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INTERNATIONAL ORGANIZATION OF PLANT BIOSYSTEMATISTS



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NEWSLETTER NO. 30

EDITED BY

L. Borgen & B. Jonsell

D.J. Crawford & C.A. Stace

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REAL JARDIN BOTANICO
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Editors' Column

1

Dear IOPB members,

This is our fourth and last IOPB Newsletter. At the Amsterdam symposium Jan Kirschner, Pruhonice, Czech Republic, was elected as editor for the coming three years. We are very glad that Jan, who is very active in biosystematic research in Taraxacum and Juncaceae in particular, is willing to take over. Based in what again is Central Europe he has a good overview of what is going on in many places in that part of Europe, and he has as well since long many contacts over the world. We wish him good luck.

The future ways of contacts with the IOPB members have been discussed in later meetings of Executives and Council. It seems that news in electronic form should now be distributed, but the Council has taken the view that time may not yet be ripe for a total shift from printed to electronic newsletter. In order to prepare steps in that direction Hans den Nijs, Amsterdam, will function as the IOPB webmaster. At the next general meeting in 2001 further decisions about the form of the Newsletter may be taken. It was decided at Amsterdam that with a letter sent to all members about fees for 1998–2001 an enquiry will be included: do you prefer to have

the Newsletter as now or in electronic form? You are of course welcome to send views about that to be published in a coming Newsletter.

You see in this Newsletter the new composition of Executives and the whole Council – many familiar but also quite a few new names. According to the schedule Konrad Bachmann is now President until 2001. The new name is the Vice-President/President Elect Timothy Lowrey from Albuquerque, New Mexico, USA, which means that the next symposium will take place in that city. Tim Lowrey presents himself and his institute in this issue. New is also the Treasurer/Secretary, Tommy Lennartsson from the Swedish Agricultural University, Uppsala, who is particularly engaged in research about threatened Gentianella species in the agricultural landscape. We take the opportunity to greet them welcome as IOPB officers.

In this our last column we would very much like to stimulate you to contributions – ideas, views, profiles of your institutes, requests for materials, etc. – to the benefit of our successor. They should preferably be sent to Jan Kirschner, but of course we will transfer what you may hand in to one of us. With this we say thank you from us and hand over.

Liv Borgen & Bengt Jonsell

News, Notes & Requests

2 Recently published

All members are encouraged to send in short notes under this sections, preferably by e-mail to the editor.

Dr Natalia K. Kovtonyuk, Laboratory of Plant Systematics, Siberian Branch of Russian Academy of Science, Central Siberian Botanic Garden, Zolotodolinskaya 101, Novosibirsk 630090, Russia. root@botgard.nsk.su

PUBLICATIONS DURING THE YEAR

Kovtonyuk, N. K. Fam. Primulaceae, Flora of Siberia, Vol. 11. Novosibirsk, Nauka, 1997, pp. 30–47 (in Russian).

Kovtonyuk, N. K. Evolution of seed surfaces in some Juncaceae from Siberia. Proceedings of the International Conference on Plant Anatomy and Morphology. St-Petersburg, Diada, 1997, pp 70–71 (in English).

Kovtonyuk, N. K. The structure of seed surface in taxonomy of Primulaceae from North Asia, an example of the genus *Primula*. Problems of the botanical sciences at the boundary of the XX and XXI centuries. Abstracts of II (X) Congress of the Russian Botanical Society (26–29 May 1998, St. Petersburg). Vol. 2, St. Petersburg, 1998, p. 158 (in Russian).

CURRENT PROJECTS

Taxonomy of Primulaceae in the Flora of North Asia.

PROJECTS COMPLETED

Fam. Juncaceae, Caryophyllaceae in the Flora of Siberia.

PROJECTS STARTED

Endangered species: *Primula* plants – strategy of seed reproduction as a factor of their biodiversity conservation.

Requests for research material and information: I would like to know about studies of seed reproduction of wild species of *Primula* (and other Primulaceae) and introduction of them into botanic gardens.

Wild *Primula* seeds would be welcome as well as information about conservation of wild *Primula* in botanic gardens, and any information about modern studies of Primulaceae and possibilities to studies of Primulaceae funded by joint grants.

Dr Malika Makhmudova, Uzbek Scientific Research Institute of Karakul Sheep, 47 Mirzo Ulugbek st., Samarkand, 703054 Uzbekistan.

CURRENT PROJECTS

Characteristics of *Kochia prostrata* (L.) Schrad. and *Salsola orientalis* S.G. Gmel. and influence of different cutting conditions on the biomass.

Post cutting correlative analysis of newbranching of desert pasture plants.

Influence of cutting on newbranching of some pasture fodder plants in agrocoenocia of SW Kizilkum.

Models of newbranching of *Kochia prostrata* (L.) Schrad. and *Salsola orientalis* S.G. Gmel. as life-form influenced by cutting.

Profiles

3 Albuquerque

Timothy Lowrey (Vice-President of IOPB)

THE MUSEUM OF SOUTHWESTERN BIOLOGY AND THE UNM HERBARIUM

I am currently Director of the Museum of Southwestern Biology and Curator of the UNM Herbarium. The Museum of Southwestern Biology is a research museum housed within the Biology Department of the University of New Mexico in Albuquerque, New Mexico. The Museum consists of seven divisions: the UNM Herbarium, Herpetology, Fishes, Mammals, Arthropods, Birds, and Biological Materials.

The Herbarium was the first division formed in the Museum and was started by Dr. Edward Castetter (distinguished ethnobotanist, student of the Cactaceae and university administrator) in 1928. In the 1930's the zoological collections were initiated. The Division of Biological Materials is the newest in the Museum and consists of frozen tissue samples derived largely from the zoological specimens. The collections are presently housed on the basement floor of Castetter Hall on the main university campus.

In the year 2000, the Museum is scheduled to be moved to a newly renovated building adjacent to Castetter Hall. The building will contain new museum research facilities, meeting halls, and computer facilities. The collections will be fully housed in compactors. The Museum will continue to be closely allied to the Biology Department and will have ac-

cess to research facilities maintained by the department such the Molecular Sequencing of staff and postdoctoral positions in the Museum that are supported by grant funds. I assumed directorship of the Museum in 1997 from Dr. Howard Snell who left to become Director of the Darwin Field Station in the Galapagos Islands.

Although the scope of the divisional collections is largely regional in nature the Museum has recently initiated a major research program in the Galapagos Islands. In 1997, the Museum signed a cooperative agreement with the Darwin Research Station to foster joint research between Ecuadorian and UNM biologists. The agreement also included the provision for the Museum to become the sister natural history collection for the Galapagos Islands. Duplicate specimens derived from current and future research in the Galapagos will be housed in the respective divisions in the Museum of Southwestern Biology.

In 1990 I assumed Curatorship of the UNM Herbarium after the retirement of Dr. William Martin. The Herbarium is a regional collection specializing in vascular plants of New Mexico and the American Southwest. The Herbarium serves as the main repository for specimens of rare and endangered plant species in New Mexico. The collection currently contains approximately 96,000 mounted specimens. There is one full-time collection manager in addition to the Curator.

The Herbarium is formally associated with a number of state and federal agencies including: New Mexico State Botanist, New Mexico State Lands Office, New Mexico Heritage Program of The Nature Conservancy, U.S. Fish and Wildlife Service, and the U.S. Forest Service. In addition, there are several adjunct researchers affiliated with

the collection. The Herbarium maintains two international electronic databases: Plant Taxonomists On-line (PTO) and Collections Managers On-line (CMO). The respective databases contain addresses, e-mail addresses, and telephone numbers of the listed scientists or collections managers. The databases are accessible via the Internet at: <http://biology.unm.edu/MSB/~herbarium>.

One of the main curatorial projects in the Herbarium is the construction of an electronic specimen database. Presently the database contains over 30,000 specimen records.

CURRENT RESEARCH PROFILE

My research continues to focus largely on biosystematic studies of the Asteraceae. However, my students (5 Ph.D and 1 Masters) work on a wide variety of plant taxa. The following research projects are currently underway in my laboratory:

1. Genetics of adaptive radiation in *Tetramolopium* (Asteraceae). This is a collaborative research project with Dr. Richard Whitkus. *Tetramolopium* is a unique genus that is wholly insular in distribution with a unique dispersal pattern in the Pacific Basin and an unusual pattern of adaptive radiation in the Hawaiian Islands. In addition, it can be cultivated to flowering in five months and the Hawaiian species are fully interfertile. We are studying the genetic basis of speciation and diversification in the genus. One of the major sources of morphological diversity is the syndrome of characters associated with differences in sex expression. We are analyzing the structure and amount of genetic variation present in the Hawaiian species as well as studying the genetic bases of morphological variation particularly in the sex expression syndrome.

2. Systematics and biogeography of the Vittadinioid complex in the Astereae Tribe of the Asteraceae in the Pacific Basin. This is a collaborative project with Professor Christopher Quinn of the University of New South Wales. The Vittadinioid complex is a group of genera including the largest genera, *Vittadinia* and *Tetramolopium*. The group is centered in Australia, New Guinea, and New Zealand. We are analyzing the phylogenetic relationships and generic limits of the constituent genera using molecular and morphological data.

3. Genetic diversity in Chihuahuan Desert *Larrea tridentata* (Zygophyllaceae). The structure and degree of genetic diversity in Creosote Bush, one of the dominant species of North American warm deserts, has been assessed using isozyme data. Seventeen populations from the northernmost distribution in New Mexico to the southernmost limit in Mexico have been sampled. The Chihuahuan Desert populations exhibit some of the highest reported values of genetic diversity for angiosperms. (Kristy Duran, Paul Lewis, and Robert Parmenter.)

4. Ecology of hybridization in Southeast Asian *Nepenthes*. The reproductive biology and pollination ecology of three species of *Nepenthes* and their natural hybrids are being characterized in Malaysia and Singapore. The role and nature of extrinsic reproductive barriers among the taxa are also being investigated. (Chris Frazier.)

5. Morphometric analysis of the Compactus group in *Erigeron* section *Wyominga* (Asteraceae). The Compactus group consists of nine perennial species of *Erigeron* occurring in the Colorado Plateau region of the Western U.S. The morphological variation and species limits are being studied using phenetic methods. (Phil Tonne.)

6. Molecular systematics and adaptive radiation of *Scalesia* (Asteraceae) in the Galapagos Islands. *Scalesia* is endemic to the Galapagos Islands and the species are a dominant component of the natural vegetation. The species have been severely impacted by human-mediated disturbance. The phylogenetic relationships of the species will be analyzed using molecular and morphological data. The resulting phylogenetic hypotheses will be used to study the biogeographical relationships and trends in adaptive radiation among the species. (Alan Christensen.)

7. Biosystematic analysis of the *Cirsium arizonicum* Complex (Asteraceae) of the Southwestern U.S. The complex presently includes 10 described taxa, but ambiguity in the identification of specimens belonging to this group indicates that the current taxonomy is inadequate to represent the relationships among the populations. The study attempts to clarify the separate evolutionary units within the complex and determine if the patterns of variation are consistent with any of the three factors known to lead to the formation of species-complexes. (Patricia Barlow.)

8. Genetic diversity and conservation biology of selected Hawaiian Dry Forest species. The Dry Forest plant community in the Hawaiian Islands has been severely impacted by human occupation of the islands. A large percentage of the Dry Forest has been permanently destroyed. The remaining portions of the community are small and highly fragmented. The structure and amount of genetic diversity remaining in key woody species will be characterized using molecular genetic markers. (Jerusha Reynolds.)

Dr. Tim Lowrey

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Reidar Elven, Oslo, Norway

David F. Murray, Fairbanks, Alaska, USA

Boris Yurtsev, St. Petersburg, Russia

THE PANARCTIC FLORA PROJECT AND THE SPECIES CONCEPT FOR THE HIGH NORTH. SYMPOSIUM

As reported in the 29th issue of this newsletter, a minisymposium was planned for Oslo in October 1998 on this subject. This event was successfully accomplished 28 September through 3 October in Oslo at the Center for Advanced Study of the Norwegian Academy of Science and Letters. It was designed to launch the "Panarctic Year", which the Center is sponsoring.

About 25 people from seven countries gathered to hear about the history of the Panarctic Flora Project (PAF), and to discuss the concepts of species, subspecies, and varieties in an attempt to unify our application of these categories. Participants provided case studies demonstrating the challenges we face in seeking a panarctic taxonomy for polyploid and apomictic complexes. Examples were taken from studies of arctic grasses (*Festuca*, *Phippsia*, *Puccinellia*), the *Cerastium alpinum/arcticum* complex, and the genera *Draba*, *Oxytropis*, *Papaver*, *Potentilla*, *Dryas*, and *Saxifraga*. Discussion revealed different approaches among national and regional

traditions. Other topics dealt with a circumscription of the Arctic and the problems of its definition, particularly in oceanic areas.

After the minisymposium a group consisting of Arve Elvebakk (Tromsø), Reidar Elven (Oslo), David F. Murray (Fairbanks), Inger Nordal (Oslo), Vladislav Petrovsky (St. Petersburg), Vladimir Razzhivin (St. Petersburg), Boris Yurtsev (St. Petersburg) has continued the discussions. Consensus was reached that there will be a multinational effort to document arctic plant diversity, first through an authoritative checklist, but with the ultimate goal of a Flora in both hard copy and electronic forms.

DELIMITATION AND DIVISION OF THE ARCTIC

After much discussion, agreement was reached on the delimitation and subdivision of the Arctic for PAF purposes. There appears to be consensus that the southern limit will be drawn in the North Atlantic to include the northernmost peninsulas of Iceland and Norway, and the north coast of the Kola Peninsula. In the North Pacific the border will be drawn to exclude the Commander and Aleutian Islands and also the Pribilof Islands. All of Greenland is included, except for the boreal enclave in the south. The southernmost limit will mainly, and particularly in continental areas, follow the northern limit of the northern forest-tundra. There are still some problems with the delimitation in the more oceanic areas. The line will cross over mountain ranges that lie more or less perpendicular to the tree line, but include arctic mountain ranges more or less parallel to the coast.

Agreement was reached on five arctic zones, but how to name them provoked debate that could not be resolved. Elvebakk will

prepare a manuscript to describe the zones, clarify the problems, propose a nomenclature from among the many choices from the Russian, Scandinavian and American traditions, and he will prepare a map showing the delimitation of the five zones (on which there is no disagreement). Floristic sectors will follow the suggestions of Yurtsev and will be very close to what he has published in the *Journal of Vegetation Sciences* 5: 765-776 (1994).

CHECKLIST

An annotated arctic vascular plant checklist will be prepared in two parallel parts. The first part will have accepted names with authors per the Kew standard and synonyms and misapplications from the set of floras that determine the names to be accounted for. The second part will have only the accepted names and geographic distribution by floristic zones and sectors with an indication of frequency of occurrence. Only native or stable introduced taxa (not ephemerals) occurring in the Arctic will be included. Categories of geographic information will be abbreviated, but in such a way as to have the abbreviations be mnemonic.

Three ranks will be used: species, subspecies, and varieties. Criteria and guidelines are being developed with case studies to illustrate problems and solutions. Ecotypes should generally be considered as varieties if treated at all. Hybrids more or less independent of one or both putative parents and with their own ways of propagation (sexual or asexual) will be treated as equivalent to species with binomials.

Because of problems with different name/rank choices, the checklist will use a supra-species convention to represent the level at which agreement can be reached among

competing positions. The aggregate name applies to situations with several closely related taxa treated at different ranks in different taxonomic traditions – not to polymorphic apomictic complexes or hybrid complexes.

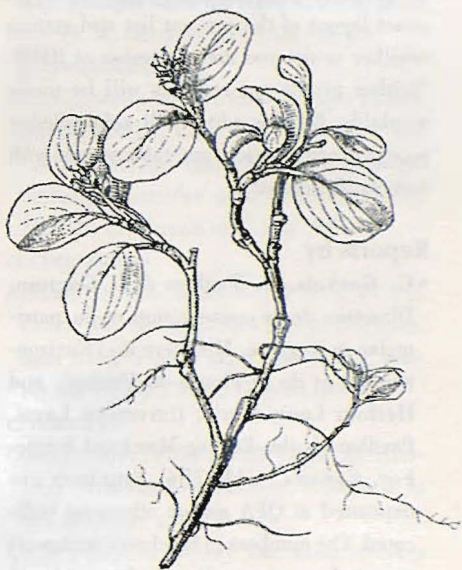
Whereas the draft checklist so far has been a Russian project, the list is not intended to represent the Russian position but to reflect the compromise view of all the participating countries. An individual or team will be established to verify the chromosome numbers for arctic plants.

FURTHER ORGANIZATION

A provisionally steering committee for PAF has been proposed, so far consisting of Reidar Elven (Oslo), David F. Murray (Fairbanks) and Boris Yurtsev (St. Petersburg). Since the area covered by the Flora also includes Canada, Denmark (Greenland) and Iceland, the committee has sent letters to the lead institutions in each PAF country soliciting endorsement of the project and requesting appointment of national representative to the PAF steering committee. It will also be set up a Council for the project to cover areas and taxonomical specialities in broad sense.

The Panarctic year in Oslo will continue until May 1999. During the remaining months work will continue with specialist groups (invitations still under way) working on selected genera. As much as we would like to activate all groups now, the list of genera exceeds the funds available, therefore they were ranked by priority into three groups: 1. *Draba*, *Papaver*, *Potentilla*, *Saxifraga*, and grasses; 2. *Salix*; and 3. *Artemisia*, *Oxytropis*, *Senecio*.

IOPB-member wishing to participate in PAF activities should contact Reidar Elven. reidar.elven@toyen.uio.no



SALIX POLARIS



IOPB Chromosome Data 14

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Please send contributions to Professor Stace at the above address (preferably by email, but failing that on a 3.5 inch 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.

Reports by

- **C. Gervais, R. Trahan & J. Gagnon.** Direction de la conservation et du patrimoine écologique, Ministère de l'Environnement et de la Faune du Québec, and Herbarium Louis-Marie, Université Laval, Pavillon Charles-Eugène-Marchand, Sainte-Foy, Canada, G1K 7P4. Vouchers are deposited at QFA except otherwise indicated. The numbers in brackets correspond to greenhouse accession numbers at Laval University. All localities in Québec, Canada.

APIACEAE

Cicuta maculata L. var. *victorinii* (Fern.) Boivin. $2n=22$. Comté de Montmorency n° 2: Ile d'Orléans, rivage du Saint-Laurent, près du pont, 21.9.95. S. Plante, F. Coursol et D. Bouchard, *s.n.* (95-153).

ARALIACEAE

Aralia hispida Vent. $2n=24$. Comté de Saguenay: chemin sablonneux, ouest de Havre-Saint-Pierre, près de la rivière Romaine, 21.7.96. Gervais 96-80.

ASTERACEAE

Arnica lanceolata Nutt. $2n=c$. 76. Comté de Frontenac: Montagne de Marbre, zone humide au pied d'une paroi rocheuse, 11.9.92. G. Hall et G. Lavoie *s.n.* (92-150).

Aster novi-belgii L. var. *villicaulis* (Gray) Boivin. $2n=48$. Comté de Beauce: rivage rocheux des rapides du Diable, 31.8.96. J. Labrecque et F. Coursol, *s.n.* (96-157, 96-158, 96-159).

Cirsium minganense Vict. $2n=34$. Comté de Saguenay: Archipel de Mingan, Grosse Ile au Marteau, 27.7.96. P. Nantel PN 96-34, témoin à MT. (96-160).

Hieracium robinsonii (Zahn) Fern. $2n=27$. Territoire-du-Nouveau-Québec: rapides de l'Anse, embouchure de la rivière Bell, nord de Matagami, berge rocheuse, 22.8.96. J. Gagnon 96-65 (96-187).

Senecio pauciflorus Pursh. $n=90$. Comté de Gaspé-Ouest: mont Logan, Grande Arête, 20-29.7.92. R. Trahan, *s.n.* (92-20).

Solidago chlorolepis Fern. $2n=18$. Comté de Gaspé-Ouest: mont Albert, Vallée du diable, pentes d'éboulis, 13.8.94. G. Lavoie, J. Labrecque et S. Lamoureux, *s.n.* (94-5).

Solidago hispida Mühl. $2n=18$. Comté de Gaspé-Est: Percé, mont Ste-Anne, talus d'éboulis actif, 3.8.95. F. Boudreau., *s.n.* (95-10).

Solidago ptarmicoides Nees. $2n=18$. Territoire du Nouveau-Québec: rapides de l'Anse, embouchure de la rivière Bell, nord de Matagamí, berge rocheuse, 22.8.96. J. Gagnon 96-66 (96-190).

Solidago simplex Kunth ssp. *simplex*. $2n=18$. Comté de Gaspé-Est: Percé, mont Ste-Anne, 29.8.96. F. Boudreau s.n. (96-176).

Solidago simplex Kunth ssp. *simplex* x *S. hispida* Mühl. $2n=18$. Comté de Gaspé-Est: Percé, mont Ste-Anne, 29.8.96. F. Boudreau, s.n. (96-175).

BRASSICACEAE

Arabis holboellii Hornem. $2n=22$. Comté de Rimouski: Ilet Canuel, sur rocher, pointe est, rive sud, 17.8.95. C. Gervais (95-33).

Capsella bursa-pastoris (L.) Medic. $2n=32$. Comté d'Abitibi: lac Berry, 23.8.96. J. Gagnon, s.n. (96-183).

Draba arabisans Michx. $2n=c$. 94. Comté de Rimouski: Ilet Canuel, rochers de la rive sud, 15.8.95. C. Gervais (95-184).

Rorippa sylvestris (L.) Bess. $2n=32$. Comté de Montmorency No 1: haut rivage vaseux du Saint-Laurent près de Beaupré, sous les saules, 18.5.96. C. Gervais (96-17).

CARYOPHYLLACEAE

Moeringia macrophylla (Hook.) Torr. $n=12$. Comté de Matapédia: La Rédemption, affleurement de serpentine, 23.6.97. C. Grenier 970606.

CISTACEAE

Hudsonia tomentosa Nutt. $2n=20$. Comté de Saguenay: Pointe-des-Monts, environ 3 km de la mer, altitude 75 m, sable en bordure de la route, 5.8.96. R. Gauthier 96-209 (96-195). $2n=c$. 20. Comté de Saguenay: sable au bord de la route 138, 1 km à l'est de la rivière Moisie, 24.7.96. C. Gervais (96-102).

CORNACEAE

Cornus canadensis L. $2n=44$. Comté de

Gaspé-Ouest: mont Logan, forêt subalpine ouverte, près du sommet. Altitude 1000 m., 20.6.90. C. Gervais 90-100. Comté de Charle-voix-Ouest: Lac-à-Jack, ca. 20 km à l'est du lac Jacques-Cartier, sous-bois, 6.7.94. C. Gervais (94-56). Comté d'Abitibi: Gallichan, 14.8.95. J. Gagnon 95-05 (95-25). Territoire-du-Nouveau-Québec: 0,3 km est-sud-est du pont de la rivière Rupert, pessière à épinette noire, 2.8.96. J. Gagnon 96-62 (96-188). $2n=c$. 44. Comté de Saguenay: ouest de Havre-Saint-Pierre, près de la rivière Romaine, 21.7.96. C. Gervais (96-77).

Cornus canadensis L. (race diploïde) x *C. suecica* L. $2n=22$. Territoire-du-Nouveau-Québec: environs d'Umiujaq $56^{\circ}32'N-76^{\circ}33'O.$, pente herbeuse au pied d'un escarpement rocheux, 18.8.97. M. Blondeau 97 UD-099.

Cornus suecica L. $2n=22$. Comté de Saguenay: archipel de Blanc Sablon, Ile au Bois, 3.8.94. M. Garneau 94-515M (94-28).

CRYPTOGRAMMACEAE

Cryptogramma stelleri (S.G. Gmel.) Prantl. $2n=56-60+1B$. Comté de Rimouski: Ilet Canuel, rivage maritime nord, rochers ombragés humides avec cônes d'éboulis, 16.8.95. C. Gervais et C. Roy (95-34).

CUCURBITACEAE

Echinocystis lobata (Michx.) T. & G. $2n=32$. Comté de Montmorency No 1: Beaupré, haut rivage vaseux du Saint-Laurent, sous les saules, 18.5.96. C. Gervais (96-15).

CYPERACEAE

Carex formosa Dewey $2n=52$. Comté de Saint-Jean: St-Bernard-de-Lacolle, 30.6.96. J. et G. Labrecque s.n. (96-55).

Carex petricosa Dewey var. *misandroides* (Fern.) Boivin. $2n=47-48$. Comté de Gaspé-Ouest: l'anse-Pleureuse, milieu de la

falaise à l'est du lac Pleureuse, anfractuosités de schistes, 31.7.95. P. Morisset et M. Garneau 95-90 (96-2).

Eriophorum spissum Fern. 2n=61. Comté de Lotbinière: tourbière à 5,6 km au sud-est de Dosquet, 25.5.96. C. Gervais et R. Gauthier 96-21.

Eriophorum x porsildii Raymond. 2n=59. Comté de Kamouraska: tourbière de Rivière-Ouelle, 25-28.6.96. R. Gauthier 96-63 (96-51).

Scirpus pendulus Mühl. 2n=40. Comté de Saint-Jean: Saint-Bernard-de-Lacolle, 30.6.96. J. et G. Labrecque s.n. (96-56).

Scirpus purshianus Fern. 2n=36. Comté d'Argenteuil: Calumet, confluent des rivières Rouge et Outaouais, 9.9.95. M. Blondeau CA95001 (95-94). 2n=38. Comté de Pontiac: Danford Lake, 26.7.95. J. Gagnon 95-02 (95-28).

Scirpus smithii Gray. 2n=40. Comté de Portneuf: 10 km à l'ouest de Neuville, rivage du Saint-Laurent, 20.9.95. S. Plante, F. Coursol, D. Bouchard et J. Labrecque s.n. (95-134).

ERICACEAE

Gaylussacia dumosa (Andr.) T. & G. var. *bigeloviana* Fern. 2n=24. Iles-de-la-Madeleine, 11.9.95. J. Gagnon, s.n. (95-104). n=12. Comté de Kamouraska: Tourbière de Rivière-Ouelle, 25-28.6.96. R. Gauthier 96-59.

ERIOCAULACEAE

Eriocaulon parkeri Robins. 2n=20. Comté de Portneuf: Grondines, rivage du Saint-Laurent, 20.9.95. S. Plante, F. Coursol, D. Bouchard et J. Labrecque s.n. (95-72).

FABACEAE

Astragalus americanus (Hook.) Jones. 2n=16. Comté de Rimouski: sables, bord de la rivière Rimouski, 21.8.96. N. Dignard 96-69 (96-193).

Astragalus australis (L.) Lam. var. *glabriuscula* (Hooker) Isely (= *A. aboriginum* Richards). 2n=16. Comté de Pontiac: Portage-du-Fort, rochers de marbre près de la rivière des Outaouais, 25.7.95. J. Gagnon 95-01 (95-24). Comté de Témiscamingue: Vieux-Fort, berge du lac Témiscamingue, talus graveleux, 3.8.95. J. Gagnon 95-04 (95-26). Comté de Gaspé-Ouest: Mont-St-Pierre, talus d'éboulis ca 3 km au sud de la baie de la rivière à Pierre, côté est, 28.7.95. P. Morisset et M. Garneau 95-20 (95-117).

Astragalus robbinsii (Oakes) Gray. var. *fernaldii* (Rydb.) Barneby. 2n=32. Comté de Saguenay: sommet à l'est de Blanc-Sablon, 17.8.94. P. Morisset et M. Garneau PM 94-339 (96-3).

FUMARIACEAE

Dicentra cucullaria (L.) Bernh. 2n=c. 48. Comté de Matane: environ 6 km au S de Cap-Chat, sapinière à bouleau jaune, le long de la rivière, 18.5.91. C. Gervais, M.M. Grandtner et R. Trahan 91-1.

GENTIANACEAE

Halenia deflexa (Sm.) Griseb. 2n=22. Comté de Rimouski: Ilet Canuel, entre les rochers de la pointe ouest, 15.8.95. C. Gervais 95-71.

Gentianopsis victorinii (Fern.) Iltis. 2n=c. 78. Comté de l'Islet: Saint-Jean-Port-Joli, c. 150 m à l'est du quai, rivage du Saint-Laurent, fin août 95. F. Coursol et D. Bouchard, s.n. (95-76).

ISOETACEAE

Isoetes echinospora Durieu. 2n=22. Comté de Frontenac: lac Mégantic, 11.9.92. G. Lavoie, s.n. (92-149B).

JUNCAGINACEAE

Triglochin maritimum L. 2n=48. Comté de Lotbinière: Pointe-au-Platon, vase du rivage du Saint-Laurent, 2.9.97. J. Gagnon, B. Foix & C. Gervais (97-97, 97-98, 97-99, 97-100).

LAMIACEAE

Lycopus virginicus L. 2n=22. Comté de Champlain: Ste-Anne-de-la-Pérade, île du Large, 26.9.96. J. Labrecque et B. Gauthier, s.n. (96-177).

LILIACEAE

Allium canadense L. 2n=28. Comté de Verchères: Ile Bouchard, 20.6.96. N. Lavoie s.n. (96-37).

LIMNANTHACEAE

Floerkea proserpinacoides Willd. 2n=10. Comté de Beauharnois: Ile de Beaujeu, 3 km NO de Valleyfield, M. Lafortune, s.n. (96-6).

MYRICACEAE

Myrica gale L. 2n=96. Comté de Lotbinière: Pointe-au-Platon, rivage du Saint-Laurent, 4.10.95. C. Gervais et A. Gouge (95-208).

ONAGRACEAE

Epilobium arcticum Samuelss. 2n=c. 36. Territoire-du-Nouveau-Québec: environs de Puvirnituq (60°02'N. -77°17'O.) au pied d'un talus rocheux dans les mousses humides, 8.8.96. M. Blondeau 96PX-192 (96-173).

Epilobium davuricum Fisch 2n=36. Territoire-du-Nouveau-Québec: environs de Puvirnituq (60°02'N.-77°17'O.) ostiole de tundra, 15.8.96. M. Blondeau 96PX-238 (6-174).

Circaea alpina L. 2n=22. Comté de Rimouski: Ilet Canuel, rive nord, talus humide au pied d'une falaise, 16.8.95. C. Gervais et C. Roy (95-55).

Circaea x intermedia Ehrh. 2n=22. Comté de Québec: Sainte-Foy, sous-bois humide près du Complexe scientifique, 10.7.79. C. Gervais 79-124, 79-125.

ORCHIDACEAE

Cypripedium passerinum Richards var. *minganense* Vict. 2n=20. Comté de Saguenay: Archipel de Mingan, Ile Niapiskau, 17.7.

96. P. Nantel PN 96-27. Témoin à MT.

Habenaria blephariglottis (Willd.) Hook. 2n=42. Comté de Lévis: tourbière de la Grande Plée Bleue, env. 10 km au SE de Lévis, 2.7.96. R. Trahan, C. Roy, L. Couillard, s.n. (96-57).

PLANTAGINACEAE

Plantago maritima L. 2n=12. Comté de Rimouski: Ilet Canuel, berge rocheuse du Saint-Laurent, 18.8.95. C. Gervais (95-54).

POACEAE

Avenula pubescens (Huds.) Dumort. 2n=14. Comté de Saguenay: Ile d'Anticosti, baie Gamache, pointe du Château, 15.8.92. J. Cayouette C7232-1 (92-159).

Beckmannia syzigachne (Steud.) Fern. 2n=14. Comté de Québec: Sainte-Foy, près d'étangs en bordure d'érablière, 22.7.80. C. Gervais 80-100.

Elymus trachycaulus Gould ex Shinners ssp. *subsecundus* (Link) A. & D. Löve 2n=28. Comté de Rimouski: Ilet Canuel, rivage sud, 17.8.95. C. Gervais (95-53).

Elytrigia repens (L.) Desv. ex B.D. Jackson n=21 + 1-2B. Comté de Saguenay: Rivière-au-Tonnerre, terrain sablonneux, 22.7.96. C. Gervais et al. 96-93.

Festuca prolifera (Piper) Fern. 2n=c. 70. Comté de Matane: mont Griscom, Grande Cascade, crevasses de rochers schisteux, 950 m, 20-29.7.92. R. Trahan, s.n. (92-59).

Festuca vivipara (L.) J.E. Smith ssp. *hirsuta* (Rydb.) Frederiksen. 2n=28. Comté de Saguenay: Blanc-Sablon, sommet du mont Parent, sur calcaire remanié, 17.8.94. P. Morisset 94-322 (95-87).

Hordeum brachyantherum Nevski. 2n=28. Comté de Saguenay: Blanc Sablon, platière sablonneuse de la rivière, 15.8.94. P. Morisset, M. Garneau & C. Fortin 94-289-1 (95-88, 95-89).

Poa glauca Vahl. $2n=c$. 56. Comté de Rimouski: Ilet Canuel, sur rocher en forêt, 15.8.95. C. Gervais (95-42).

Sorghastrum nutans (L.) Nash. $2n=40$. Ile de-Montréal: Parc du Cap-Saint-Jacques, rivage, 25.9.96. J. Labrecque et B. Gauthier, s.n. (96-177).

Trisetum spicatum (L.) Richt. $2n=42$. Comté de Matane: mont Dodge, schistes d'un ravin, 1000 m, 20-29.7.92. R. Trahan (92-87).

Zizania aquatica L. var. *brevis* Fassett. $2n=30$. Comté de Montmorency No 1: Beaupré, rivage du Saint-Laurent, 29.7.80. C. Gervais 80-109.

POLYGONACEAE

Polygonum punctatum Ell. var. *parvum* Vict. & Rousseau. $2n=40$. Comté de Montmorency No 2: Ile d'Orléans, rivière Lafleur, rivage du Saint-Laurent. F. Coursol et D. Bouchard, s.n. (95-230). Comté de Montmorency n° 2: Ile d'Orléans, Village-des-Anglais, rivage du Saint-Laurent, 21.9.95. S. Plante, F. Coursol et D. Bouchard, s.n. (95-155).

PRIMULACEAE

Glaux maritima L. $2n=30$. Comté de Rimouski: Ilet Canuel, rochers maritimes, rive nord, 16.8.95. C. Gervais et C. Roy (95-45).

Primula laurentiana Fern. $2n=c$. 72. Comté de Rimouski: Ilet Canuel, rochers maritimes, rive nord, 16.8.95. C. Gervais et C. Roy (95-56).

RANUNCULACEAE

Ranunculus cymbalaria Pursh. $2n=16$. Comté de Rimouski: Ilet Canuel. Gazons entre rochers du rivage N., 16.8.95. C. Gervais et C. Roy (95-57).

ROSACEAE

Rosa nitida Willd. $n=7$, $2n=14$. Comté de

Lotbinière: tourbière à 5,6 km au SE de Dosquet, 25.5.96. C. Gervais et R. Gauthier (96-24).

Potentilla palustris (L.) Scop. $2n=42$. Comté de Charlevoix-Ouest: bord d'un ruisseau entre les lacs Grandpré et Nadreau, ca. 11 km à l'est du lac Jacques-Cartier, 26.7.93. C. Gervais (93-116). $2n=c$. 42. Comté de Lotbinière: Pointe-au-Platon, rivage inondé du Saint-Laurent, 4.10.95. C. Gervais et A. Gouge (95-111).

Rosa williamsii Fern. $2n=14$. Comté de Rimouski: Ilet Canuel, lisière de forêt en haut du rivage nord, pointe est, 17.8.95. C. Gervais (95-59).

Fragaria multicipita Fern. $2n=56$. Comté de Gaspé-Ouest: Sainte-Anne-des-Monts, rivage graveleux de la rivière Sainte-Anne, -8.94 G. Lavoie et J. Labrecque, s.n. (94-4).

RUBIACEAE

Cephalanthus occidentalis L. $2n=44$. Comté de Lotbinière: Pointe-au-Platon, rivage exondé du Saint-Laurent, 4.10.95. C. Gervais et A. Gouge (95-206).

SALICACEAE

Salix brachycarpa Nutt. $2n=c$. 40. Comté de Gaspé-Ouest: mont Albert, vallée du Diable, 13.8.94. G. Lavoie, J. Labrecque et S. Lamoureux, s.n. (94-6B).

Salix x gaspensis Schneider $2n=38-39$. Comté de Gaspé-Ouest: mont Albert, vallée du Diable, 13.8.94. G. Lavoie, J. Labrecque et S. Lamoureux, s.n. (94-10(1)).

SARRACENIACEAE

Sarracenia purpurea L. $2n=26$. Comté de Lévis: tourbière de la Grande Plée Bleue, env. 10 km au SE de Lévis, 8.4.96. C. Gervais et R. Gauthier (96-5B).

SCROPHULARIACEAE

Gratiola aurea Mühl. $2n=28$. Territoire-du-Nouveau-Québec: 0,4 km au sud-ouest du

pont de la rivière Rupert, rivage de gravier et sable, 21.8.96. J. Gagnon 96-47 (96-186). *Gratiola neglecta* Torr. var. *glaberrima* Fern. $2n=18$. Comté de Québec: Cap-Rouge, grève à l'ouest de l'embouchure de la rivière, 4.9.96. F. Coursol, s.n. (96-164).

Mimulus glabratus Hbk. $n=15$, $2n=30$. Comté d'Abitibi: lac Berry, 23.8.96. J. Gagnon s.n. (96-184).

TYPHACEAE

Typha latifolia L. $2n=30$. Comté de Lotbinière: à 5,6 km au sud-est de Dosquet, bordure d'une tourbière, 25.5.91. R. Gauthier 96-46.

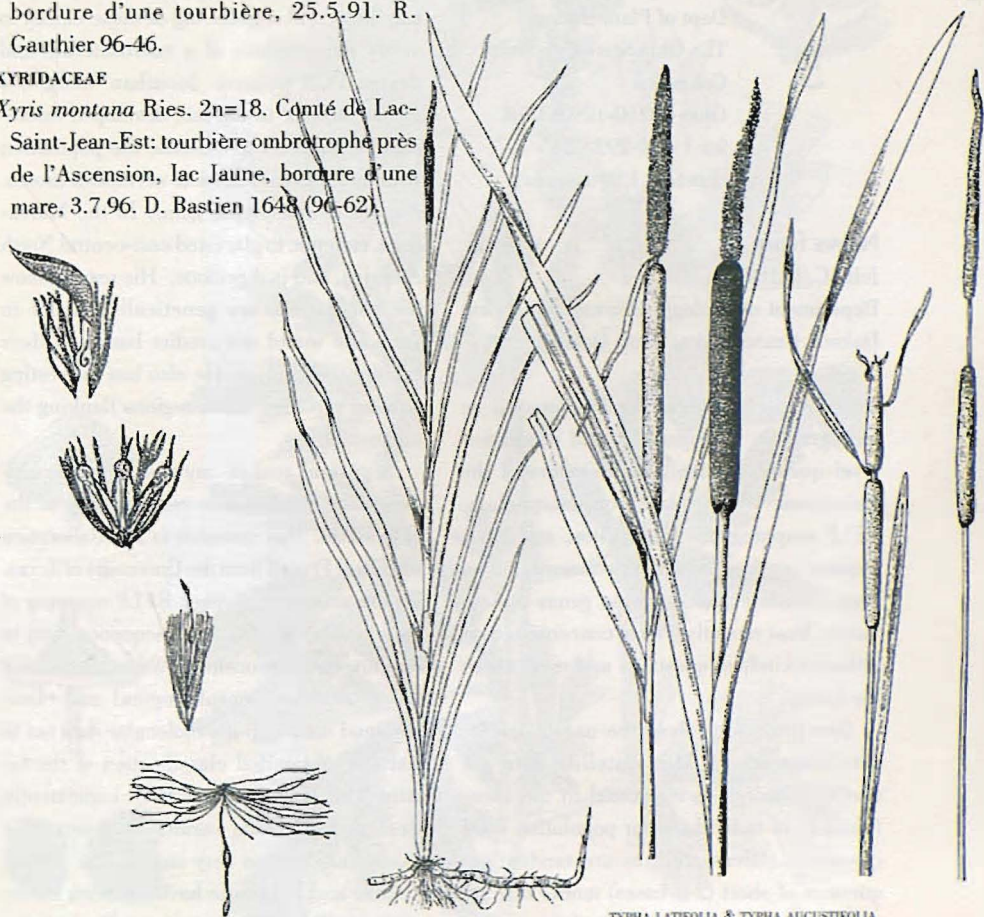
XYRIDACEAE

Xyris montana Ries. $2n=18$. Comté de Lac-Saint-Jean-Est: tourbière ombrotrophe près de l'Ascension, lac Jaune, bordure d'une mare, 3.7.96. D. Bastien 1648 (96-62).

• **James E. Eckenwalder**, Department of Botany, University of Toronto, 25 Willcocks St., Toronto, Ontario M5S 3B2, Canada. Voucher in TRT.

SALICACEAE

Populus deltoides Marshall subsp. *wislizenii* (S. Watson) Eckenw. $2n=38$. U.S.A.: New Mexico: Los Alamos Co.: East Jemez Road. S. Eckenwalder 1143. Correction of report in Chromosome Number Reports lx, *Taxon* 27: 225 (1978).



TYPHA LATIFOLIA & TYPHA ANGUSTIFOLIA



News from Plant Molecular Biosystematists 10

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News from

John C. LaDuke

Department of Biology, University of North Dakota, Grand Forks, North Dakota, USA.

Research in my laboratory has focused on monographic, phylogenetic, and population level questions involving members of the Malvaceae. We use data from morphology, RFLP mapping, microsatellites, and DNA sequences. My earlier work concentrated on more classical studies of the genus *Sphaeralcea*. Most recently, I have concentrated on different kinds of questions and methods in the family.

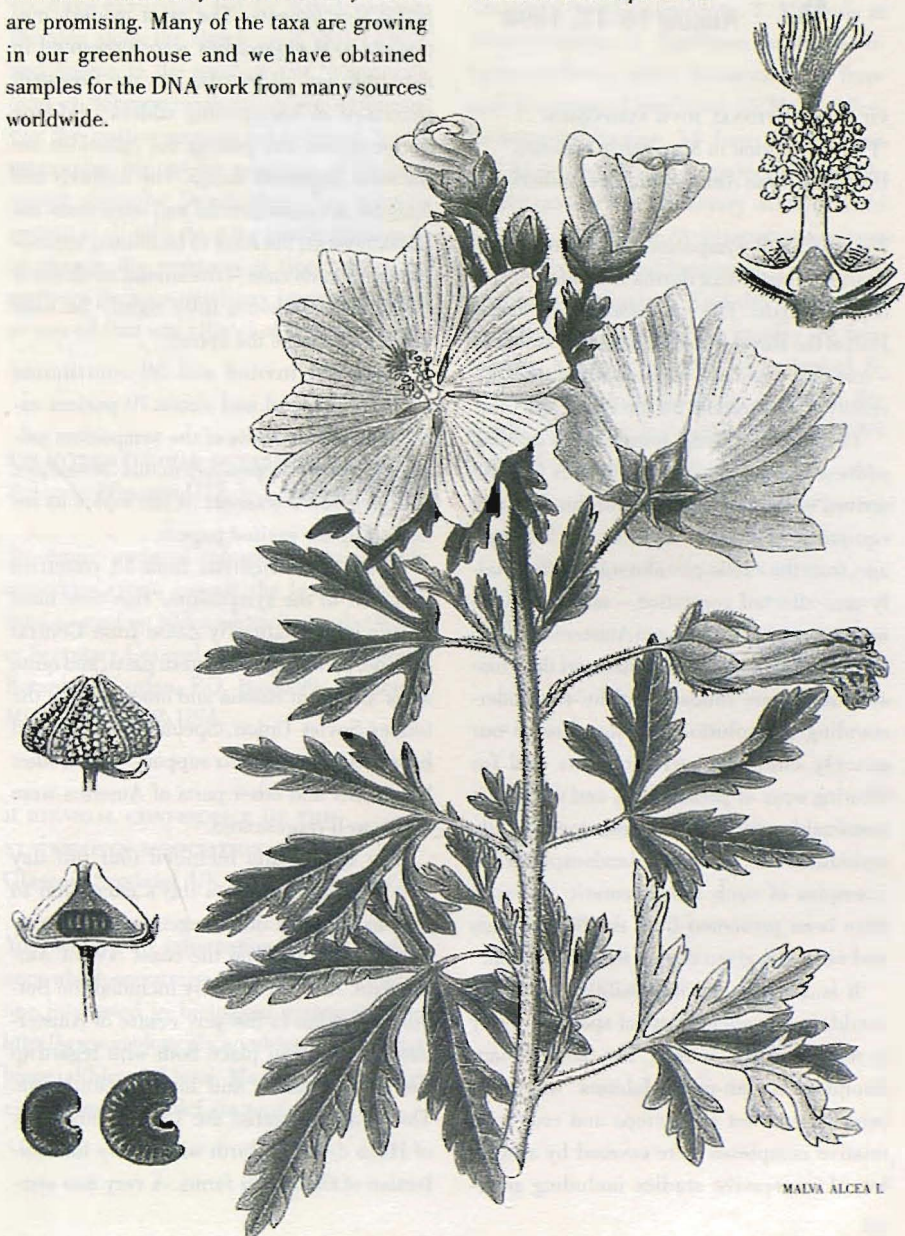
One project involves the use of microsatellite markers. Microsatellite data are useful when one is interested in the identification of individuals for population level questions. Microsatellites are tandem sequences of short (2-6 bases) motifs that are repeated a variable number of times (e.g.

AATAATAAT...). Variability in the number of repeats results in variation in the total length of PCR-amplified DNA. Alleles are discrete and readily distinguished, they are codominant, meaning that both alleles of a heterozygote can be detected and, hence, exact genotyping of individuals is possible. The main drawback to microsatellite studies of population structure is the time and expense of finding the microsatellites, which involves development of a large library of clones (DNA fragments) containing microsatellites, and sequencing of these clones to verify the presence of a microsatellite and design PCR primers. Jonathan Wenger, a Ph. D. student in the lab, developed microsatellite markers to examine the population structure and colonization of *Napaea dioica*. *Napaea* is monotypic genus in the Malvaceae, endemic to glaciated east-central North America, and is dioecious. His results show the populations are genetically similar in ways one would not predict based on their current distribution. He also has interesting data on variation of the regions flanking the microsatellites.

A general goal of my research is to elucidate the phylogenetic relationships of the Malvaceae. This research is a collaboration with Paul Fryxell from the University of Texas. We are using morphology, RFLP mapping of the chloroplast, and DNA sequence data to examine the relationships. We are combining the established morphological and chromosomal data with the molecular data set to test the subfamilial classification of the family. The Malveae have been consistently monophyletic using various data sets. The Gossypieae is also very stable. The Malvaceae and Hibisceae have not been monophyletic. This is not surprising if one looks

at the placement of members of these tribes historically. We will be incorporating DNA sequence, (RbcL, matK, ITS) data into our studies over the next year. Preliminary results are promising. Many of the taxa are growing in our greenhouse and we have obtained samples for the DNA work from many sources worldwide.

Dan Crawford who is now leaving as the editor of this column is wholeheartedly thanked for the long series of interesting, up-to-date contributions he has provided.



MALVA ALCEA L.

Meetings – past and future

6 Amsterdam, August 10–15, 1998

VII INTERNATIONAL IOPB SYMPOSIUM

“Plant Evolution in Man-made Habitats”

Universiteit van Amsterdam, The Netherlands

The VII IOPB Symposium took place in the heart of Amsterdam during a number of fine days in August. The venues were the Plenary Hall of the Royal Dutch Academy of Sciences – one day – and the Auditorium of the University of Amsterdam for the rest of the time.

The President Bengt Jonsell in his opening address connected to how Linnaeus in 1735 arrived in the Netherlands with his Lapland equipment and *Flora lapponica* in his luggage, from the exotic pseudovirgin to the totally man-affected vegetation – now as well as in that time. From Tromsø to Amsterdam IOPB covers these extremes. He stressed that biosystematics are fundamental for the understanding of evolutionary processes in our quickly changing environments and for showing ways of preservation and using in a sustainable way the plant resources in fully agricultural or urbanized landscapes. Fine examples of such biosystematic research have been presented from the Netherlands and were also given during the symposium.

It is, however, an impossibility here and would do injustice to lots of speakers to try to refer to single lectures. The theme “Plant Evolution in Man-made Habitats” was taken broadly, and not least crops and crop-wild relative complexes were covered by a number of impressive studies including gene-

mapping and evolution simulation. Other emphasis was on the conditions and evolution within invasive species in various parts of the world and indeed on apomixis with many new aspects. The most modern methodological approaches were presented in many but not all lectures. As the President remarked in his opening address defining the problems and putting the questions are the most important things. The methods and tools are of course crucial and often mean the breakthrough, but have to be chosen appropriately in each case – traditional methods or combinations should fully rightly be used when found to be the aptest.

About 20 invited and 30 contributed papers were read and about 70 posters exhibited. The contents of the symposium volume, presented separately in this Newsletter, will give you a transect of the topics as reflected by the invited papers.

About 200 scientists from 33 countries took part in the symposium. This time most people quite naturally came from Central Europe, including the eastern parts, and quite a few also from Russia and other parts of the former Soviet Union. Special fundings had been available for their support. On the other hand USA and other parts of America were not so well represented.

The symposium included four full day sessions broken by a day's excursion to various types of dune vegetation, both calcareous and acid, on the coast NW of Amsterdam. Another activity included the Botanical Garden in the very centre of Amsterdam, a historical place both with regard to the 18th century and more recent time. This year celebrated the 150th anniversary of Hugo de Vries' birth with a very fine collection of *Oenothera* forms. A very fine sym-

posium dinner where words of thanks were heartedly expressed was held in a nice setting in a small town at the IJssel Meer.

Only a minor group joined the following six days excursion led by Ruud van der Meijden along the Dutch coast from Goeree and Voorne in the south to the Vriesian island of Schiermonnikoog in the northeast. For the participants this became a really memorable trip, under guidance of the very expert upon the Dutch flora. Not least in respect of all said about the totally man-made landscape the richness of flora and communities demonstrated was impressive, and so was all that was offered of food and drink.

XVI INTERNATIONAL BOTANICAL CONGRESS
St Louis, Missouri USA 1-7 August 1999

To obtain updated information about this important event, consult the home-page for the Congress on address <http://www.abc99.org> or Secretary General, XVI IBC, c/o Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299, USA.

**II BIENNIAL CONFERENCE OF THE
SYSTEMATICS ASSOCIATION**

Glasgow, Scotland, UK 23-27 August 1999

You will get all information on this conference which encourages participation of everyone interested in biological systematics on <http://www.geology.gla.ac.uk/palaeo/systass/biennial/biennial.html>. May be contacted on e-mail: imd4m@udcf.gla.ac.uk

V CONFERENCE ON PLANT TAXONOMY
Lisboa, Portugal, 16-19 September 1999

Arranged in four non-concurrent sessions: 1. Taxonomy and Conservation. 2. Methods in Biosystematics. 3. Taxonomy in the Mediterranean Basin and in Macaronesia. 4. Tropical Taxonomy. Deadlines: 15 March: Preliminary registration. 15 June: Registration and Abstracts. 15 July: Limit for cancellation. Registrar Fees: Ordinary 40.000 Esc./Students 20.000 Esc./Accompanying person 20.000 Esc. Official languages: Portuguese, Spanish and English. Full-day concurrent excursions are planned for Sunday 19 September. Secretariat: Prof. Ana Isabel D. Correia, Museo, Laboratório e Jardim Botânico, R. da Escola Politécnica, 58, P-1294 Lisboa Codex. taxbot@fc.ul.pt.

Announcements

7 Proceedings VII IOPB Symposium

PLANT EVOLUTION IN MAN-MADE HABITATS

The programme of our triennial symposium covered the relationship between biosystematics and the human influence on plants, including the fields of evolution, domestication, life history studies, biosafety of transgenic plants, and apomixis. The lectures of the key speakers are elaborated to full-size scientific articles and they will all, after a process of peer review, be incorporated in the Proceedings. The volume includes contributions of a series of outstanding scientists. You will find the complete list of titles below. The editorial committee consists of Leo van Raamsdonk, Hans den Nijs and Ruud van der Meijden.

The Proceedings will be published in the third quarter of 1999 and will cost NLG 100, = Euro 45.50 (for IOPB members in good standing NLG 90 = Euro 41). The volume includes a register of scientific names and key words, and it will be indexed in international index journals. This state-of-the-art volume will be an important reference for libraries and for collections of individual scientists.

Orders can be sent to Hans C.M. den Nijs, Institute for Systematics & Ecology, Kruislaan 318, NL-1098 SM Amsterdam, or by e-mail nijs@bio.uva.nl

See also attached order form on one of the final pages of this Newsletter.

- Bayer, R. J., New perspectives into the evolution of polyploid complexes.
- Börner, A., Comparative genetic mapping in Triticeae.
- Campbell, C. S., The evolutionary role of hybridization in angiosperm agamic complexes.
- Darmency, H. & A. Fleury, Hybridization and introgression between *Brassica napus* and *Hirschfeldia incana*: impact of transgenic crops.
- Dickinson, T. A., Species concepts in agamic complexes.
- Dijk, H. van & B. Desplanque, European *Beta*: crops and their wild and weedy relatives.
- Ernst, W. H. O., Evolution of plants on soils anthropogenically contaminated by heavy metals.
- Gepts, P., Human effects on *Phaseolus vulgaris* adaptation during and after domestication.
- Hayward, M. D., The genetics of apomixis.
- Hill, J. D. & J. Doebley, Key genetic factors influencing morphological change during the domestication of maize.
- Hulst, R. G. M. van der, et al., Patterns of nuclear DNA variation in dandelion.
- Kadereit, J. W. & D. M. L. Purps, The evolution of invasive species in *Senecio* (Asteraceae).
- Kawano, S. et al., Naturalized populations of *Arabidopsis thaliana* in Japan.
- Neuffer, B., *Capsella bursa-pastoris*: colonization and adaptation.
- Raamsdonk, L. W. D. van, A new measure for analysing hybrid speciation.
- Rufener Al Mazzyad, P. & K. Ammann, The *Medicago falcata/sativa* complex, crop-wild relative introgression in Switzerland.
- Schmidt, R. et al., A strategy for comparative physical mapping in cruciferous plants.

Urbanska, K. M., Man-influenced hybrid speciation in *Cardamine*.

Warwick, S. I. & E. Small, Invasive plant species: evolutionary risk from transgenic crops.

Wendel J. et al., Genes, jeans and genomes: reconstructing the history of cotton.

Membership

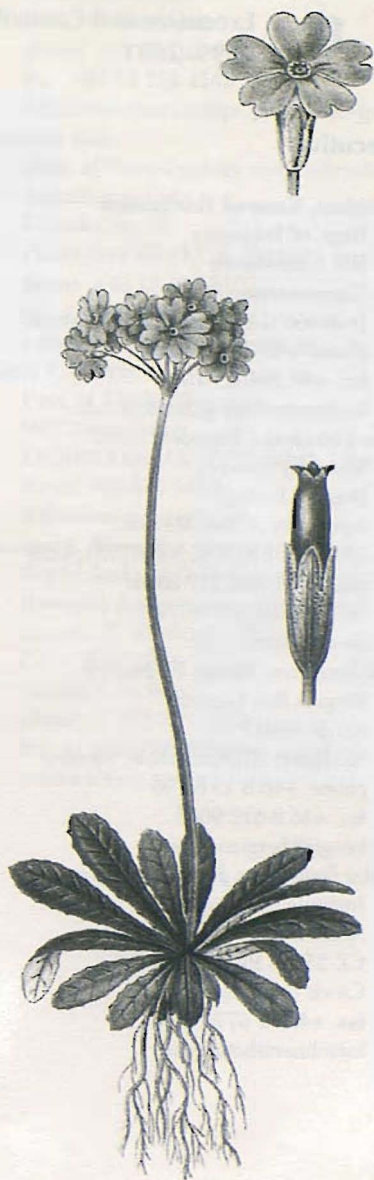
Membership fee in IOPB for the three year period 1999–2001 is US\$ 40 = Euro 34 = SEK 300. You have to add a sum of US\$ 7 = Euro 6 = SEK 50 for bank handling and currency conversion.

Fees could be sent as a cheque payable to the Treasurer of IOPB Tommy Lennartsson, Swedish University of Agricultural Sciences, Uppsala, Sweden (see address under 8) or to postal giro account Sweden 620205-7037.

Members in USA and Canada should pay the regional treasurer Peter Hoch, Missouri Botanical Garden, P.O. Box 299, St Louis, MO 63166-0299, USA or by charge of credit card VISA stating the account number, expiry date, name (as it appears on card), address, signature, date. You will obtain receipt from Missouri Botanical Garden.

This issue of the Newsletter is sent to all now registered as members, irrespective of whether you have payed your fee for the period. If you haven't, we hope indeed you will do so and continue or become a member of the IOPB.

It is also sent to all participants in the Amsterdam symposium, irrespective of being members or not – but we hope you will become so.



PRIMULA PARINOSA L.

IOPB

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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 give extensive insights in the field IOPB deals with.

They were held in Zürich (K. M. Urbanska ed., 1987, *Differentiation patterns in Higher Plants*), Kyoto (S. Kawano ed. 1990, *Biological Approaches and Evolutionary Trends in Plants*), St Louis (P. C. Hoch & A. G. Stephenson eds, 1995, *Experimental and Molecular Approaches to Plant Biosystematics*) and Tromsø

(L. Borgen & B. Jonsell eds, 1997, *Variation and Evolution in Arctic and Alpine Plants*).

The IOPB Newsletter is published about 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*. IOPB Members automatically have free publishing right of their data and news.

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