

III. PROGRESS IN MALESIAN BOTANY

(continued from vol. 12, page 347)

N.B. The reports by UKMB students will not be published. They are deposited at the University Library and at the Faculty of Science & Technology.

Bryophytes

Ms. F.I. Windadri (BO) is continuing her study on bryophytes of the Bogor Botanical Gardens.

Mr. K. T. Yong (UKMB) is studying the mosses of Taman Negara (Johor).

Pteridophytes

Dr. P.H. Hovenkamp (L) is finalising his revision of the Nephrolepidaceae.

Mr. H. Maideen (UKMB) is finalising manuscripts on *Lygodium*, *Marattia*, etc. He will study the fern flora of G. Benum (Pahang), G. Nuang (Selangor), and G. Angsi (N Sembilan) in addition to morphological and anatomical studies in *Vittaria*.

Ms. L.O. Ningsih (IPB) is studying the rheophytic ferns of W Java.

Dr. D. Darnaedi and T.N. Praptosuwiryo (Kebun Raya, Bogor) are studying *Diplazium*.

Mr. M.T.L. Ruma (IPB) is studying the diversity of ferns of Timor.

Gymnosperms

Mr. H. Won (MO) is studying *Gnetum*.

Angiosperms

Annonaceae — The digitising of the L collections is finished, that in BO continues.

Ms. D. Akbarini (IPB) studied *Polyalthia* in Berau, Kalimantan.

Mr. C.B. Chuah (UKMB) has finished his studies on molecular systematics of *Goniothalamus*.

Mr. B. Irawan (IPB) is studying *Fissistigma* in Malesia.

Ms. S.W. Lee (UKMB) has done systematic and molecular studies of *Polyalthia* sect. *Monoon*. The section is not distinct from sect. *Polyalthia*. Two new species were discovered for Borneo.

Mr. S. Moeljono (IPB) is studying *Popowia* in Malesia for his thesis.

Mr. J.B. Mols (L) is studying for a PhD the phylogeny of *Miliusa* and related Asian *Annonaceae* using morphology and cpDNA. The revision of the Malesian representatives is nearly finished (8 species, 1 new) and now the search is for their closest relatives using molecular data. A preliminary phylogenetic analysis based on molecular data has shown that genera apparently most similar in morphology are actually not so closely related.

Nurinas (IPB) is studying *Artabotrys* of Sumatra.

Ms. S. Nurmawati (IPB) is studying *Desmos* in Malesia.

Mr. Priyanti (University of Sebelas Maret, Solo) studied *Annonaceae* in Berau, Kalimantan.

Mr. Yelita (IPB) is studying *Artabotrys* in East Malesia.

Apocynaceae — Dr. R.W.J.M. van der Ham (L) is completing a palynological revision of *Ochrosia* and *Neisosperma*. Together with Dr. S. Nilsson (Stockholm) and Dr. A.J.M. Leeuwenberg (WAG) *Melodinus* will be investigated.

Mr. Hendrian (Kebun Raya, Bogor, temporarily in L), financed by a NUFFIC grant, studies the Malesian taxa of *Neisosperma* and *Ochrosia*.

Araceae — Many new ultrastructural data of *Amorphophallus* will be worked out by Dr. R.W.J.M. van der Ham (L) and included in the molecular and total evidence phylogeny under preparation by Mr. G.B.J. Grob and Mr. W.L.A. Hettterscheid.

Ms. W. Winarti (IPB) is studying the biosystematics of *Aglaonema*.

Mr. Yuzammi (Kebun Raya, Bogor) is revising the non-climbing species from Java and has completed working on Javanese *Alocasia*.

Araliaceae — The Edinburgh Journal of Botany 58/2 (2001) 179–356 is dedicated to the Apiales.

Asclepiadaceae — Ms. P. Nutt [Westfälische Wilhelms-Universität (WWU), Münster, Germany] under the supervision of Dr. F. Albers (WWU) and Dr. J.F. Veldkamp (L) has obtained her MSc on a thesis enumerating the Bornean species of *Hoya*. She has recognised 23 described species, plus 6 of which no material could be studied, and 18 that may be a-typical, or non-Bornean, or not yet described. During a 2-month tour in Sabah and Sarawak she could observe many species in the field, which solved a number of problems, but (of course) created new ones. A synoptic illustrated field guide to the more common Sabah species is considered.

Balsaminaceae — Ms. N. Utami (BO) is still continuing her research on Javanese *Impatiens*.

Basellaceae — Although in the 17th century Rumphius already mentioned that forms of *Basella* were widespread in the Indies, one has now apparently been found for the first time in New Guinea, where it has been said to come from the Mt Michael region, E Highlands. Stems, leaves, and flowers contain a great amount of anthocyanin indicating that this is the *rubra* form of *B. alba* L., which name was first selected by Roxburgh (1832). — C. Cody (Washington State Univ., Pullman WA, USA).

Begoniaceae — Dr. H. Wiriadinata (BO), S. Hoover, and J. Hunter (New England Tropical Conservatory) are studying the Javanese *Begonia*.

Bombacaceae — Mr. C.J. Stroo (L) is analysing the pollen in relation to bat pollination.

Clusiaceae — Ms. R. Sari (Kebun Raya, Bogor) completed her MSc at James Cook University with a molecular analysis of *Garcinia*.

Convolvulaceae — Ms. Fitmawati (University of Riau) has finished her study on the biosystematics of *Ipomoea aquatica*.

Cornaceae — R.C.K. Chung (KLU) is working up the family for the Guide to the Brunei Trees, Vol. 1.

Cucurbitaceae — Dr. W.J.J.O. de Wilde and B.E.E. de Wilde-Duyfjes (L) are preparing a revision of *Momordica* (c. 10 species) for Malesia and Thailand. *Zehneria* (15 species) still needs more detailed study.

Dipterocarpaceae — Ms. L.T. Lim (UKMB) has studied micro-satellites in *Dryobalanops aromatica*.

K.S. Yulita (BO) will review the biogeography of *Hopea*, together with a study on inflorescence structure of *Hopea* and *Shorea*, and population genetics of *Dipterocarpus litoralis* of Nusakambangan and *D. hasseltii* of Mt Halimun National Park.

Elaeocarpaceae — Mr. M.J.E. Coode (K) has at last *E. stipularis* written up and in press, plus two other papers on smaller problems in central Malesia (Celebes, Moluccas, Lesser Sunda Islands), the Philippines, Borneo and western New Guinea. Some new taxa, surprise, surprise ...

Erythroxylaceae — R.C.K. Chung (KLU) is working up the family for the Guide to the Brunei Trees, Vol. 1.

Euphorbiaceae — Males. Euphorb. Newsl. 10 (2000) 26 pp. contains tabular descriptions of Malesian genera. This key has been adapted for the 83 Thai genera to be found in a very useful website: <http://nhncml.leidenuniv.nl/thaieuph>. Moreover, here you can find the text of the 42 genera already revised, addresses of collaborators, and lists of scientific and Thai names, and uses by commodity.

Ms. M.T. Danong (University of Cendana, Kupang) has finished her study on the taxonomy and phylogenetic classification of *Suregada*.

Ms. T. Djawarningsih (BO) is finishing her study on *Excoecaria* spp. in Malesia.

Dr. M.C. Roos (L) is collaborating with Ms. A.M. Schot on her thesis of *Aporosa*.

Mr. V.G. Sagun (PNH) while in L, financed by a NUFFIC grant, has revised the 3 Malesian species of *Micrococca*.

Dr. J.W.F. Slik has obtained a postdoc position at L to continue his studies on the phylogeny of *Mallotus* (incl. at least some *Macaranga* spp.) and the effect of fire and logging on the structure and diversity of lowland rain forests.

Dr. P.C. van Welzen (L) is continuing his studies on *Glochidion* for Malesia and Thailand. For the latter a key to the c. 200 species is in preparation, which will be useful for at least W Malesia as well.

Fagaceae — Ms. C.C. Pung (UKMB) is studying the diversity and genetic differentiation of Malaysian *Quercus* by micro-satellites.

Dr. E.A. Widjaja (BO) together with M. Ohyama and T. Itoh (University Kyoto, Japan) studied polymorphism in Indonesian *Fagaceae* at the Wood Research Institute (University Kyoto, Japan) from 1 March–28 April 2001, and will be continued in Indonesia.

Gesneriaceae — Ms. G. Bramley (E) is studying *Cyrtandra*.

Gramineae — Dr. J.F. Veldkamp (L) is preparing a partial revision of the herbaceous grasses for a first volume of the Flora Malesiana – Gramineae. Streamlining the generic descriptions for an overall key turned out to be not so easy.

Dr. E. A. Widjaja (BO) is studying the black variety of *Dendrocalamus asper* in Indonesia to decide on its taxonomy status, population, and cultivation for conservation purposes. She will include molecular and anatomical studies.

Guttiferae — Ms. R. Zakaria (SEAMO-BIOTROP; UKMB) is succeeding A. Rizal in morphological and molecular studies in *Calophyllum* and *Mesua* in the Pasoh FR, Malaysia.

Lauraceae — Ms. D. Arifiani (BO) is continuing her study on the genus *Endiandra* in Malaysia.

Dr. F.S. Ng (Kuala Lumpur) started revising *Litsea* for the Tree Flora of Sabah and Sarawak in January 2001 and the first draft is now (October 2001) being written. The estimated number of species in Borneo is 45.

Leguminosae — Dr. F.A.C.B. Adema (L) finished the treatments of *Derris* (15 species) and *Paraderris* (7 species, 2 new). After that he revised *Christia* (3 species), *Pseudarthria* (1 species), and *Pycnospora* (1 species). Currently he is working on *Alysicarpus* (c. 5 species). In *A. vaginalis* two kinds of fruits are found: one with septa between the loments, the other one not septate. It may be possible that *A. ovalifolius* occurs in the FM-region. A manuscript on the phylogeny of *Callerya* and *Wisteria* (incl. *Millettia japonica*) will be completed.

Dr. I. de Kort (L) and Dr. J.W.A. Ridder-Numan (L) have almost finished the CD-ROM for Caesalpinioideae.

Lowiaceae — Ms. L. Pedersen (C) has finished her revision of the genus *Orchidantha*. Three years of fieldwork has doubled the number of species since the revision by Larsen in Fl. Males. 12, 2, 1996. The new species will be published in Nordic J. Bot.

Meliaceae — Ms. B.L. Oon (UKMB) is studying the phylogenetic relationships of *Lansium domesticum*.

Myrsinaceae — Mr. B. Sunarno (BO) is continuing his revision of *Labisia* in Malaysia.

Myrtaceae — W. Braun, Typusmaterial des Herbariums der Martin-Luther-Universität Halle-Wittenberg (HAL). Schlechtendalia 5 (2000) 1–10.

Ms. S. Sunarti (BO) is continuing her research on Javanese *Syzygium*.

T. Whitaker & S. Wright. *Metrosideros*. New Guinea Trop. Ecol. Biodiv. Digest 11 (2001) 3–4. Popular account of collecting in the Philippines and New Guinea. Does anyone know where to find *M. ovata*?

Orchidaceae — Ms. W.W.K. Goh (SINU) is researching the systematics of *Phalaenopsis* using molecular markers (RAPDs) and morphometrics.

A taxonomic revision of *Coelogyne* sect. *Moniliformes* will be completed under the guidance of Dr. B. Gravendeel.

Ms. L.S. Juswara (BO) has started to study the molecular phylogeny of subtribe *Goodyerinae*.

Mr. A. Schuiteman and Dr. E.F. de Vogel (L) continue the preparation of CD-ROMs on Philippine and New Guinea representatives. A special one for New Guinea *Bulbophyllum* is contemplated.

Ms. D. Sulistiarini (BO) is starting to make a check list of Lesser Sunda Islands species. She will not continue her check list of terrestrial orchids of Sulawesi because others are working on this subject.

Oxalidaceae — R.C.K. Chung (KLU) is working up the family for the Guide to the Brunei Trees, Vol. 1.

Palmae — The palms of New Guinea project – Report by B. Baker (K) in New Guinea Trop. Ecol. Biodiv. Digest 11 (2001) 6–7. (w.baker@rbgkew.org.uk), and Chapter V, here.

Mr. A. S. Ardan (Andalas University, Padang) completed his revision on the Sumatran *Licuala* for his MSc at the IPB.

Mr. A. Barfod (AAU) has spent a year on sabbatical leave in BRI and during this time also did fieldwork in Papua New Guinea under the New Guinea Palm Project (Kew). He is continuing his monographic study of *Livistona*.

Ms. J. Batoro (University of Brawidjaja, Malang) studied *Licuala* in Borneo and obtained her MSc at the IPB.

Mr. A.A.K. Darmadi (IPB) is studying the taxonomy of the Salak cv. bali (*Salacca zalacca* var. *amboinensis* Becc.).

Mr. M. Hendra (Andalas University, Padang) completed his study of *Pinanga* of Sumatra for his MSc at IPB.

Mr. Idramsa (IKIP, Medan) has finished his MSc at the IPB. He studied the species of *Calamus* section *Phyllanthectus* in Sumatra.

Ms. Kasrina (Andalas University, Padang) has finished her MSc at the IPB on a study of *Calamus* section *Rhombocalamus* in Malesia.

Mr. A. Kiem (BO) is studying *Orania* for his PhD programme.

Dr. A.H.B. Loo (SINU) obtained his PhD on infraspecific variation in *Licuala glabra* based on morphological and molecular analyses. He has obtained a 1-year Royal Society fellowship to continue his studies at Kew under the guidance of Dr. J. Dransfield and W. Baker.

Ms. S.L. Look (SINU) is doing research on the systematics of *Johannesteijsmannia* based on molecular methods.

Dr. J.P. Mogeia (BO) is studying the diversity of rattan in Kalimantan and the morphological variation and stem growth rate of *Calamus manan* in Sumatra. A manuscript with a revision of *Arenga* has been edited by A. Henderson and is ready for publication in Brittonia.

Ms. H. Rustiami (BO) is continuing with the revision of *Daemonorops* section *Piptospatha* in Malesia. During her study she has finished the 'dragon's blood'-group and she is preparing a paper on it.

Dr. L.G. Saw (KLU) completed his revision of *Licuala* of Borneo.

Ms. N.I. Sinaga (University of Cendrawasih, Manokwari) has obtained her MSc at the IPB on a study of *Pinanga* of E Malesia.

Mr. Syamsiah (IPB) is studying *Gronophyllum* and *Gulubia* in Celebes.

Dr. N. Watanabe is making a study of rattan.

Mr. J.R. Witono (Kebun Raya, Bogor) has completed his MSc at the University of Indonesia with a taxonomic account of *Pinanga* and a phenetic study of clustered *Pinanga* spp. of Java and Bali.

Mr. D. Wydiatmoko (Kebun Raya, Bogor) has completed his PhD at IPB. His research was on Conservation of the Lipstick palm (*Cyrtostachys renda*), a case study at Kerumutan Wildlife Sanctuary, Riau, Sumatra.

Ms. Zumaidar (University of Syiah Kuala, Banda Aceh) has obtained her MSc at IPB on a study of the taxonomy and species relationship of Indonesian *Caryota*.

Piperaceae — For the people interested in growing *Peperomia* there is the site www.peperomia.net with lots of photographs. Subscribe with peperomia-subscribe@egroups.com

Pittosporaceae — The Edinburgh Journal of Botany 58/2 (2001) 179–356 is dedicated to the Apiales, to which this family seems to belong.

Podostemaceae — M. Kato (University of Tokyo) is studying the family.

Rafflesiaceae — Mr. A. Susatya (UKMB) is studying (e.g. molecular) *Rafflesia arnoldi* in Sumatra.

Rubiaceae — The homepage for those interested in the family is <http://155.187.10.12/projects/rubiaceae/> A server enables immediate communication with all members of the list at rubiaceae-1@anbg.gov.au. To subscribe mail to listserv@anbg.gov.au with the text rubiaceae-1 yourname. It is managed by C. Puttock (BISH).

Dr. J.T. Pereira (FRIM) is studying on *Aidia* and *Rothmannia*.

Ms. T. Mulyaningsih (BO) has obtained her MSc degree on a study of *Hypobathrum*. Hopefully an extract will be published for wider information.

Dr. H. Zhu (SYS), financed by a NUFFIC grant, stayed at L for 12 months to study Malesian *Lasianthus*.

Rutaceae — Dr. T. Kinoshita (Teikyo University, Kanagawa, Japan) has paid a visit to BO for a taxonomical study of *Murraya paniculata* from 20–24 August 2001.

Mr. T. Uji (BO) is continuing to do revision on *Micromelum* spp. in Malesia.

Sapotaceae — Mr. T. Triono (BO) has finished a revision of *Burckella* and is preparing a paper on it. In collaboration with CANB he is preparing an interactive key programme (in Lucid) for the genera of New Guinea.

Thymelaeaceae — Dr. J. Compton (TRAFFIC Oceania, Sydney) has discovered that *Gyrinops ledermannii* is one of the key agarwood-producing species in Papua New Guinea. This suggests that generic delimitation against *Aquilaria* should be studied again (see Chapter XII).

Tiliaceae — Dr. R.C.K. Chung (KLU) obtained his PhD on a study of taxonomic and micromorphological studies of *Grewia* L. and *Microcos* L. (Tiliaceae) in Peninsular Malaysia and Borneo at the University of Malaya.

Umbelliferae — The Edinburgh Journal of Botany 58/2 (2001) 179–356 is dedicated to the Apiales.

Urticaceae — Mr. K.A.O. Eichorn (L) is finalising his revision of *Pipturus*.

Mr. J.T. Hadiah (Kebun Raya, Bogor) is studying *Elatostema* at NSW.

Verbenaceae — Ms. G. Oanes (UKMB) is doing systematic studies in *Callicarpa* of Borneo.

Zingiberaceae — Dr. K. Larsen (AAU) continues work on coordinating the revisions of the genera for the Flora of Thailand and Flora Malesiana. He is working on *Boesenbergia* and *Geostachys*.

Ms. S.S. Larsen (AAU) has begun a study of the *Burbidgea*.

Ms. A.S.M. Puad (UKMB) is doing molecular and anatomical studies in *Scaphochlamys*.

Mr. A.D. Poulsen (AAU) is revising *Etilingera* of Borneo.

Mr. J. Skornichkova (PRC) is studying the taxonomy and ethnobotany.

Following here are some reports of Workshops held at the 5th Flora Malesiana Symposium, September 2001:

ANNONACEAE

This report is based on the Annonaceae workshop held in Bogor, Indonesia and the one held at the Flora Malesiana symposium in Sydney.

The family Annonaceae consist in Asia of 56 genera, comprising between 850 to 1000 species. It is obvious that a family of this size will cover more than one instalment of Flora Malesiana. It is suggested to publish the treatment of the family in three parts.

At present c. 16 genera with c. 130 species have been finished (c. 15%). In view of the fact that in due time several other genera [e.g. *Artabotrys*, *Cyathocalyx*, *Goniothalamus*, *Miliusa*, *Xylopi* (another c. 10%)] will follow, it has been suggested to publish these c. 250 species together, which might be realised within 2 years. This first volume will also contain a key to all the Malesian genera (adapted from the ETI CD-ROM: Annonaceae Genera World-wide) as presently delineated. When necessary, this key will be adjusted in subsequent instalments. Dr. P.J.A. Keßler will be the editor.

Most of the remaining genera consist of up to 10 species at the most, but some are much larger and problematic, e.g. *Polyalthia* which is polyphyletic and contains at least 100 species. *Desmos* (c. 30 species) is proposed as a possible subject for a new PhD project at Hong Kong University.

We were happy to notice the activity at the institutes in Bogor: several students there have embarked on or finished a MSc study on the Annonaceae, especially the genus *Artabotrys* is well studied.

Concerning bioinformatics, all Annonaceae at L have been put in a BRAHMS database, while in BO this activity is currently underway. This database might be put on a CD-ROM (not for commercial purposes) to be used as a reference in further studies. It is also suggested to put the present state of affairs, including all the collection information together with the key to the genera on a website to be linked to the Flora Malesiana website. Who will do this has not yet been discussed and decided.

Finally an appeal has been made to make a digitised collection of slides featuring Annonaceae. There is a shortage of illustrations of many species and even genera. Everybody is asked to send us pictures so these can be used for both educational and publishing purposes. — J.B. Mols

LABIATAE/VERBENACEAE

The workshop was one of the smallest at the conference. About ten people attended and included all workers on the families in the region. The aim was to make an inventory of what is known about these groups in the Flora Malesiana area, and how best to proceed. Much more is known about these two families than was previously thought. The Labiatae in the old sense was already published in 1978, and all participants to the workshop felt that this treatment as still very useful and relevant in its present form. In the last ten years, the Verbenaceae have been going through a period of great taxonomic upheaval. Most of its species have now been transferred to a greatly enlarged Labiatae. As most workers on the families have now accepted these new circumscriptions, it was decided after some discussion, to follow this development.

About 27 genera and 500+ species have not yet been published in an FM format. The vast majority of these belong to the bigger genera (*Callicarpa*, *Clerodendrum*, *Premna*, or *Vitex*). These large genera will remain a problem for the foreseeable future. However, Dr. R.P.J. de Kok has started a program revising *Premna* and *Vitex* for the whole of the Flora Malesiana region. About 8 genera and about 80 species have been revised so far. *Callicarpa* and *Vitex* have been revised for Borneo. Furthermore, a number of smaller genera were identified as good candidates for revisions by undergraduate students (as part of their botany training) and graduates.

One of the exciting results of the workshop is the creation of a website for the Labiatae and Verbenaceae from the region. This website will be a useful tool in working towards a Flora Malesiana account. The website is at least to include: database of specimens; checklist of all published names for the region; list of local names; keys and information about as many groups and species as possible at the moment; pictures of Labiatae/Verbenaceae species from the region; relevant literature. The building of this website will start as soon as possible and we will let people know about developments (via the FM discussion list and TAXACOM). Anybody who would like to contribute or has suggestions about either our approach towards the revisions and/or website is very welcome. — R.P.J. de Kok

MYRTACEAE

Eleven people participated in the workshop. The diversity represented was considerable, ranging from active researchers to potential contributors; we even had an entomologist working on insects that feed upon Myrtaceae.

While there are only about six people actively working on the family in the FM region, two of them are resident in the region.

The family undoubtedly suffers from having one very large and unrevised genus in Malesia, *Syzygium*. As a result, people tend to shy away from working on it. Nonetheless, there is considerable potential for achieving in the short-medium term some text preparation for the FM account of the family.

Many of the smaller genera have been revised or reviewed over the past 25 years. Some of those need to be checked for their completeness but there seem to be many opportunities for those to be brought into training courses, used for small student projects, and the like, and then written up for FM.

The objective has been set, therefore, to work towards having all the genera, except *Syzygium*, written up within the next six years so that a first instalment for the FM account can be submitted to the Editor of FM two symposia from now. Acceptance of a challenge such as this is seen as vital; without challenges being set, the task of doing the FM account will certainly never be completed.

Collaborations will be actively promoted. It was pleasing that an entomologist was present and even more pleasing that she is keen to include a botanical component in her research, thus permitting co-evolutionary studies to be undertaken as well as investigation of some issues of specific circumscription within the plant groups concerned (*Metrosideros* and *Syzygium*).

Other collaborations in progress include the preparation of concise accounts of selected genera in Bahasa Indonesia. Consideration is being given to extending this to publishing in Pidgin to benefit forestry workers, teachers, etc., in Papua New Guinea.

Rather than re-invent the wheel and prepare our own checklists, it seems better for us to ask Kew if they could move towards completing their unfinished world checklist of the family.

Funding is being sought to expedite work on *Syzygium*.

The group will keep in touch by e-mail and will work towards supplying text and images for a Myrtaceae site to be part of the FM website. — L.A. Craven & P.G. Wilson

PALMAE

Sixteen participants from throughout the Malesian region, Australia, the USA, and Europe attended the workshop. Progress in palm taxonomy in the Malesian region was reported and reviewed.

Several generic monographs have been published recently or are in progress, but there remain several large and intractable genera such as *Calamus* and *Pinanga* that require many years of monographic research. There are also plans for several major palm floras within the region, viz. Palms of New Guinea, Palms of the Philippines, Palms of Borneo, and Palms of Malaya, to be published in hard copy and, it is hoped, also in electronic format with interactive keys. We all recognised the importance of these local floristic accounts – they address specific local needs, there is a good international market for such palm books and, within the region, administrators view such efforts with much greater favour than all-embracing monographic approaches that have less obvious local relevance. In our discussions we recognised the need to reconcile the two approaches, so that palm floras such as those mentioned above can be viewed as major contributions to our understanding of palms in the Flora Malesiana region, rather than as projects competing with Flora Malesiana. To this end we agreed that taxonomic data gathering should be coordinated so that common description formats might be developed and data matrices for electronic products easily constructed. We shall distribute among the group a standard format for species descriptions of palms for review and refinement. Such data once collected will accumulate towards a final FM account but can in the interim be used either wholly or in condensed form in the local accounts. We recommended that such local accounts should be peer-reviewed by the palm team, and being also the product of the Flora Malesiana palm team, should carry the FM logo.

It is proposed that a checklist of the palms of the Flora Malesiana region will be generated at Kew for circulation by the end of 2001.

Finally, all supported the importance of a palm website, to be set up as part of the revitalised FM Website. The palm website will be used to communicate regional checklists, images, etc. — J. Dransfield

ZINGIBERACEAE

Before the symposium, a number of web pages for people interested in the Zingiberaceae were added to the Royal Botanic Garden Edinburgh website (www.rbge.org.uk/data/ZRC/home.html) and everyone who had registered was told where to find them.

About a dozen people took part in the workshop, representing all countries of the FM region, except Brunei and East Timor, and four countries from outside the region.

First M. Newman summarised progress since FM Symposium IV in Kuala Lumpur. New species have been described in a number of genera and some revisions have been completed, mostly of restricted areas and small genera. At the Symposium Dr. K. Larsen and Newman agreed to start a Zingiberaceae newsletter but this has not happened. However, it is hoped that the Zingiberaceae Resource Centre will fulfil this need.

Newman then demonstrated the Zingiberaceae Resource Centre, showing nomenclatural data, specimen data, and information about researchers and their interests. Anyone wishing to be included in the Resource Centre must send their data in writing to him: Royal Botanic Garden, 20A Inverleith Row, Edinburgh EH3 5LR, Scotland, United Kingdom; e-mail: m.newman@rbge.org.uk

The workshop then moved on to consider progress towards the next Symposium and an eventual account for the Flora Malesiana. It was generally agreed that more collecting was required and that this could best be done by multinational expeditions funded from outside the region. The whole of eastern Malesia is undercollected with respect to gingers while in western Malesia certain key taxa have not been seen for many years. *Nanochilus palembanicus* (Miq.) K. Schum. of Sumatra was cited as an example. Collected by Teijsmann on 11 July 1857, at Muara Dua (Palembang, Sumatra) and at an unknown locality in Sumatra by Korthals, this monotypic genus of uncertain affinity has not been seen since.

The next decision was to write a checklist within six months. The checklist can be generated very easily from the Pandora data base in Edinburgh which underlies the Zingiberaceae Resource Centre. However, it is not practical for more than one person to enter data. Therefore, it was decided that contributors would send their copy to Edinburgh where Mark Newman would key it into Pandora. The following people offered to contribute:

M.F. Newman	<i>Alpinia</i>
A.D. Poulsen	<i>Etilingera</i>
H. Funakoshi	<i>Hornstedtia</i>
S.H. Khaw (J. Gobilik also has a checklist of this genus)	<i>Plagiostachys</i>
O.G. Gideon	<i>Riedelia</i>

The format of the checklist will be substantially that of Hay et al. (1995) 'Checklist of the Araceae of Malesia, Australia and the tropical western Pacific region'; Blumea,

Suppl. 8. Distributions and status are not as well known in Zingiberaceae but will be recorded where possible.

Thirdly, it was agreed to make an interactive key to the genera, based on R.M. Smith's Synoptic Keys of 1981 (Royal Bot. Gard. Edinburgh, Dept. Publ. Ser. 2). A crude but functional key was developed in Lucid on the day following the workshop. This key is with Dr. R. Kiew (SING) and will be worked up for distribution on the web. —
M.F. Newman