anatomy of fruit and seeds (Campanul.) (Pac. Sc. 16, 1962, 126-134).

Casinovi, C.G., G.B. Marini-Bettolo & N.G. Bisset: Diaboline from a Malayan species of Strychnos and its biogenetic significance (Logan.) (Nature 193, 1962, 1178).
Diaboline was before only known from S. American spp.

- Casper, S.J.: "Systematisch maszgebende" Merkmale für die Einordnung der Lentibulariaceen in das System (Lentib.). (Oster.Bot.Z. 110, 1963, 108-131, 2 fig., 2 tables). Allied to Scrophulariaceae.
- Chandraprasong, K.: A white Aerides from Thailand (Orchid.) (Am.Orchid Soc.Bull. 31, 1962, 318).
- Chang, Yu-Lung: Studies in the spore morphology of Loxogramme Presl (Acta Bot.Sin. 11, 1963, 36-43, 4 pl.). Monolet and trilete spores are found; discussion of significance.
- Chapman, D.J.: A check list and key to the Rhodophyceae of New Zealand. Section A: Bangioideae (Algae) (Trans.R.Soc. New Zeal. 1, 1962, 127-137).
- Charlton, F.G.: Hydrology in Malaya. River flow (Mal.For. 25, 1962, 117-122, 2 graphs). Brief survey of complex nature of relationships between rainfall and streamflow in Malaya.
- Chaudhuri, Rai H.N.: Pharmacognostic studies on the leaf of Calotropis gigantea R.Br.ex Ait. (Asclep.) (Bull.Bot. Surv.India 3, 1961, 171-173, 1 pl., 1 table).
- Chavan, A.R., S.J.Bedi & S.D.Sabnis: Some observations on a rootparasite - Aeginetia indica Linn. (Orobanch.) (Curr.Sci. 30, 1951, 191-192, fig.1). Ae.indica is a very common parasite in forests undergrowth in Bombay; it is very difficult to discover the host plant. The authors of this note mention that they have proved that Dioscorea sp. was host to the parasite in the Ratanmahal Hills in Gujarat.
- Chen, Chi-Chang & Chien-Chang Hsu: Cytological studies on Taiwan grasses. 2. Chromosome numbers of some miscellaneous tribes (Gram.) (J.Jap.Bot. 37, 1962, 300-313, 29 fig.).
- Chew Wee Lek: Flora Malesiana Precursores XXXIV. A revision of the genus Poikilospermum (Urtic.). (Gard.Bull.Sing. 20, 1963, 1-103, 24 fig.). Complete monograph; key; descr.; two subgenera distinguished; 20 spp. among which 2 new. Genus reckoned to Urticaceae, which are distinct from Moraceae by an erect orthotropous ovule. This necessitates that Cecropia, Musanga and Coussopoa also belong to Urticaceae (as separate tribe).
- Ching, R.C.: On the nomenclature of the compound-leaved Polysticha (Acta Bot.Sin. 10, 1962, 253-263). Large number of new comb.; in Chinese; English summary.

- Chock, A.K. & D.C. Hamilton Jr: Plants of Christmas Island (Polynesia) (Atoll Res. Bull. n. 90, 1962, 7 pp., 1 pl.).
Plant list; all shore spp.
- Cholnoky, B.J. von: Ein Beitrag zur Kenntnis der Diatomeenflora von Holländisch-Neuguinea (Algae) (Nova Hedwigia 5, 1963, 157-198, pl. 25-27).
Samples from Biak, Manokwari, and Hollandia.
- Chrtek, J. & V. Jirásek: On the taxonomy of the genus "Trisetum" Pers. (Gram.) (Webbia 17, 1963, 569-580, 3 fig.).
- Clifford, H.T.: Cleistogamy in Microlaena stipoides (Labill.) R.Br. (Gram.) (Univ. Queensl. Pap. Dep. Biol. 4, 1962, 63-72, 4 fig., 4 tables).
Spikelets are of 2 kinds, chasmogamous and cleistogamous; *M. micranthera* Ohwi reduced.
- Copeland, H.F.: Observations on the reproductive structures of Anacardium occidentale L. (Anacard.) (Phytomorphology 11, 1961, 315-325, 25 fig. (1962)).
- Corner, E.J.H.: A tropical botanist's introduction to Borneo (Sarawak Mus. J. 10, 1961, 1-15).
A refreshing and stimulating essay in which the probable great age of the Bornean flora is stressed, comparison is made between Sarawak and Malaya, in particular with regard to lowland forest, pandans, figs, and durians. Need is expressed for classifying rivers by riverine vegetation; note on Hanguanas, Eugeissona, rotans, pigs and the flora of the limestone hills as deserving attention and study.
- : The Royal Society Expedition to North Borneo 1961 (Emp. For. Rev. 1962, 224-233, map of route, 4 photogr.).
A lively report on the aims and course of this important expedition, with a glimpse of provisional results.
- : The genus Amanita in Singapore and Malaya (Fungi) (Persoonia 2, 1962, 241-304, 56 fig.).
Key to subgenera, sections and spp.; descr. of 22 n.spp.
- : Taxonomic notes on Ficus Linn., Asia and Australasia. Addendum II (Morac.) (Gard. Bull. Sing. 19, 1962, 385-401).
Various n.spp. and varieties.
- Cox, E.H.M. & P.A. Cox: Eucalyptus in East-Central Scotland (Myrtac.) (J.R. Horticult. Soc. 88, 1963, 28-31).
Experiments on hardiness and growth.
- Cranwell, L.M.: Endemism and isolation in the Three Kings Islands, New Zealand. With notes on pollen and spore types of the endemics (Rec. Auckl. Inst. & Mus. 5, 1962, 215-232, pl. 45-49 incl. fig. 1-30, 1 map).

Valuable pollen analysis of recent flora with its peculiar endemics, with remarks on ranges and probable origin; as a corollary chance dispersal is assumed not to be the reason of this endemic flora, but relict remains of a former flora. List of endemic species incl. large-fruited Alectryon, spore dispersed Davallia, berry dispersed plants, wing-dispersed Tecomantle, etc. Discussion of unique position of these most northern New Zealand islets. Igneous and volcanic rock of Cretaceous are the basement rocks.

Cribb, A.B. & J.W. Cribb: Marine Fungi from Queensland. III (Univ.Queensl.Pap.Dep.Biol. 4, 1960, 41-44, 3 fig.). New gen.; 2 new spp.

— & — : Some marine Fungi on Algae in European herbaria (Univ.Queensl.Pap.Dep.Biol. 4, 1960, 47-48).

Cribb, J.W.: Two new species of subterranean Ascomycetes from Queensland (Fungi) (Univ.Queensl.Pap.Dep.Biol. 4, 1960, 35-37, 2 fig.).

Crum, H.: A small collection of West Javanese mosses (Musci) (The Bryologist 62, 1959, 188-190 (1960)). Coll. R.G. Robbins; 2 new for Java.

Crutwell, E.G.: Alpine plants in Papua (J.R.Hortic.Soc. 88, 1963, 104-109, 4 col.photogr. = fig. 44-47). Concise vivid account of SE.Papuan mountain vegetation.

Dakshini, K.M.M.: The vegetation of Mothronwala swamp forest (Bull.Bot.Surv.India 2, 1960, 57-59, 1 fig.). Vegetatiology.

Das, A.C.: Two new species of Thielavia and Sordaria (from India) (Fungi) (Trans.Brit.Micol.Soc. 45, 1962, 545-548, 4 fig.).

Davis, R.S.: Ambon, Rumphius, and orchids (Am.Orchid Soc. Bull. 27, 1958, 218-224, 5 fig., 1 map).

Dawson, E.Yale: Una clava ilustrada de los generos de algas benticas del Pacifico de la America central (Algae) (Pac.Natur. 3, 1962, 167-231, 135 fig.).

— : Additions to the marine flora of Costa Rica and Nicaragua (Algae) (Pac.Natur. 3, 1962, 375-395, 5 pl.). List; a few new spp.

Dawson, J.W.: A revision of the genus Anisotome (Umbell.) (Univ.Calif.Publ.Bot. 33, 1961, 1-98, 17 pl., 19 fig.). Formerly included in Ligusticum; in the present circumscription confined to New Zealand and the Subantarctic islands; 13 spp. A dioecious genus!

- Deb,D.B.: New record of plants for India from Tripura (Bull. Bot.Surv.India 3, 1961, 87-89, 1 fig.).
Psidium guineense Sw., a new introduction.
- : Monocotyledonous plants of Manipur Territory (Bull. Bot.Surv.India 3, 1961, 115-138).
Enumeration.
- : Dicotyledonous plants of Manipur Territory (Bull. Bot. Surv.India 3, 1961, 253-350).
Largely a plant list.
- Degener,O. & I.Degener: Arachniodes, a fern genus unrecognized from Hawaii (Phytologia 9, 1963, 55).
One new comb.
- & B.C.Stone: 179. Rutaceae. Pelea (in Degener, Fl. Hawaïensis 1960/1962, 8 pp., 8 pl.).
- Delisie,D.G.: Taxonomy and distribution of the genus Cenchrus (Gram.) (Iowa St.J.Sc. 37, 1963, 259-351, 22 fig.).
- Dixit,S.N.: Morphological and embryological studies in the family Loranthaceae VIII. Tolypanthus Bl. (Phytomorphology 11, 1961, 335-345, 48 fig. (1962)).
- Dressler,R.L.: A synopsis of Poinsettia (Euph.) (Ann.Mo.Bot. Gard. 48, 1961, 329-341, 3 fig.).
Key to American genera of Euphorbieae. Key to spp.; Euphorbia geniculata is reduced to E.heterophylla.
- Drouet,F.: A new Schizothrix from New Zealand (Algae) (Rev. Alg. n.s. 4, 1959, 238, 1 fig.).
- Durairatnam,M.: Contribution to the study of the marine Algae of Ceylon (Fish.Res.Stat.Ceylon Bull. 10, 1961, 1-181, 32 pl.).
Keys; bibliography.
- Dutta,N.M.: The genus Veronica Linn. of Eastern India (Scroph.) (J.Bomb.Nat.Hist.Soc. 57, 1961, 590-596, 1 table).
This is a revision of the genus Veronica Linn. on a regional basis, covering the eastern part of India; 9 spp. and 2 var. are reported. Each taxon is given with full references to names and synonyms, full description, localities from the materials available in the Central National Herbarium, Calcutta. Veronica maddeni Edgew. of the Flora of British India is merged into V.javanica Bl.
- & D.Mitra: Three newly recorded plants from West Bengal (Indian For. 87, 1961, 304-308, tables 1-3).
Pseudelephantopus spicatus, Alternanthera paronychoides and Petiveria alliacea L.

- Dwidjospeputro, D.: Studies on Monilia sitophila from Indonesia (Fungi) (Bull.Torr.Bot.Club 88, 1961, 404-411).
- Ebinger, J.E.: Validity of the grass species Digitaria adscendens (Gram.) (Brittonia 14, 1962, 243-254, 3 fig.).
Good sp. distinct from *D.sanguinalis*.
- Ehrendorfer, F.: Beiträge zur Phylogenie der Gattung Knautia (Dipsac.) I. Cytologische Grundlagen und allgemeine Hinweise (Öster.Bot.Z. 109, 1962, 276-343, 7 fig.).
Polyploids do not add to character potential; "das gelegentliche Vorkommen spontaner Chromosomenaberrationen deutet den Weg an auf dem die strukturellen Umbauten die verschiedenen Karyotypen und damit offenbar auch die wesentlichen Kreuzungsbarrieren innerhalb der Gattung entstanden sind. Die Polyploiden bringen keinen wesentlichen Erweiterung der Merkmalsamplitude über den von den gebotenen Rahmen. Polyploidie ermöglicht eine erfolgreiche Mobilisierung des Genreservoirs, aber blockiert auch gewissermaßen die divergente Evolution."
- Ellis, J.L. & T.L. Saroja: A new species of Jatropha from South India (Euph.) (J.Bomb.Nat.Hist.Soc. 58, 1962, 834-836, 1 table).
J.tanjorensis allied to *J.glandulifera* is described and illustrated from Kallimedu in the Tanjore district of Madras State.
- Ernst, W.R.: The genera of Capparaceae and Moringaceae in the Southeastern United States (J.Arnb.Arnb. 44, 1963, 81-95).
- Everist, S.L.: These plants can poison people (Div.Plant Industry Advis.Leaf. n. 661, pp. 1-8, 9 photogr.; repr. from Queensl.Agric.J. April 1962).
- Eyde, R.H.: Morphological and paleobotanical studies of the Nyssaceae. I. A Survey of the modern species and their fruits (J.Arnb.Arnb. 44, 1963, 1-59, 1 fig., 7 maps, 5 pl.).
- Fan, Kung-Chu: Two new species of Gelidium from China (Algae) (Bot.Marina 2, 1961, 247-249, 3 fig.).
- Farr, M.L.: Amerodiscosiella, a new genus of the Leptostromataceae from Cambodia (Fungi) (Mycopath.& Mycol.Appl. 14, 1961, 73-77, 3 fig.).
Amerodiscosiella renispora gen. et sp. nov. was found on dead material of *Cynodon dactylon* from Cambodia.
- Federowicz, Sister M.F.: The significance of the achene and stoma in the status of Eucyperus and Mariscus (Cyper.) based on the studies of plastic replicas (Catholic Univ. Amer.Press Biol.Stud. n. 75, 1962, 1-48, 8 pl.).
Thesis.

Fedorov,A.A.: Botaniceskie putesestvia Sovetskie botaniki v Indonezii (Bot.Zurnal 47, 1962, 1844-1849, 5 photogr.). Concise report visit Sovjet botanists to Indonesia. In Russian.

Fenaroli,L.: Una nuova infestante delle risaie italiane (Ammannia auriculata Willd.) (Lythr.) (Atti Istit.Bot. Univ.Lab.Crittog.Pavia V, 19, 1962, 14-21, 3 fig., 2 pl.).

A.auriculata Willd. is introduced in rice-fields near Novara, Italy.

Florin,R.: The distribution of conifer and taxad genera in time and space (Acta Horti Bergiani 20, 1963, 121-312, incl. 68 distr. maps and extensive bibliogr.).

Conifers dominated the forest vegetation during most of the Mesozoic, and are nowadays still doing very well in all sorts of habitats. At present there are 52 genera, 560 species of conifers, 5 genera, 20 species of taxads. This comprehensive essay deals with all aspects involved in the subject.

Forman,L.L.: Menispermaceae (of Thailand) (Dansk Bot.Ark. 20, 1962, 189-190).

Records.

— : The identity of Tetramyxis Gagn. (Simaroub. = Anacard.) (Kew Bull. 16, 1962, 158).
Is Allospondias lakonensis (Pierre) Stapf.

— : Aetheolirion, a new genus of Commelinaceae from Thailand, with notes on allied genera (Kew Bull. 16, 1962, 209-222, 2 fig., 1 table).

Discussion of Streptolirion and Spatholirion and the new genus. General notes on classification of family.

Fosberg,F.R.: A classification of vegetation for general purposes (Trop.Ecol. 2, 1961, 1-28).

A large list (key) of descriptive terms which can be used in objective descriptions of vegetation; the hierarchy based on space and bulk.

— : Status of the name Geophila D.Don (Rubiac.) (Taxon 11, 1962, 180-181).

Geophila is proposed to conserve.

— : The Indo-Pacific strand Scaevola again (Gooden.) (Taxon 11, 1962, 181).

The proper name is now S.taccada (Gaertn.) Roxb.

— : Serianthes dilmyi again (Legum.) (Taxon 12, 1963, 34-35).

----- & M.-H. Sachet: Vascular plants recorded from Jaluit Atoll (Atoll Res.Bull. n. 92, Dec.1962, 39 pp.).

List of plants; all weeds, shore plants and tropical lowland wades, cultigens, naturalized spp.

Foster, R.C.: Dates of publication of the Journal Linnaea (J. Arn.Ar b. 43, 1962, 400-409).
Detailed data of vol. 1-43.

----- : Studies in the Iridaceae. VII (Rhodora 64, 1962, 291-312).

Revision of Mastigostyla, Cardenanthus, Anomalostylus, Trimezia and misc.notes. Typification of Trimezia (Trimeza); Tritonia riparia Cordemoy from Réunion is T. martinicensis (Jacq.) Herb.

Frahm-Leliveld, J.A.: Further observations on chromosomes in the genus Indigofera (Legum.) (Acta Bot.Neerl. 11, 1962, 201-208, 21 fig.).

Also of Cyamopsis; $2n$ is either 16 or 14 which is constant for the infrageneric taxa.

Franklin, D.A.: The Ericaceae in New Zealand (Gaultheria and Pernettya) (Trans.R.Soc.New Zeal. 1, 1962, 155-173, 3 fig.).

Revision; key.

Fryxell, P.A.: The "Relict Species" concept (Acta Biotheor. 15, 1962, 105-118).

An elaborate attempt to define the concept relict. The proposed usage for a relict species: "A static or declining species; this condition implies a loss of aggressiveness and a reduction of adaptability with consequent contracting range, reduced variability, narrow ecological tolerance, and possible existence in a refugium; a candidate for extinction", does not at all sound satisfactory to me. There are such relict species, and even Sequoia and Taxodium can be reckoned to it, though occupying no small ranges, and anyhow much smaller ranges than in the Tertiary, although it is not certain that the Tertiary fossils are certainly representing the same species as living today. Anyhow, the genera are relict genera. It is, however, not at all certain that single species of formerly larger and wider groups might not be able to be aggressive and extend their range. The North American opossum seems to be an example of this. And Ginkgo is quite successful in the new anthropogenic environment. This facet, the fact that relicts are also survivors of formerly larger groups, is not considered in this discussion on the species level, but seems to me very important. Why Kokia is called a relict is not certain; its habitat is

destroyed by men and no fossils are proof of a wider former distribution.

Fuchs,H.P.: Nomenklatur, Taxonomie und Systematik der Gattung Isoëtes Linnaeus in geschichtlicher Betrachtung (Beih. zur Nova Hedwigia Heft 3, 1962, 103 pp., 13 pl.). Mainly bibliographical.

Furtado,C.X.: Unpalatable consequences of certain rules (Taxon 11, 1962, 192-195).

: The species of Brackenridgea in the Singapore Herbarium (Gard.Bull.Sing. 19, 1962, 181-184). Ochnaceae. 7 spp., one new, one new comb.

: Notes on some Malaysian Melastomaceae (Gard.Bull. Sing. 20, 1963, 105-122, 2 fig.).

New spp. in Dissochaeta; Anplectrum anomalum made into a genus Anplectrella; a new name in Memecylon; one new var.; several new synonyms. For inadequate reasons Marumia is maintained.

Gajapathy,C.: Cytological studies in some Indian medicinal plants (Bull.Bot.Surv.India 3, 1961, 49-51, 12 fig.). Chromosome numbers of 12 spp.

Gandhi,H.P.: Some fresh-water diatoms from Lonavla Hill-Station in the Bombay-State (Maharashtra) (Hydrobiologia 20, 1962, 128-154, 39 fig.). Enumeration of 945 spp.

Ghatak,J.: Problems involved in the proper identification of ferns (Bull.Bot.Surv.India 3, 1961, 79-82, 4 fig.). Claim that for proper identification of ferns accurate chromosome counts are necessary.

Ghosh,G.R. c.s.: Some soil fungi from Cuttuck, Orissa (Sci.& Cult. 26, 1960, 285). 12 spp. reported, some new records for India.

Gilbert,W.J.: Contribution to the marine Chlorophyta of Hawaii. I (Algae) (Pac.Sc. 16, 1962, 135-144).

Gilliland,H.B.: A check list of Malayan grasses (Gram.) (Gard.Bull.Sing. 19, 1962, 147-180). Census; incl. also Bambusoideae.

Godley,E.J.: Breeding systems in New Zealand plants. 2. Genetics of the sex forms in Fuchsia procumbens (Onagr.) (New Zeal.J.Bot. 1, 1963, 48-52, 1 table).

Gonzalves,E.A.: A new dioecious macrandrous species of Bulbochaete (Algae) (Phytomorphology 12, 1962, 74-77, 3 fig.).

Graham,A.: Palaeobotany and the University Herbarium (Taxon 11, 1962, 218-220, photogr.).

Plea for inserting in the herbarium photographs of fossil plants if well-preserved and accurately identified, to bring them to the attention of taxonomists and, reversely, to stimulate information of taxonomists to palaeobotanists on affinity and ecology of fossil plants.

Grant,W.F.: Speciation and nomenclature in the genus Celosia (Amaranth.) (Canad.J.Bot. 40, 1962, 1355-1363, 7 fig., 1 table, 1 map).

Further cytogenetic data. Allopolyploids from Malaysia and Central America.

---- : Malayan Fantasy. A new garden cockscomb (Amaranth.) (Am.Horticul.Mag. 41, 1962, 201-203, 1 photogr.).
New cultivar.

Green,P.S.: The identity of Jasminum absimile (Oleac.) (Baileya 10, 1962, 53-56).

A cultivated sp., origin New Caledonia.

---- : A revision of the New Caledonian species of Osmanthus (Eric.) (J.Arnb.Arb. 44, 1963, 268-283, 5 fig.).
Revision; key to 4 spp.

Groenhart,P.: Aglaothecium Groenh., a new Lichen genus from Malaysia (Persoonia 2, 1962, 349-353, 7 fig.).
Aglaothecium saxicola n.g. n.sp.

Grolle,R.: Goebelobryum, eine neue Marsupiale Lebermoosgattung (J.Hattori Bot.Lab. n. 25, 1962, 135-144, 4 fig.).
From Australia and Tasmania. Based on Jungermannias.

---- : Eine bemerkenswerte neue Lophozia aus Neuseeland (Musci) (Rev.Bryol.& Lichén. 31, 1962, 152-156, 1 fig.).

Guervin,C.: Étude cary-taxinomique de quatre Sapindacées (Bull.Mus.Nat.Hist.Nat.Paris II, 33, 1961, 616-619, 1 fig.).
Dodonaea, Filicum.

Guillaumin,A.: Plantes nouvelles, rares, ou critiques des serres du muséum (Notules sur quelques Orchidées d'Indochine. XXIX) (Bull.Mus.Nat.Hist.Nat.Paris II, 34, 1962, 408-411).
List; 4 new spp.; p. 478 Podochilopsis n.g. n.sp.

Gupta,A.B. & G.U.Nair: A contribution to the algal flora of Garhwal (Agra Univ.J.Res. 11, 1962, 227-239, 2 pl.).
List of green and bluegreen algae.

Gupta,R.K.: Medicinal plants of West Himalaya (J.Agric.Trop. Bot.Appl. 9, 1962, 1-54).
In English.

- : Some observations on the plants of the South Indian hill tops (Nilgiri and Palni Plateaus) and their distribution in the Himalayas (J.Ind.Bot.Soc. 41, 1962, 1-15).
- & K.A.Shankarnarayan: Ecological status of the grasslands in South India (Trop.Ecol. 3, 1962, 75-78). Subclimax from biotic factors; frost may retard succession.
- Hair, J.B. & E.J.Beuzenberg: High polypliody in a New Zealand Poa (Gram.) (Nature 189, 1961, 160, 1 fig.). Poa litorosa has $n = 265$ chromosomes and is 38-ploid.
- Hale, M.E.: A new species of Parmelia from Asia: P.subcorallina (Lichenes) (J.Jap.Bot. 37, 1962, 345-347, 1 fig.).
- Halle, N.: Monographie des Hippocrateacées d'Afrique occidentale (Mém.Inst.Franç.Afr.Noire 64, 1962, 1-245, 76 fig.). Important regional monograph.
- Hamlin, B.G.: Studies in New Zealand Carices. VI. Subgenus Primocarex Kükenthal (Cyper.) Trans.R.Soc.New Zeal. 1, 1962, 269-277, 2 fig.). Revision; key.
- Hansen, B.: Correction to: Studies in the Flora of Thailand 4. Sphagnaceae (Dansk Bot.Ark. 20, 1962, 204). New comb. in Sphagnum.
- Hara, H.: Racial differences in widespread species, with special reference to those common to Japan and North America (Am.J.Bot. 49, 1962, 647-652). Summary; taxonomical, karyological, palynological.
- : Sunania Rafin. versus Tovara Adanson (Polygon.) (J. Jap.Bot. 37, 1962, 326-332, 2 fig.). 3 spp. (2 new comb.) of this segregate of Polygonum; one sp. with many var.
- Harris, B.J. & H.G.Baker: Pollination of flowers by bats in Ghana (The Nigerian Field 4, 195?, 151-158, 4 photogr.). Observations on Parkia, Kigelia, Ceiba and Adansonia.
- & — : Pollination in Kigelia africana Benth. (Bignon.) (J.West Afr.Sc.Ass. 4, 1958, 25-30, 1 fig., 1 pl.). Observations in Ghana; discussion of moth and bat as flower visitors.
- Hatusima, S.: On the genus Ophiorrhiza from the Ryukyus and Formosa (Rubiac.) (Rep.Coop.Invest.Sc.Ryukyu Is. n. 1, 1961, 61-66). List and key.

- : On some species of Hedyotis from Japan and Formosa
(Rubiac.) (J.Jap.Bot. 36, 1961, 296-298).
In Japanese and Latin.
- : A new Araceous plant from the Ryukyus (Acta Phytotax.
Geobot. 20, 1962, 56-57, 1 fig.).
The first Rhaphidophora from the Ryukyus and Formosa;
n.sp., also in the Philippines.
- Hauke, R.L.: A resume of the taxonomic reorganization of
Equisetum, subg. Hippochaeta. III (Am.Fern J. 52, 1962,
57-63).
- Hawkes, A.D.: The genus Cyperorchis (Orchid.) (Am.Orchid Soc.
Bull. 31, 1962, 919, 920).
- Haworth, F.G.: Ballistics of dwarf mistletoe seeds (Loranth.)
(Science 130, 1959, 504, 1 fig.).
Seed of Arceuthobium vaginatum is expelled from fruit
to 460 cm upwards (initial velocity 1370 cm/sec.; ter-
minal velocity 750 cm/sec.).
- Heim, R.: Contribution à la flore mycologique de la Thailande.
I (Rev.Mycol. 27, 1962, 123-160, 8 fig., 4 pl.).
- Heine, H.: Some West African Acanthaceae (Kew Bull. 16, 1962,
161-184, 4 fig., 1 table).
Asteracantha reduced to Hygrophila; miscellaneous de-
scriptions; discussion of Synnema.
- Henry, A.N. & N.P.Balakrishnan: A new species of Staurogyne
from Central India (Acanth.) (Bull.Bot.Surv.India 3,
1961, 205-206, 10 fig.).
- Henry, P.: Recherches cytologiques sur l'appareil floral et la
graine chez Elaeis guineensis et Cocos nucifera. I. La
formation de l'appareil floral (Palmae) (Rev.Gén.Bot.
68, 1961, 111-132, 10 fig., 1 pl.).
- Hermann, F.J.: A révision of the genus Glycine and its imme-
diate allies (Legum.) (Techn.Bull.U.S.Dep.Agric. n.
1268, 1962, 1-82, 23 fig.).
Key to related genera; Glycine is split into 3 genera:
Glycine with 10 spp., Paraglycine with 10 spp., and
Pseudoglycine with 1 sp.; Teyleria reported from Hainan.
List of excluded spp.
- Heslop-Harrison, J.: The function of the glume-pit and the
control of cleistogamy in Bothriochloa decipiens (Hack.)
C.E.Hubb. (Gram.) (Phytomorphology 11, 1961, 378-383,
8 fig. (1962)).
- Heywood, V.H.: The 'Species Aggregate' in theory and practice
(Regnum Veget. 27, 1963, 26-37).
Practical aspects of the use of collective species.

Hinode, T.: On some Japanese desmids. 2 (Hikobia 2, 1960, 61-64).

In Japanese.

— : Desmids from the Iya district, Tokushima Prefecture (Hikobia 3, 1962, 25-37, 3 fig., 2 photogr., 1 map).

— : On some Japanese desmids. 5 (Hikobia 3, 1962, 107-111, 32 fig., 2 photogr.).

Hirano, M.: Freshwater Algae from the Yaeyama Islands. 1 (Acta Phytotax. Geobot. 19, 1963, 142-145, 17 fig.).
List; 2 new var.

Hiroe, M.: Umbelliferae (of Thailand) (Dansk Bot. Ark. 20, 1962, 193-195).

Records; 1 new comb. in Trachydium.

Hirose, H., H. Sugiyama, S. Kumano & T. Harada: On some phytoplankton new to Japan (Jap. J. Limnol. 21, 1960, 104-108).
In Japanese.

Hjelmqvist, H.: Notes on some names and combinations within the Amentiferae (Bot. Not. 113, 1960, 373-380).

— : Some notes on Nothofagus from New Guinea and New Caledonia (Fagac.) (Bot. Not. 116, 1963, 225-237, 4 fig.).
Plea for a higher syst. position of this group of Nothofagus.

Hodgson, E.A.: Hepatics from the Subantarctic islands of New Zealand including "Cape Expedition" collections from the Auckland and Campbell Islands (Rec. Dom. Mus. Wellington 4, 1962, 101-132).

— : New Zealand Hepaticae. XIV. Drucella, a new genus of the Lepidoziaceae (Trans. R. Soc. New Zeal. 2, 1962, 45-47, 9 fig.).

— & K.W. Allison: New Zealand Hepaticae. XIII. A review of the New Zealand species of the genus Temnoma and of Anoplostoma, a new genus (Trans. R. Soc. New Zeal. 1, 1962, 139-154, 2 fig.).

Hollenberg, G.J.: A new species of Malaconema (Rhodophyta) from the Marshall Islands (Algae) (Phycologia 2, 1963, 169-172, 3 fig.).

Holttum, R.E. & H. St. John: Revision of the genus Pandanus Stickman. Part 11. New species from Malaya (Pandan.) (Pacific Sc. 16, 1962, 218-237, 10 fig.).

Hoogland, R.D.: Dilleniaceae (of Thailand) (Dansk Bot. Ark. 20, 1962, 185).
Records.

- d'Hoore, J.: Influence de la mise en culture sur l'évolution des sols dans la zone de forêt dense de basse et moyenne altitude (Trop. Soils & Veget. - Proc. Abidjan Symp. 1961, 49-58).
- Hotta, M.: Phytogeography of Tonga (Acta Phytotax. Geobot. 20, 1962, 184-190).
Summary.
- : New or noteworthy plants from Tonga. I (Acta Phytotax. Geobot. 19, 1963, 153-157, 5 fig.).
- Hou, Hsioh-Hu: The concept and fundamental principles of vegetation regions (Acta Bot. Sin. 11, 1961, 275-286).
Entirely in Chinese. Following Russian work Chinese examples are given of these divisions; author proposes a preliminary vegetation division of northern hemisphere in Old World.
- Hsu, Chien-Chang: Notes on the grasses of Formosa. 1 (Gram.) (J. Jap. Bot. 37, 1962, 275-282, 2 fig.).
Ischaemum; Schizachyrium; Narenga; Imperata; Capillipedium.
- : A study of Formosan Panicum (Gramineae) with special reference to their lodicules (J. Jap. Bot. 38, 1963, 75-86, 18 fig., 1 table).
Key to 12 spp.
- Huang, Tseng-Chieng: Chromosome study of Arisaema of Taiwan (Arac.) (Proc. Iowa Ac. Sc. for 1962, 69, 1962, 152-155, 5 fig., 1 table).
6 spp. examined.
- Hundley, H.G.: The forest types of Burma (Trop. Ecol. 2, 1961, 48-76).
- Hunter, J.A. & R.C. Cooper: Variation in Tecomanthe speciosa W.R.B. Oliver (Bignoniaceae) from the Three Kings Islands, New Zealand (Rec. Auckl. Inst. & Mus. 5, 1962, 233-245, 2 fig.).
- Imahori, K.: A dispersal factor of Charophytes (Algae) (Acta Phytotax. Geobot. 20, 1962, 282-284, 1 fig., 1 table).
Hypothetical routes of waterbirds correlated with areas of distribution.
- Ingram, J.: Studies in the cultivated Ericaceae. 3. Andromeda. 4. Pieris (Baileya 11, 1963, 37-46, 5 fig.).
- Inoue, H.: Notes on Plagiochila eatoni Aust., a Hawaiian liverwort (Hepat.) (J. Jap. Bot. 37, 1962, 357-360, 1 fig.).
New comb. under Syzygiella.

- : Contributions to the knowledge of the Plagiochilaceae of Southeastern Asia. 3. Studies in Plagiochila scizophila-acanthophylla complex (Hepat.) (J.Hattori Bot. Lab. n. 25, 1962, 91-101, 5 fig.).
- Iwatsuki, K.: On the venation of the Thelypteroid Ferns (Polypod.) (Acta Phytotax. Geobot. 20, 1962, 219-227, 5 fig.).
Entirely in Japanese.
- : Enumeration of the species of Cyathea found in Japan, Ryukyu, Taiwan and Bonin (Cyatheac.) (Acta Phytotax. Geobot. 19, 1963, 127-136, 2 maps).
In Japanese except synonyms and distribution.
- Iyengar, M.O.T.: Validation of two (new) species of Coelomycetes described from India (Fungi) (Elisha Mitchell Sc. Soc. 78, 1962, 133-134).
- Jablonski, E.: Revision of Trigonostemon (Euphorbiaceae) of Malaya, Sumatra and Borneo (Brittonia 15, 1963, 151-168, 8 fig.).
Based on a study of Singapore and New York material; revision; keys.
- Jain, B.L.: Two new species of Curvularia (from India) (Fungi) (Trans.Brit.Mycol.Soc. 45, 1962, 539-544, 4 fig.).
- Jain, S.K.: The genus Dipterygium Decne, in India (Cappar.) (Bull.Bot.Surv.India 2, 1960, 171).
Record and description.
- : A note on Juncus maritimus Lam. from India (Juncac.) (Bull.Bot.Surv.India 2, 1960, 307-308, 1 fig.).
- & U.R.Deshpande: Further contribution to the Flora of Kutch in Gujurat State (Bull.Bot.Surv.India 2, 1960, 287-292, 5 photogr.).
Between 23°-24° N, 78°-71° E. Monsoon forest, saline flats; plant list.
- Janaki Ammal, E.K.: Central Botanical Laboratory (Bull.Bot. Surv.Ind. 1, 1959, 33-37, 6 photogr.).
History and functions of the laboratory.
- : A cyto-systematic survey of Bambuseae. I. The slender bamboos of Asia and S.America (Bull.Bot.Surv.India 1, 1959, 78-84, 3 photogr.).
2 n = 48 for all; key to genera in appendix.
- Jayaweera, M.A.: The Rubiaceous genus Mussaenda: The morphology of the Asiatic species (Rubiac.) (J.Arnb.Arnb. 44, 1963, 111-126, 2 fig., 1 table).
A general paper; not taxonomical.

- : The Rubiaceous genus Mussaenda: The species of India and Ceylon (Rubiac.) (*J.Arnb.Arb.* 44, 1963, 232-267, 4 fig.).
Revision; key to 14 spp.
- Jeffrey, C.: Notes on some species of Fevillea L., Siolmatra Baill., and Pseudosicydium Harms (Cucurbitaceae) in the Amazon Basin (*Kew Bull.* 16, 1962, 199-202).
Critical list.
- Johnson, A.: On the widespread occurrence of a sandbinding moss on the east coast of Malaya (Musci) (*Mal.Nat.J.* 16, 1962, 111-112, 8 fig.).
Rhacelophus pilifer Dozy & Molk.
- : On a small collection of Bryophytes collected by H.B. Gilliland in Eastern New Guinea (*Gard.Bull.Sing.* 19, 1962, 373-374).
From Chimbu and Daulo Pass, made 1960; spp. listed.
- : A short note on some soil Algae from New Guinea (*Gard.Bull.Sing.* 19, 1962, 375-376).
List of Chloroph. and Cyanoph. from Daulo and Chimbu Pass, coll. Gilliland, 1960.
- : Precursory studies on the epiterranean soil Algae of Singapore and Malaya (*Gard.Bull.Sing.* 19, 1962, 379-384).
Cultures made; list of Chloroph. and Cyanoph.
- Johnson, L.A.S.: Taxonomic notes on Australian plants (*Contr. N.S.W.Nat.Herb.* 3, 1962, 93-102).
- : Studies in the taxonomy of Eucalyptus (Myrtac.) (*Contr.N.S.W.Nat.Herb.* 3, 1962, 103-126).
It appears inter alia that *E.moluccana* Roxb. must have come from an Australian species formerly called *E.hemiphloia* F.v.M.ex Bth.
- & B.G.Briggs: Taxonomic and cytological notes on Acetosa and Acetosella in Australia (Polygon.) (*Contr. N.S.W.Nat.Herb.* 3, 1962, 165-169, 2 tables).
2 new comb. in Acetosa.
- Johri, B.M. & S.P.Bhatnagar: Embryology and taxonomy of the Santalales. I (*Proc.Nat.Inst.Sc.India* 26, B (Suppl.), 1960, 199-220, 54 fig.).
Opiliaceae should be merged with Santalaceae, Oktonemataceae with Olacaceae. Viscoideae should be a separate family from Loranthaceae.
- Jonker, F.P.: Het genus Schismatoglottis in Amerika (Arac.) (*Jaarb.Kon.Ned.Bot.Ver.* over 1961, 60 (1962)).
The genus comprises in America only one species (\$ Philonotion); number of ovules varies.

- : Heyerdahl's Kon-Tiki theory and its relation to ethnobotany (Smithsonian Report for 1961, 1962, 535-550).
A slightly modified English translation of the author's inaugural address of 1960 (see p.843).
- Joseph, J.: A new record of Orchid for India (J. Ind. Bot. Soc. 41, 1962, 297-300, 6 fig.).
Saccolobium roseum Lindl., endemic in Ceylon found in Coimbatore.
- Kachroo, P.: Aquatic vegetation of Damodar Valley. I. Phanerogamic flora of freshwater ponds and marshy lands with particular reference to Damodar-Eden Canal area of West Bengal. II. Further observations on association of aquatic vegetation with Anopheline breeding within Damodar-Eden Canal area of West Bengal (J. As. Soc. 1, 1959, 271-324, 21 fig., 17 tables).
- Kalkman, C.: Description of vegetation types in the Star Mountains Region, West New Guinea (Nova Guinea, Bot. n. 15, 1963, 247-261, map, pl. 18-21).
River banks; forest; peat; dolines; oemboek; mossy forest and subalpine scrub.
- Kamat, N.D.: Two new species of Chroococcidiopsis from India (Cyanoph.) (Hydrobiologia 20, 1962, 188-192, 21 fig.).
- : Two new Oedogonia from India (Chlorophyc.) (Rev. Algol. n.s. 6, 1962, 217-219, 5 fig.).
- Kamemoto, H. & K. Shindo: Genome relationships in interspecific and intergeneric hybrids of Renanthera (Orchid.) (Am. J. Bot. 49, 1962, 737-748, 50 fig.).
- Kamimura, M.: A monograph of Japanese Frullaniaceae (Hepat.) (J. Hattori Bot. Lab. n. 24, 1961, 1-109, 33 fig., maps).
- Kammathy, R.V.: Notes on Indian Commelinaceae. III. Cytological observations (Bull. Bot. Surv. India 3, 1961, 393-394, 1 pl., 1 table).
Chromosomes.
- & R.S. Rao: Notes on Indian Commelinaceae. II. Cytological observation (Bull. Bot. Surv. India 3, 1961, 167-169, 1 table, 1 pl.).
Also notes on taxonomy and 3 new names.
- Kanodia, K.C. & U.R. Deshpande: Additions to the Flora of Mount Abu in Rajasthan (Bull. Bot. Surv. India 3, 1961, 403-405). List of weeds.
- Kapoor, S.L.: Flowering plants of India. Clematis. I (Bull. Nat. Bot. Gard. Lucknow n. 78, 1962, 67 pp.).
Key to and descr. of the 20 spp. illustr. in Bull. n. 54.

Karling, J.S.: Indian species of Synchytrium (Fungi) (Sydowia 15, 1962, 26-44).

Kashyapa, G.: Shorea talura Roxb., a synonym of S. roxburghii G. Don (Dipter.) (J. Bomb. Nat. Hist. Soc. 58, 1961, 543-544).

Keng, H.: Aspects of the morphology of Phyllocladus hypophylloides (Conif.) (Ann. Bot. n.s. 26, 1962, 69-78, 14 fig., pl. 1).

Interpretation of the phylloclade as a complex of axillary lateral branching systems with their fused scale leaves.

— : Phyllocladus hypophyllus Hook.f. (Conif.) (Gard. Bull. Sing. 20, 1963, 123-126, 1 fig.).
Description and localities.

— : Taxonomic position of Phyllocladus and the classification of Conifers (Gard. Bull. Sing. 20, 1963, 127-129).
A brief note in which a casual judgment of the taxonomy of conifers is given and suggested that Phyllocladus be arranged with Podocarpaceae. One must have a nerve to be at variance with Prof. Florin on the basis of the evidence given.

Kenny, R. & N. Haysom: Ecology of rocky shore organisms at Macquarie Island (Pac. Sc. 16, 1962, 245-263).

Kern, J.H.: Le genre Scleria en Indochine (Cyper.) (Adansonia 2, 1962, 99-110, 2 fig.).
List; 1 new sp.

— : Delimitation of the genus Gahnia (Cyper.) (Acta Bot. Neerl. 11, 1962, 216-224, 2 fig.).
Structure and delimitation against Cladium and Machaerina; emendation of Gahnia, discussion of Morelotia and Lampocarya; 2 new comb. in Machaerina.

Khanam, K. & M.S. Zahur: Development, growth and morphological nature of the staminal truss in Ricinus communis (Euph.) (Biologia 8, 1962, 163-178, 15 fig.).

Kitagawa, M.: Synoptical review of Umbelliferae from Japan, Korea, and Manchuria (Bull. Nat. Sc. Mus. Tokyo n. 46, 1960, 1-35, 4 pl.).

Knaap-van Meeuwen, M.S.: Reduction of Afrormosia to Pericopsis (Papilionaceae) (Bull. Jard. Bot. Brux. 32, 1962, 213-219, map).

Five spp. recognized; key to genera Ormosia, Haplormosia, and Pericopsis.

— : Preliminary revisions of some genera of Malaysian Papilionaceae. IV. A revision of Ormosia (Reinwardtia 6, 1962, 225-238).

11 spp. admitted for Malaysia; one is new; key; synonymy; distribution and critical notes.

: Preliminary revisions of some genera of Malaysian Papilionaceæ. V. A census of the genus Desmodium (Reinwardtia 6, 1962, 239-276).

Key, synonymy, distribution and critical notes of 39 spp. A large number of names have been reduced; 2 new names, and 2 new var.

Kobayasi, Y.: The Calostoma of Eastern Asia (Fungi) (Acta Phytotax. Geobot. 20, 1962, 252-257, 6 fig., 1 map of distribution).

English summary.

Kochummen, K.M.: Dipterocarpus sarawakensis van Slooten. A new record for Malaya (Dipter.) (Mal. For. 25, 1962, 163, 1 pl.).

Found in two localities in Trengganu and Pahang.

Korf, R.P.: Discomycete Flora of Asia. Precursor I. The scope and status of exploration. II. A revision of the genera Acervus and Ascosparsassis and their new positions in the Pezizales (Lloydia 26, 1963, 16-26, 8 fig.).

The Japanese A.shimizuensis occurs also in Java.

Kostermans, A.J.G.H.: Nepenthes veitchii Hook.f., Kantong semar radja dari Kalimantan Timur (Nepenth.) (Penggemar Alam 40, 1961, 14-15, 1 fig., with summary).

N.veitchii is credited to be an epiphyte.

: The genera Belotia Rich. and Trichospermum Bl. (Tiliac.) (Reinwardtia 6, 1962, 277-279).

The New World Belotia is reduced to Trichospermum; 10 new comb.

: Miscellaneous botanical notes. IV (Reinwardtia 6, 1962, 281-325, 22 fig.).

New spp., comb. and reductions in Lauraceæ, Leguminosæ, Sterculiaceæ, Tiliaceæ, Verbenaceæ.

Koyama, T.: Classification of the family Cyperacæae. 2 (J. Fac. Sc. Tokyo sect. III, Bot., 8, 1962, 149-278).

Deals largely with Carex; key to supraspecific taxa of the genus Carex.

: Classification of the family Cyperacæae. 3 (Quart. J. Taiwan Mus. 14, 1961).

Revision E. Asian Cyperus; key; enumeration.

: The genus Scirpus Linn. Some North American aphyllloid species (Cyper.) (Canad. J. Bot. 40, 1962, 913-937, 4 pl., 7 fig.).

Some infraspecific new comb.

- : Nomenclatorial remarks on some grasses (Gram.) (J. Jap. Bot. 37, 1962, 231-242, 3 fig.). Agrostis; Sporobolus; Isachne; Setaria; Microstegium; Ischaemum.
- : Nomenclatural remarks on the genus Scirpus. I (Cyper.) (Phytologia 8, 1963, 457-458). 4 spp.; some new comb. of infraspec. taxa; some new syn.
- Kruckeberg, A.R.: Intergeneric hybrids in the Lychnideae (Caryoph.) (Brittonia 14, 1962, 311-320, 4 fig., 3 tables). Intergeneric hybrids emphasize the weak distinction between the genera Melandrium, Silene, and Lychnis. As a matter of fact experienced systematists as Baehni do not recognize them as distinct.
- Kuprianova, L.A.: Palynological data elucidating the taxonomy of the genus Pistacia L. (Anacard.) (Bot.J., Mosqua-Leningrad 46, 1961, 803-814, 2 tables). In Russian; English summary. Pollen is so different from other Anacardiaceae that a new family Pistaciaceae is erected.
- Kurita, S. & M. Nishida: Cytotaxonomy of Japanese Sphenomeris (Polypod.) (J.Jap.Bot. 38, 1963, 4-8).
- Kuschel, G.: Zur Naturgeschichte der Insel San Ambrosio (Isla Desventuradas, Chile) (Ark.f.Bot. n.s. 4, 1961, 413-419, 16 photogr.). Among a list of plants one new genus of the Caryophyll.-Paronych.
- Laird, M.: Validation of certain species of Coelomomyces (Fungi) described from the Australian and Oriental regions (J.Elisha Mitchell Soc. 78, 1962, 132-133). 7 spp. treated; parasites in mosquito larvae.
- Larsen, K.: Coniferae (of Thailand) (Dansk Bot.Ark. 20, 1962, 125-128, 1 fig.). Records.
- : Various Monocotyledon families (of Thailand) (Dansk Bot.Ark. 20, 1962, 131-138). Records.
- : Studies in the Zingiberaceae. I. The genus Geostachys in Thailand (Bot.Tidsskr. 58, 1962, 43-49, 3 fig.). 2 new spp. from isthmian Siam.
- Laundon, G.F.: Rust Fungi. I. On Acanthaceae (Mycological Pap. n. 89, 1963, 1-89, 17 fig.).

- Lawton, R.M.: Palaeoecological and ecological studies in the Northern Province of Northern Rhodesia (*Kirkia* 3, 1962/63, 46-77, 1 map, 12 photogr.).
Fire-controlled forests! Interesting reconstruction of vegetation history, sustained by palynological data.
- Lee, A.T.: Notes on Lomandria in New South Wales (Liliac.) (*Contr.N.S.W.Nat.Herb.* 3, 1962, 151-164).
17 spp. enumerated.
- Lee, R.K.S.: The structure and reproduction of Dudresnaya hawaiensis sp.nov. (Rhodophyta) (*Am.J.Bot.* 50, 1963, 315-319, 12 fig.).
- Leenhouts, P.W.: Over de systematische positie van de Budlejaceae (*Jaarb.Kon.Ned.Bot.Ver.* over 1961, 57-58 (1962)).
Loganiaceae are allied with Scrophulariaceae by trib. Budlejeae, with Apocynaceae by trib. Potalieae, with Rubiaceae by trib. Spigelieae, with Oleaceae by trib. Gelsemieae and trib. Antoniaeae.
- : Florae Malesianae Precursores. XXXIII. Loganiaceae (*Bull.Jard.Bot.Bрюx.* 32, 1962, 417-458, 1 fig.).
Numerous reductions; new spp. in Cynoctonum, Fagraea, Mitrasacme, Strychnos, Neuburgia; revision of Gardneria (key); reduction of Nantophylla Guillaumin to Logania; extensive notes on Mitrasacme and Fagraea.
- Lems, K.: Botanical notes on the Canary Islands. III. The life form spectrum and its interpretation. (*Ecology* 42, 1961, 569-572, 1 table, 1 fig.).
Ligneous endemics of these islands are considered relicts from an ancient flora.
- Leroy, J.F.: Sur l'existence d'un Caféier sauvage aux îles Philippines: Coffea mabesae (Elmer) J.F.Ler. (*Subg. Paracoffea*) (Rubiac.) (*J.Agric.Trop.& Bot.Appl.* 9, 1962, 417-419).
Coffea mabesae (Elmer) Leroy, comb.nov. (*Canthium mabesae* (Elmer) Merr.).
- Levijns, M.R.: Clues to the past in the Cape Flora of today (*S.Afr.J.Sc.* 49, 1952, 155-164, 1 fig., 1 table).
Is of great antiquity; recurrent droughts have decreased its area. Probably originated in tropical Africa and migrated southwards. The same holds for the montane forest flora.
- : Possible Antarctic elements in the South African Flora (*S.Afr.J.Sc.* 58, 1962, 237-241, 1 map).
Discussion of certain selected groups, conifers and Angiosperms (Cunoniaceae, Metrosideros, Brabeium, Curtisia, Gunnera, Acaena, Phylica). Obviously the Cape Flora existed before the separation of Madagascar from

- the mainland of Africa. Many are trees and several had a larger extension in former time.
- Lewis, E.J.: Studies on the proteins, peptides and free amino acid contents in some species of brown Algae from southeastern coast of India (Rev. Algol. n.s. 6, 1962, 209-216, 3 tables).
- Lewis, W.H.: Phylogenetic study of Hedyotis (Rubiace.) in North America (Am. J. Bot. 49, 1962, 855-866, 40 fig., 3 tab.). Incl. Houstonia; chromos. study reveals aneuploidy.
- Lindauer, V.W.: New species of Phaeophyceae from New Zealand (Rev. Algol. n.s. 5, 1960, 161-172, 6 fig.).
- , V.J. Chapman & M. Aiken: The marine Algae of New Zealand. Part 2. Phaeophyceae (Nova Hedwigia 3, 1961, 129-350, tables 1-73).
- Liu, Tang-Shui: Umbelliferae of Taiwan (Quart. J. Taiwan Mus. 14, 1961, 15-47, t. 1-16, map (of Formosa)). Revision; 32 spp., 4 new, 1 new var.; cytology.
- : A phytogeographic sketch on the Forest Flora of Taiwan (Formosa) (Acta Phytotax. Geobot. 20, 1962, 149-157). In English.
- Loeffler, W. & S.K. Bose: Über Dothidea indica spec.nov. (Fungi) (Sydowia 15, 1962, 224-227, 4 fig.).
- Loftus Hills, K.: Trace elements in Australian agriculture (New Scientist n. 281, 1962, 821-822). Interesting summary of improvement of useless podsolic and leached soils by aid of trace elements (Mn, Cu, Z, Mb, Co, etc.).
- Long, R.W. & L.J. Uttal: Some observations on flowering in Ruellia (Acanth.) (Rhodora 64, 1962, 200-207). Species are habitually self-pollinated.
- Lorch, J.W.: The perianth of Aristolochia, a new interpretation (Aristol.) (Evolution 13, 1959, 415-416, 1 fig.). Perianth would be comparable with spathe and is homologous with a stem leaf.
- Löve, A.: Cytotaxonomy and generic delimitation (Regnum Veget. 27, 1963, 45-51).
- Lökvist, B.: Taxonomic problems in aneuploid complexes (Regnum Veget. 27, 1963, 51-57). Examples in Cardamine and Cochlearia species.
- Maheshwari, J.K.: Taxonomic studies on Indian Guttiferae. I. The genus Calophyllum L. (Bull. Bot. Surv. India 2, 1960, 139-148, 4 fig.). Key to 9 spp. (3 only in Andamans); description.

- : The grassy scrub vegetation of Khandwa Plateau, Madhya Pradesh (Bull.Bot.Surv.India 2, 1960, 349-356, 1 table, 1 map). Environment; plant communities; plant list.
- : Nomenclatural notes on some Indian species of Araliaceae (Bull.Bot.Surv.India 2, 1960, 375-378). Some new var. in Schefflera.
- : The genus Wightia Wall. in India with a discussion on its systematic position (Scroph.) (Bull.Bot.Surv.India 3, 1961, 31-35, 5 fig.). Claimed to belong to Bignoniaceae.
- : Taxonomic notes on the Indian coral tree (Erythrina variegata L. var.orientalis Merr.) (Legum.) (Bull.Bot.Surv.India 3, 1961, 45-48). Key and descriptions to 6 forms.
- : The food-producing crops in the tropics (Bull.Bot.Surv.India 3, 1961, 153-162).
- : On the nomenclature of cut-leaves Tecoma (Bignon.) (Bull.Bot.Surv.India 3, 1961, 357). Tecoma stans var.incisa (Sweet) Maheshwari, comb.nov.
Maheshwari, S.C.: Systematic position of the family Lemnaceae (Recent Adv.Bot. 1961, 689-694). Allied to Araceae.
- Maiti, P.C.: A possible Cannizzaro's reaction of Berberine in vivo (Berber.) (Bull.Bot.Surv.India 3, 1961, 53-54, 1 fig.).
- : Triterpenes from the leaves of Rhododendron cinnabarinum Hook.f. (Eric.) (Bull.Bot.Surv.India 3, 1961, 391-392).
- Manguin, E.: Contributions à la connaissance de la flore diatomique de la Nouvelle-Calédonie (Mém.Mus.Hist.Nat. Paris 12 B, 1962, 1-40, 8 pl.).
- Markgraf, F.: Gnetaceae (of Thailand) (Dansk Bot.Ark. 20, 1962, 119-121, 3 fig.). Record 1 sp.
- Martin, H.A. & R.L. Specht: Are mesic communities less drought-resistant? A study on moisture relationships in dry sclerophyll forest at Inglewood, South Australia (Austr. J.Bot. 10, 1962, 106-118, 2 pl., 5 fig.).
- Martin, W.: Notes on some New Zealand species of Cladonia with descriptions of two new species and one new form (Trans. R.Soc.New Zeal. 2, 1962, 39-44, 1 fig.).

Mathauda, G.S.: The mangrove forests of India (Proc. Mangrove Symp. 1959, 66-87).
General account; 40 spp. listed.

McCarthy, J.: The form and development of knee roots in Mitragyna stipulosa (Rubiace.) (Phytomorphology 12, 1962, 20-30, 6 fig.).
Descriptive and partly experimental.

McClure, F.A.: Typification of the Bambusoideae. V (Taxon 12, 1963, 127).
Thamnocalamus Munro.

McNabb, R.F.R.: Additions to the rust Fungi of New Zealand. III (Trans. R. Soc. New Zealand 1, 1962, 109-116, 2 fig.).
2 new spp. and 6 records.

— : The Graminicoloous rust Fungi of New Zealand (Trans. R. Soc. New Zeal. 1, 1962, 235-257, 4 fig.).

— : The genus Exobasidium in New Zealand (Fungi) (Trans. R. Soc. New Zeal. 1, 1962, 259-268, 2 fig.).

McNeill, J.: Taxonomic studies in the Alsinoideae. I. Generic and infra-generic groups (Caryoph.) (Not. R. Bot. Gard. Edinb. 24, 1962, 79-155, 5 fig., 3 maps).

Treats the subtribes Stellarinae and Subulininae in which 7 genera are recognized; Alsine is reduced to Minuartia; keys to accepted genera and infrageneric taxa; typification.

— : Taxonomic studies in the Alsinoideae. II. A revision of the species in the Orient (Caryoph.) (Not. R. Bot. Gard. Edinb. 24, 1962, 241-404, 1 table, 15 fig., maps of distribution).

Conspectus with keys.

Meer, W.A.: Commercial collection of Catharanthus roseus (Vinca rosea) (Apocyn.) (Lloydia 25, 1962, 333).

Tons of this herb are now required as 4 anti-tumor alkaloids have been extracted from this plant. Who could ever have dreamt about this use?

Meeuse, A.D.J.: The Cucurbitaceae of Southern Africa (Bothalia 8, 1962, 1-111).
Full monograph.

— & E.C.J. Ott: The occurrence of chlorophyll in Nelumbo seeds (Acta Bot. Neerl. 11, 1962, 228).
The pigments are as usual, but carotenes are absent.

Mehra, K.L., K. Subramanyam & M.S. Swaminathan: Cytogenetical studies in some members of Andropogoneae (Gram.) (J. Ind. Bot. Soc. 41, 1962, 491-502, 4 tables, 13 fig.).

Mehrotra, B.S., U.Baijal & B.R.Mehrotra: Two new species of Mortierella from India (Fungi) (Mycologia 55, 1963, 289-296, 22 fig.).

Meñez, E.G.: The marine algae of the Hundred Islands, Philippines (Philip.J.Sc. 90, 1961, 37-86, 12 pl.).

Menzel, M.Y. & F.D.Wilson: Cytotaxonomy of twelve species of Hibiscus section Furcaria (Malvac.) (Am.J.Bot. 50, 1963, 262-271, 5 fig.).

Chromosomes, crossings, polyploids.

Meijer, W.: On the flora of Mount Sago near Pajakumbuh, Central Sumatra. The vegetation of the summit-region (1500-2200 m alt.) (Penggemar Alam 40, 1961, 3-13, 3 fig.).

Composition of forest of 1500-2000 m with list of spp.; on sandstone several spp. find their lowest contour.

— : Palms of Indonesia (Principes 6, 1962, 15-26).

Miki, S.: Nymphaeaceae remains in Japan, with new fossil genus Eoeuryale (J.Inst.Polytechn., Osaka City Univ., Ser.D, 11, 1960, 63-78, 3 fig., 11 tables, 5 pl.).

— : Aquatic floral remains in Japan (J.Biol.Osaka City Univ. 12, 1961, 91-121, 10 fig., 15 tables, 3 pl.).

This paper is additional to former ones on Nymphaeaceae and Hydrocaryaceae and deals with the rest of the aquatic families. It is concluded that the frontal protuberance of Trapa is the stipule of a sepal. Keys to genera and spp.

Miller, H.A., C.E.B.Bonner & H.Bischler: Studies in Lejeuneaceae. V. Microlejeunea in Pacific Oceania (Nova Hedwigia Bd IV, Heft 3 & 4, 1962, 551-561, pl. 129(1)-131(3)).

Mitchell, B.A.: The place of exotics in Malayan Forestry (Mal. For. 25, 1962, 224-236).

Remarks on Albizzia falcata, Eucalyptus, Swietenia, Gmelina arborea, Tectona, Ochroma, Shorea gysbertiana, Flindersia, Maesopsis, Pinus spp.

Mizushima, M.: Notes on some Caryophyllaceous plants from Sikkim Himalaya (J.Jap.Bot. 38, 1963, 149-154).

Mizutani, M.: A revision of Japanese Lejeuneaceae (Hepat.) (J.Hattori Bot.Lab. n. 24, 1961, 115-302, 38 fig., map).

Moats, S.A.: Comparison of plant and animal life in the dry zone of Burma with its homoclimate in Northwestern Peninsular India (Catholic Univ.Amer.Press 1960, 1-58, 3 pl., 6 tables).

Thesis. Ecological; floristic; plant list.

- Moens, P.: Les bourgeons végétatifs et génératifs de Coffea canephora Pierre. Etude morphologique et morphogénétique (Rubiac.) (Trav. Biol. Inst. Carnoy, Louvain n. 83, 1963, 165-244, 24 fig., 7 pl.).
- Moldenke, H.N.: Notes on new and noteworthy plants. XXVIII (Phytologia 8, 1961, 14-15).
New Congea from Siam.
- _____: Ditto. XXIX (Phytologia 8, 1961, 57-61).
Callicarpa paucinervia Merr. reduced to var. rank.
- _____: Ditto. XXX (Phytologia 8, 1962, 159-165).
- _____: Ditto. XXXI (Phytologia 8, 1962, 273-274).
Contains a new sp. of Teysmanniodendron from Indochina.
- _____: Ditto. XXXII (Phytologia 8, 1962, 385-395).
A form of a Callicarpa from the Carolines and a Premna variety from Fiji; new Sphenodesma from Siam.
- _____: Ditto. XXXIII (Phytologia 8, 1963, 459).
1 new var. of Clerodendron serratum from Burma.
- _____: Materials toward a monograph of the genus Verbena.
I-X (Verben.) (Phytologia 8, 1961/63, 95-104, 108-152, 175-216, 230-272, 274-323, 371-384, 395-453, 460-496; ibid. 9, 1963, 8-54, 59-97).
- Molloy, B.P.J.: Soil genesis and plant succession in the sub-alpine and alpine zones of Torlesse Range, Canterbury, New Zealand (New Zeal. J. Bot. 1, 1963, 137-148, 5 fig., 1 table).
- _____, C.J. Burrows, J.E. Cox, J.A. Johnston & P. Wardle: Distribution of subfossil forest remains, Eastern South Island, New Zealand (New Zeal. J. Bot. 1, 1963, 68-77, 1 fig., 1 table).
- Moore, D.M.: The violets of New Guinea (Violac.) (Nova Guinea, Bot. n. 11, 1963, 177-187, 3 fig.).
Key to 5 spp. (one new).
- Moore Jr, H.E.: The genera of Steck's "De Sagu" (1757) and comments on Sagus Steck (Taxon 11, 1962, 164-166).
Proposal to conserve Metroxylon Rottb.
- _____: The correct name for the torch ginger (Zingib.) (Baileya 10, 1962, 121, fig. 41).
Phaeomeria speciosa = Nicolaia elatior (Jack) Horan.
- Morton, J.K.: The incidence of polyploidy in a tropical flora (Recent Adv. Bot. 1961, 900-903).
Studies on the Labiateae and Compositae of the Cameroons Mountain and Ghana indicate a high frequency of poly-

ploids in the mountains, and the author regards this as a support of the hypothesis that a high concentration of polyploids shows an occurrence of derived floras, which have been exposed during their evolution to the pressures of major environmental changes. Under these conditions, adaptive variations (polyploid or otherwise) would be at a premium, whereas more stable taxa (which would include many of the diploids) would be left behind, either to survive in their original habitat or to be wiped out with it. Several examples are given to demonstrate the observation that when diploid and polyploid closely related taxa are met with in the area, then the polyploids are found in the Cameroons and the diploids in the lowland, whereas no example of the reverse condition is known to the author.

— : The upland floras of West Africa. Their composition, distribution and significance in relation to climate changes (C.R.4e AETFAT Réunion, Lisboa 1962, 391-409, 11 maps).

Account of disjunctions of Cameroons Mountains and East African volcanoes, in which especially the East African montane, Asiatic temperate, and boreal elements are interesting. The author rejects long-distance dispersal. Dispersal of these elements took place in ancient time from Asia along a land-connection through SW.Asia. The author concludes to dispersal under different climatic conditions from those prevailing today, derived from glaciology of African volcanoes. Author forgets that Miocene was much warmer than present climate and glaciers descent was only in Pleistocene. Why no mention is made of changes in land-altitudes is remarkable as this cannot have been static onwards of Miocene.

— : Cytotaxonomic studies on the West African Labiateae (J.Linn.Soc.Lond.Bot. 58, 1962, 231-283, 17 fig., 2 pl.).

Considerations on several genera which are of high importance for Malaysia; Ocimum; clear account of the Plectranthus-Coleus situation with a key to the genera belonging to the complex; Coleus is merged with Plectranthus, the latter being the older name.

Mueller,E. & Sultan Ahmad: Ueber einige neue oder bemerkenswerte Ascomyceten aus Pakistan. V (Fungi) (Biologia 8, 1962, 151-162, 4 fig.).

Mukerjee,S.K.: A synopsis of Indian and Burmese Polygala (Bull.Bot.Soc.Bengal 12, 1958, 29-49, 1 pl. (issued June 1961)).

1 new sp. and several varieties.

— : Associates of Mangrove-plants in the Sunderbans
(Proc. Mangrove Symp. 1959, 136).

— : Central National Herbarium (Bull. Bot. Surv. India 1, 1959, 30-32, 6 photogr.).

History and prospects of the Calcutta Herbarium.

— : The genus Bruguiera in the Sundribans (Rhizoph.)
(Bull. Bot. Surv. India 2, 1960, 173-174).
3 spp. listed.

— : Enumeration of Indian flowering plants. II-V (Bull. Bot. Surv. India 2, 1960, 99-107, 293-297; ibid. 3, 1961, 99-101, 351-355).

Muller, J.: Pollen from the South China Sea (Sarawak Mus. J. 10, 1961, 325).

On p. 799 (Fl. Mal. Bull. no 14, 1959) reference was made of pollens of certain strange elements in the South China Sea muds (Picea, Tsuga, Alnus). It has now been explained that this was due to contamination of the samples by using drilling mud of a Pliocene mud from Holland, so that these records should entirely be discarded.

Munk, W.J. de: Preliminary revisions of some genera of Malaysian Papilionaceae. III. A census of the genus Croatalaria (Reinwardtia 6, 1962, 195-223).

Key; synonymy; distribution; notes to 38 spp. of which 29 are either native or introduced; of 9 others there is no justification of occurrence in Malaysia. Various spp. are new records.

Murray, J.: Lichens from Cape Hallett Area, Antarctica (Trans. R. Soc. New Zeal. 2, 1963, 59-72).

Nafday, U.R.: Studies in the Tubiflorae of Nagpur (Bull. Bot. Soc., Coll. Sc., Nagpur 3, 1962, 1-9).

Deals with spp. of Scrophulariaceae, Verbenaceae, Acanthaceae and Labiateae.

Naik, V.N. & G. Panigrahi: Genus Hedychium in Eastern India (Zingib.) (Bull. Bot. Surv. India 3, 1961, 67-73, 7 fig.). Discussion, census and key of Indian species and varieties.

Nair, N.C.: A note on Ximensis encelioides Cav. (Compositae) in India (Bull. Bot. Surv. India 3, 1961, 43, 1 fig.). Introduced from the New World.

— : Studies on Meliaceae. V. Morphology and anatomy of the flower of the tribes Melieae, Trichilieae and Swietenieae (J. Ind. Bot. Soc. 41, 1962, 226-243, 98 fig., 1 table).

20 spp. examined.

- & S.K.Malhotra: A study of the vegetation of Lohargal and its neighbourhood, Rajasthan, India (Bull.Bot.Surv. India 3, 1961, 139-151).
Name list with brief introduction on climate and vegetation.
- Nair, P.K.K.: Pollen grains of Indian plants. I (Bull.Nat.Bot. Gard.Lucknow n. 53, 1962, 34 pp., 58 fig., 1 table).
- Nakamura, J.: Pollenanalyses from two swamps of the Amami islands (Rep.USA Marine Biol.Stat. 4, 1957, 1-12, 3 tables, 9 fig., 2 pl.).
Tsuga and Alnus pollen is found but these species do not occur in this island.
- Nayar, B.K.: Ferns of India. I. Adiantum (Bull.Nat.Bot.Gard. Lucknow n. 52, 1961, 2nd rev.impression 1962, 41 pp., 9 fig.).
Introduction, keys, descr. figures and some maps of 150 pp. and 3 taxa announced as 'var. novo'; these are, however, not provided with a Latin description nor has a type specimen been appointed and are therefore invalid.
- : Contributions to the morphology of Leptochilus and Paraleptochilus (Polypod.) (Am.J.Bot. 50, 1963, 301-308, 42 fig.).
- Nicolson, D.H.: The geographic location of Gorgonidium (Arac.) (Rhodora 65, 1963, 68-72, 4 fig.).
The type specimen of this presumed endemic Papuan monotypic genus came from Bolivia.
- Nishida, M.: On the scales of Ceratopteris thalictroides and their bearing to phylogeny (Filices, Parker.) (J.Jap. Bot. 37, 1962, 179-186, 7 fig.).
- : Systematic position of Ceratopteris thalictroides Brongn. (Parker.) (J.Jap.Bot. 37, 1962, 193-200).
- Norris, D.H. & A.J.Sharp: The known distribution of Herpetineuron toccae (Sull.& Lesq.) Card. (Musci) (J.Hattori Bot.Lab. n. 24, 1961, 110-114, map).
- Nye, P.H.: Some effects of natural vegetation on the soils of West Africa and on their development under cultivation (Trop.Soils & Veget. - Proc.Abidjan Symp. 1961, 59-63).
- Ochi, H.: Mosses of the Bryaceae in Japan and the adjacent regions. Supplement III (Musci) (Acta Phytotax.Geobot. 20, 1962, 242-246, 2 fig.).
- : Contributions to the mosses of Bartramiaceae in Japan and the adjacent regions (2 and last) (Musci) (Nova Hedwigia 5, 1963, 91-115, pl.7-24).

- & H.Persson: Plagiobryum demissum (Hoppe & Hornsch.) Lindb. subsp. hultenii Ochi & H.Persson, a new Japanese moss endemic (Musci) (Svensk Bot.Tidskr. 57, 1963, 238-242, 1 fig.).
- Ooststroom, S.J.van & Th.J.Reichgelt: De in Nederland adven-tieve en gekweekte Physalis-soorten (Solan.) (Gorteria 1, 1962, 65-71).
Key to 6 spp.; in Dutch; summary with key.
- Ornduff, R., P.H.Raven, D.W.Kyhos & A.R.Kruckeberg: Chromosome numbers in Compositae. III. Senecioneae (Am.J.Bot. 50, 1963, 131-139, 6 fig.).
Interesting survey and results.
- Oza, G.M.: Nomenclatural note on the Indian species of Citrul-lus (Cucurb.) (Taxon 11, 1962, 254-255).
- Paclet, J.: Shiuyinghua, a new genus of Scrophulariaceae from China (J.Arnb.Arbo. 43, 1962, 215-217).
- Pandeya, S.C.: Status of the grasslands of Madhya Pradesh, India (Trop.Ecol. 3, 1962, 101-105).
Grassland is maintained through anthropogenous factors; classification of grasslands, which are mainly caused by rainfall conditions.
- Panigrahi, G.: Pteridophytes of the Eastern India. 1. Enumera-tion of the species collected and their nomenclature (Bull.Bot.Surv.India 2, 1960, 309-314).
Coll. in Bihar, Orissa, Assam, etc.; 150 spp. listed, a few new comb.
- : Cyclosorus subpubescens (Bl.) Ching, a taxonomic problem (Polypod.) (Bull.Bot.Surv.India 2, 1960, 315-319).
Typification.
- : A note on Aleuritopteris grisea (Blanford) Panigrahi comb.nov. and A.anceps (Blanford) Panigrahi comb.nov. (Polypod.) (Bull.Bot.Surv.India 2, 1960, 321-322).
The two new comb. were also made in the list, l.c. 312.
- & V.N.Naik: A botanical tour to Subansiri frontier division (Nefia) (Bull.Bot.Surv.India 3, 1961, 361-388, 2 photogr., 1 pl.).
Illustrated introduction and plant list.
- Parameswaran Nayar, M.: The vegetation of Kanyakumari, Kanya-kumari district (Bull.Bot.Surv.India 1, 1959, 122-126, map).
- Patnaik, S.N. & G.Panigrahi: Cytology of some genera of Poly-podiaceae in Eastern India. II (Am.Fern J. 53, 1963, 40-46, 2 pl., 2 tables).

- Periasamy, K.: Morphological and ontogenetic studies in palms.
I. Development of the plicate condition in the palm-leaf (Phytomorphology 12, 1962, 54-65, 35 fig., 1 tabl.).
- Perry, R.A. (ed.): General report on lands of the Alice Springs area, Northern Territory, 1956-57. (Land Res. Series n. 6, 1962, 1-280, many maps).
- Philcox, D.: Recent records for the flora of South Georgia (Kew Bull. 16, 1962, 243-246).
- Philipson, W.R. & J.P. Skipworth: Hectorellaceae: a new family of Dicotyledons (Trans. R. Soc. New Zeal. 1, 1961, 31). Comprises Hectorella and Lyallia of New Zealand and Kerguelen respectively.
- Phillips, R.C.: Environmental effect on leaves of Diplanthera Du Petit-Thouars (Potamog.) (Bull. Marine Sc. Gulf & Caribb. 10, 1960, 346-353).
It was proposed by Sauvageau (1890) and later Feldmann (1938) that the 2 spp. of Diplanthera could be separated on the basis of 2 characters: leaf apex and internal cellular anatomy. The present author found that these characters are variable in *D. wrightii*, dependent on the tidal zone in which the plants were growing. Hence, these two characters are not valid for separating this species from *D. uninervis*.
- Pichi-Sermolli, R.E.G.: Adumbratio Flora Aethiopicae. 9. Cryptogrammaceae (Polypod.) (Webbia 17, 1963, 299-315, 3 fig., 1 map).
Onychium divaricatum.
- Pirson, H.: Ein Beitrag zur Kenntnis der Pflanzenwelt im westlichen Zentralhimalaya (Tons-gebiet). Ergebnisse der Deutschen Indien-Expedition 1955-1957 (Abh. & Verhandl. Naturwiss. Ver. Hamburg N.F. 6, 1962, 177-196, 1 Karte). General descr. of vegetation up to 4200 m.
- Plumstead, E.P.: Fossil Floras of Antarctica. Trans-Antarctic Expedition 1955-1958 (Scientific Reports n. 9, 1962, 1-154, 2 fig., 6 tables, 3 maps, 28 pl.).
- Pobedimova, E.G.: A note on the genera Vincetoxicum Walter and Alexitoxicicon Saint-Lager (Asclep.) (Taxon 11, 1962, 173-174).
New comb. for spp. mentioned in Fl. USSR under Alexitoxicicon is the name for the Eur.-As. spp. of Vincetoxicum.
- Pohl, R.W.: Phytogeographic notes on Rottboellia, Paspalum, and Miscanthus (Gram.) (Rhodora 65, n. 762, 1963, 146-148, 1 fig.).
3 Asiatic spp. adventive in U.S.A.

- Post, E.: Bostrychia, nicht tot zu kriegen (Botanica Marina 5, 1963, 9-18).
- Prakash, S.: Morphological and embryological studies in the family Loranthaceae. VII. Atkinsonia ligustrina (Cunn.) F.v.M. (Phytomorphology 11, 1961, 325-355, 50 fig. (1962)).
- Prasad, B.N.: On some Cyanophyceae from India (J. Ind. Bot. Soc. 41, 1962, 322-326).
10 spp. listed.
- & P.N. Srivastava: Observations on the morphology, cytology, and asexual reproduction of Schizomeris leibeli-nii (Chloroph.) (Phycologia 2, 1963, 148-156, 35 fig.).
- Pringsheim, E.G. & O. Pringsheim: Axenic culture of Utricularia (Lentib.) (Am. J. Bot. 49, 1962, 898-902, 1 fig.).
Flowering only occurs if organic compounds as contained in beef-extract are added aseptically.
- Prowse, G.A.: Diatoms of Malayan freshwaters (Gard. Bull. Sing. 19, 1962, 1-104, 24 pl.).
Key to genera; enumeration of spp.
- Pryor, I.D. & L.A.S. Johnson: The status and significance of the hybrid Eucalyptus marginata Sm. x E. megacarpa F.v.M. (Myrtac.) (Austr. J. Bot. 10, 1962, 129-134, 2 pl.).
Several hybrids, described as species, were traced.
- Puri, G.S.: Western Circle of the Botanical Survey of India (Bull. Bot. Surv. India 1, 1959, 74-77, 6 photogr.).
Outline of Circle and activities.
- : Vegetation and soil in tropical and subtropical India (Trop. Soils & Veget. - Proc. Abidjan Symp. 1961, 93-102, 5 fig., 9 photogr.).
- & S.K. Jain: The moist deciduous of the Poona district (Proc. Nat. Ac. Sc. India, sect. B, 29, 1959, 254-261, map, pl. 1-2).
Sociological; quadrats of 25 m².
- & : Survey of some oil-yielding plants of western India (Bull. Bot. Surv. India 2, 1960, 95-98).
19 spp. treated.
- & : A note on Capparis moonii Wight (Cappar.).
(Bull. Bot. Surv. India 2, 1960, 170).
Fruit used as medicine against tuberculosis.
- & : The dry deciduous scrub vegetation of Poona District (Bull. Bot. Surv. India 2, 1960, 329-334, 2 tab.).
A biotic savannoid community; flora of E., W., and S. slopes compared.

- & : Botanical exploration in Western India (Trop. Ecol. 3, 1962, 49-69, 4 maps, 7 photogr.).
- & S.D.Mahajan: The study of the evergreen vegetation of Mahabaleshwar area (Bull.Bot.Surv.India 2, 1960, 109-137, 4 fig.).
Vegetatiology and plant list.
- & R.M.Patil: Dry deciduous forests of the Poona district, Deccan, India (Bull.Bot.Surv.India 2, 1960, 149-167, 4 fig., 6 photogr.).
Ecology and vegetatiology.
- Raghavan,R.S.: Studies on the genus Dioscorea L. (Bull.Bot. Surv.India 2, 1960, 379-386, 2 tables, 3 pl.).
Hairs, bulbils, stomata, chromosomes in 11 spp.
- & C.M.Arora: Morphological and cytological studies in the genus Lantana L. (Verben.) (Bull.Bot.Surv.India 2, 1960, 299-303, 4 tables, 12 fig.).
L.camara has basic no 11, other spp. 12.
- & R.S.Rao: Cytological observations on the Indian species of Commelinaceae (Curr.Sc. 30, 1961, 310-311, 6 fig., 1 table).
Chromosomes of 16 spp.
- Rai,J.N. & K.G.Mukerji: A new species of Chaetomium from Indian soils (Fungi) (Canad.J.Bot. 40, 1962, 857-860, t.1-2).
- , — & J.P.Tewari: Tripterospora tetraspora spec. nov., a new cleistothelial Ascomycete (Fungi) (Canad.J.Bot. 41, 1963, 327-329, 14 fig.).
- & J.P.Tewari: A new Acremoniella from Indian soils (Fungi) (Canad.J.Bot. 41, 1963, 331-334, 18 fig., 1 table).
- Raizada,B.B.S.: Taxonomic studies of some members of the Mucorales (Fungi) (Nova Hedwigia Bd 4, Heft 3+4, 1962, 421-432, pl. 92(1)-94(3)).
- Raizada,M.B. & D.Chatterjee: Correct identity of Hibiscus tortuosus (Malvac.) (Sci.& Cult. 26, 1960, 46-47).
H.tortuosus Roxb. Fl.Ind. 3 (1832) 192, has been variously treated in the literature; the authors show that it is identical with H.tiliaceus Linn. On the other hand, H.tortuosus Wall.ex Prain in Prain, Bengal Plants 268, 1903 (non Roxb.) is H.prainii Raiz.et Chatt. nom.nov.
- Rajkhowa,S.: The Upper Assam Dipterocarpus-Mesua forests and their regeneration (Indian For. 87, 1961, 406-425).
Mainly silvicultural.

- : Forest types of Assam, with special reference to the evergreen and semi-evergreen forests (Indian For. 87, 1961, 520-541).
This is a re-classification of the forest types of Assam, based on greater knowledge of the forest constituents than was available to Champion. The author lists 14 different types, for most of which he gives lists of the main forest constituents; for each species he gives the "percentage density of stems above 3' girth"; for the Upper Assam Mesua-Dipterocarp forests the author communicates in addition the number of specimens of a given species above 3 ft in girth in 100 acres.
- Rambo, B.: Der Regenwald am oberen Uruguay (Sellowia n. 7, 1956, 183-233).
- : Regenwald und Kamp in Rio Grande do Sul (Sellowia n. 8, 1957, 257-353).
Rainforest is progressing.
- Rangaswami, G. & S. Chaudrasekaran: Cercospora species on cucurbitaceous hosts in South India. I. Identification of species (Fungi) (Mycologia 53, 1916, 371-377).
7 spp.
- Rao, R.S.: Observations on the mangrove vegetation of the Godavari Estuary (Proc. Mangrove Symp. 1959, 37-44).
26 spp. listed; distribution in Gangetic and Chakaria Sunderbans.
- & J. Joseph: Livistona jenkinsiana (Palm.) (Principes, J. Palm. Soc. 6, 1962, 103-105, 1 distr. map, fig. 60-62). Only Indian sp.
- & R.V. Kamathy: Notes on Indian Commelinaceae. I (J. Bombay Nat. Hist. Soc. 59, 1962, 58-70, 3 pl., 2 tables, 6 distr. maps).
Treats Commelina, Aneilema, Murdannia, and Cyanotis; no novelties.
- & G. Panigrahi: Eastern Circle of the Botanical Survey of India (Bull. Bot. Surv. India 1, 1959, 62-69, 6 phot.). Outline of Circle and work.
- , B.M. Wadhwa & M.Y. Ansari: Comparative studies on the distribution of some useful trees of tropical evergreen forests in the Western and Eastern parts of India (Ind. For. 87, 1961, 220-241, 1 table, 16 distr. maps).
- Rao, T.A.: Report on a botanical tour to Milam glaciers (Bull. Bot. Surv. India 1, 1959, 97-120, 7 photogr., map). Route and vegetation description; plant list.

- : A botanical tour to Pindari glaciers and Kumaon Hill stations (Bull.Bot.Surv.India 2, 1960, 61-94, 5 fig.). Itinerary and plant list.
- : A further contribution to the flora of Jammu and Kashmir State (Bull.Bot.Surv.India 2, 1960, 387-423, tables 1-2). Vegetation and ecology; plant list; 687 spp.
- Rao, V.S. & A.Ganguli: The floral anatomy of some Asclepiadaceae (Proc. Ind. Ac. Sc. 57 B, 1963, 15-44, 74 fig.).
- Rappard, F.W.: Bos en bosexploitatie in het Centrale Bergland (Ned. Nieuw Guinea 10, 1962, 18-21, 4 photogr.).
- Rattenbury, J.A.: Origins of the New Zealand flora: Cytogeobotanical observations on the "Malayan element" (The Evol. of Living Organisms, Melbourne, 1959, 417-425, 3 fig.).
- Ratter, J.A.: Some chromosome numbers in the Gesneriaceae (Not. R. Bot. Gard. Edinb. 24, 1962, 221-229, 3 fig., 1 tab.).
- Rau, M.A.: Northern Circle of the Botanical Survey of India (Bull. Bot. Surv. India 1, 1959, 59-61, 2 photogr.). General outline of this Circle and work done.
- : On a collection of plants from Lahul (Bull. Bot. Surv. India 2, 1960, 45-56, 1 fig.). Itinerary and plant list.
- : Occurrence of Alectra parasitica A.Rich. in India. A new variety from Banda district, U.P. (Scroph.) (Bull. Bot. Surv. India 3, 1961, 25-27, 2 fig.). Key to 3 spp. and full descr. of the most curious parasite *A.thomsonii* Hook.f.
- : Flowering plants and ferns of North Garhwal, Uttar Pradesh, India (Bull. Bot. Surv. India 3, 1961, 215-251, 1 fig., 2 tables). Largely a plant list.
- & T.A.Rao: Some plant records (Bull. Bot. Surv. India 1, 1959, 142-143, 4 fig.). Enhydra; Menyanthes; Primula; Elatostema; Corallorrhiza, and the highly interesting parasitic *Alectra thomsonii* Hook.f.
- & : Some plant records. II (Bull. Bot. Surv. India 2, 1960, 43-44, 1 fig.). Incl. i.a. *Falconeria himalaica* (Scroph.) and *Balanophora involucrata*.
- & : Some plant records. III (Bull. Bot. Surv. India 2, 1960, 425-426). 5 spp. from new localities.

— & — : Some plant records. IV (Bull.Bot.Surv.India 3, 1961, 29-30, 3 fig.).

Raven, P.H.: The correct name for Rescue Grass (Brittonia 12, 1960, 219-221, 1 fig.).

Festuca unioloides Willd. = *Bromus willdenowii* Kth., instead of *B.unioloides* (Willd.) Raspail, non H.B.K.

— : The genus Epilobium in the Himalayan region (Onagr.) (Bull.Brit.Mus.Bot. 2, 1962, 325-382, 13 maps, pl.33-39).

Key; descr.; 1 sp. from Luzon, *E.brevifolium* D.Don var. *trichoneuron* (Hausskn.) Raven (*E.philippinense* C.B.Rob.).

— : The generic position of "Boisduvalia tasmanica" (Onagr.) (Also 5, 1963, 247-249, 3 fig.).

Reduced to *Epilobium*.

Raymond, M.: An interesting Aeschynanthus from Thailand (Mém. Jard.Bot.Montréal n. 55, 1962, 31-35, 1 fig.).

A hosseusii Pellegrin; new comb. in *Belvisia* (Pterid.).

Reeder, J.R.: The Bambusoid embryo: a re-appraisal (Am.J.Bot. 49, 1962, 639-641, 17 fig.).

The vascular system is festucoid; on the basis of embryo-structure bamboos cannot be distinguished from the oryzoid-olyroid grasses; they should form a subfamily rather than a family.

Rees, A.R.: Germination of palm seeds using a method developed for the oil palm (Principes 7, 1963, 27-30, 2 tables).

Reid, D.A.: Podoserpula Reid: a new genus based on Craterellus pusio Berkeley (Fungi) (Kew Bull. 16, 1963, 437).

Occurs in Venezuela, New Zealand and Australia; in the tropics on the mountains!

Richards, P.W.: The type of vegetation of the humid tropics in relation to the soil (Trop.Soils & Veget. - Proc. Abidjan Humid Trop.Symp. 1961, 15-23).

A very full general account.

Riedl, H.: Bemerkungen über *Cynoglossum coelestinum* Lindl. und *C.glochidiatum* Wall. sowie Versuch einer Neugliederung der Gattung *Cynoglossum* L. (Borag.) (Osterr.Bot.Z. 109, 1962, 385-394, 1 fig.).

Some genera reduced; census of subgenera and sections; specific names listed.

Robbins, R.G.: The vegetation of New Guinea (Australian Territories 1, n. 6, 196?, 12 pp., fig., photogr.).

Vegetation types.

- : The montane vegetation of New Guinea (Tuatara 8, 1961, 121-134, 5 photogr.).
Vegetation description.
- : The Podocarp-Broadleaf forests of New Zealand (Trans. R.Soc.New Zeal. Bot. 1, 1962, 33-75, 24 fig., 1 table, 5 pl.).
Forest structure analysis; hypothesis is that the conifer forest is very gradually replaced by angiosperm forest trees as a stage in a historical process. How this can be reconciled with the ancient Nothofagus and Preteaceous flora is not clear.
- Robijns,A.: Essai de monographie du genre Bombax s.l. (Bomb.) Suite (Bull.Jard.Bot.Bрюx. 33, 1963, 145-316, 13 fig., 4 pl.).
- Rogers,D.J.: Studies of Manihot esculenta Crantz and related species (Euph.) (Bull.Torr.Bot.Cl. 90, 1963, 43-54, 2 fig.). Interesting general account of data and problems.
- Royen,P.van: Notes on the vegetation of South New Guinea (Nova Guinea, Bot. n. 13, 1963, 195-241, pl.13-16, map). Climate and soils; vegetation descr. of savannahs; riverine; Lake Wam; Fly and Wassi Kussa R.
- : Sertulum papuanum sp. Rafflesiaceae (Nova Guinea, Bot. n. 14, 1963, 243-245, pl.17).
First record of Mitrastemon.
- Rutter,A.J. & Khalid Hamid Sheikh: A survey of the vegetation of waste lands round Lahore (Punjab) and its relation to soil conditions (Biologia 8, 1962, 91-121, 5 fig., 9 tables).
Sociological with regard to soil conditions.
- Salisbury,L.: Natural selection and plant invasion (S.Afr.J. Sc. 49, 1952, 115-119).
Aggressiveness of introductions is wholly or even mainly outcome of absence of biological enemies of their native home.
- : The biology of garden weeds (J.Roy.Hort.Soc. 87, 1962, 338-350, 390-404, 458-470, 497-508).
The Masters Memorial Lecture. A most interesting account of great value to ecology.
- Sandhu,D.K. & R.S.Sandhu: A new variety of Aspergillus nidulans (Fungi) (Mycologia 55, 1963, 297-299, 3 fig.).
- Santapau,H.: Critical notes on the identity and nomenclature of some Indian plants (Bull.Bot.Surv.Ind.3, 1961, 11-21). Many notes, largely taken from recent literature and affecting names of Indian plants.

- & Z.Kapadia: Critical notes on the Orchidaceae of Bom-
bay State. VI. Nervilia Gaud.& Malaxis Sw. VII. Eria
Lindl. & Porpax Lindl. VIII. Some of the smaller genera
(J.Bomb.Nat.Hist.Soc. 58, 1961, 332-350, 3 pl.; 595-
607, 3 pl.; ibid. 59, 1962, 154-172, 6 pl.; IX: ibid.
382-404, 8 pl.).
- & Y.Merchant: Critical notes on the Rubiaceae of Bombay
(Bull.Bot.Surv.India 3, 1961, 107-110).
- Santiago,A.: An illustrated guide to Malayan Citrus species
and varieties (Rutac.) (Bull.Div.Agric.Malaya 41, 1962,
1-138).
- Saroja,T.I.: Observations on the actinomorphic form of Cli-
toria ternatea Linn. (Legum.) (Bull.Bot.Surv.India 3,
1961, 409-410, 6 fig.).
- Satake,T.: A new system of the classification of Palmae
(Hikobia 3, 1962, 112-133, 4 fig., 9 tables).
Including also new survey with new tribes and subfami-
lies.
- Sauer,J.D.: Effects of recent tropical cyclones on the
coastal vegetation of Mauritius (J.Ecol. 50, 1962, 275-
290, 9 fig., 32 photogr.).
All artificial Casuarina back-beach groves perished;
even very brittle mangroves survived.
- Saville,D.B.O.: Collection and care of botanical specimens
(Research Branch, Canada Department Agric. Publ. 1113,
1962, 1-24, 13 fig.).
- Saxena,P.N.: Chaetophorales (Algae) (Bull.Nat.Bot.Gard.Luckn.
n. 57, 1961, 1-59, 5 fig.).
Keys and descriptions.
- Schenck,H.: Die myrmekophilen Acacia-Arten (Legum.) (Bot.
Jahrb. 50 (Suppl. Bd), 1914, 449-487, 14 fig.).
- Schnell,R.: Techniques d'herborisation et de conservation des
plantes dans les pays tropicaux (J.Agric.Trop.Bot. 7,
Appl., 1960, repr. 1-48, 9 fig.).
- : Remarques préliminaires sur quelques problèmes phyto-
géographiques de Sud-Est Asiatique (Rev.Gén.Bot. 69,
1962, 301-367, 6 fig., pl.30-36).
The author who is lucky to have personal experience in
Africa has made a prolonged tour to Indo-China and also
visited West Java. Comparisons are made between Afri-
can and Asiatic tropical forests and floras and chap-
ters are devoted to vegetation. Lively discussion about
dispersal problems and about origin of open forest
land.

- : Sur une structure anormale de Casuarina equisetifolia L. et la question des "halomorphoses" (Bull.Inst.Fr. Afr.Noire 25A, 1963, 301-306).
Twigs of specimens planted near the sea at Dakar showed a sort of Salicornia-like habit; also their anatomy was deviating. The cause is thought to be salt blown on the trees in minute drops of spray from the surf.
- : G.Cusset & M.Quenum: Contribution à l'étude des glandes extra-florales chez quelques groupes de plantes tropicales (Rev.Gén.Bot. 62, 1963, 269-341, 7 pl., text fig., bibliogr.).
Treatment in about the same way as by Metcalfe & Chalk, with emphasis on Africa. In the general part, two kinds of nectaries are distinguished: glands proper, and glandular hairs, the latter subdivided into simple trichomes and vascular structures.
- Schofield,W.B.: Treubia nana in North America (Hepat.) (The Bryologist 65, 1962, 277-279).
Japanese sp. found in Queen Charlotte I., B.C.
- Schroo,H.: Data on the salinization of a coastal soil in the monsoonal rice area of Southern New Guinea (Meded. Proefst.Manokwari, Soil Sc. Series n. 6, 1961, 231-248, 3 fig., 11 tables).
Salt is restricted to upper horizon of profiles without causal relationship to salty groundwater.
- Schubert,B.G.: Desmodium: Preliminary studies. IV (Legum.) (J.Arnb.Arzb. 44, 1963, 284-297, 6 fig.).
- Schultze-Motel,W.: Beitrag zur Kenntnis der Laubmoose der Hawaii-Inseln (Musci) (Willdenowia 3, 1962, 97-107).
List of Degener collection and a few others.
- : Zur Nomenklatur der Laubmoose Macromitrium noguchianum and Pohlia rubripila aus Neuguinea (Musci) (Taxon 11, 1962, 179-180).
Through homonymy two new comb.
- : Zur Nomenklatur einiger Papuanischer Laubmoose (Musci) (Taxon 12, 1963, 127).
Some new comb. precursory to a list of Papuan Musci.
- Schuster,R.M.: North American Lejeuneaceae. VIII. Lejeunea, subgenera Microlejeunea and Chaetolejeunea (Hepat.) (J.Hattori Bot.Lab. n. 25, 1962, 1-80, 13 fig., 1 table, 8 graphs).
Keys.
- : Studies on Hepaticae XI-XIII. On Temnoma, Vetaforma and Lophochaete (Blepharostomaceae; Hepaticae) (Nova Hedwigia 5, 1963, 27-46).

Schwarz, O. & H. Weide: Systematische Revision der Gattung Sequoia Endl. (Conif.) (in Fedde, Rep. 66, 1962, 159-192, 10 fig., 2 tables).

3 spp. recognized; Metasequoia is reduced.

Sebastine, K.M.: A contribution to the flora of Vellingiri and Maruthumalai hills of the Coimbatore district (Bull. Bot. Surv. India 1, 1959, 90-96, map).
List of plant names.

----- : Studies on the flora of the Pakasura hills (Hulical Drug R.P.) in the Nilgiri district, Madras state (Bull. Bot. Surv. India 2, 1960, 4-7).
Concise ecology; list of plants.

----- & A.N. Henry: Studies on the flora of Singampatti reserve forest in Tirunelveli district, Madras state (Bull. Bot. Surv. India 2, 1960, 27-42).
Concise ecology; plant list.

----- & ----- : A new species of Reidia from South India (Euph.) (Bull. Bot. Surv. India 2, 1960, 437-439, 10 fig., 1 photogr.).

----- & ----- : Vascular plants of Pachamalais, India (Bull. Bot. Surv. India 3, 1961, 55-65).
Plant list.

----- & K. Ramamurthy: A new species of Dichrostachys from South-India (Legum.) (Bull. Bot. Surv. India 3, 1961, 359-360, 1 pl.).
D. santapaui n.sp.

----- , K. Thothathri & N.P. Balakrishnan: Observations on the Flora of Narasapur, Medak District, Andhra Pradesh (Bull. Bot. Surv. India 2, 1960, 275-285).

Sen Gupta, G.: A taxonomic note on Solanum khasianum Clarke and description of a new variety under it (Solan.) (Bull. Bot. Surv. India 3, 1961, 411-415, 1 pl.).

Sen Gupta, J.C.: Botanical Survey of India, its past, present and future (Bull. Bot. Surv. India 1, 1959, 9-29, 2 photogr., table).

A full general historical account; cf. also Fl. Mal. Bull. p. 1007.

Shaw, H.K. Airy: Proposals to conserve the generic names Pandanus and Pittosporum (Taxon 11, 1962, 223-225).

----- : Botryophora geniculata (Miq.) Beumée ex Airy Shaw (Euph.) (in Hook. Ic. Pl. 36, 1962, 3 pp., t. 3576).

- : The identity of Octas spicata Jack (AQUIF.) (Kew Bull. 16, 1962, 84).
Is not Ilex spicata but I.cissoidea Loes.
- : Notes on Malaysian and other Asiatic Euphorbiaceae.
XX-XLVIII-(Kew Bull. 16, 1963, 342-372).
An important set of notes with various new reductions, new combinations, new records, and two new genera.
Coccoceras is reduced as a section under Mallotus (key to spp.). Neoscortechinia is also revised.
- : Notes on the orthography of the generic name Aesandra Pierre (Sapot.) (Kew Bull. 16, 1963, 460).
Must be Aisandra.
- Shimizu,T. & M.T.Kao: Taxonomic notes on Ligustrum of Taiwan (Oleac.) (Acta Phytotax. Geobot. 20, 1962, 65-70, 2 fig.).
Key in Japanese; 1 n.sp.
- Simon,C.: Erfahrungen mit wenig bekannten Methoden der Herbarientechnik (Bauhinia 2, 1962, 63-69).
- Simonse,J.P.: A possibly new species of Phalaenopsis (Orchid.) (Am.Orchid.Soc.Bull. 29, 1960, 531-532, 1 fig.).
Aff. P.denevei from W.Borneo.
- Singh,B.: Studies in Angiospermic parasites. No 1. Dendrophthora falcata (L.f.) Ettingsh., its life history, list of hosts and control measures (Loranth.) (Bull.Nat. Bot.Gard.Lucknow n. 69, 1962, 75 pp., 38 fig.).
Detail anatomical and morphological description; list of hosts; experiments with poison sprays.
- Singh,K.P.: The Chlorophyceae of the Kumaon Hills, U.P., India. I (Agra Univ.J.Res.(Sc.) 9, 1960, 211-216).
38 spp. treated.
- Singh,R.N.: Role of blue-green algae in nitrogen economy of Indian agriculture (Ind.Counc.Agricul.Research, New Delhi 1961, 175 pp., text illustr.).
I.C.A.R. monographs on algae.
- Skottsberg,C.: Zur Naturgeschichte der Insel San Ambrosio (Islas Desventuradas, Chile) (Arkiv Bot. 4, 1962, 465-490, 10 fig., 22 tables, 1 col.table).
A.o. Sanctambrosia n.g. (Caryophyll.).
- Skvortsov,A.K.: Salicaceae (of Thailand) (Dansk Bot.Ark. 20, 1962, 181-182, 1 fig.).
Record of S.tetrasperma.

Sledge, W.A.: LIV. The nomenclature and taxonomy of Athyrium nigripes (Bl.) Moore, A.solenopteris (Kunze) Moore and A.praetermissum sp.nov. (Ann.Mag.Nat.Hist. XII, 9, 1956, 453-464, 8 pl.).

----- : The Athyrioid ferns of Ceylon (Bull.Brit.Mus. (Nat. Hist.) Bot. 2, 1962, 277-323, 3 pl.).
Keys to genera and species.

Sleumer, H.: Rhododendron in Neu-Guinea (Eric.) (Jahrb.Rhododendron Ges. 1963, 7-32, 39 photogr., 1 map).
Itinerary of the van Royen-Sleumer Expedition to New Guinea, with brief notes on vegetation and notes on occurrence of Rhododendron.

Smayda, Th.J.: Biogeographical studies of marine Phytoplankton (Algae) (Oikos 9, 1958, 158-191, 7 fig., 2 tables).
Contains distribution maps of antarctic and S. Pacific species.

Smith, A.C. & W.L. Stern: Leaf anatomy as an aid in the identification of two Fijian plant species (Meliac.) (Brittonia 14, 1962, 237-247, 16 fig.).
Dracontomelum pilosum Seem. and Brucea quercifolia Seem., 2 species recently described as Dysoxylum pilosum A.C.Smith, are conspecific and are called Dysoxylum quercifolium (Seem.) A.C.Smith comb.nov. on the strength of the anatomical features.

Smitinand, T.: New records of plants from Thailand. II (Nat. Hist.Bull.Siam Soc. 20, 1962, 121-133).
Various records.

----- : Short notes. III. The pagination of the Flora Siamesis Enumeratio III. III. The distribution of the Himalayan Ivy (Hedera himalaica Tobler) in Thailand (Aral.) (Nat.Hist.Bull.Siam Soc. 20, 1962, 136-137, 1 map).
Part 3 of F.S.E. is announced and will contain Scrophulariaceae and Gesneriaceae by Miss Barnett. Part 2 should be paged 101-180 of volume 2.

----- : Short notes. IV. The genus Actephila Bl. (Euphorbiaceae) in Thailand (Nat.Hist.Bull.Siam Soc. 20, 1962, 138-140).
3 spp. listed.

Sneath, P.H.A. & R.R.Sokal: Numerical taxonomy (Nature 193, 1962, 855-860).

In defence of taxonomic characters being of equal "weight".

Soepadmo: Perjalanan ke Pulau Bali ditindjau dari segi ilmu tumbuh-tumbuhan (Pengemar Alam 40, 1961, 25-43, 1 map, 8 fig.).

Tour and vegetation description (in Indonesian).

Soest, J.L. van: Taraxacum species from India, Pakistan, and neighbouring countries (Compos.) (Wentia 10, 1963, 1-91, 31 pl.).

Solbrig, O.T.: The South American species of Erigeron (Compos.) (Contr. Gray Herb. 191, 1962, 1-79, 69 fig.).

Key and description of 23 spp.; also of Juan Fernandez, Galapagos and Falklands.

Spanowsky, W.: Die Bedeutung der Pollenmorphologie für die Taxonomie der Primulaceae-Primuloideae (in Fedde, Rep. 65, 1962, 149-213, Taf. III-VI, 2 fig.).

Specht, M.M. & R.L. Specht: Bibliographica phytosociologica. Australia (Excerpta Bot. sect. B, 4, 1962, 1-58, incl. index to authors).

A systematical arranged bibliography (not annotated) of over 700 entries.

Specht, R.L.: The nomenclature of some Borreria species from Northern Australia (Rubiac.) (Kew Bull. 16, 1962, 239-242).

Spp. listed, new comb. for Spermacoces under Borreria.

Srinivasan, C.: A new report on the occurrence of the moss, Eurynchium mulleri (Bry. Jav.) Bartr. in Nilgiri Hills (South India) (Musci) (Ind. Sc. Congr. Ass. Proc. 49 Sess. 3, 1962, 254).

E. mulleri reported for the first time from India.

Srinivasan, K.S.: The industrial section, Indian museum, Botanical Survey of India (Bull. Bot. Surv. India 1, 1959, 38-58, 9 photogr., table).

Outline of the Museum which is for economic botany, for show, information, and research.

---- : Protection of wild (plant) life (Bull. Bot. Surv. India 1, 1959, 85-89).

Survey of rare species.

---- : Rosenvingea intricata (J. Agardh) Borgs., a Phaeophyceae new to Chilka lake in India (Bull. Bot. Surv. India 2, 1960, 9-13, 9 fig.).

---- : On the fore-shore vegetation of Malacca coast of the Car-Nicobar Island (Bull. Bot. Surv. India 2, 1960, 15-25, 14 fig.).

Largely beach and Barringtonia formation; list.

- : Observations on the germination of spores of Padina tetrastromatica Hauck. (Phaeophyceae) (Bull.Bot.Surv. India 2, 1960, 429-436, 32 fig., 1 pl.).
- : Report on Phaeophila dendroides (Crouan) Batters endophytic in Rosenvingea intricata (J.Ag.) Boergs. (Algae) (Bull.Bot.Surv.India 3, 1961, 111-113, 7 fig.).
- : On Botryocladia skottsbergii (Boergs.) Levr. A red alga new to Indian region (Phytomorphology 12, 1962, 49-54, 8 fig.).
- Srinivasan, M.C. & M.J.Thirumalachar: Studies on species of Conidiobolus from India. I (Fungi) (Sydowia 15, 1962, 237-241, 2 pl.).
- & ----- : Studies on species of Conidiobolus from India. III (Fungi) (Mycologia 54, 1962, 685-693, 20 fig., 2 tables).
- Staudt, G.: Taxonomic studies in the genus Fragaria, Typification of Fragaria species known at the time of Linnaeus (Rosac.) (Canad.J.Bot. 40, 1962, 869-886, t.2).
- Stauffer, H.U.: Beitrage zum Blütendiagramm der Santalales (Verh.Schweiz.Naturf.Ges. 141, 1961, 123-125 (1962)).
- : Gestaltwandel bei Blütenständen von Dicotyledonen (Bot.Jahrb. 82, 1963, 216-251, 13 Abb.).
- Stearn, W.T.: Fee's "Mémoires sur la famille des fougères" (Webbia 17, 1962, 207-222, 1 fig.).
Biography; with dates of publication on several other pteridological publications.
- Stebbins, G.L. & B.Crampton: A suggested revision of the grass genera of temperate North America (Recent Adv.Bot. 1961, 133-145, 1 fig.).
- Steenis, C.G.G.J.van: Axiomas and criteria of vegetatology (Trop.Ecol. 2, 1961, 33-47).
Guiding lines for judging the status of vegetation types).
- : The mountain flora of the Malaysian tropics (Endeavour 21, 1962, 183-193, 4 pl., 4 fig.).
Zonation, temperature, elevation, sources, and origin of the Malaysian mountain flora.
- : The land-bridge theory in botany (Blumea 11, 1963, 235-372, 24 maps).
Cf. Fl.Mal.Bull. p.1025.

- : Miscellaneous notes on New Guinea plants. VII (Nova Guinea, Bot., n. 12, 1963, 189-193).
Freshwater habitat of *Sonneratia caseolaris*; Floiarium nov.ind.; *Dovyalis macrodendron* reduced to *Gelonium*; identity of *Canarina moluccana*; fruit of *Eriandra*; disposition of *Gjellerupia*, maintained as a good genus.
- Stehlé, H.: Notes taxinomiques et écologiques sur des composées nouvelles ou rares des Antilles françaises (Adanson 3, 1963, 178-200).
List of introduced spp., several Old World.
- Stevenson, G.: The Agaricales of New Zealand. III (Fungi) (Kew Bull. 16, 1962, 227-237, 2 fig., 2 col.pl.).
- St. John, H.: Revision of the genus Pandanus Stickman. Part 2: Pandanus in Western Australia and notes on the section Foullioya. Part 6: New Pandanus species from Queensland, Australia. Part 7: New species from Borneo, Papua, and the Solomon Islands. Part 8: The Hongkong coastal Pandanus. Part 9: Three new Pandanus species from Queensland, Australia. Part 10: New Pandanus species from Vietnam. Part 12: Queensland Pandanus. Part 13: Northern Territory of Australia. (Pac.Sc. 15, 1961, 180-185, 2 fig.; 563-575, 10 fig.; 576-590; ibid. 16, 1962, 70-73, 2 fig.; 74-87, 13 fig.; 88-125, 39 fig.; 291-346, 38 fig.; 409-428).
- : Monograph of the genus Elodea. I (Hydroch.) (Research Stud. Wash. State Univ. 30, 1962, 19-44, 5 fig.).
Covering part of America; many new spp.
- & W.R. Philipson: An account of the Flora of Henderson Island, South Pacific Ocean. 24° 22' S, 128° 20' W (Trans.R.Soc.New Zeal. 1, 1962, 175-194, 11 fig.).
55 Phanerogams, 8 Pteridophytes; some new.
- Stone, B.C.: Myrtomera, a new generic name for Spermolepis Brongn. & Gris. (Myrtac.) (Pac.Sc. 16, 1962, 241).
- : Studies in Hawaiian Rutaceae. II. Identity of Pelea sandwicensis (Pac.Sc. 16, 1962, 366-373, 2 fig.).
2 new varieties. Key to Oahu species of sect. *Megacarpa* group of *P.honoluluensis*.
- : A monograph of the genus Platydesma (Rutac.) (J.Arnb. Arb. 43, 1962, 410-427, 6 fig.).
Key; description of this Hawaiian genus.
- : Boerlagiodendron (Araliaceae) in eastern Melanesia (Proc.Biol.Soc.Wash. 75, 1962, 25-32).
- Subba Rao, G.V.: Cortisone from vegetable sources (Bull.Bot. Surv. India 1, 1959, 121, 4 photogr.).

----- & G. Panigrahi: Genus Asplenium in Eastern India (Polypod.) (Ind.Sc.Congr.Ass.Proc. 49 Sess. 3, 1962, 256-257).

In the enumeration of Asplenium from Bihar, Orissa, Assam and Nefia, the authors mention the following species as new records of species for India: A.borneense, A.paradoxum, A.perakense, A.scortechnii, A.spathulatum, and A.subnormale. They mention 29 species as found in the eastern parts of India, but the species are not listed in the present note.

Subramanian, K.N.: A note on Centrosema virginianum (L.) Benth. (Legum.) (Bull.Bot.Surv.India 3, 1961, 201-203, 1 pl.).

New introd. in India; the identification is wrong; it is C.pubescens Benth. which was introduced in Indonesia long ago.

----- & H.S.Rao: Notes on the Flora of Pravarasangam area, Maharashtra State (Bull.Bot.Surv.India 3, 1961, 395-401).

Introduction and plant list.

Subramanyam, K.: Southern Circle of the Botanical Survey of India (Bull.Bot.Surv.India 1, 1959, 70-73, t photogr.). Outline of the Circle, herbarium, library, etc.

----- : Observations on the flora of Boluvampatti forest, Coimbatore Taluk (Bull.Bot.Surv.India 1, 1959, 127-137, map).

Mainly a plant list.

----- & N.P.Balakrishnan: Utricularia lilliput Pellegrin, a new record for India (Lentib.) (Bull.Bot.Surv.India 2, 1960 (June 1961), 347-348, fig. 1-14).

From Madras State; formerly known only from Tonkin.

----- & ----- : The genus Nechamandra in India (Hydroch.) (Bull.Bot.Surv.India 3, 1961, 23-24).

Localities in India and Ceylon.

----- , ----- & T.L.Saroja: The Pteridophytes of Cumbum Valley and Pachakumatchi Hills, Madurai District, Madras State (Bull.Bot.Surv.India 3, 1961, 209-214).

Short introduction, followed by plant list.

----- , K.Thothathri & A.N.Henry: On a collection of ferns from Shevaroy Hills, Salem District, Madras State (Bull.Bot.Surv.India 2, 1960, 323-327).

List.

Summerhayes, V.S. & A.V.Hall: The type species and conservation of the generic name Eulophia R.Br.ex Lindl. (Orchid.) (Taxon 11, 1962, 201-203).

Svoboda, G.H.: The current status of research on the alkaloids of Vinca rosea (Catharanthus roseus) (Apoc.) (Lloydia 25, 1962, 334-335).

28 alkaloids have been discriminated in this species.

Swamy, B.G.L. & K.K. Lakshmanan: Contributions to the embryology of the Najadaceae (J. Ind. Bot. Soc. 41, 1962, 247-268, 49 fig., 1 pl.).

Embryology of Naja.

Tagaki, N.: A revision of Japanese Trematodon (Musci) (J. Hattori Bot. Lab. n. 25, 1962, 263-278, 6 fig.).

Key to spp.

Tagawa, M.: Diplazium donianum and its allies of the Ryukyu Islands, a preliminary account (Polypod.) (Acta Phytotax. Geobot. 20, 1962, 213-218, 3 fig.).

Almost entirely in Japanese.

Taira, H.: Amino acid pattern of seed proteins as a standard in the plant taxonomy (Bot. Mag. Tokyo 75, 1962, 80-81). In grasses the pattern confirms with the 4 subfamilies.

Tamayo, F.: Adaptaciones de la vegetacion pirofila (Soc. Venez. Cienc. Nat. 23, 1962, 49-58, 5 fig.). Formation of dwarf shrubs, underground lignotubers, etc. in pyrogenous grassland.

Tamura, M.: Taxonomical and phylogenetical consideration of the Ranunculaceae (Acta Phytotax. Geobot. 20, 1962, 71-81, 1 fig., ancestral tree).

Almost all in Japanese.

Tang, T. & F.T. Wang: Nomenclatural additions and corrections in volume XI of the Flora Reipublicae Popularis Sinicae Cyperaceae (Scirpeae-Sclerieae) (Acta Bot. Sinica 10, 1962, 171-173).

Tardieu-Blot, M.L.: Anacardiacees (Fl. Camb. Laos & Vietn. fasc. 2, 1962, 67-200). A few new comb.

----- : Sur les Grammitis des Iles australes (Adansonia 2, 1962, 111-116, 1 fig.). 1 n.sp. from Kerguelen; compared with others.

Tateoka, T.: Notes on some grasses. XIV. Enumeration of genera of Festuceae (Gram.) (Bot. Mag. Tokyo 75, 1962, 336-343, 10 fig.). Enumeration of genera.

----- : Species of the genus Oryza (Gram.) (Nat. Sc. & Mus. 29, n. 5-6, 1962, 1-12, 14 fig.). In Japanese. Revision; key; enumeration; map of 7 spp.

- Taylor, F.J.R.: Brachydinium, a new genus of the Dinococcales from the Indian Ocean (Chlorophyc.) (J.S.Afr.Bot. 29, 1963, 75-78, 1 pl.).
- Taylor, G.M. (née Bulmer): A key to the Coprosmas of New Zealand. Part I-II (Rubiaceae) (Tuatara 9, 1961, 31-64, 5 pl., 11 fig.).
- Taylor, R.A.: The type species of Polysiphonia Grey (Rhodophyta) (Taxon 11, 1962, 229).
- Tekle Howariot Hagos: A revision of the genus Parkia R.Fr. (Mim.) in Africa (Acta Bot.Neerl. 11, 1962, 231-265, 6 fig.).
Monograph of 4 African spp. and 2 var.; seed coat important for specific distinction.
- Teunissen, D.: Luftpollenniederschlag bei Nijmegen und ein Vergleich mit der Pollenzusammensetzung in benachbarten rezenten Flachmooren (Acta Bot.Neerl. 11, 1962, 266-276, 2 tab., 2 fig.).
Short distance environment is extremely important for sedimentation of pollen; experiments in Holland.
- Thiel, P.H. van: Validation of two species of Coelomomyces (Fungi) (J.Elisha Mitchell Sc.Soc. 78, 1962, 135).
- Thieret, J.W.: The correct name of the watermelon (Cucurb.) (Taxon 12, 1963, 36).
Citrullus lanatus (Thunb.) Mansf. is correct name.
- Thind, K.S. & G.S. Rawla: A new fungus (Duosporium cyperi gen. & sp.nov.) on Cyperus iria (Am.J.Bot. 48, 1961, 859-862).
- Thivy, P. & P.S. Rao: Polysiphonia gopnathensis, a new species from Gujarat (India) (Rhodophyta) (Botanica Marina 5, 1963, 25-28, 2 pl.).
----- & V. Visalakshmi: A new record of Caulerpa verticillata J.Ag. forma typica, for India (Botanica Marina 5, 1963, 29-32, 2 pl.).
- Thothathri, K.: Correct name of Trichosanthes himalensis Clarke var.indivisa Chakravarty (Cucurb.) (Bull.Bot.Surv.India 2, 1960, 169).
New comb. of var.
- : Botanical exploration in Car Nicobar and Nancoury Islands (Bay of Bengal) (Bull.Bot.Surv.India 2, 1960, 341-346, 2 maps).
List; poor vegetation.

- : Studies on the Flora of the Andaman Islands (Bull. Bot. Surv. India 2, 1960, 357-373, 4 tables, 1 map). Environment; plant list.
- : Taxonomic notes on a few plants (Bull. Bot. Surv. India 3, 1961, 83-85, 4 fig.). Three new varietal comb. of which that of *Pongamia pinnata* (L.) Pierre var. *xerocarpa* is superfluous and based on wrong interpretation of nomenclature.
- : Studies in Leguminosae. I. A taxonomic revision of the genus *Derris* Lour. in India (Bull. Bot. Surv. India 3, 1961, 175-200, 11 pl.). Revision of *Derris* in India; key to 25 spp.; descr.
- : Studies in Leguminosae. II. The genus *Pongamia* Vent. in India (Bull. Bot. Surv. India 3, 1961, 417-423, 2 pl.). Only *P. pinnata* (L.) Pierre; enormous synonymy and list of Indian specimens.
- Tilak, S.T. & T.S. Viswanathan: Additions to the Fungi of Bombay. V (Mycopath. & Mycol. Appl. 33, 1960, 100-106). 68 additions (Ascom. & Fungi imperf.).
- Tindale, M.D.: A new species of the *Acacia decurrens* group from New South Wales (Legum.-Mimos.) (Contr. N.S.W. Nat. Herb. 3, 1962, 127-128). New sp.
- Tixier, P.: A propos du genre *Tuyamaella* Hatt. dans le Sud-Est asiatique: *Tuyamaella Hattorii*, n.sp. (Hepat.) (Rev. Bryol. & Lichén. 31, 1962, 187-189, 1 fig.).
- : Bryophytes du Vietnam. Premières récoltes dans le massif de Bach-Ma (Rev. Bryol. & Lichén. 31, 1962, 190-203, 4 fig.).
- Tomlinson, P.B.: Studies in the systematic anatomy of the Zingiberaceae (J. Linn. Soc. Bot. 55, 1958, 547-592).
- : An anatomical approach to the classification of the Musaceae (J. Linn. Soc. Bot. 55, 1959, 779-809, 6 tables, 109 text fig.).
Orchidantha is representative of a separate family Lowiaceae; Ravenala and Strelitzia are closer together than to any other genera; Musa is quite distinct; Heliconia is also rather isolated.
- : The anatomy of *Phenakospermum* (Musac.) (J. Arn. Arb. 41, 1960, 287-297, 12 fig.). A distinct genus, forming with Ravenala and Strelitzia a distinct group.

- : Phylogeny of the Scitamineae. Morphological and anatomical considerations (Evolution 16, 1962, 192-213, 5 fig., 1 tab.).
- Besides the well-known families Strelitziaceae, Heliconiaceae and Costaceae are recognized; a scheme of affinities is given.
- : Essays on the morphology of palms. VIII. The root (Principes 6, 1962, 122-124).
- Torres, A.M.: Taxonomy of Zinnia (Compos.) (Brittonia 15, 1963, 1-25, 27 fig.). Monograph; key; 17 spp. of which 1 in S.America.
- Troll, W.: Über die "Prolifität" von Chlorophytum comosum (Liliac.) (Neue Hefte zur Morphol. 4, 1962, 9-68, 30 fig.). Morphology.
- Tryon, R.: Taxonomic fern notes. II. Pityrogramma (incl. Trismeria) and Anogramma (Contr. Gray Herb. 189, 1962, 52-76). Key to spp. of Pityrogramma; of other genus a list.
- : Taxonomic fern notes. III (Contr. Gray Herb. 191, 1962, 91-107). 1 new Malayan sp. of Dryopteris; and note on D. papuana; notes on Saccoloma, with spp. listed; notes on Kaulfuss types.
- Tsiang Ling, Shih-Lun Lan & Ping-T'ao Li: A taxonomic study of the Chinese species of Rauvolfia Linn. (Apoc.) (Sci. Report Kwantung Coll. Forestry Jan. 1, 1962, 1-23, pl. 1-12, 1 fig., 1 map). Text in Chinese, new taxa in Latin; English summary. Genus is restricted to S.China, stretching from $98^{\circ}40'$ to $121^{\circ}51'$ long and from $18^{\circ}10'$ to $25^{\circ}40'$ lat. In addition to 3 cultivated species and one previously recorded from China, 5 spp. and 3 var. are considered new to science (one sp. is from Taiwan).
- Turner, B.L.: Chromosome numbers in the genus Sesbania: evidence for a conservative treatment (Legum.) (Rhodora 57, 1955, 213-218, 3 fig.).
- & J.H. Beaman: Chromosome complements in Desmanthus (Legum.) (Field & Laboratory 21, 1953, 47-50, 1 fig.).
- Ueno, J.: Palynological notes on Ericaceae and Pyrolaceae from Japan and its neighbours (Eric.) (Acta Phytotax. Geobot. 20, 1962, 101-111, 143 fig.).

- Valentine,D.H.: Evolution in the genus Primula (in P.J. Wanstall (ed.), A Darwin Centenary, 1961, 71-87, 6 fig., 4 tables).
- Vasishta,P.C.: More Cyanophyceae of Hoshiarpur. I (J.Bomb. Nat.Hist.Soc. 58, 1961, 135-146, fig.1-13 in pl. 2). 48 spp. treated, a var. and some forms new.
- : Two new species of Phormidium (Cyanophyc.) (J.Ind. Bot.Soc. 41, 1962, 64-67, 8 fig.).
- : Three colourless Cyanophyceae from Hoshiarpur (J.Ind. Bot.Soc. 41, 1962, 99-103, 7 fig.).
- Velasquez,G.T.: The blue-green Algae of the Philippines (Philip.J.Sc. 91, 1962, 267-380, 13 pl.).
- Venkataraman,G.S. & K.V.Natarajan: Errerella bornhemiensis Conrad (Algae) (Sci.& Cult. 26, 1960, 135-136, fig.1-5). New record for India.
- Venkataramani,K.S.: Hosts of the root parasite Aeginetia indica Linn. (Orobanch.) (Curr.Sci. 30, 1961, 319). In the Nilghiris on Bambusa arundinacea Willd.
- Venkateswarlu,J. & B.S.M.Dutt: Amended description of Hydrocera triflora Wt.et Arn. (Balsam.) (J.Bomb.Nat.Hist. Soc. 58, 1961, 544-546, pl.).
- Verstappen,H.Th.: Geomorphological observations on Indonesian volcanoes (Tijd.Kon.Ned.Aardr.Gen. II, 80, 1963, 237-423, 24 fig., 1 graph, 26 photogr.). An excellent account with details on tectonics and volcanism.
- Vidal,J.E.: Moringaceae (Fl.Camb.Laos & Vietn. fasc.2, 1962, 3-7). Only M.oleifera.
- : Connaracées (Fl.Camb.Laos & Vietn. fasc.2, 1962, 9-64, 6 pl.). No novelties.
- : Matériaux pour la flore du Cambodge, du Laos et du Vietnam. Nouveautés pour la flore du Vietnam (Adansonia 2, 1962, 322-329, 1 pl.). 2 spp. of Hopea; 1 Shorea; 1 Linociera.
- : Le genre Neillia (Rosac.) (Adansonia 3, 1963, 142-166, 3 pl.). Revision; key; the Indonesian sp. N.fallax separated from N.thyrsiflora Don, but arguments are very feeble.

- Viennot-Bourgin, G.: Gymnosporangium paraphysatum sp.nov. sur le Heyderia macrolepis au Viet-Nam (Fungi) (Rev.Mycol. 25, 1960, 293-305, 3 fig.).
- Vincent, A.J.: A note on Oncosperma filamentosa Bl. (Nibong) (Palm.) (Mal.For. 25, 1962, 150-154). Sample plots, observations on seedlings, and growth of this submangrove palm.
- Viswanathan, T.S. & S.T.T. Tilak: Additions to our knowledge of Ascomycetes of India. I (Mycopath.& Mycol.Appl. 13, 1960, 237-242, 6 fig.). 12 new spp. from India.
- Vogel, S.: Die Bestäubung der Kesselfallen-Blüten von Ceropegia (Asclep.) (Beitr.z.Biol.d.Pfl. 36, 1961, 159-237, 20 fig., 3 tab.).
- Vreeberg, J.A.: Lycopodium prothalli and their endophytic fungi as studied in vitro (Am.J.Bot. 49, 1962, 530-535, 12 fig.). Apparently the situation with the fungi is similar as that with seeds in Orchidaceae. Of all spp. the prothallium could be cultivated on artificial medium. The fungus can also be grown, but is non-specific.
- Wadhwa, B.M.: Additions to the Flora of Laccadives, Minicoy and Aminidives groups of islands (Bull.Bot.Surv.India 3, 1961, 407-408). List of weeds.
- Wagner Jr, W.H.: Irregular morphological development in hybrid ferns (Phytomorphology 12, 1962, 87-101, 8 fig.). ---- : Biosystematics and taxonomic categories in lower vascular plants (Regnum Veget. 27, 1963, 63-71, 1 fig., 2 tables). Discussion about karyology and hybridisation in ferns.
- Walker, J.: Notes on plant parasitic Fungi. I (Proc.Linn.Soc. N.S.W. 87, 1962, 162-176).
- Walker, T.G.: Cytology and evolution in the fern genus Pteris L. (Polypod.) (Evolution 16, 1962, 27-43). 34 % of the spp. is apogamous; 55 % is polyploid.
- Wang, Yan-Chang: Some new species and a new combination in smut Fungi (Ustilaginales) (Acta Bot.Sinica 10, 1962, 131-136, 2 pl.). Description in English.
- Wardle, P.: Evolution and distribution of the New Zealand Flora, as affected by Quaternary climates (New Zeal.J. Bot. 1, 1963, 3-17, 2 fig., 2 tables).

---- : Growth habits of New Zealand subalpine shrubs and trees (New Zeal.J.Bot. 1, 1963, 18-47, 25 fig., 1 table).

Watson,L.: A peculiar Ericalean pollen grain (Nature 194, 1962, 889-890, 1 fig.).

The author maintains that the genus *Styphelia* as accepted by Bentham should be kept strictly endemic in Australia and not be merged with several other genera (*Leucopogon*, etc.) because the pollen grains can be distinguished in having a warted exine. This would be allright if it is indeed accepted that pollen grain characters have a unique value for generic delimitation.

Wehmeyer,L.E.: Some Himalayan Ascomycetes of the Punjab and Kashmir (Fungi) (Mycologia 55, 1963, 309-336, 17 fig.).

Wells,K.: Studies of some Tremellaceae. IV. Exobasidiopsis (Fungi) (Mycologia 55, 1963, 317-370).

Incl. also Pacific, Indochinese spp.; keys to spp.

Went,F.W.: Notes from the Missouri Botanical Garden (Plant Sc.Bull. 8 (2), 1962, 3-4).

Concise outline of the excellent condition at St.Louis; clear outline of functional botanic gardens; scope of climatron.

---- : A botanist's explorations in Australia and New Guinea (Missouri Bot.Gard.Bull. 51 (1), 1963, 10-17, 3 fig.). Traveller's notes on Australian flora and ascent of Mt Wilhelm in Papua.

Wessels Boer,J.G.: The New World species of Trichomanes sect. Didymoglossum and Microgonium (Polypod.) (Acta Bot. Neerl. 11, 1962, 277-330, 32 fig., 20 maps). Important monograph.

Whitmore,T.C.: Studies in systematic bark morphology. I. Bark morphology in Dipterocarpaceae. II. General features of bark construction in Dipterocarpaceae. III. Bark taxonomy in Dipterocarpaceae. IV. The bark of beech, oak and sweet chestnut (I-II: New Phytol. 61, 1962, 191-220, 4 fig., 8 tables; III: Gard.Bull.Sing. 19, 1962, 321-371, 9 fig., 1 table; IV: New Phytol. 62, 1963, 161-169).

Cf. also Fl.Mal.Bull. p.1017.

William,G.J.: Pseudobryopsis oahuensis in Hawaii (Musci) (Phycologia 1, 1961, 32-36).

Winter,B.de: Notes on the genus Aristida L. (Gram.) (Kirkia 3, 1962-63, 132-137).

Genus *Stipagrostis* revived and split from *Aristida*.

- Wood,C.E., R.S.Cowan & G.Buchheim: Botanical nomenclature, punched cards, and machines (Taxon 12, 1963, 2-12). A close analysis and critic of Gould's 'Family names of the Plant Kingdom. Intern. Plant index vol.1 showing the deficiencies of this horribilia botanica.
- Wood,R.D.: Preliminary report on Characeae of Australia and the South Pacific (Bull.Torrey Bot.Club 89, 1962, 250-253).
- Wu,C.Y. & S.Chow: Cardioteucris C.Y.Wu, Holocheila (Kudo) S.Chow. Duo genera nova Labiatarum ex provencia Yunnan (Acta Bot.Sinica 10, 1962, 247-262, 2 pl.).
- Wyatt-Smith,J.: A survey of the peat swamp research plots in naturally regenerated forest (Mal.Res.Pamphl. n. 39, Dec.1961, 55 pp., map of peat swamp forest in Malaya).
- Wijk,R.van der & W.D.Margadant: New combinations in mosses (Taxon 11, 1962, 221-223).
- Yamazaki,T.: Notes on Scrophulariaceae of Asia (J.Jap.Bot. 37, 1962, 263-273, 7 fig.). Key to spp. of *Mimulus tenellus-nepalensis* group in Himalayas; a new *Vandellia* from Laos.
- : Euphrasia of Eastern Asia. I-II (Scroph.) (Acta Phytotax.Geobot. 20, 1962, 158-163, 2 fig.; ibid. 19, 1963, 164-172, 1 fig.). Revision; key; distribution map; text in Japanese.
- Yayaweera,Don M.A.: New Orchids from Ceylon (Bot.Mus.Leafl. Harv.Univ. 20, 1963, 93-116, t.11-19).
- Yuncker,T.G.: Nomenclatural notes on Piperaceae (Brittonia 14, 1962, 188-190). *P.reflexa* (L.f.) A.Dietr. 1831, non H.B.K. 1815 = *P.tetraphylla* (G.Forst.) Hook.& Arn. Further only Am.spp.
- Zotov,V.D.: Synopsis of the grass subfamily Arundinoideae in New Zealand (New Zeal.J.Bot. 1, 1963, 78-136, 17 fig.). Important paper; several new spp. and new comb.