

International Organization of Plant Biosystematists

Newsletter

No. 22

Edited by

K. M. Urbanska

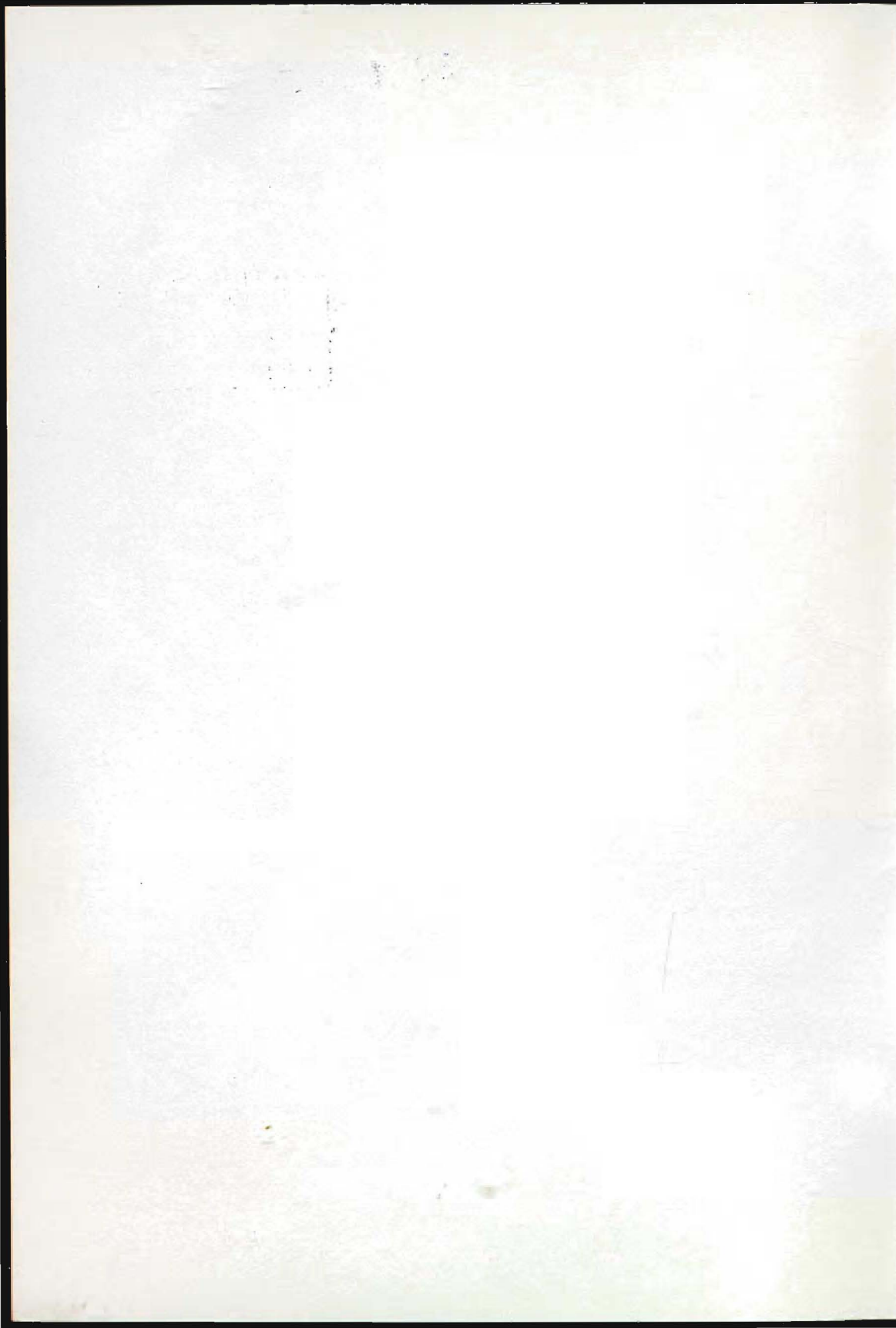
D. J. Crawford

C. A. Stace



Issued from
The Department of Geobotany
Swiss Federal Institute of Technology

Zürich 1994



22 JUN. 1994

P.1423

International Organization of Plant Biosystematists

Newsletter No. 22



Contents

1. Editorial Comment	2
2. IOPB Chromosome Data	3
3. News from Molecular Biosystematists	3
4. Individual Research News	9
5. IOPB Business Meeting: Minutes	10
6. IOPB Constitution and Approval Ballot	12
7. IOPB Symposium 1995 - News from the Organizing Committee	17
8. Requests for Material and/or Information	17
9. Meetings, Past and Future	17
10. Membership Fees for 1993-1995	19
11. Miscellaneous News and Notes	20

IOPB Executive and Council 21 - 22
Membership Application Form
Research News Form

1. Editorial Comment



Dear IOPB Members,

Here comes the new issue of your Newsletter. I hope it will be delivered before you take off for the field work or whatever activities you plan for this summer, because we have an important decision to reach:

On p. 12 you have the IOPB Constitution to study and approve. The original text has been slightly altered, the proposed changes are in **bold print**. Since the Constitution must be approved by majority vote, *please mail as soon as possible your ballot to our Secretary, Hans den Nijs (the address is printed on the ballot leaf)*. *Of course you may use your fax if more convenient.*

DON' T return your ballot to me. Thank you for a prompt answer.

Exceedingly few Personal Research Reports this time (p. 9). I simply cannot believe there is nothing to report; you probably are very busy, but please share your research progress with other Members. Data on your recent publications should be particularly welcome as not all Members have an easy access to many international journals. Thank you for your cooperation.

The columns "IOPB Chromosome Data" (p. 3) and "Molecular News" (p. 5) are by now well established features of our Newsletter, but I think that Clive Stace and Dan Crawford would appreciate more input. Send them your information, don't be shy.

It seems that many people are interested in the forthcoming IOPB Symposium 1995 (see the news from the Organizing Committee on p. 17). Since the participants will be accepted according to the "first come, first served" principle, don't let the deadlines pass you by. It may well be your once-in-lifetime opportunity to stand face to face with a live polar bear in Spitsbergen...

IOPB Election are coming up. The Nominating Committee was established during the last Business meeting (see the Minutes on p. 10). We do need a slate of efficient Officers, so please read the necessary conditions in the Constitution (p. 12). Should you know a suitable candidate, please ask her or him first. If the person concerned agrees to run for office, send the suggestion to Shoichi Kawano, Hans den Nijs or me. The ballot should be put together by the end of this year so there is not too much time for preparation. Your cooperation is appreciated, please help to select a good Council.

Last but not least: The deadlines for sending contributions to our Newsletter have been slightly altered for technical reasons. This means that I'll need your data for the next issue by **October 30, 1994**, and for the summer issue by **April 30, 1995 the latest**. Please keep the new deadlines in mind, but the best strategy is to send any data immediately, not to wait for any deadline. Thank you.

Have a nice, not too rainy or too dry summer
The Editor

NOTE: Please write in capital letters or use typewriter while preparing your "Research News" sheet for the Newsletter. You don't want to have some words misspelled in print, do you?

It would be a great help if the contributions could be sent both on RPS Microdisc (MC2HD 3.5 inch hard disc) as well as a printout. Also, we are able to convert the contributions which we receive in an ASCII text file on 3.5 inch disc formatted for Macintosh or DOS.

2. IOPB Chromosome Data 7

edited by Clive A. Stace
Department of Botany, Univ. of Leicester
Leicester LE1 7RH
England
Fax 44-533-471001



Please send contributions to Professor Stace at the above address on RPS Microdisc with text in ASCII-file and a printed copy, using the exact layout of the present list and stating whether or not you are a Member of IOPB. Neither proofs nor reprints will be made available, but the editor will acknowledge receipt of contributions and raise queries with authors if necessary. Thank you.

* * *

Reports by D. Cartier and S. BLAISE, Laboratoire de Systématique et Ecologie Végétales associé au CNRS, URA n° 1492, Bâtiment 362, Université Paris Sud, 91405 Orsay, FRANCE. Vouchers in VIL. Authors' names abbreviated to DC and SB.

POACEAE

Dactylis glomerata L. ssp. *aschersoniana* (Graebner) Thell. 2n=14. France: lisière de chênaie-charmaie du Campus d'Orsay, 80m, 15.04.1993, DC & SB s.n.

Dactylis glomerata L. ssp. *mairei* Stebbins & Zohary 2n=14. Algérie: Monts de Blida, 1000m, 18.04.1992, DC & SB s.n. Algérie: Djurdjura, vers Bouira en montant au plateau, 600m, 18.04.1992, H. Abdelkrim s.n.

* * *

Reports by J. C. DIOSDADO, J. VIOQUE, R. JUAN and J. PASTOR, Departamento de Biología Vegetal y Ecología, Universidad de Sevilla, Apdo. 1095, 41080 Sevilla, España. Vouchers in SEV.

AMARANTHACEAE

Achyranthes sicula (L.) All. 2n=80. España: Cádiz, Tarifa, Diosdado (SEV 135519).

BRASSICACEAE

Coincya longirostra (Boiss.) Greuter & Burdet n=12. España: Jaén, Villamanrique, Pico San Cristobal, Vioque (SEV 134007).

Coincya monensis subsp. *puberula* (Pau) Leadlay n=12. España: Orense, entre Balilongo y Villarinofrío, Vioque, Santa-Bárbara & Díaz (SEV 134108).

Coincya monensis subsp. *hispida* (Cav.) Leadlay n=24. España: Cáceres, entre Cuacos de Yuste y Aldeanueva de la Vera, Vioque & Pérez (SEV 134077).

Coincya monensis subsp. *hispida* (Cav.) Leadlay n=12, 2n=24. España: Madrid, Soto del Real, Vioque, Santa-Bárbara & Díaz (SEV 134083). Portugal: Beira Alta, Posada de San Lorenzo, Vioque (SEV 134099).

Coincya monensis var. *recurvata* (All.) Leadlay n=12, 2n=24. España: Granada, Laroles, Diosdado & Vioque (SEV 134023). Portugal: Alto Alentejo, Castelo da Vide, Serra da Penha, Vioque (SEV 134050). Portugal: Estremadura, Azoia, Diosdado & Vioque (SEV 134057).

Coincya monensis var. *recurvata* (All.) Leadlay n=24. España: Orense, entre Verin y Orense, Vioque (SEV 134033).

Malcolmia triloba (L.) Sprengel 2n=24. España: Sevilla, Venta del Cruce, Pastor (SEV 135518).

CARYOPHYLLACEAE

Paronychia argentea Lam. 2n=28. España: Almería, Rambla Honda, Diosdado (SEV 135517).

Paronychia capitata (L.) Lam. subsp. *capitata* 2n=36. España: Jaén, Puerto de Tiscar, Diosdado (SEV 135516).

Paronychia echinulata Chater 2n=14. España: Málaga, Alora, Diosdado (SEV 135515).

Paronychia polygonifolia (Vill.) DC. 2n=14. España: Granada, Sierra Nevada, Laguna de la Caldera, Diosdado (SEV 135514).

LINACEAE

Linum narbonense L. n=9. España: Granada, entre La Puebla de Don Fadrique y María, Juan (SEV 135513).

RANUNCULACEAE

Adonis aestivalis L. subsp. *squarrosa* (Steven) Nyman n=16. España: Granada, entre Huescar y La Losa, Juan (SEV 135512); entre La Puebla de Don Fadrique y María, Juan (SEV 135511).

Adonis flammea Jacq. n=16. España: Almería, María, Juan (SEV 135510).

Aquilegia vulgaris L. subsp. *vulgaris* n=16. España: Asturias, Pola de Somiedo, Díaz, Juan & Valdés (SEV 135509).

Delphinium gracile DC. n=8. España: Sevilla, Arista (SEV 135508).

Delphinium pentagynum Lam. n=8. España: Sevilla, entre El Pedroso y Castilblanco de los Arroyos, Diosdado & García Esteban (SEV 135507).

Nigella damascena L. n=6. España: Sevilla, entre Villanueva de San Juan y Algámitas, Arista, Juan & Santa-Barbara (SEV 135506).

Ranunculus aduncus Gren. 2n=16. España: Jaén, Sierra de Segura, La Morringa, Diosdado & Pastor (SEV 135505).

SCROPHULARIACEAE

Antirrhinum charidemi Lange 2n=16. España: Almería, Cabo de Gata, Diosdado (SEV 135504).

SOLANACEAE

Solanum sodomium L. 2n=24. España: Cádiz, Barbate, Diosdado (SEV 135503).

ZYGOPHYLLACEAE

Zygophyllum fabago L. 2n=22. España: Almería, Rodalquilar, Diosdado (SEV 135502).

* * *

Reports by S. I. WARWICK, L. D. BLACK, and J. K. ANDERSON, Centre for Land and Biological Resources Research, Agriculture Canada, K.W. Neatby Bldg., C.E.F., Ottawa, Ont., Canada K1A 0C6. Material grown from seed received from the crucifer germplasm collection of Dr. C. Gómez-Campo, Instituto Nacional de Investigaciones Agrarias, 28003-Madrid, Spain is so indicated by its GCC number. Seed of *Pseuderucaria teretifolia* was provided by Dr. K. Mummenhoff, Universität Osnabrück, Osnabrück, Germany. Seed of *Sinapis arvensis* from Manitoba, Canada was received from Dr. I. Morrison, University of Manitoba and includes its UM code number; and seed from Alberta, Canada was received from Dr. J. Cotterman, Dupont, Newark, Delaware. Vouchers, which are in DAO, are listed as a BCN number.

BRASSICACEAE

Brassica procumbens (Poirot) O.E. Schulz n=9. Algeria: Djebel-el-Ouasch, Constantine (36°23'N 6°46'E), forest borders (GCC 127-6507-84; BCN 8089).

Didymus aegyptius (L.) Desv. 2n=16. Cyprus: Athalassa, near Nicosia (35°08'N 33°24'E), roadsides (GCC 239-7320-86; BCN 8100).

Enarthrocarpus arcuatus Labill. n=10. Cyprus: Cabo Greco (34°56'N 34°05'E), base of limestone rocks (GCC 276-7329-86; BCN 8091).

Henophyton deserti (Coss. & Durieu) Coss. & Durieu ssp. *zygarrhenum* (Maire) Greuter & Burdet n=42. Morocco: Outat-Oulab-el-Hadjt (34°N 3°W), pastures (GCC 379-1468-68; BCN 8061).

Pseuderucaria teretifolia (Desf.) O.E. Schulz n=14. Egypt: Qattara Depression (30°N 28°E) (88-20-004-10; BCN 8132).

Sinapis arvensis L. n=9. Canada: Manitoba, Gilbert Plains (51°05'N 100°35'W), agricultural field, resistant to auxinic herbicides (UM6094; BCN 8154).

Sinapis arvensis L. n=9. Canada: Manitoba, Grandview (51°10'N 100°42'W), agricultural field, resistant to auxinic herbicides (BCN 8221).

Sinapis arvensis L. n=9. Canada: Manitoba, Birch River (52°24'N 101°06'W), agricultural field, resistant to sulfonylurea herbicides (UMWM02-01; BCN 8224).

Sinapis arvensis L. n=9. Canada: Alberta, Wetaskiwin (52°58'N 113°22'W), agricultural field, resistant to sulfonylurea herbicides (BCN 8225).

Sinapis arvensis L. n=9. Canada: Alberta, Viking (53°06'N 111°46'W), agricultural field, resistant to sulfonylurea herbicides (BCN 8226).

* * *

3. News from Molecular Biosystematists 3

edited by Dan Crawford
Department of Plant Biology
The Ohio State University
Columbus, Ohio 43210-1293, USA
Fax 614-292-6345
e-mail (internet): dcrawfor@magnus.acs.ohio-state.edu



Please send your contributions to Professor Crawford at the above address, if possible on RPS Microdisc with text in ASCII-file on 3.5" or 5.25" disc formatted for Macintosh, and stating whether or not you are IOPB Member. Thank you.

* * *

News from Barbara A. Schaal, Department of Biology, Washington University, St. Louis, Missouri 63130-4899, USA. A variety of studies are being carried out with various collaborators.

Evolution in *Lopezieae* (Onagraceae) (with Stephen O'Kane and Peter Raven)

This study investigates phylogenetic relationships within the tribe *Lopezieae* by a molecular analysis. Phylogeny reconstruction for this study used two different DNA sequences: restriction site variability in the chloroplast genome and direct sequencing of the ITS-1 and ITS-2 regions of nuclear ribosomal DNA. Twenty three species are being analyzed including several that are obtainable only from herbarium specimens. After a molecular phylogeny is obtained, several evolutionary issues will be addressed: 1) the relationships of the morphologically divergent sections within the genus, 2) the tempo, mode, and pattern of molecular evolution, 3) the congruence of rates of morphological and molecular evolution, 4) the origins of ploidy level changes in section *Pelozia*, and 5) the comparative genetic variation within and among widespread and locally endemic species. The laboratory portion of this work is complete and the data are being analyzed.

Phylogeny and Evolution of the Family *Hylocomiaceae* (with T-Y Chiang and Peter Raven)

This study examines the evolutionary relationships of genera and species of the moss family *Hylocomiaceae*. Phylogenetic relationships are being inferred from sequences of the chloroplast *rbcL* gene and the ITS-1 and ITS-2 sequences of nuclear ribosomal DNA. Phylogenetic trees will be generated from cladistic analysis of morphological and molecular data. The work investigates the demarcation and phylogenetic relationships of the *Hylocomiaceae* and the interspecific and intergeneric relationships within the family. Specific aspects being studied include: 1) the vicariance biogeography of related taxa, 2) character evolution of paraphyllia and pseudoparaphyllia, 3) the congruence of morphological and molecular data, 4) the congruence of gene trees generated from nuclear and organelle DNA, and 5) the relative morphological conservativeness of gametophytic vs. sporophytic characters during evolution.

Evolution in *Conopholis americana* (Orobanchaceae) (with Alison Colwell)

Conopholis americana is a non-photosynthetic parasitic plant. This study examines the evolution of photosynthetic genes when their function is no longer required. Large portions of the chloroplast genome have been deleted in *Conopholis*. The chloroplast genome of most higher plants ranges from 120 to 250 kb; *Conopholis* has a genome size of 55kb. Most of these deletions occur in sequences which code for photosynthetic genes. Population level variation of the chloroplast genome is being analyzed by coalescent theory. The coalescent analysis will order the observed molecular variation into a series of mutational steps which then will present a dynamic picture of the process of gene loss.

Variation and Evolution in *Cucurbita* (with Kathie Schmidt and Gayle Fritz)

This study examines the origins of domesticated squash, *Cucurbita pepo*, by a molecular analysis. Phylogenetic relationships among types of domesticated squash are being determined by sequencing of nuclear rDNA and a chloroplast spacer region. Squash seeds from archaeological sites have been obtained and we hope to be able to use PCR to amplify and then sequence this material for studies of domestication. Analysis of "wild" populations of *C. pepo* with RAPD markers is being used to assess the origin of these populations. *C. pepo* like populations occur in the lower Mississippi valley and have been attributed to either the native species, *C. texana*, or feral populations of *C. pepo*. Variation and evolution within domesticated *Cucurbita pepo* will be compared to that of a non-cultivated species, *C. foetidissima*, by a coalescent analysis in order to understand the genetic process associated with domestication.

Invasion and Introgression of a Weedy form of *Panicum miliaceum*. (with Joe Colosi)

Panicum miliaceum is a minor crop in the United States and Canada. Around 1970 a black-seeded biotype appeared as a weed of row crops in the Midwest and has since spread widely. This weedy biotype hybridizes with cultivated *Panicum* and introgression of cultivar genes into the weed is hypothesized as the source of the weed's virulence. This study uses RAPD markers to: 1) assess the genetic relationships among biotypes of weed populations, 2) measure genetic change in the black biotype as it expanded its range, and 3) search for introgression between weedy and cultivated biotypes. Results indicate a very rapid increase in genetic diversity of the black biotype after it established in the U.S. The increase in diversity is most consistent with multiple introductions. There is also evidence for long distance gene dispersal; seeds can be spread by combines with move from state to state. These results suggest a much stronger role for gene dispersal than for introgression in the evolution of the invasiveness of *Panicum*.

Molecular Analysis of Tropical Timber Trees (with Deborah Clark and Gabriel Macaya)

Little is known about the geographic distribution of genetic variability in tropical timber trees. This study investigates the genetic structure of three Costa Rican native timber species, *Nimquartia guianensis*, *Ilyerionima laxiflora*, and *Simarouba amara*, which are well represented at La Selva biological station. The focus of this work is to understand the genetics of these species and to develop protocols which can be used for conservation work. The specific objectives of the work are to: 1) analyze the regional distribution of genetic variation in the three species and determine how much of the total gene pool is represented in the protected areas, 2) develop clear protocols of field and laboratory techniques to guide genetic evaluation of other native species of threatened tropical forests, and 3) develop in Costa Rica a research laboratory for DNA analysis in conservation biology.

Clonal variation in the endangered species, *Asclepias meadii* (with D. Heyworth, K. Shaw and M. Bowles)

Mead's milkweed is a federally threatened species of midwestern prairies. The species is no longer present in most of its original range; remaining populations occur in remnant prairies. Populations are managed either by burning or mowing. The purpose of this work is to measure the clonal diversity within populations and to determine the effect of management practices on genetic diversity. We have sampled 9 populations of *A. meadii* by collecting each individual ramet, locating its geographical position within the population, and determining RAPD profile for 10 variable primers. This analysis allows us to spatially locate clones within a population and to measure clone number and size. The management regime of a population has a profound effect on its genetic structure. Populations which are mown show very little genetic diversity; often only two or three distinct, large clones are present. Populations which are managed by burning have very high levels of genetic variation. Populations may have over 50 genotypes; each clone is relatively small in size. Hay mowing occurs after flowering but before seed set. Thus these populations have no sexual reproduction, so that the population slowly loses genetic diversity due to clonal selection. Only clones with high levels of vegetative growth appear to persist. In the burned prairies plants reproduce seed and sexual reproduction results in high levels of genotypic diversity. These results will hopefully effect management practices for Mead's milkweed.

Genetic Diversity and Phylogeny in *Manihot*. (with R. Bertram, P. Olsen, J. Tohme)

Cassava ranks fourth in crops used for human consumption in the tropics. It is particularly important in areas of marginal fertility such as sub-Saharan Africa. In spite of its importance, the crop has received little attention from crop breeders until recently. There is a large international effort to develop improved cultivars for use in a variety of tropical environments. Our part in this effort is to study the wild relatives of cassava in the genus *Manihot*. We are working on several projects. First, the origin of cultivated cassava is not known. It is not clear what the progenitor species is (or are). To determine the putative progenitors and to identify cassava's closest relatives, we are undertaking a phylogeny reconstruction of the genus, using chloroplast restriction site variation as well as direct sequencing of ITS-2, ITS2, and a chloroplast spacer region. The identification of cultivated cassava's relatives is considered essential for the breeding program.

Next, we are developing genetic markers which can be used to identify and separate cultivars of cassava. Germplasm collections are maintained as growing stocks, which require a great deal of expense and effort to sustain. Cultivars of cassava have been spread by humans all over the world, and then subsequently recollected as part of the germplasm conservation program. These cultivars are now maintained at the Center for International Tropical Agriculture in Columbia and many are unknown duplicates. We have developed genetic fingerprinting techniques which are being used to evaluate the germplasm collection and to chose lineages for long term maintenance.

Paternity and Fitness in *Heliopsis helianthoides* (with Mark McKone)

Individuals of most angiosperms reproduce as both males and females. Sexual selection theory suggests that female reproductive success is usually limited by resources available for seed production, whereas male reproductive success is limited usually by the ability to disperse pollen. This leads to the prediction that the attractiveness of flowers to pollinators has relatively limited effect on female fitness but a large effect on male fitness. We are measuring paternal and maternal fitness in the prairie plant, *Heliopsis helianthoides* (Asteraceae). The study has three specific objectives: 1) to use DNA fingerprinting and RAPDs to determine with precision the distribution of paternal reproductive success in a wild population, 2) to measure the effect of natural and experimentally induced variation in floral attraction on both maternal and paternal reproductive success, and 3) to couple the data on reproductive success with detailed field measurements of pollinator activity. The study will contribute data critical to the evaluation of current hypotheses on sexual selection and the evolution of floral structures.

* * *

4. Individual Research News

BATTAGLIA Emilio, Dip. Scienze Botaniche, Università, Via Luca Ghini 5, I-56100 Pisa, Italy:

Recent publications:

Battaglia E. 1993. The DNA molecule and its name: a proposal. *Caryologia* 46(1993): 87-90.

BLAISE Solange, Université Paris 11, Biol. Végét. B, Bât. 362, F-91405 Orsay, France:

Project started:

Phylogeny of *Lotus corniculatus* s.l.; later possibly within the whole genus. Studies based on defence substances (tannins, cyanogenic compounds). MOlecular studies may be included, too.

CHINAPPA C. C., Professor of Biology, Dept. of Biol. Sciences, University of Calgary, Calgary, Alberta, Canada T2N 1N4:

Recent publications:

Zhang Xing-Hai and Chinnappa C. C. Molecular cloning of a cDNA encoding Cytochrome c of *Stellaria longipes* (Caryophyllaceae) and the evolutionary implications. *Molecular Biology and Evolution* (in press).

Emery R. J. N., Chinnappa C. C. and Chmielewski, J. G. Specialization, plant strategies and phenotypic plasticity in populations of *Stellaria longipes* along an elevational gradient. *Intern. Jour. of Plant Scienc*e (in press).

Chong, D. K. X., Chinnappa, C. C., Yeh, F. and Choung S. Chloroplast DNA inheritance in the *Stellaria longipes* complex (Caryophyllaceae). *Theoretical and Applied Genetics* (in press).

Current projects:

Molecular evolution in the *Stellaria longipes* complex.

Ecophysiology and genetic regulation of phenotypic plasticity in *Stellaria longipes*.

Hormone systems and limitations of plastic responses in Alpine tundra populations of *Stellaria longipes*.

* * *

5. IOPB Business Meeting: Minutes

Some comments of IOPB secretary/Treasurer are included

by Hans CM den Nijs, Hugo de Vries Lab, University of Amsterdam, Kruislaan 318, NL-1098 SM Amsterdam, The Netherlands

On March 23, the Executive had a business meeting hosted by IOPB president Peter Raven at the Missouri Botanical Garden, St Louis, USA. The following executive members attended: Peter Raven (president), Bengt Jonsell (Vice-President-President Elect), Shoichi Kawano (Past President), Krystyna Urbanska (Editor Newsletter), Daniel Crawford (Co-Editor Newsletter Molecular News), and Hans den Nijs (secretary/treasurer).

The agenda of the meeting included the following items:

Report by Vice-President Bengt Jonsell on the 1995 Tromsø symposium. The number of pre-subscriptions develops well. Quite a number of persons expressed interest in IOPB membership. The maximum number of attendants will be c. 200, it looks as if this number will hardly fulfill the demand. Members who intend to join are requested to send their application as soon as possible. Additional announcements will be sent to several journals and to colleague-societies for publication in their respective newsletters.

Forthcoming IOPB Elections. The Past-President will ask current Executive and Council for their willingness to serve another term. Ballot forms will be sent to members this autumn for return by early spring. The results will be published in the Newsletter shortly before the Tromsø Symposium and also announced formally at the Symposium.

Nominating Committee: S. Kawano (Chair), Hans den Nijs, Krystyna M. Urbanska. Nominations of new candidates should be sent to S. Kawano or either of the two further members of the Nominsation Committee.

Report by the secretary/treasurer. Currently, IOPB has a total membership of 271, 23 of these are institutional members. The development of the membership as from the end of 1990, expressed as the number of Newsletter copies mailed, essentially was the following: Issue 15 (12/90) 220, via 255 by the end of 1992 (Issue 18/19, to the recent 271 for Issue 21. The increase realized at the St Louis symposium (June 1992, approximately 50) has regrettably been partly compensated downwards by the renouncement of memberships as a consequence of back dues (approximately 30). These members have been urged to pay 2

times before their names have been removed from the directory.

A reaction on a report on the possibility to have non-paying members from countries which are underrepresented in IOPB, and from which it is difficult to transfer hard currency, the executive decided to try actively to raise funds to help colleagues whose membership is hindered. Two ways are open to reach this, individual members could send some extra money with the indication of this specific aim (some of the Executive members generously donated), secondly, all members are requested to look for private foundations which among other things keep in their constitution the promotion of botanical science to such an extent that funds can be applied for helping colleagues from abroad.

On the Membership fees. By March 14, 161 personal members (from the 248 total) payed their fees for the current period (/95), and 32 did so for the coming one (/98) too. The 87 back due members will soon receive a reminder. **[Please don't wait for that reminder and pay quick now, this would save the treasurer a lot of work. For paying instruction, see the relevant page of each Newsletter issue!]**

The separate US\$ collecting procedure via the Northamerican "assistent-treasurer" works quite well, and saves a lot of money (approximately \$ 10.- per member per payment). **[Thus, please pay attention to the instructions; if you only could pay by cheque, please write the amount in US\$ and send it to Hardy Eshbaugh]**

On the IOPB-Future Award. Some years ago this award has been instituted to stimulate Phd-students in the field of biosystematics. The Executive now decided to strengthen this initiative. During the Tromsø symposium a jury will select the best PhD-student presentation, which will be awarded with a money-prize. The executive members obliged themselves to contribute to the relevant fund an amount of US\$ 50.= each. They would like to stimulate other members to contribute as much as possible to this fund. This may be done by transferring the money by the usual way of paying to either Hans den Nijs or Hardy Eshbaugh. **[Don't forget to mention on the cheque that such a contribution is not your fee for the membership but mind the Future-Award aim explicitly!]**

Report by the Editor. With the assistance of Clive Stace (Chromosomal Data) and Dan Crawford (Genome Data), the editing of the Newsletter develops quite well. However, more contributions would be very welcome.

IOPB Constitution. The current constitution dates from 1987. It is OK for the most part, but the Executive found some changes worth considering. The two main points concern the ballot procedure for Council and Executive, and the description of the task of the Council Officers.

On the Membership number of IOPB. In order to increase the number of members, several widely distributed journals will be asked to publish a note, advertizing IOPB and its aims. Also, a flyer with the essentials of IOPB will be produced. Members could distribute this leaflet amongst regional/national colleagues. The flyer also could be enlarged to A3 format, to serve as a poster in institutes or during conferences and other meetings.

6. IOPB Constitution: Revised Version for the Membership Approval

version 19.7.1987

INTERNATIONAL ORGANIZATION OF PLANT BIOSYSTEMATISTS

1. Name.

The name of the Organization shall be the International Organization of Plant Biosystematists (IOPB).

2. Purpose.

To promote and encourage international co-operation and communication among those interested in biosystematics in a broad sense: experimental taxonomy, genecology, population biology, cytotaxonomy, chemotaxonomy, numerical taxonomy, molecular taxonomy, micro-evolutionary studies, and speciation in all groups of the Plant Kingdom.

3. Objectives.

- 1) Encourage and actively support any activity concerned with biosystematics,
- 2) Publish news, views, and activities consistent with the purpose,
- 3) Exchange information about and among members,
- 4) Organize or sponsor meetings and international symposia in the field of biosystematics,
- 5) Promote the publication of symposia organized or sponsored by IOPB.

4. Membership.

Membership is open to anyone interested in plant biosystematics. The Organization shall have two types of membership: individual and institutional. Individual members are those whose dues have been paid. From countries where it is difficult to make a financial commitment, non paying members can be accepted, [*omit: but not more than one per institution.*] Individual members shall have voting rights and shall be eligible for the Council. Institutional members are those whose subscription have been paid. All members shall receive the IOPB Newsletter.

5. Dues and subscriptions.

The membership dues and subscription rates shall be determined by the Executive and a schedule of payment shall be published in the IOPB Newsletter. The Executive can suspend any member who is more than one year in arrears in payment. Members who have paid are entitled to receive the IOPB publications issued during the period for which they have paid.

6. Officers and Council.

The Council shall consist of the Executive Committee and not more than ten additional,

individual members of IOPB. The Executive Committee shall be composed of a President, a Past-President, a Vice-president, a Secretary, a Treasurer, and an Editor

7. Election of Officers.

A Vice-President, a Secretary, a Treasurer, an Editor, and maximum ten additional Council members shall be elected by a majority of votes cast by mail by the individual members. The Council members may not exceed three residents of any one country when elected and not more than two of the members of the Executive Committee shall be residents of the same country. The immediate past Vice-president becomes President upon election of a new Vice-President. The immediate Past-president shall be an Ex-officio member Executive Committee. The office of Secretary and Treasurer may be held by the same person and the office of Editor by any member of the Executive Committee. The Executive holds office for a three year period. The Secretary, Treasurer, Editor, and Council members shall be eligible for reelection. Any vacancy during the term of office of a Council member other than the President, shall be filled by the Council. In case of vacancy in the Presidency, the Past-president shall fill the remaining term of office. If unable to serve, the Vice-President shall act as President until the next election.

8. Duties of Council and Officers.

The Council shall control the affairs and funds of IOPB. *[Addition:]* The Council members are actively supporting IOPB by propagating IOPB ideas and information in their country/area. They contribute to the Newsletter at least once during their three-year service period.

The Executive Committee shall carry out the duties delegated to them by the Council . The President shall preside at all meetings of the Organization and propose and distribute agenda for these meetings. At least six months prior to an election the President shall appoint a Nominating Committee of not fewer than three and not more than five members to nominate officers for the ensuing period.

The Secretary shall keep minutes of General Meetings and Council Meetings, be responsible for keeping the membership list ajour and conduct correspondance.

The Treasurer shall keep an account of all receipts and expenditures and have a statement presented at General Meetings.

The Editor shall prepare a Newsletter entitled the IOPB Newsletter. The content and format of the Newsletter shall be at the Editor's discretion subject to review and recommendation of Council.

9. Nominating Committee.

[addition:] The Nominating Committee is customarily chaired by the Past-President. Should he or she be unable to do so, an appropriate replacement should be provided. The candidates for the elections should be aware of their duties and should agree to give some of their time to IOPB prior to their formal nomination. They will present themselves/be presented to IOPB membership in the two News-

letter issues preceding the actual ballot assessment.

The Nominating Committee in considering candidates for officers, shall strive to nominate a representative slate. They are urged to take account of the research within bio-systematics, and of the groups of the Plant Kingdom, as well as a varied geographical area of candidate residency. In deciding on candidates for re-election, the Nominating Committee shall create a balance between periodic renewal and continuity in the Council. Whenever the Nominating Committee sees fit, it shall propose more than a single slate of candidates, but not more than three times the number to be elected for the same office. Other nominations, endorsed by three personal members, may be sent to the Secretary. The report of the Nominating Committee shall be published in the IOPB Newsletter and presented at the next General Meeting.

10. Meetings.

The Organization shall hold General Meetings at international Congresses and Symposia. Notice of General Meetings shall be sent to members at least four weeks before the date of the meeting. The Council shall hold meetings as requested by the President. Other meetings may be held at the discretion of the Council.

11. Changes of the Constitutional Rules.

The Council shall have the power to make by-laws for carrying into operation the terms of the Constitution. Amendments to the Constitution may be proposed in writing by any individual member of IOPB. Proposed amendments receiving general approval of a majority of the Council shall be submitted to the members for a mail ballot. Adoption shall require a favourable vote of two-thirds of the votes cast. However, amendments rejected by the Council may be resubmitted by the mover for discussion at the next General Meeting of the IOPB, and if a favourable decision is then obtained, it shall be voted upon by mail ballot. Proposals of changes in the Constitution must be detailed in the convening notice sent to every individual member, at least four weeks prior to the meeting.

* * *

IOPB Constitution Approval Ballot

return by mail or FAX to:

Hans C. M. den Nijs, IOPB Secretary/Treasurer
Hugo de Vries Lab, Univ. of Amsterdam
Kruislaan 318
NL-1098 SM Amsterdam, The Netherlands
FAX: 31-20-52 57 662

Please check the appropriate box:

I agree with the proposed changes in the IOPB Constitution

I don't accept the proposed changes in the IOPB Constitution

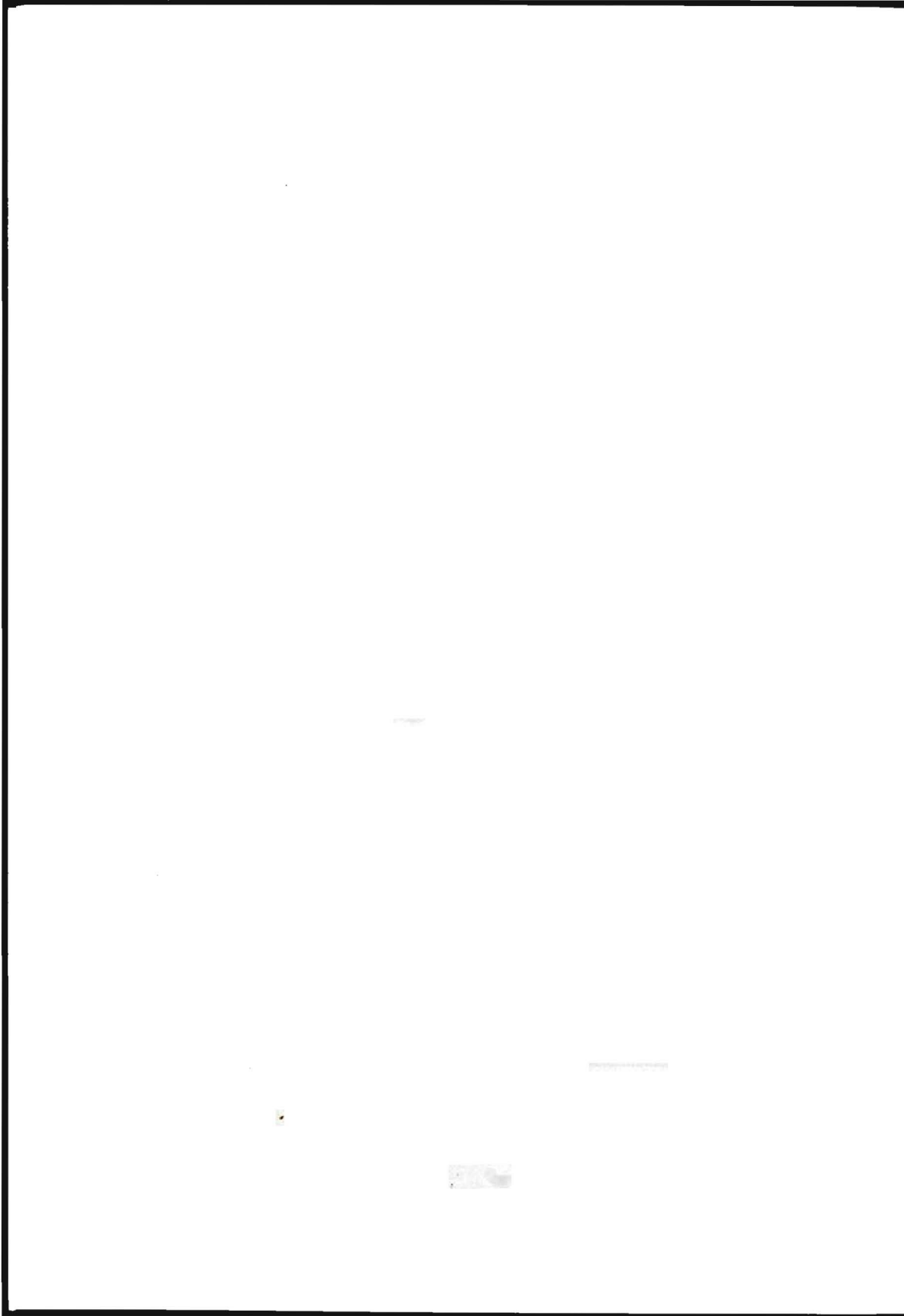
Name

Address

Date

Signature





7. IOPB Symposium 1995 - News from the Organizing Committee

Writes Bengt E. Jonsell, IOPB Vice-President/President Elect:

In the previous newsletter general information about the symposium which is to be held in Tromsø, Norway, July 29th - August 2nd 1995, was presented, and topics of sessions were preliminarily presented. Since then you have hopefully received the first circular, to which we are steadily receiving responses. To date more than 200 persons have sent in their preliminary application, a substantial share of whom are expressing their willingness to present a poster or contributed paper. Because of organizational matters the former way of presentation will be particularly encouraged in the following by the organizing committee. applications are reaching us steadily and the number will probably increase quite a bit. The international coverage seems very good with a great number from Russia to be noted in particular. There are also plenty of preliminary applications to both excursions. Now the invitation of speakers for the various sessions is being started, so that a more full programme can be set up in the autumn. The second circular will be distributed to all having sent in the first one by, approximately, January 1995.

* * *

8. Requests for Material and/or Information

BLAISE S., CARTIER D. Dr., Dépt of Plant Biology, Univ. of Orsay, Bât. 362, F-91405 Orsay cedex., France would appreciate seeds of sp. of Gr. *Lotus corniculatus* and some other: *L. parviflorus*, *L. subbiflorus*, *L. angustissimus*, *L. edulis*, *L. conimbricensis*, *L. cytoides*, *L. drepanocarpus*, and *ornithopides*..

CHINAPPA C. C., Professor of Biology, Dept. of Biol. Sciences, University of Calgary, Calgary, Alberta, Canada T2N 1N4 would appreciate seeds of *Stellaria fischeriana*, *S. peduncularis*, *S. dahurica* (Caryophyllaceae) from Russia.

* * *

9. Meetings, Past and Future

International Conference: COMPOSITAE: SYSTEMATICS BIOLOGY UTILIZATION.

July 24 - August 5 1994. Venue: Royal Botanic Gardens, Kew, London UK.

Week 1: SYSTEMATICS AND EVOLUTION (hypotheses of family, tribal, subtribal and major genera systematics and phylogeny: evidence from morphology, ontogeny, micromolecules, semantides, etc., integration of data; genomic evolution, evolutionary mechanisms).

Workshops: carpology; chromosome studies; geohistorical factors in systematics and phytogeography; databases and information services.

Week 2: **BIOLOGY AND UTILISATION** (genomic organization and expression, ecology of the life cycle, interorganismal relationships, weed management and biological control, ethnobotany, ethnopharmacognosy and zoopharmacognosy, the sunflower and other crops).

Workshops: Compositae insect faunae; apomixis; *Veronia glamensis* crop development.

Registration fees: day £ 30, one week £ 120, two weeks £ 170 (student concessions).

Details from:

C. Jeffrey, Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AE, U.K.
(fax 081-332-5278 U.K., +44-81-332-5278 international, e-mail c.jeffrey@rbgkew.org.uk).

VI International Congress of Ecology: Progress to meet the Challenge of Environmental Change

August 21 to 26, 1994. Manchester, United Kingdom

A Post-Symposium International Workshop

Writes Jan Kirschner, IOPB Member, Department of Taxonomy & Biosystematics, Institute of Botany, Academy of Sciences, 25243 Pruhonice, Czech Republic, fax.: +42.2/6436529.

An International Workshop is being prepared in our Institute whose main theme should be **Agamospermy and Taxonomy**. Our intention is that evolutionary, biosystematical aspects of agamospermy at various levels confront the questions of practical taxonomy of agamospermous groups. The workshop will be held in the Czech Republic from Tuesday, **August 8, 1995** (as a 'parasite' of the 1995 IOPB Symposium).

Anyone interested in receiving the first circular with more details should send his application to the above address.

* * *

10. Membership Fees for 1993-1995

by Hans C. M. den Nijs, IOPB Secretary/Treasurer, Hugo de Vries Lab, University of Amsterdam, Kruislaan 318, NL-1098 SM Amsterdam, The Netherlands

The personal membership fees for the current period are set at US\$ 33.- or the equivalent of DFL 66.-. Members may pay their fees for two periods at a given time: the fees for the next period 1996-1998 have also been set at US\$ 33.-. A later possible rise of the fees will not be charged to those Members who pay now for this period, too. The total amount for these almost century-transgressing membership period is thus US\$ 66.- or DFL 132.-. Please consider this way of payment as IOPB is still trying to avoid as much banking charges as possible.

Please pay your fees by one of the charge-free or at least relatively cheap ways of money transfer which are as follows:

Dutch Florin payments:

- Send an **Eurocheque** to J.C.M. den Nijs, amounting to **DFL 66.-** (or DFL 132.- for two membership periods) made payable to J.C.M. den Nijs - IOPB
- or
- Send an **International Postal Money Order**, amounting to **DFL 66.-** (or DFL 132.-, see above) made payable to J.C.M. den Nijs - IOPB

Eurocheques and Postal Money Orders should be sent to:

Hans C.M. den Nijs
Hugo de Vries Laboratory
University of Amsterdam
Kruislaan 318
1098 SM Amsterdam, The Netherlands

US Dollar payments:

- Send a cheque, made out to **IOPB/9039 - Eshbaugh**, and amounting to **US\$ 33.-** (or US\$ 66.- for two membership periods).

Cheques should be sent to:

W. Hardy Eshbaugh
Dept. of Botany, Miami University
316, Biological Sciences Building
Oxford, Ohio 45056
USA

The membership fee for **INSTITUTIONAL** members is US\$ 40.- (equalling DFL 80.-) for the three-year period.

Postage costs of US\$ 10.- or DFL 20.- are not included and have to be added to the fee.

Thank you very much for your cooperation.

11. Miscellaneous News and Notes

Change of Address

Prof. E. Battaglia moved to: Dip. Scienze Botaniche, Università Via Luca Ghini, 5, I-56100 Pisa, Italy.

Prof. Dr. G. Wiegleb moved to: TU Cottbus, Faculty of Environmental Sciences, Dept. of General Ecology, PO Box 10 13 44, D-03013 Cottbus, Germany.

* * *

IOPB Executive and Council

Executive:

President:

Peter H. RAVEN

Missouri Bot. Garden, P. O. Box 229
St. Louis, MO 63166-0299 USA
Phone: 1-314-577-5110; Fax: 1-314-577-9595

Vice-President - President Elect:

Bengt E. JONSELL

Bergius Bot. Garden, P.O.B. 50017
S-10405 Stockholm, Sweden
Phone: 46-8-156 896; Fax: 46-8-612 9005

Past President:

Shoichi KAWANO

Dept of Biology, Faculty of Science, Kyoto University
Kyoto 606, Japan
Phone: 81-75-753-4133; Fax: 81-75-753-4122

Editor Newsletter:

Krystyna M. URBANSKA

Geobotanisches Institut ETH, Stiftung Rübel
Zürichbergstrasse 38, CH-8044 Zürich, Switzerland
Phone: 41-1-632 3877(direct line: 632 4308); Fax: 41-1-252 34 04

Co-Editor Newsletter "Molecular News":

Daniel J. CRAWFORD

Dept. of Botany, Ohio State University
Columbus, OH 43210-1293 USA
Fax: 1-614-292-6345

Co-Editor Newsletter "Chromosome Data":

Clive A. STACE

Dept. of Botany, University of Leicester
Leicester LE1 7RH, England
Phone 44-533-523381(direct line); Fax 44-533-522 791

Secretary/Treasurer:

Joannes C. M. DEN NIJS

Hugo de Vries Lab, University of Amsterdam
Kruislaan 318, NL-1098 SM Amsterdam, The Netherlands
Phone: 31-20-525-7660 (direct line); Fax: 31-20-525 7662

Regional Treasurer (US currency):

W. Hardy ESHBAUGH

Dept. of Botany, Miami University
316 Biological Sciences Bldg
Oxford, OH 45056 USA
Phone: 1-513-529-4212; Fax: 1-513-529-4243

Member *ex officio* for 1995 Symposium:

Liv BORGEN

Bot. Garden and Museum, University of Oslo
Trondheimsveien 23B, N-0562 Oslo 5, Norway
Phone: 47-2285-1778; Fax: 47-2285-1835

Council

Mary T. KALIN de ARROYO, Laboratorio de Sistemática y Ecología Vegetal, Departamento de Biología, Facultad de Ciencias, Universidad de Chile, Casilla 653, Santiago, Chile. Phone: 56-271-2983.

Randall J. BAYER, Dept of Botany, University of Alberta, Edmonton, Alta, T6G 2E9 Canada. Phone: 403-492-7567; Fax: 403-492-9457.

Delphine CARTIER, Laboratoire de Biologie Végétale B, Univ. de Paris XI, Centre d'Orsay, Batiment 362, F-91405 Orsay, France. Phone: 33-69-417-222.

Ping Sheng HSU, Dept of Biology, Fudan University, Shanghai 200433, P. R. China.

Herbert G. R. HURKA, Institut f. Biologie, Univ. Osnabrück, Barbarastr. 11, D-4500 Osnabrück, Deutschland. Fax: 49-541-969 2870.

Kunio IWATSUKI, Bot. Garden, Univ. of Tokyo, 3-7-1 Hakusan, Bunkyo, Tokyo 112, Japan.

David F. MURRAY, Museum, Univ. of Alaska, 907 Yukon Drive, Fairbanks, AK 99775-1200 USA. Fax: 1-907-474-5469.

Herwig TEPPNER, Institut f. Botanik, Karl-Franzens-Univ, Holteigasse 6, A-8010 Graz, Austria.

Suzanne I. WARWICK, Centre for Land and Biological Resources Research, K. W. Neatby Bldg, C.E.F. Ottawa, Ontario K1A 0C6 Canada. Phone: 1-613-996-1665; Fax: 1-613-995-1823.

Tetsukazu YAHARA, Dept. of Biology, University of Tokyo, Komaba 3-8-1, Meguro-ku, Tokyo 153, Japan. Phone: 81-3-3485-6043; Fax: 81-3-3485-2904.

* * *

International Organization of Plant Biosystematists

The International Organization of Plant Biosystematists, founded in 1960, acts on several levels from coordinating and publishing information on biosystematics to organizing international conferences in a triennial time schedule. The IOPB is open to all persons working or interested in biosystematics which is interpreted in a broad sense. The more recent volumes from the conferences held in Zürich (K. M. Urbanska, ed., 1987: Differentiation Patterns in Higher Plants) and Kyoto (S. Kawano, ed.: 1990: Biological Approaches and Evolutionary Trends in Plants) give extensive insight in the field IOPB deals with.

The IOPB Newsletter is published twice a year and mailed to all Members. It includes reports on current research, requests for material and information, announcements of meetings, etc. Two permanent features in the Newsletter are "IOPB Chromosome Data" and "News from Molecular Biosystematists", respectively edited by Prof. Dr. Clive A. Stace, Dept of Botany, Univ. of Leicester, Leicester LE1 7RH, England, and Prof. Dr. Dan J. Crawford, Dept of Botany, Ohio State University, Columbus, Ohio 43210-1293 USA. The Newsletter Editor is Prof. Dr. Krystyna M. Urbanska, Geobotanisches Institut ETH, Zurichbergstrasse 38, CH-8044 Zürich, Switzerland. IOPB Members automatically have free publishing right of their data and news.

At present, IOPB Membership is for the three-year period between the Symposia. The next Symposium will be held in Scandinavia in 1995.

IOPB Membership fee for individuals is US\$ 33.- for 1993-1995, institutional Membership fees are set at US\$ 40.- for the same period. Detailed information on the payment system can be found in the Newsletter, and will be provided by the Treasurer upon the receipt of the application form.

Any inquiries about IOPB, Newsletter subscription, Membership etc., as well as the application form should be addressed to the Secretary/Treasurer:

Dr. Hans C.M. den Nijs, Hugo de Vries Lab., University of Amsterdam,
Kruislaan 318, NL-1098 SM Amsterdam, The Netherlands
Phone: 31-20-525 7660; Fax: 31-20-525 7662

**Please don't send such mail to the Newsletter Editor,
it delays the procedure!**

IOPB - MEMBERSHIP APPLICATION FORM (please print)

.....
Mr./ Ms.

.....
Last name

.....
First name, middle initial

.....
Address

Date

Signature



Research News Form

for the International Organization of Plant Biosystematists Newsletter

(IOPB Newsletter)

Typewritten or in capital letters

.....
Last name

.....
First name (Mr., Ms.)

.....
Title

Address:

Publications during the year*:

Current projects:

Projects completed:

Projects started:

Requests for research material and information:

Articles and reports should be attached

To be sent to Krystyna M. Urbanska, Geobotanisches Institut ETH, Stiftung Rübel,
Zürichbergstrasse 38, CH-8044 Zürich, Switzerland

* Please select **three** titles and add the remainder as e.g. "seven further papers".



STATE OF CALIFORNIA
COUNTY OF [illegible]
[illegible text]

[illegible text]

[illegible text]

[illegible text]

[illegible text]

[illegible text]

[illegible text]

[illegible text]

X



