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# International Organization of Plant Biosystematics

Newsletter

No. 1

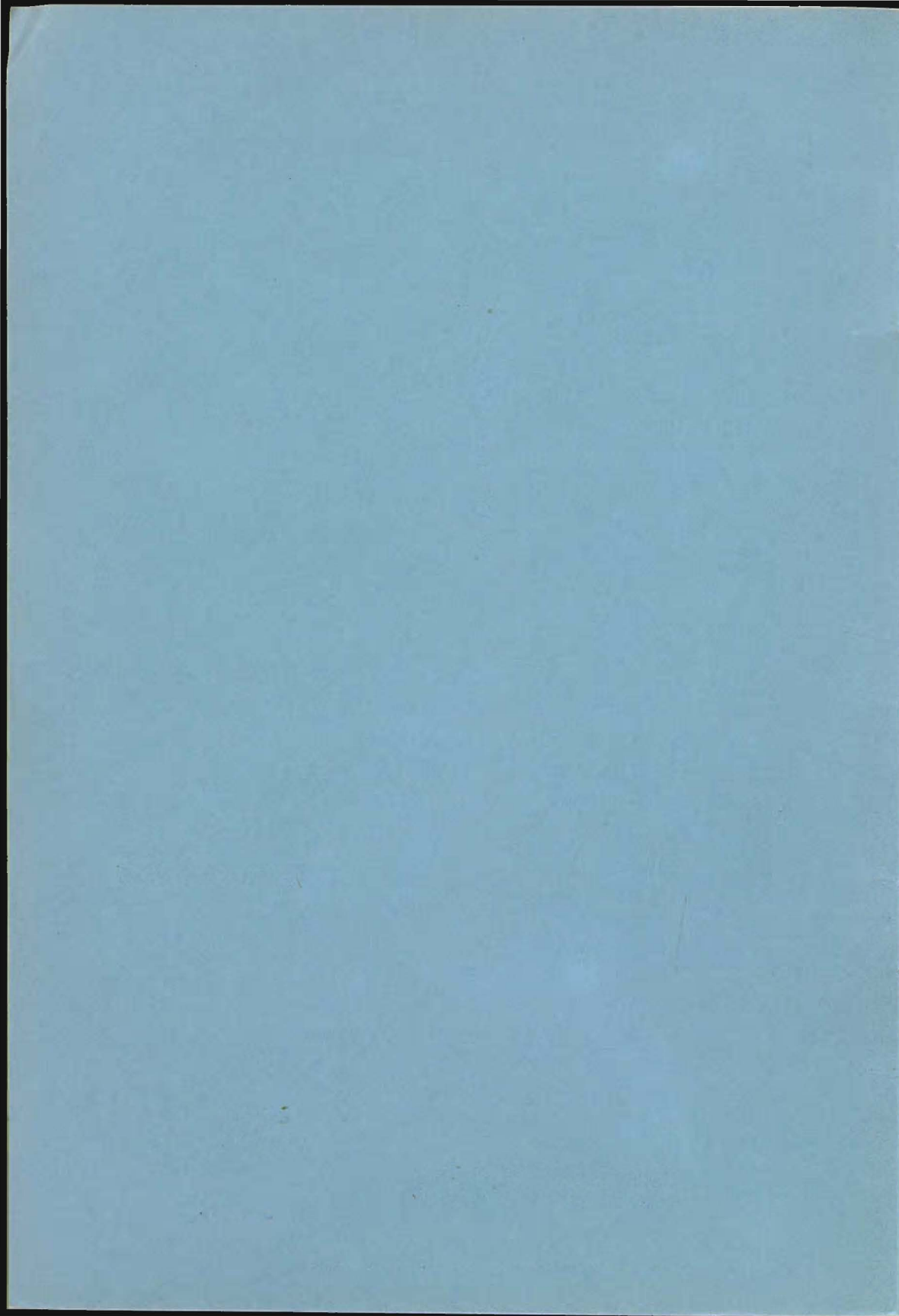
Edited by K. M. Urbanska



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Swiss Federal Institute of Technology

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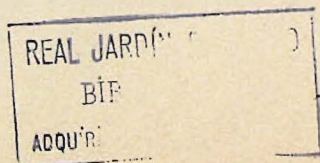
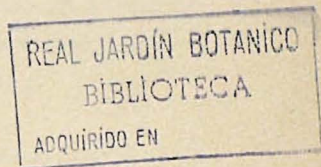
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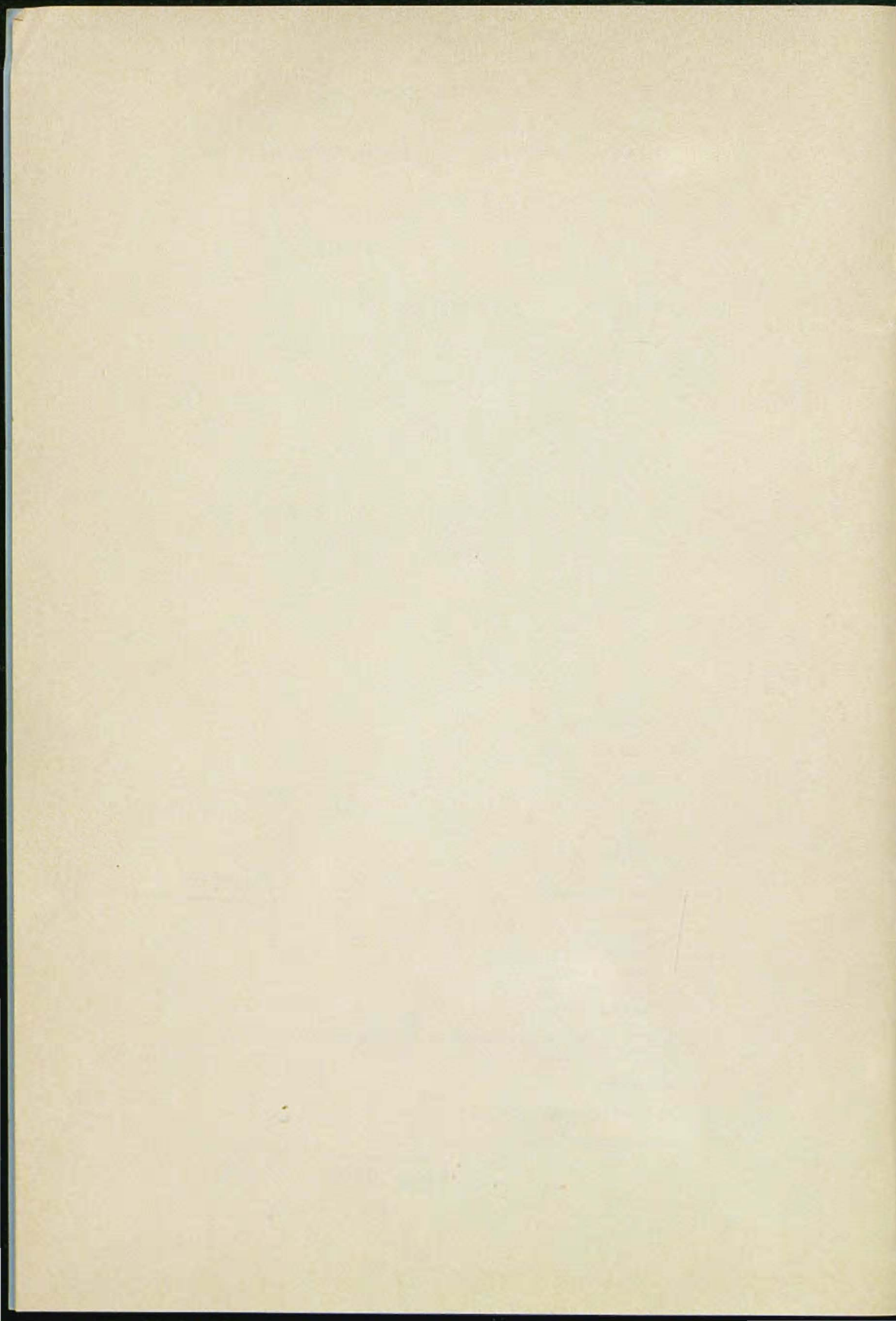
INTERNATIONAL ORGANIZATION OF PLANT SYSTEMATICS

NEWSLETTER No. 1

CONTENTS

1. EDITORIAL COMMENT
2. PROFILE OF A LAB
3. RESEARCH NEWS
  - A. AFRICA
  - B. ASIA
    - Japan
  - C. AUSTRALASIA
    - Australia
    - New Zealand
  - D. EUROPE
    - Belgium
    - Sweden
    - Switzerland
  - E. NORTH AMERICA
    - Canada
4. REPORT OF THE IOPB SYMPOSIUM HELD IN MONTREAL,  
JULY 17-21, 1983
5. MEETINGS
6. REQUESTS FOR MATERIAL
7. MISCELLANEOUS NOTES





Dear IOPB Member and would-be Member,

This is the first issue of your new IOPB Newsletter. We intend to publish it regularly but both contents and a general success obviously depend upon your contribution. Only with your constant interest and cooperation can the Newsletter improve and the information exchange be effective. Please use the enclosed personal news form and send me data on research projects, publications, chromosome counts, meetings and so on. Young scientists are welcome!

Short lead articles of general interest to IOPB Members should be appreciated. Please contact me if you wish to contribute an opening paper of 3-4 pages.

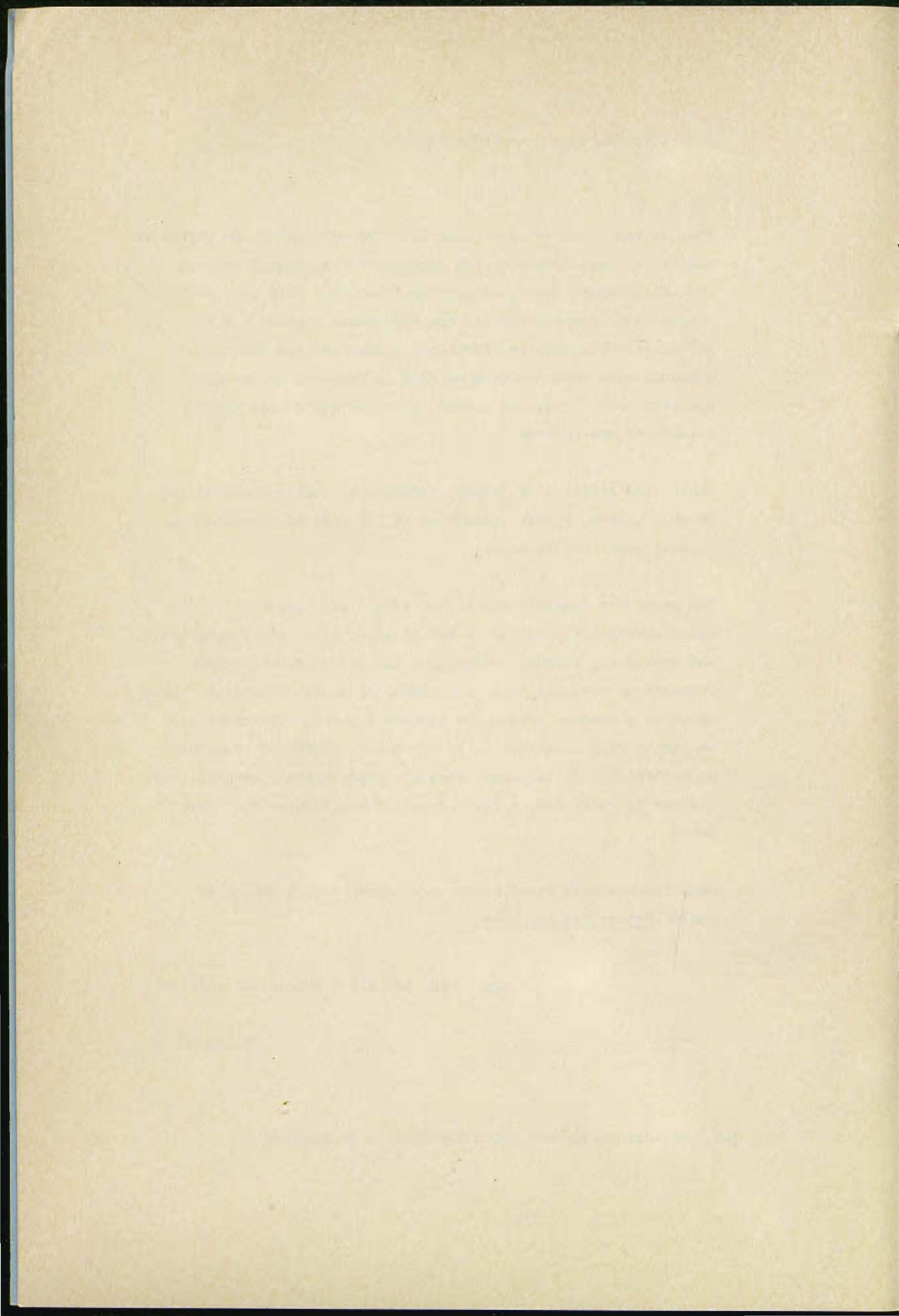
The permanent feature "Profile of a Lab" will present institutions particularly active in the field of plant biosystematics and evolution. Emphasis being upon the scientific programme rather than personal data, the author of a given "Profile" shall serve as a contact person for further inquiries. To start off, we have a fine contribution by Dr. Robert GORENFLOT, Professor at Laboratoire de Taxonomie Végétale Expérimentale et Numérique, Université Paris-Sud, F-91405 Paris-Cedex, France. Who comes next?

Data for the next issue of the Newsletter should arrive in Zurich before May 31, 1984.

May I wish you all a successful year 1984

The Editor

PS. Has your Library already subscribed to the Newsletter?



## 2. PROFILE OF A LAB

by Dr. Robert GORENFLOT, Professor at

LABORATOIRE DE TAXONOMIE VEGETALE EXPERIMENTALE ET NUMERIQUE associé  
au C.N.R.S.

UNIVERSITE PARIS-SUD, 91 405 ORSAY Cedex, FRANCE

D'une manière générale, les recherches sont conduites, pour chaque taxon, aux niveaux de son aire de distribution, de populations naturelles et de populations expérimentales qui en dérivent (par transplantation, semis, multiplication végétative, autofécondation et croisements divers), de l'individu au cours ou à un instant de sa vie, et de l'organe.

Les axes de recherche sont variés mais, selon le matériel et les problèmes posés, les travaux se rapportent plus particulièrement à certains domaines. Chaque chercheur, seul ou en collaboration avec d'autres, en aborde plusieurs dans un esprit de synthèse.

### I. Macromorphologie

A) Des études biométriques sont pratiquées dans un double but: reconnaissance de la variabilité de la manifestation des caractères habituellement retenus dans les diagnoses, mais aussi recherche de caractères nouveaux pour la définition de certains taxons (Chenopodium, Populus, Silene acaulis, Anthyllis, Medicago, Glycyrrhiza, Crupina, Plantago, Thymus, Anthoxanthum, Arrhenatherum, Koeleria, Poa, etc.).

B) Sur un plan plus théorique, l'étude de la variation des manifestations des caractères morphologiques conduit à considérer les problèmes posés par la reconnaissance des formes.

### II. Caryosystématique et cytogénétique

A) La variation des caractères chromosomiques (valeurs de  $2n$ , des nombres de base primaires ou secondaires, diversité caryotypique fine incluant les bandes chromosomiques, directions évolutives des caryotypes, restructurations chromosomiques, etc.).

B) Comportement des chromosomes à la mitose et à la méiose (anomalies diverses, liaisons entre chromosomes-organisation suprachromosomique du matériel génétique).

C) Genèse, âge, diploïdisation, évolution des complexes polyploïdes.

D) La variabilité chromosomique des individus d'origine androgénétique.

Ces recherches se situent au niveau de la famille (Aracées), du genre (Chenopodium, Atragalus, Anthyllis, Medicago, Glycyrrhiza, Umbilicus, Aeonium, Linum, Rhinanthus, Myosotis, Pulmonaria, Centaurea, Reichardia, Crupina, Achillea, Crepis, Allium, Ornithogalum, Pennisetum, Arrhenatherum, Anthoxanthum, Poa, Holcus, etc.) et de l'espèce (Silene acaulis, Hippocrepis comosa, Lathyrus pratensis, Lotus corniculatus, Datura metel et Solanum melongena (individus d'origine androgénétique), Plantago coronopus, P. atrata, Phragmites australis, Zea Mays, Koeleria cristata, etc.).

### III. Phytodermologie et palynologie

- A) Variation et phylogénie des types stomatiques (plantules et plantes adultes).
- B) Diversité des trichomes et des cellules épidermiques.
- C) Les téguments (de l'ovule à la graine, du carpelle au fruit).
- D) Caractères polliniques et caryotypes.

Ces recherches sont conduites au niveau de la famille: Saxifragacées et familles voisines (A, B), Aracées (A, B); au niveau du genre: Chenopodium (C), Umbilicus (D), Aeonium (D), Medicago (B, C, D), Crepis (D), Centaurea (D), Reichardia (D), Crupina (B, C, D), Ornithogalum (A, B, C, D) et de l'espèce: Atropa belladonna (B) et Phragmites australis (B).

### IV. Chimiosystématique et implications éco-physiologiques

- A) Les flavonoïdes marqueurs spécifiques et intraspécifiques (Silene acaulis, Populus, Chenopodium, Anthyllis, Lathyrus pratensis, Medicago, Dicoryphe, Crupina, Phragmites australis, Anthoxanthum, Arrhenatherum, Poa, etc.).
- B) Les protéines foliaires totales (Silene acaulis, Phragmites australis).
- C) Les polymorphismes enzymatique (Chenopodium, Silene acaulis, Medicago, Hippocrepis comosa, Anthyllis vulneraria, Poa, etc.).
- D) Transpiration et polyploïdie (Phragmites australis).
- E) Polyploïdie (naturelle et artificielle) et nutrition minérale (Plantago coronopus).
- F) Calcicolie/Calcifugie dans les différentes sous-espèces du Silene acaulis.
- G) Transparence des épidermes foliaires au rayonnement ultra-violet (sous-espèces du Silene acaulis).

### V. Biologie de reproduction

- A) Les mécanismes de la pollinisation, les systèmes reproducteurs (allogamie, autogamie, apomixie), de la stérilité mâle, le polymorphisme floral et l'hybridation chez le Silene acaulis, l'entomophilie des Anthyllis, l'autogamie et l'allogamie des Rhinanthes, la protogynie des Mils; ainsi que les genres Rumex, Prunella, Thymus et Holcus.
- B) Genèse des polyploïdes naturels (Hippocrepis comosa, Lathyrus pratensis, Crupina, Phragmites australis).

### VI. Développement

- A) Le pouvoir germinatif, caractère taxonomique (Rhinanthus).
- B) Morphologie des plantules (Saxifragacées et familles affines, Chenopodium, Anthyllis, Medicago, Glycyrrhiza, Hippocrepis, Crupina, Plantago).



C) Le développement hétéroblastique (Chenopodium, Anthyllis, Medicago, Glycyrrhiza, Hippocrepis, Crupina, Plantago).

D) Hémiparasitisme et dimorphisme saisonnier (Rhinanthus).

E) La contrainte hydrique sur la morphogenèse du Sinapis alba.

#### VII. Techniques et méthodes nouvelles

##### A) Biostéréométrie

- Etude tridimensionnelle qualitative et quantitative de microstructures biologiques avec reconstruction par ordinateur de l'image de ces structures (application à l'analyse des caryotypes).

- Développement de ce procédé avec la réalisation des premiers intégrammes sur films gaufrés.

B) Réalisation d'un nouveau type de micromètre pour microscope optique et loupe stéréométrique.

C) Gestion informatique des herbes scientifiques.

La grande majorité des espèces étudiées font partie de la flore française, mais sont considérées dans toute leur aire de distribution, en Europe et au-delà suivant les cas, condition nécessaire pour parvenir à une bonne connaissance et tenter de comprendre les mécanismes en jeu.

Si la plupart des espèces faisant l'objet de nos travaux sont spontanées, nous ne négligeons pas pour autant les aspects appliqués. En effet, l'amélioration des plantes cultivées pass par l'inventaire du pool des gènes sauvages qui pourraient être exploités éventuellement dans les programmes d'amélioration. C'est dans cet esprit, par exemple, que les espèces annuelles de Medicago susceptibles d'être croisées avec la Luzerne cultivée sont étudiées. Nous portons, en effet, une attention particulière aux Légumineuses des formations herbacées à vocation pastorale. De même, la recherche de l'influence de la polyploïdie (naturelle et expérimentale) sur la nutrition minérale d'une espèce sauvage comme le Plantago coronopus, débouche sur des applications pratiques à propos d'espèces cultivées sur terrains salés, etc.

L'aspect appliqué de certaines recherches est encore plus direct: détermination précoce en pépinière des plants de Peupliers, connaissance précise du caryotype de l'Aubergine, aspects cytogénétiques de la protogynie des Mils, etc.

### 3. RESEARCH NEWS

#### A. AFRICA

No reports.

#### B. ASIA

##### Japan

Dr. WATANABE K., Associate Professor at Biological Institute, Faculty of General Education, Kobe University, Kobe, 657, Japan, reports that he is currently carrying out studies on cytogeography of Eupatorium as well as investigations on the chromosomal evolution in Australian desert Compositae. Studies on the control of diploid-like meiosis in polyploid taxa of Chrysanthemum are continued.

Recent publications include: Studies on the control of diploid-like meiosis in polyploid taxa of Chrysanthemum. 4. Colchiploids and the process of cytogenetical diploidization. Theor. Appl. Genetics 66, 9-14, 1983. Studies on the Asian Eupatoria. II. Cytogeography of E. chinense subsp. sachaliense var. oppositifolium. Bot. Mag. Tokyo, in press.

#### C. AUSTRALASIA

##### Australia

Dr. BARLOW B.A., Division of Plant Industry, CSIRO, G.P.O. Box 1600, Canberra, A.C.T. 2601, Australia, reports that his systematic studies in Loranthaceae and Viscaceae have been completed. Current research projects are: biosystematics of Melaleuca (Myrtaceae); Heliotropium (Boraginaceae) and: andromonoecy in Solanum elaeagnifolium (Solanaceae).

Recent publications: A revision of the Viscaceae of Australia. Brunonia 6, 25-57, 1983.

Dr. BARLOW is the President of Australian Systematic Botany Society.

##### New Zealand

Dr. WEBB C.J., Botany Division, DSIR, Private Box, Christchurch, New Zealand, reports that he completed his studies on reproductive biology of Corokia cotoneaster (Escalloniaceae) as well as those on Chamaecytisus palmensis (Leguminosae) and started a new project on breeding systems and fruit dispersal in the genus Gunnera.

Recent publications include:

WEBB C.J. and BAWA K.S., 1983: Pollen dispersal by hummingbirds and butterflies: A comparative study of two lowland tropical plants. Evolution (in press).

BAWA K.S. and WEBB C.J., 1983: Floral variation and sexual differentiation in Muntingia calabura (Elaeocarpaceae), a species with hermaphrodite flowers. Evolution (in press).

WEBB C.J., 1983: Flower and fruit movement in Muntingia calabura: A possible mechanism for avoidance of pollinator-disperser interference. Biotropica (in press).

D. EUROPE

Belgium

Dr. BOUHARMONT J., Professor at Université catholique, Louvain, reports that he completed studies on cytotaxonomy of European Aspleniaceae. The projects started deal with interspecific hybridization in Oryza (study of sterility and utilization for rice breeding) as well as sexual reproduction in the genus Fuchsia, interspecific hybridization and use of in-vitro techniques.

Sweden

Dr. ASKER S., Institute of Genetics, University of Lund, Solvegatan 29, S-22362 Lund, Sweden, is currently carrying out cytogenetic studies on the Potentilla tabernemontani and P. argentea groups. Further projects include studies on reproductive mutants in cultivated barley.

Recent publications:

ASKER S., HAGBERG A. and HAGBERG G., 1983: Apomixis in barley? - Sveriges Utsädesförenings Tidskrift 93, 75-76.

ASKER S., 1983: A monoploid of Potentilla argentea. - Hereditas (in press).

ASKER S., 1983: Apomixis and biosystematics. - IOPB Symposium, July 17-21, 1983, McGill University, Montreal (in press).

Switzerland

Current research at Systematisch-Geobotanisches Institut, Universität Bern, Altenbergrain 21, CH-3013 Bern.

BOLLIGER M. Monographische Bearbeitung der Gattung Odontites. Long-term project.

BROGLI B. Karyosystematische Untersuchungen an Arten der Walliser Segetalflora. Diploma Thesis.

JORDI Th. and WEGMÜLLER S. Zytotaxonomische und arealkundliche Untersuchungen an Sippen von Lathyrus pratensis L. Completed 1983.

TRÖHLER A. and WEGMÜLLER S. Zytotaxonomische und arealkundliche Untersuchungen an Sippen von Ranunculus ficaria L. Long-term project.

WEGMÜLLER S. Zytotaxonomische und arealkundliche Untersuchungen an Trisetum spicatum (L.) Richt. Long-term project.

WEGMÜLLER S. Karyosystematische, autökologische und arealkundliche Untersuchungen an Cicerbita plumieri (L.) Kurschl. Completed 1983.

Current research at Conservatoire et Jardin Botaniques de la Ville de Genève, Case postale 60, CH-1292 Chambésy/Genève.

BOCQUET G. Morphologie comparée florale, plus spécialement de l'ovaire et de l'ovule (Caryophyllaceae, Cruciferae). Long-term project.

- BOCQUET G. Morphologie comparée florale, plus spécialement de l'ovaire et de l'ovule (Caryophyllaceae, Cruciferae). Long-term project.
- BOCQUET G. Etudes dans le genre Digitalis. Long-term project.
- BOCQUET G., HUG M., WÜEST J. Etudes des graines du genre Silene. Long-term project.
- BOCQUET G., MASCHERPA J.-M., AESCHIMANN D. Etude biosystématique du Silene vulgaris (Caryophyllaceae) dans le domaine alpin. Long-term project.
- BOCQUET G., MASCHERPA J.-M., JACQUEMOUD F. Révision des genres Sterigmostemon, Anchonium et Zerdana. Long-term project.
- BOCQUET G., MASCHERPA J.-M., JEANMONOD D. Etudes dans le genre Silene. Long-term project.
- DITTRICH M. Monographie du genre Rhaponticum. Long-term project.
- STORK L., WÜEST J., SNOGERUP S. Morphologie des téguments des graines de Crucifères. Long-term project.

Current research at Institut de Botanique, Faculté des Sciences, Université de Neuchâtel, Chemin de Chantemerle 22, CH-2000 Neuchâtel 7

- DUCKERT M.-M., FAVARGER C. Etude cytotaxonomique et cytogéographique sur les espèces du genre Festuca en Suisse. Long-term project.
- FAVARGER C. Recherches cytotaxonomiques et cytogéographiques sur le genre Erysimum (suite): Imprimis grex grandiflorum-sylvestre. Europe, Asie occidentale, Afrique du Nord. Hybridations inter- et intraspécifiques. Etude cytologique des hybrides obtenus. Long-term project.
- FAVARGER C. Recherches cytotaxonomiques et cytogéographiques sur le groupe du Leucanthemum vulgare. Long-term project.
- FAVARGER C. Recherches cytotaxonomiques sur le genre Cerastium (suite): Imprimis taxons annuels et groupes des C. arvense, scarranii, Boisieri, etc. Long-term project.
- FAVARGER C. Recherches cytotaxonomiques sur les genres Arenaria et Minuartia (Europe, Asie occidentale, Afrique du Nord). Long-term project.
- FAVARGER C. Recherches cytotaxonomiques sur les genres Sempervivum et Diopogon. Long-term project.
- FAVARGER C. Etude cytotaxonomique des taxons endémiques des Alpes. Long-term project.
- FAVARGER C. Etude cytotaxonomique sur le genre Thesium: Imprimis T. divaricatum et humifusum. Long-term project.
- FAVARGER C. Etudes cytogéographiques des races chromosomiques d'Amelanchier ovalis et de Cotoneaster integerrima. Cytologie du Cotoneaster tomentosa. Long-term project.
- FAVARGER C., K.-L. HUYNH. Biosystématique du genre Buffonia (Caryophyllacées) et du genre Polycarpon. Long-term project.
- FELBER F. Recherches expérimentales sur la polyploidie dans le coenospecies Anthoxanthum odoratum L. Ph.D. Thesis.
- GALLAND-VAUCHER N. Recherches cytotaxonomiques sur la flore orophile du Maroc. Ph.D. Thesis.
- HUYNH K.-L. Recherches palynologiques, morphologiques et systématiques sur le genre Pandanus. Long-term project.

- JACOT Ph. Etude expérimentale sur l'origine de la polyploidie chez Anthericum Liliago. Diploma Thesis.
- KÜPFER Ph. Etudes biosystématiques sur les genres Crocus, Paronychia, Aethiomena, Thiris, Hormathophylla, Viola, Leucantheopsis. Long-term project.
- KÜPFER Ph. Divers travaux sur les flores orophiles des montagnes du bassin occidental de la Méditerranée. Long-term project.
- De MONTMOLLIN B. Recherches cytotaxonomiques sur la flore endémique de la Crête. Ph.D. Thesis.
- RAIS J.-R. Cytotaxonomie du grex Exarato-moschatae du g. Saxifraga. Ph.D. Thesis.
- VUILLE C. Etude expérimentale de la reproduction chez Ranunculus parnassifolius L. et R. plantagineus. Ph.D. Thesis.
- ZELTNER L. Recherches cytotaxonomiques et cytogéographiques sur les genres Centaureum et Blackstonia (suite). Imprimis matériel méditerranéen, de l'Iran, du Hoggar et de la Palestine. Long-term project.

Current research at Geobotanisches Institut ETH, Zürichbergstr. 38, CH-8044 Zürich

- BALTISBERGER M. Zytotaxonomische Untersuchungen in der Artengruppe des Ranunculus alpestris L. Long-term project.
- BALTISBERGER M. Zytotaxonomische Untersuchungen in der Artengruppe des Ranunculus polyanthemus L. Long-term project.
- DICKENMANN R. Genetisch-ökologische Untersuchungen an Ranunculus montanus s.l. Ph.D. Thesis. Completed 1982.
- GASSER M. Biscutella laevigata auf verschiedenen Gesteinsunterlagen in der alpinen Vegetationsstufe. Ph.D. Thesis.
- HESS H. Biosystematische Untersuchungen in der Gattung Betonica. Long-term project.
- HUBER W. Ranunculus aconitifolius L. s.l. x R. pyrenaicus L. (R. lacerus Bell.). Diploma Thesis. 1983.
- LANDOLT E. Zytotaxonomische Untersuchungen an Ranunculus montanus Willd. s.l. (Berg-Hahnenfuss). Long-term project.
- LANDOLT E. Bearbeitung der Familie der Lemnaceae. Long-term project.
- LENHERR A. Biosystematische und chemotaxonomische Untersuchungen in der Artengruppe der Stachys recta L. Ph.D. Thesis. 1983.
- SCHÜTZ M. Keimverhalten und frühe Lebensphasen alpiner Pflanzen von Silikat- und Karbonatstandorten. Diploma Thesis. 1983.
- URBANSKA K. Untersuchungen über natürliche Bastarde zwischen Cardamine amara L. und C. rivularis Schur auf dem Urnerboden. Long-term project.
- URBANSKA K. Genetisch-ökologische Untersuchungen an Eschscholzia Cham. Long-term project.
- URBANSKA K. Genetisch-ökologische Untersuchungen an Antennaria (Katzenpfötchen). Long-term project.
- URBANSKA K. Untersuchungen über die Populationsstruktur bei Lotus alpinus (DC) Schleicher und L. corniculatus L. (Hornklee). Long-term project.
- URBANSKA K., LANDOLT E. Zytologische Untersuchungen an benachbarten Rasen auf Kalk-, Silikat- und Serpentinegestein. Long-term project.
- URBANSKA K., LANDOLT E. Genetisch-ökologische Untersuchungen an Cardamine pratensis L. s.l. (Wiesenschaumkraut). Long-term project.

ZIMMERLI J. Einfluss der Bewirtschaftung auf die Entwicklung und Struktur der Cardamine-Population auf dem Urnerboden. Diploma Thesis. 1983.

Recent publications:

In "Berichte des Geobotanischen Institutes ETH, Stiftung Rübel", 49, 1982:

DICKENMANN R. Cyanogenesis in Ranunculus montanus s.l. from the Swiss Alps. 56-75.

LANDOLT E. Distribution pattern and ecophysiological characteristics of the European species of the Lemnaceae. 127-145.

URBANSKA K. Polymorphism of cyanogenesis in Lotus alpinus from Switzerland. I. Small-scale variability in phenotypic frequencies upon acidic silicate and carbonate. 35-55.

ZUUR-ISLER D. Germinating behaviour and early life phases of some species from alpine serpentine soils. 76-107.

In "Berichte des Geobotanischen Institutes ETH, Stiftung Rübel", 50, 1983:

GASSER M. Zum demographischen Verhalten von Biscutella laevigata L. 67-85.

LANDOLT E. and DANN W. Vergleich von zehn Klonen von Lemna gibba bei verschiedenen Stickstoffkonzentrationen.

URBANSKA K. Antennaria carpatica (Wahln.) Bl. et Fing. s.l. in North America. I. Chromosome numbers, geographical distribution and ecology. 33-66.

In "Veröffentlichungen des Geobotanischen Institutes ETH, Stiftung Rübel":

Heft 78 (1982):

DICKENMANN R. Genetisch-ökologische Untersuchungen an Ranunculus montanus Willd. s.l. aus der alpinen Stufe von Davos (Graubünden). 89 pp.

Heft 70 (1980):

LANDOLT E. (ed.): Biosystematic investigations in the family of Duckweeds (Lemnaceae). (Volume I). 247 pp.

Heft 71 (in prep.):

LANDOLT E. and KANDELER R. Biosystematic investigations in the family of duckweeds (Lemnaceae). (Volume II). The family of Lemnaceae - A monographical study.

Heft 80 (1983):

LÜÖND A. Biosystematic investigations in the family of duckweeds (Lemnaceae). (Volume III). Das Wachstum von Wasserlinsen (Lemnaceae) in Anhängigkeit des Nährstoffangebots, insbesondere Phosphor und Stickstoff. 116 pp.

Further publications:

BALTISBERGER M., 1982: Die Artengruppe des Ranunculus polyanthemos L., insbesondere Ranunculus polyanthemoides Bor., im Göttinger Wald (BRD). Ber.Bayer.Bot.Ges. 52, 29-30.

DICKENMANN G., 1982: Microdifferentiation in Ranunculus montanus s.l. from the Swiss Alps. Abstr.Int.Conf. "Ecology and Biogeography of Mountains and High Altitudes", Mus.Nat.Hist.Nat., Bordeaux (1982), 1-p.

- URBANSKA K., 1982: Aspects écologiques et génétiques de la cyano-génèse chez Lotus alpinus. Abstr.Int.Conf. "Ecology and Biogeography of Mountains and High Altitude", Mus.Nat.Hist.Nat., Bordeaux (1982), 146-147.
- URBANSKA K., 1983: Cyto-geographical differentiation in Antennaria carpatica s.l. Bot.Helv. 93, 123-131.
- URBANSKA K. and DICKENMANN R., 1981: Cyanogenesis polymorphism in Lotus alpinus s.l. and Ranunculus montanus s.l. from the Swiss Alps. Lotus Newsletter 12, 3-6.

Current research at Institut für Systematische Botanik der Universität Zürich, Zollikerstrasse 107, 8008 Zürich

- BAMERT U. Funktionelle Blütenanatomie bei einheimischen Polygala-Arten. Diploma Thesis, will be completed in 1984.
- BOLZ M. Menyanthes trifoliata. Populationsstudien, pflanzengeographische Untersuchungen, genetische Inkompatibilität, Autökologie. Diploma Thesis, 1983.
- BUCHER T. Die Gattung Hypericum. Populationsstudien, Biosystematik, Zytotaxonomie. Ph.D. Thesis.
- COOK C.D.K. Biosystematische und fortpflanzungsbiologische Untersuchungen an Wasserpflanzen. Schwergewicht auf Sparganiaceae und Typhaceae. Long term project.
- FOERDERER L. Agrostis stolonifera / A. capillaris - Gruppe. Populationsstudien, Biosystematik, Zytotaxonomie. Ph.D. Thesis.
- GARTMANN F. Biosystematische Untersuchungen an der Gattung Gymnocarpium (Filicatae). Diploma Thesis, will be completed in 1984.
- HEFTI B. Fruchtdifferenzierung bei einheimischen Geum-Arten. Diploma Thesis, will be completed 1984.
- HILDESHEIMER G. Autökologische Untersuchungen an Poa annua. Diploma Thesis, will be completed 1984.
- HUBER R. Phyteuma-Arten. Karyologie, Populationsstudien. Ph.D. Thesis, 1983.
- ISELI R. Untersuchungen zur Oekologie und Variabilität einheimischer Eichen. Diploma Thesis, will be completed in 1984.
- MARKGRAF-DANNENBERG I. Oekologie und Systematik der Gattung Festuca in der alpinen und subalpinen Stufe der Alpen. Die Festuca-Arten in der Schweiz. Long-term project.
- SCHNELLER J.J. Populationsstudien und Fortpflanzungsbiologie beim Waldfarn (Athyrium filix-femina Roth). Long-term project.
- SCHNELLER J.J. Hybridisierung bei europäischen Athyrien. Will be completed in 1984.
- SCHNELLER J.J. Zytotaxonomische Untersuchungen an der Gattung Salvinia (darin eingeschlossen S. natans europäischer Provenienz). Long-term project.
- SUTER B. Fortpflanzungsbiologie und Oekologie von Asplenium rutamuraria. Diploma Thesis, will be completed in 1984.
- TSCHALÄR Y. Aruncus (Rosaceae). Biosystematik, Zytotaxonomie, Populationsstudien. Ph.D. Thesis, will be completed in 1984.
- VUILLE F.-L. Baldellia und Damasonium (Alismataceae). Populationsstudien. Ph.D. Thesis, will be completed in 1984.
- WOLF M. Blütenontogenie und -biologie bei Nymphaeen. Ph.D. Thesis.

E. NORTH AMERICA

Canada

Dr. BARRETT S., Assoc. Professor at Dept. of Botany, University of Toronto, Toronto, Ontario, reports that he is carrying out studies in ecological genetics and evolution of breeding systems.

Recent publications include: Crop mimicry in weeds. *Econ.Bot.* 37, 255-282, 1983. Male fertility and anisophyletic population structure in tristylous Pontederia cordata. *Evolution* (in press).

Dr. CHINNAPPA C.C., Assoc. Professor and Curator at Dept. of Biology, University of Calgary, Calgary, Alberta, reports that he is currently carrying out studies on population biology and phenotypic plasticity in Stellaria longipes complex (*Caryophyllaceae*). He is also working on cytogeography and reproductive biology of Antennaria microphylla complex in western North America.

Recent publications include:

SANKARA RAO K. and CHINNAPPA C.C., 1983: Studies on Gentianaceae. Microsporangium and pollen. *Can.J.Bot.* 61, 324-336.

SANKARA RAO K. and CHINNAPPA C.C., 1983: Pericolporate pollen in Gentianaceae. *Can.J.Bot.* 61, 174-178.

Dr. SEMPLE J.C., Dept. of Biology, University of Waterloo, Waterloo, Ontario, reports that he completed the research project on Goldenrods of Ontario: Solidago and Euthamia. Also completed are: revision of Chrysopsis, Borrichia, Xanthisma and Bradburnia. The projects started comprise the revision of the genus Aster and Heterotheca.

Recent publications include:

SEMPLE J.C. and RINGIUS G.S., 1983: Goldenrods of Ontario: Solidago and Euthamia. *Univ. of Waterloo Biol. Series*, No. 2, 84 pp.

Dr. VAN DER KLOET S., Biology Dept., Acadia University, Wolfville, Nova Scotia, reports that he completed his research project on genus Vaccinium in North America for Dept. of Agriculture of Canada Government. The project started deals with biosystematics of the Vaccinium myrtillus group from all over the world.

Recent publications include:

VAN DER KLOET S., 1983: Taxonomy of Vaccinium and Oxycoccus. *Rhodora* 85, 1-43.

VAN DER KLOET S., 1983: Taxonomy of Vaccinium and Cyanococcus. *Can.J.Bot.* 61, 256-266.

F. MESOAMERICA

No reports.

G. SOUTH AMERICA

No reports.



4. REPORT ON THE IOPB SYMPOSIUM HELD IN MONTREAL, JULY 17-21, 1983

More than 100 scientists from 17 countries met to hear and discuss 40 papers presented as part of the Symposium "Plant Biosystematics: 40 years later" sponsored by the International Organization of Plant Biosystematics. All aspects of modern biosystematics were covered with papers dealing with both historical perspectives and the most recent advances in techniques being presented. All the papers will be published in a book edited by the Chairman of the IOPB executive council Dr. William Grant, who expects the volume to be available by early 1984. The quality of the papers presented was high and the book will be a "must" for all plant biosystematists. Perhaps, most significant (to this cytotaxonomist at least) were the papers dealing with chromosome pairing and evolution of the karyotype. The data indicated that some review of well established ideas about homology must be undertaken. Overall, a combination of techniques and collaboration among several specialists were suggested as the coming necessity in order to solve difficult biosystematic problems. Traditional topics, such as the definition of the term "species", also were considered and these generated some lively debate.

The symposium was held on the campus of MacGill University and included a tour of the Jardin Botanique de Montreal. Both institutions did an excellent job in providing a suitable setting in which to discuss some very difficult questions.

During the meetings the IOPB council met and determined that it was necessary for the organization to function independently of its parent organization the International Association of Plant Taxonomists. IOPB will maintain its own membership list. It was pointed out to all participants of the conference that technically no one was a member of IOPB and that every one should request a registration form from Dr. Liv Borgen, the secretary/treasurer of the IOPB council (Botanical Garden and Museum, University of Oslo, Trondheimsvn. 23B, Oslo 5, Norway). A membership fee of \$ 25 US was set for a given period from one International Botanical Congress to the next. Dr. Urbanska has offered to host the next IOPB Symposium to be held in Zurich.

All who helped prepare and run the Montreal IOPB 1983 Symposium are to be congratulated for a job well done.

John C. SEMPLE  
Member of IOPB Council  
University of Waterloo

5. MEETINGS

Botanical Society of France: Workshop on intra-individual variation in the Angiosperms, Paris, France, March 23, 1984. Convener: Dr. R. GORENFLOT, Laboratoire de Taxonomie Végétale Expérimentale et Numérique, Université Paris-Sud, F-91405 Orsay Cédex, France.

Second International Symposium of the Structure and Functioning of plant Populations: Phenotypic and genotypic variation within and between plant populations. Wageningen, The Netherlands, May 7-11, 1984. Information on the Symposium can be obtained from: Ing. J. DRIJVER, International Agricultural Center, B.O. Box 88, NL-6700 AB Wageningen, The Netherlands. Correspondence regarding the scientific programme should be directed to: Dr. J.W. WOLDENDORP, Institute for Ecological Research, Boterhoeksestraat 22, NL-6666 GA Heteren, The Netherlands.

Seminar: Diversification of plant populations in relation to methods of reproduction and dispersal: Genetic and ecological mechanisms. Montpellier, France, May 21-25, 1984. Write for information to: R. LUMARET, Centre Louis Emberger, C.N.R.S., Département de Physiologie Ecologique, case postale 5051, F-34033 Montpellier Cédex, France.

XV International Grassland Congress will be held from August 24-31, 1985, in Kyoto, Japan. Write for information to: The Secretariat, XV International Grassland Congress, c/o National Grassland Research Institute, Nishinasuno, Tochigi, 329-27, Japan.

Second International Legume Conference, Advances in Legume Biology, will be held at the Missouri Botanical Garden (U.S.A.), in June 1986. Write for information to: Charles STIRTON, Herbarium, Royal Botanical Gardens, Kew, Richmond, Surrey TW9 3AE, U.K.

XIV International Botanical Congress will be held at the International Congress Centre Berlin (West), Germany, from July 24 to August 1, 1987. Correspondence should be addressed to: XIV International Botanical Congress, Botanischer Garten und Botanisches Museum, Königin-Luise-Strasse 6-8, D-1000 Berlin (West) 33, Germany.

#### 6. REQUESTS FOR MATERIAL AND INFORMATION

Dr. S. ASKER, Institute of Genetics, University of Lund, Solvegatan 29, S-22362 Lund, Sweden, would appreciate material of Potentilla bifurca and Fragaria orientalis.

Dr. S. BARRETT, Dept. of Botany, University of Toronto, Toronto, Ontario, Canada, would appreciate any seed material of Pontederiaceae and/or Turneraceae.

Prof. Dr. J. BOUHARMONT, Université Catholique de Louvain, Belgique, would appreciate "wild species and botanical varieties of Fuchsia" in connection with his study of sexual reproduction in the genus as well as interspecific hybridization and use of in-vitro techniques.

Dr. L.C. MARSH, Dept. of Biology, State University of New York at Oswego, Oswego, New York 13126, U.S.A., would appreciate seeds of Typha shuttleworthii, T. laxmannii and T. minima from Europe. Dr. Marsh writes: "... I would be pleased to defray collection and shipment costs ... and would be happy to reciprocate by supplying Typha seeds from my collections".

Dr. J.C. SEMPLE, Biology Dept., University of Waterloo, Waterloo, Ontario, Canada N2L 3G1, would appreciate viable achenes of Aster and Asteraceae from anywhere.

Dr. S. VANDER KLOET, Biology Dept., Acadia University, Wolfville, Nova Scotia, Canada, would appreciate berries of Vaccinium myrtillus s.l.

Dr. K. WATANABE, Biological Institute, Faculty of General Education, Kobe University, Kobe, 657, Japan, would appreciate viable achenes of Eupatorium and Brachycome.

Dr. C.J. WEBB, Botany Division, DSIR, Private Bag, Christchurch, New Zealand, would appreciate any information on fruit dispersal in species of Gunnera. Dr. Webb writes: "... birds are the most likely dispersers for most species".

#### 7. MISCELLANEOUS NOTES

##### China-US Scientific Exchange

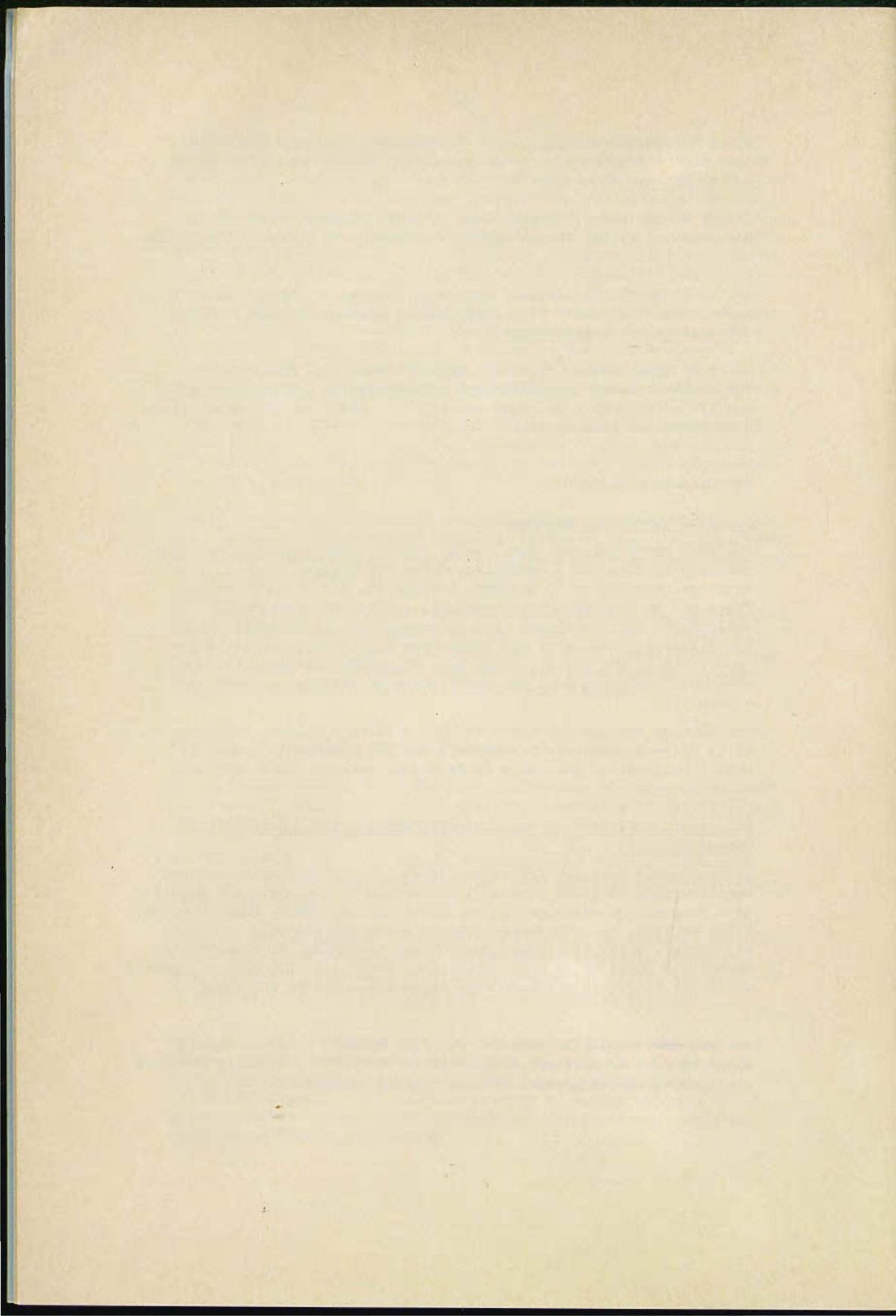
The IOPB President, Dr. W.F. GRANT, reports that there may be a possibility to organize a scientists group for China-U.S. Scientific Exchange. Minimum of 20 persons, maximum 32, may include spouses. There are to be 5 principal speakers, others will present briefly outlines of their research. The programme will be arranged to fit the research interest of the participants. The entire cost is tax deductible in the U.S.A., China-U.S. Scientific Exchange being a non-profit organization. Dr. Grant would be willing to coordinate a trip.

For further information write to: Dr. William F. GRANT, Professor of Plant Science, Genetics Laboratory, Box 282, MacDonald Campus of McGill University, Ste. Anne de Bellevue, Quebec, Canada H9X 1C0.

##### Permanent collection of taxonomically significant reprints on vascular plants

Biosystematic Research Institute, Ottawa, is interested in further contributions to their permanent collection of taxonomically significant reprints of vascular plants. Writes Dr. E. SMALL, Head, Vascular Plant Section: "... We should like to emphasize the value of such collection, which is without counterpart in Canada, to taxonomy. By depositing reprints in this collection, your work will be more readily available to future students than otherwise would be the case".

All reprints should be sent to: Mr. F.J. BEALES, Curator, Vascular Plant Reprint Collection, Biosystematics Research Institute, Saunders Bldg., Agriculture Canada, Ottawa, Ontario, Canada K1A 0C6.



MEMBERSHIP APPLICATION FORM

International Organization of Plant Biosystematists

The International Organization of Plant Biosystematists (IOPB) was founded in 1960 to promote international cooperation in the study of biosystematics. The IOPB acts on several levels, from coordinating and publishing information on biosystematics to arranging conferences. The IOPB is open to all persons and institutions working or interested in the field biosystematics. IOPB Newsletter is sent to all members.

Membership in IOPB is for the period between Congresses.

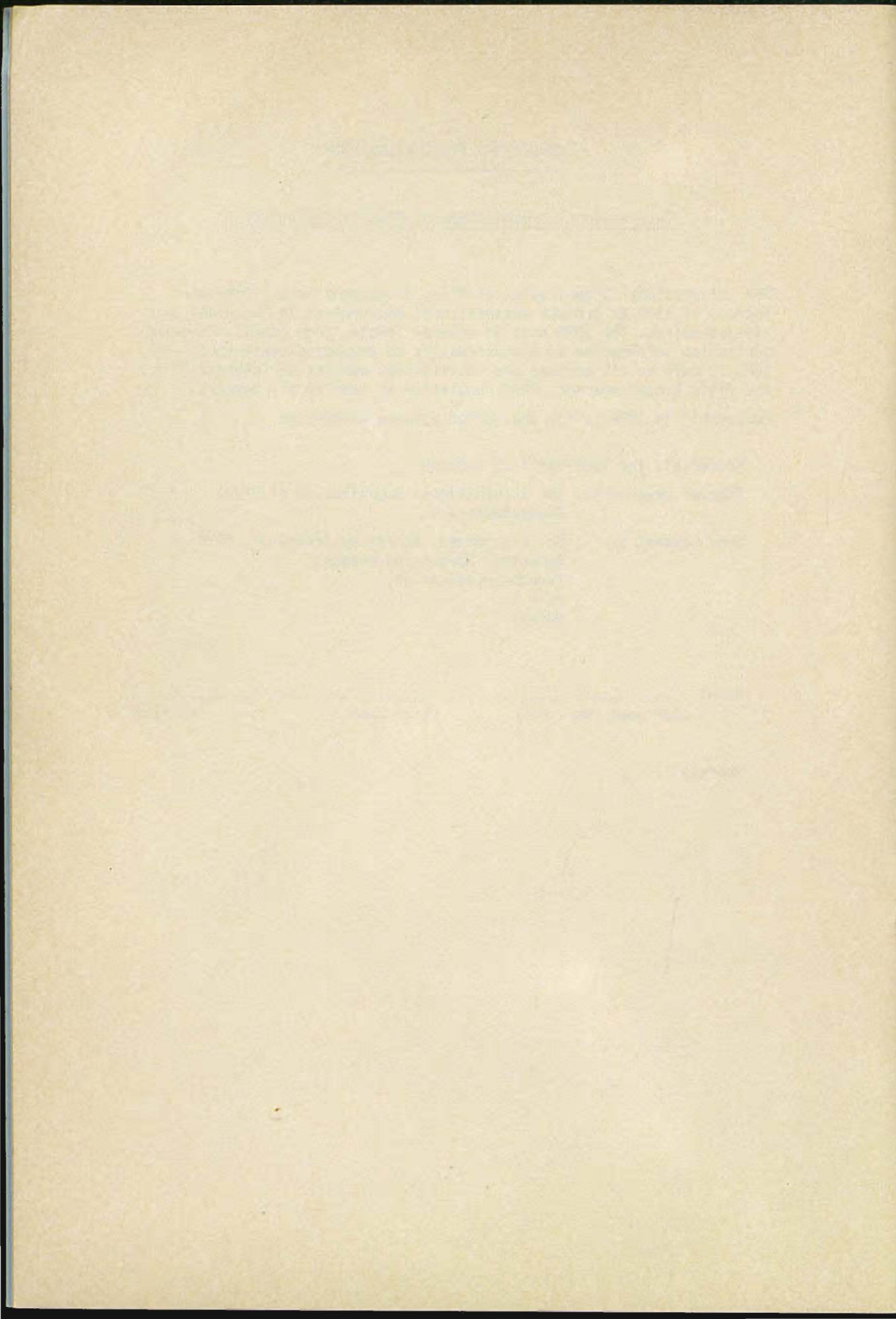
Membership fee 1983-1987: US \$ 25.00

Cheques payable to: The International Organization of Plant Biosystematists

Send payment to : Dr. Liv Borgen, Secretary-Treasurer, IOPB  
Botanical Garden and Museum,  
Trondheimsveien 23B,  
Oslo 5,  
Norway

Name: .....  
Last name (Ms., Mr.)                      First name                      Initial

Address:



PERSONAL DATA COLLECTION

for the International Organization of Plant Biosystematists  
Newsletter (IOPB Newsletter)

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

Address:

Personal News

Publications

Projects completed

Projects started

Requests for research material

Articles and longer reports, reports of meetings, etc.,  
to be attached:

Return to: Dr. Krystyna M. Urbanska, Editor, IOPB Newsletter,  
Geobotanisches Institut ETH  
Zürichbergstrasse 38  
CH-8044 Zürich  
Switzerland

