

International Organization of Plant Biosystematists

Newsletter

No. 17

Edited by K. M. Urbanska and C. A. Stace



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International Organization of Plant Biosystematists

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Dear IOPB Members,

This will be a short comment as the Newsletter is scheduled for publication earlier than usually. Many thanks to all contributors and an appeal to all Members: please try to send more information on your current research. Some short papers would be welcome, too (look up p. 14 of Newsletter No. 16).

The column 'IOPB Chromosome Data', prepared carefully (as usual) by Dr. Stace, is rather full this time (p. 5). Thanks, Clive.

The Organizing Committee at St. Louis is hard at work on the Symposium schedule (see the news on p. 14). Thank you, Peter, for the detailed information on the programme.

Soon it will be time to plan your travel and to prepare your posters for the Symposium. But before you begin, do consider our ballot for IOPB Elections 1992 (p. 15) and **return it in time**. We have an excellent candidate for Vice-Presidency and the next IOPB Symposium is rather definitely planned in Scandinavia. Good news, isn't it? Please take your time when selecting names for IOPB Council, your considered vote will be appreciated.

Data for Newsletter No. 18 should arrive here before May 31, 1992.

With the best Seasonal Greetings

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? **Please only use the new form.**

It would be a great help if contributions could be sent on RPS Microdiskettes (MC2HD 3.5 inch hard disks) as well as a printed copy.

2. Research News

CARDONA M. Angels, Prof., Cytogenetics Laboratory, Department of Plant Biology, School of Sciences, Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain.

Recent publications:

CARDONA M.A., 1989: El món vegetal. 2nd vol.. Enciclopèdia de Menorca. VIDAL J.M. (ed.) Part I (Botany), Part II (Vegetation). 275 p. and 309 figs.

XENA N., CARDONA M.A. and MATHEZ J., 1990: Estudio citotaxnómico del género *Fedia* Gärtn. (*Valerianaceae*). Anales Jard.Bot. Madrid 48, 157-169.

Current projects: a) Endemic flora of Balearic Islands, its phylogeny and paleography. b) *Bromus*: characteristics of invading species, among others isozyme characteristics, and DNA amount of the annual, some annual-biennial and some perennial taxa of the genus.

Projects completed: a) Revision of the western Mediterranean taxa of *Rubia*. b) Study of the Catalonian taxa of *Onobrychis*.

Projects started: Red-rice invasion in the Delta of the Ebro's Delta. In collaboration with Prof. M. Arraudeau, Program Leader of the Upland Rice Program. I.R.R.I., Manila, Philippines) and a research group from the Agronomy School of Lleida, Catalonia, Spain: morphology, distribution, isozyme study, hybridization and introgression, DNA amount.

CHENG-XIN Fu, Botany Division of Zhejiang Agricultural University, Hangzhou 310029, P.R. China. FAX: 0086-0571-774636.

Recent publications:

1987: Chromosomal studies of ten species of *Adenophora* Fisch. Acta Phyto. Sinica 25(3), 180-188.

1989: Cytotaxonomical studies on *Liliaceae* (S.I.) (2). Acta Phyto. Sinica 27(6), 439-450.

1990: A chromosomal study on seven species of *Smilax* L. Acta Phyto. Sinica 28(3), 211-222.

Current projects: A cytotaxonomical study on *Smilax* (*Smilacaceae*) in China.

Projects started: A synthetical study on *Rubus* (*Rosaceae*) in Zhejiang, China.

Projects completed: A systematic study on *Adenophora* (*Campanulaceae*) in Northeastern China.

FERNANDEZ-LOPEZ Carlos, Professor, Facultad de Ciencias Experimentales, E-23071 Jaén, Spain.

Publications in 1991:

DIAZ-VARGAS E., ESPINOSA-GENTO J.M., FERNANDEZ-LOPEZ C., HERVAS-SERRANO J.L. and LOPEZ-PULIDO M.: Plantas vasculares de Andalucía Oriental en los ficheros de siete herbarios. Facultad de Ciencias Experimentales, Jaén. 52 p. ISBN 84-600-7699-7.

FERNANDEZ-LOPEZ C., ARMENTEROS T., BARRERA F., CONTRERAS A., GARCIA-MARTINEZ M., GUZMAN A. and MARTOS-VILLAR M.: Plantas vasculares en revistas botánicas andaluzas. Facultad de Ciencias Experimentales, Jaén. 76 p. ISBN 84-600-7640-7.

GONZALES-MARTIN A., FERNANDEZ-LOPEZ C. and NIETO-JAENES P.: Icones de la flora de Andalucía. Con referencias a las revistas botánicas españolas. Facultad de Ciencias Experimentales, Jaén. 72 p. ISBN 84-600-7659-7.

RAVANKO Orvokki, Herbarium, Department of Biology, University of Turku, 20500 Turku 50, Finland

Recent publications:

RAVANKO O., 1990: The taxonomic value of morphological and cytological characteristics in *Oxycoccus* (subgenus of *Vaccinium*, *Ericaceae*) species in Finland. Ann.Bot.Fenn. 27, 235-239.

RAVANKO O., in press: Annual and seasonal changes in the algal vegetation and flora at Ruissalo, off Turku.

Current projects: Reproduction life history of the Red Alga *Polysiphonia*, the Red Alga *Ceramium*, the Brown Alga *Leathesia* and *Oxycoccus* (*Vaccinium*, *Ericaceae*). For Flora Nordica: *Oxycoccus*, *Geum* and Algae in the Baltic.

Projects started: Morphology and relationship of *Geum hispidum*.

TURALA-SZYBOWSKA Krystyna, Dr., Institute of Botany, Department of Plant Cytology and Embryology, Jagellonian University, Grodzka 52, 31-044 Krakow, Poland.

Recent publications:

TURALA-SZYBOWSKA K. and WOLANSKA J., 1989: Two mechanisms of polyploidization of the antipodals in *Aquilegia vulgaris* L. Acta Biol.Cracov.Ser.Bot 31, 67-74.

POGAN E., JANKUN A., WCISLO H. et al. (eds.), 1991: Further studies on chromosome numbers of Polish Angiosperms. Acta Biol.Cracov.Ser.Bot 33, (in press).

Current project: Ultrastructure of the central cell of *Aconitum vulparia*.

Project completed: Cytotaxonomy of the genus *Ranunculus* subg. *Batrachium* from Poland.

Project started: Mechanisms of polyploidization of the anther's tapetum and antipodals in *Ranunculus* subg. *Batrachium*.

3. IOPB Chromosome Data 3

edited by Clive A. Stace, Department of Botany, University of Leicester, Leicester LE1 7RH, England.

Please send contributions to Professor Stace at the above address, using the exact format 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 M. BALTISBERGER, Geobotanisches Institut ETH, Zollikerstr. 107, CH-8008 Zürich, Switzerland. Vouchers in ZT.

APIACEAE

Caucalis lappula (Weber) Grande 2n=20. Switzerland: Near railway station Lalden, ct. VS, 730 m, M. Baltisberger & Z. Leuchtmann 12036.

CARYOPHYLLACEAE

Agrostemma githago L. 2n=48. Poland: Chaber blawatek, Bolestraszyce, Przemysl (seeds from Bot. Garden Bolestraszyce, E. Landolt 12104).

Minuartia sedoides (L.) Hiern 2n=26. Switzerland: La Noua, 2.5 km NNE of Zinal, Val d'Anniviers, S of Sierre, ct. VS, 2550 m, M. Baltisberger.

FABACEAE

Medicago minima (L.) Bartal. 2n=16. Greece: Manthirea, 15 km S of Tripolis, Peloponnisos, 750 m, M. Baltisberger & U. Meili 12200.

Medicago orbicularis (L.) Bartal. 2n=16. Greece: Manthirea, 15 km S of Tripolis, Pello-

ponnisos, 750 m, M. Baltisberger & U. Meili 12076.

Onobrychis aequidentata (Sibth. & Sm.) D'Urv. 2n=14. Greece: Manthirea, 15 km S of Tripolis, Peloponnisos, 750 m, M. Baltisberger & U. Meili 12360.

GERANIACEAE

Geranium purpureum Vill. 2n=32. Switzerland: Railway station Buchs, ct. SG, 446 m, H. Seitter 11841.

LAMIACEAE

Betonica alopecuroides L. 2n=16. Switzerland: Denti della Vecchia, NE of Lugano, ct. TI, 1380 m, M. Jeker & E. Landolt 19111. Italy: W of Sla. di Leonessa, Mt. Terminillo, Lazio, 2000 m, E. Landolt 19110.

Betonica officinalis L. 2n=16. Italy: Mt. Terminillo, Lazio, 1080 m, E. Landolt 19109.

Leonurus cardiaca L. 2n=18. Switzerland: Raron, ct. VS, 640 m, M. Baltisberger 12160.

Salvia verticillata L. 2n=16. Yugoslavia: Han Garancic, Montenegro, 1000 m, U. Hartwig & A. Lenherr 81/1214.

Scutellaria altissima L. 2n=34. Switzerland: Burgdorf, ct. BE, W. Rytz 12024.

PAPAVERACEAE

Papaver rhoeas L. 2n=14. Poland: Mak polni, Bolestraszyce, Przemysl (seeds from Bot. Garden Bolestraszyce, E. Landolt 12103).

RANUNCULACEAE

Aconitum plataniifolium Degen 2n=16. Switzerland: W of Zinal, Val d'Anniviers, S of Sierre, ct. VS, 2000 m, M. Baltisberger 11832, 12192.

Anemone rivularis Ham. 2n=16. China: 40 km W of Xining, Qinghai, 2700 m, M. Gasser 11836. China 40 km W of Xining, Qinghai, 2900 m, M. Gasser 12070.

Pulsatilla vernalis (L.) Miller 2n=16. Switzerland: La Noua, 2.5 km NNE of Zinal, Val d'Anniviers, S of Sierre, ct. VS, 2550 m, M. Baltisberger 12346.

Ranunculus alpestris L. 2n=16. Switzerland: Val Schombrina, 2.5 km S of S-charl, ct. GR, 2500 m, G. Eich 12046.

Ranunculus amplexicaulis L. 2n=16. France: Col de Tourmalet, S of Luz-St. Sauveur, Hautes Pyrénées, 2000 m, E. & M. Baltisberger 78/530, 80/1883, 81/1023.

Ranunculus arvensis L. 2n=32. Switzerland: Winterthur, ct. ZH, 470 m, R. De Marchi 12124.

Ranunculus constantinopolitanus (DC.) D'Urv. 2n=28. Turkey: Near the pass N of Tosya, on the road from Tosya to Kastamonu, 160 km NE of Ankara, 1700 m, M. Gasser 12389.

Ranunculus glacialis L. 2n=16. Switzerland: Val Languard near Pontresina, ct. GR, 2730 m, M. Müller 81/1030.

Ranunculus hybridus Biria 2n=16. Austria: Near Koschuta, SE of Ferlach, Karawanken, Kärnten, 1480 m, E. & M. Baltisberger 78/956, 81/1024.

Ranunculus lanuginosus L. 2n=28. Switzerland: Baltschiedertal, N of Eggerberg, ct. VS, 900-950 m, M. Baltisberger & A. Leuchtmann 12116.

Ranunculus muricatus L. 2n=48. Spain: Cabo de Trafalgar, pr. Cadiz, 0-5 m, B. Merz 12026.

Ranunculus nemorosus DC. 2n=16. France: Soultzmatt, Alsace, 400 m, M. Baltisberger 77/756, 78/1316; Summit of Puy de Dôme, Massif Central, 1460 m, E. & M. Baltisberger 78/434; Between Le Mont-Dore and Besse-en-Chandesse, Les Monts Dore, Massif Central, 1300 m, E. & M. Baltisberger 78/442; Between Rabastens and Giroussens, 30 km NE of Toulouse, 180 m, E. & M. Baltisberger 78/475; Forêt de Bouconne, 10 km WNW of Toulouse, 180 m, E. & M. Baltisberger 78/487. Spain: Near Parador Nacional de Fuente Dé, W of Potes, Picos de Europa, pr. Santander, 1000 m, E. & M. Baltisberger 78/558.

Ranunculus paludosus Poir. 2n=32. France: Between Rabastens and Giroussens, 30 km NE of Toulouse, 180 m, E. & M. Baltisberger 78/476, 78/1309.

Ranunculus polyanthemophyllus Koch & Hess 2n=16. Switzerland: Near railway station

Hohntenn, ct. VS, 1070 m, M. Baltisberger 79/200.

Ranunculus thora L. $2n=16$. France: Near the road to Port de Gavarnie, W of Gavarnie, Hautes Pyrénées, 1900 m, E. & M. Baltisberger 78/515, 81/1022.

Reports by A. CARDONA, Unitat de Botànica, Facultat de Ciències, Universitat Autònoma de Barcelona, 08193 Bellaterra (Barcelona), Spain. Vouchers in BC, MA & Herb. Dept. Biol. Veg. Univ. Illes Balears (AC=A. Cardona). All localities in the Balearic Islands unless otherwise stated.

ASTERACEAE

Aetheorrhiza bulbosa (L.) Cass. subsp. *willkomii* (Burnat & Barbey) Rech. fil. $2n=18$. Minorca: Maó, near Cala Mesquida beach, 10 m, AC 89-6. Majorca: near Artà, 100 m, AC 89-15.

Aster tripolium L. subsp. *minoricensis* (Rodr.) A. Cardona $n=18$, $2n=36$. Minorca: Alaior: Son Bou beach, meadows, 5-20 m, AC 90-9. In danger of extinction, especially in Son Bou (great urbanisation).

BRASSICACEAE

Brassica balearica Pers. $n=16$, $2n=32$ (not $n=18$, $2n=36$, as given in Cardona & Contandriopoulos, 1980, *Lagascalia* 9:273). Majorca: Puig Major, Colma de n'Arbona, 1180 m, AC 76-51; Serra d'Alfàbia, 950 m, AC 88-36.

Lepidium spinosum Ard. $2n=24$. Minorca: Maó, Binisarmenya, AC 89-9, 89-12; near Binillautí ravine, 10-30 m, AC 89-4.

CARYOPHYLLACEAE

Silene mollissima (L.) Pers. $n=12$, $2n=24$. Majorca: Sóller, near Sta. Catalina ravine, 350 m, AC 88-40Z. Minorca: Es Mercadal, El Toro mountain, 230 m, AC 89-17.

EUPHORBIACEAE

Euphorbia fontqueriana W. Greuter $2n=20$. Majorca: Puig de Massanella, Es Prat, 1170 m, AC 81-314.

LAMIACEAE

Satureja rouyana Brig. $n=15$, $2n=30$. Majorca: Puig Major, 1200 m, AC 88-30; 1350 m, AC 76-49.

Teucrium asiaticum L. $2n=32$. Majorca: Puig de Massanella, Sa Coma Freda, 1100 m, AC 88-30; near Sa Calobra road, 200 m, AC 81-43.

Teucrium cossonii D. Wood subsp. *cossonii* $2n=26$. Majorca: Coll del Puig Major, 1100 m, AC 79-704.

Teucrium cossonii D. Wood subsp. *punicum* Mayol, Mus, Rosselló & Torres $2n=26$. Ivica: near Corona, Ses Torretes, 100 m, AC 81-353.

Thymbra capitata (L.) Cav. $2n=30$. Ivica: near St. Antoni, 30 m, AC 81-340.

LILIACEAE

Scilla numidica Poir. $2n=18$. Ivica: Sa Talaia de St. Josep cliffs, 250 m, AC 81-432.

OLEACEAE

Phillyrea rodriguezii (P. Montserrat) A. Cardona $n=46$, $2n=c.92$. Minorca: St. Llufs, Sa Punta Prima, 15 m, AC 80-742; Es Mercadal, Sa Cavalleria beach, 30 m, AC 82-2; Mao, Favàritx, 30 m, AC 79-88.

POACEAE

Avenula crassifolia (Font Quer) Holub $n=42$, $2n=84$. Ivica: Ses Torretes cliffs, 100 m, AC 85-1; Cala Aubarca, 140 m, AC 77-43, 81-348.

RHAMNACEAE

Rhamnus alaternus L. $n=12$, $2n=24$. Minorca: near Ciutadella, Sa Cala Blanca, 30 m, AC

84-3. Spain: Barcelona: Valldoreix, 170 m, AC 89-19.

ROSACEAE

Sanguisorba minor Scop. subsp. polygama (Waldst & Kit.) Holub n=28, 2n=56. Majorca: Puig Major, 1040 m, AC 78-19.

RUBIACEAE

Rubia fruticosa Ait. 2n=44. Canary Islands: Tenerife: Anaga-Albinsel, San Andrés ravine, 200-250 m, AC 85-2, 85-3.

SCROPHULARIACEAE

Linaria rubrifolia Robill & Cast. ex DC, subsp. formenterae (Gand.) O. Bold's & J. Vigo 2n=14. Formentera: Sa Mola, 120 m, AC 80-37. Ivica: near Corona, Ses Torretes cliffs, 100 m, AC 81-36; S'Espartar islet, 30 m, AC 85-1.

Digitalis minor L. var. *palaui* (Garcias & Marcos) Pericàs & Rossello 2n=56. Minorca: Es Mercadal, Llinàritx Nou, 125 m, AC 90-22.

VIOLACEAE

Viola odorata L. subsp. *stolonifera* (Rodr.) J. Orell & A. Romo 2n=20+ 0-2B. Minorca: Ferreries, Algendar ravine, 100 m, AC 89-14.

Reports by J.V. DAUSHKEVICH, T.V. ALEXEEVA and M.G. PIMENOV, Botanical Garden, Moscow State University, Moscow 119899, U.S.S.R. All gatherings are from the U.S.S.R.; the collectors are J.V. & S.S. Daushkevich (D), T.V. Alexeeva (A), M.G. Pimenov (P), A.P. Khokhrjakov (K), T.A. Ostroumova (O). Vouchers in MW.

APIACEAE

Astrantia biebersteinii Trautv. n=7. N. Ossetia, distr. Alagir, near Verchnyi Zgid, 1990, D 3; N. Ossetia, distr. Alagir, Kionskyi Pass, 1990, D 10.

Astrantia colchica Albov n=7. Georgia, Megrelia, near Kursu, Mt. Migaria, 1990, D 62.

Astrantia pontica Albov n=7. N. Caucasus, Adygeja, near Mt. Oshten, Lagonaki, 1989, D 36.

Astrodaucus orientalis (L.) Drude 2n=20. Armenia, near Erevan, between Gocht and Gegard, 1987, K 619.

Carum carvi L. var. *roseum* Trautv. n=11. N. Ossetia, distr. Alagir, near Verchnyi Zgid, 1990, D 24.

Carum caucasicum (Bieb.) Boiss. 2n=20. Georgia, Adjaria, Arsian Mts, Goderdsi Pass, 1987, O s.n. n=10. Krasnodar prov., near Krasnaja Poljana, Mt. Aczisho, 1989, D 98.

Carum meifolium (Bieb.) Boiss. n=10. Georgia, Echrisi Mts, near Lebarde, 1990, D 57.

Cervaria aegopodioides (Vandas) M. Pimen. n=11. N. Caucasus, Adygeja, near Guseripl, 1989, D 34. (In our previous publication (Vassil'eva et al., Biol. Nauki (Moscow), 1981, N 2) this species was identified erroneously as *Chaerophyllum schmalhauseni* Albov).

Cervaria caucasica (Bieb.) M. Pimen. n=11. Krasnodar prov., between Adler and Krasnaja Poljana, near Kepsha, 1989, D 104.

Chaerophyllum rubellum Albov n=11. N. Caucasus, Adygeja, near Mt. Oshten, Lagonaki, 1989, D 48.

Chymsidia colchica (Albov) Woronow 2n=22. Georgia, basin of River Inguri, Mt. Kwira, 1977, P 1489.

Fuernrohria setifolia C. Koch 2n=22. Armenia, Tsachkunets Mts, near Takjarlu, 1977, P 166.

Johreniopsis seseloides (C.A. Mey.) M. Pimen. n=11. Georgia, near Tbilisi, Okrokana, 1990, D 33.

Macrosciadium alatum (Bieb.) V. Tichomirov & Lavrova n=11. N. Caucasus, Adygeja,

near Mt. Oshten, Lagonaki, 1989, D 41; Georgia, basin of River Inguri, Mt. Kwira, 1990, D 38.

Macrosciadium physospermifolium (Bieb.) V. Tichomirov & Lavrova n=11. N. Caucasus, Adygeja, near Mt. Oshten, Lagonaki, 1989, D 37.

Peucedanum calcareum Albov n=11, 2n=22. Krasnodar prov., between Adler and Krasnaja Poljana, near Kepsha, 1989, D 105.

Seseli dichotomum Pall. ex Bieb. 2n=22. Crimea, distr. Bachtchisaraj, Mt. Sel'buchra, 1989, A s.n.

Symphyloloma graveolens C.A. Mey. n=11. N. Ossetia, distr. Alagir, near Verchnyi Zgid, 1990, D 23.

Reports by **OLAYAN HAIFA** and **ELBABA JOURMENA**, Plant Ecology Laboratory, Girls Education College, Malaz, Seteen Street, 11113 Riyadh, Saudi Arabia. Vouchers in MARSSJ. All localities in Algeria.

CISTACEAE

Fumana calycina (Dunal) Clauson 2n=18. Between Ain Moobed and Djelfa, AA78-521.

Helianthemum getulum Powel 2n=22. Hissirmel, between Ghardaia and Laghuat, AA78-529.

GERANIACEAE

Monsonia heliotropioides (Cav.) Boiss. var. *heliotropioides* 2n=18. Plateau of Tamrit in Tassili Najjer, AA78-584.

Monsonia heliotropioides var. *nivea* (Dec.) Guin. 2n=26. Between Gardaia and Elgolea, AA78-536.

LAMIACEAE

Salvia chudaei Batt. & Trab. 2n=28. Hoggar, vers Lecol de Tazrou, AA78-570.

SOLANACEAE

Hyocymus muticus L. subsp. *falezlez* (Coss.) Maire 2n=28. 100 km S. of In Salah, AA78-537.

ZYGOPHYLLACEAE

Tribulus bimucronatus Viv. 2n=24. Qued Mellene, between Amguel and Ideles, AA78-547.

Fagonia flamandii Batt. 2n=18. Wadi Al Ragwain Yemen, AA-F5

Fagonia livieri Boiss. 2n=22. Ideles-Amguel, in Sahara, AA78-546.

Reports by **D. E. JOHNSON**, Timber Press Inc., 9999 S.W. Wilshire, Portland, Oregon 97225, U.S.A. Vouchers in UC. All localities in U.S.A.

ASTERACEAE

Monoptilon bellidiforme Torrey & A. Gray ex A. Gray n=8. California: Inyo County, near Darwin, Johnson 228; San Bernardino County, near Old Woman Springs Road, Johnson 100. Nevada: Clark County, between Cottonwood Cove & Searchlight, Johnson 181. n=8+2B. California: San Bernardino County, near Barstow, Johnson 253.

M. belltoides (A. Gray) H.M. Hall n=8. California: Riverside County, Palm Desert, Johnson 98; San Diego County, near mouth of Hellhole Canyon, Johnson 172. n=8+0-1B. Cali-

fornia: San Bernardino County, near Vidal, Johnson 175.

Reports by T.N. KAYE and S.C. MASSEY, Plant Conservation Biology Program, Oregon Department of Agriculture, 635 Capitol NE, Salem, Oregon, 97310, USA. Vouchers in OSC. All localities in Oregon, USA.

POLYGONACEAE

Eriogonum crosbyae Reveal n=20. Lake County: Guano Creek, 1600 m, Kaye s.n.; Fish Fin Rim, 1615 m, Kaye, Massey & Messinger 883.

Eriogonum prociduum Reveal n=20. Lake County: Drews Creek Reservoir, 1500 m, Kaye, Massey & Messinger 861.

ROSACEAE

Ivesia baileyi Wats. var. *beneolens* (Nels. & Macbr.) Ertter 2n=28. Harney County: south shore of Harney Lake, 1260 m, Kaye 1281.

I. rhypara Ertter & Reveal var. *shellyi* Ertter 2n=28. Lake County: Rehart Canyon, ENE of Alkali Lake, 1525 m, King 215.

Reports by MARK LOCKWOOD and MICHAEL FORSTNER, Department of Biology, Sul Ross State University, Alpine, Texas 79832, U.S.A. Vouchers in SRSC. All localities in Texas, U.S.A.

ASTERACEAE

Bidens bigelovii A. Gray n=24. 15 miles N. of Alpine, Jeff Davis Co., Lockwood & Forstner 43.

CARYOPHYLLACEAE

Silene laciniata Cav. n=24. Mt. Livermore, Jeff Davis Co., Lockwood & Forstner 36.

PHYTOLACCACEAE

Rivinia humilis L. n=63. 5 miles S.W. of Fort Davis, Jeff Davis Co., Forstner 5.

SCROPHULARIACEAE

Castilleja integra A. Gray n=36. 5 miles S. of Alpine, Brewster Co., Lockwood & Forstner 9.

C. ciliata Penn. n=12. Mt. Livermore, Jeff Davis Co., Lockwood 188.

C. elongata Penn. n=12. Chisos Mts, Brewster Co., Lockwood 182.

Reports by M.G. VASSIL'EVA, T.V. ALEXEEVA, M.G. PIMENOV and E.V. KLJUYKOV, Botanical Garden, Moscow State University, Moscow 119899, U.S.S.R. All gatherings are from the U.S.S.R.; the collectors are M.G. Pimenov (P), E.V. Kljuykov (K), M.G. Vassil'eva (V). Vouchers in MW.

APIACEAE

Anthriscus glacialis Lipsky n=8. Tadzhikistan, near Tadzhikabad, Sary-nai, 1987, P & V 507.

Aphanopleura capillifolia (Regel & Schmalh.) Lipsky n=11. Kirghizia, valley of River

Chu, near Dzhany-Pachta, 1988, K & V 98.

Aulacospermum dichotomum (Korov.) Kljuykov et al. n=9. Tadzhikistan, Zeravschan Mts, Kyrgachi Pass, 1988, P & V 30.

Aulacospermum tianschanicum (Korov.) C. Norman n=9. Kirghizia, Ichkele-tau Mts, 1988, K & V 158.

Aulacospermum turkestanicum (Franch.) Schischk. 2n=18. Kazakhstan, Ugam Mts, valley of River Sairam-su, 1984, K 527.

Autumnalia botschantzevii M. Pimen. 2n=22. Kazakhstan, Karatau Mts, near River Bouldai, Kiche-Tura Mt., 1987, P, K & V 875 (type specimen).

Conioselinum chinense (L.) Britt., Sterns & Pogg. 2n=44. Kurile Isls, Kunashir, 1983, P & K 33.

Dimorphosciadium gayoides (Regel & Schmalh.) M. Pimen. 2n=22. Kirghizia, Central Tian Shan, valley of River Terek, 1987, P & K 788.

Dorema hyrcanum K.-Pol. n=11. Turkmenia, Kopet Dagh Mts, valley of River Arvaz, Ipai-Kala, 1990, P & K s.n.

Dorema microcarpum Korov. 2n=22. Kirghizia, Alai Mts, Arpalyk Mt., 1986, P, K & V 248.

Elaeosticta alaica (Lipsky) Kljuykov et al. 2n=22. Kirghizia, Fergana Mts, near Suzak, 1987, P & K 395.

Elaeosticta hirtula (Regel & Schmalh.) Kljuykov et al. 2n=40. Kirghizia, valley of River Chatkal, River Shabrez-sai, 1986, P, K & V 350. n=10. Tadzhikistan, Zeravschan Mts, Pardon Pass, 1988, P & V s.n.; Uzbekistan, Hissar Mts, Kainar-sai, 1988, P & V s.n.

Elaeosticta knorringiana Korov. 2n=22. Kirghizia, Fergana Mts, near Suzak, 1987, P & K 392.

Eremodaucus lehmannii Bunge 2n=18. Uzbekistan, Hissar Mts, near Guzar, 1984, K s.n.

Eryngium caucasicum Trautv. n=8. Uzbekistan, Hissar Mts, near Kamar, 1988, P & V 209.

Eryngium karatavicum Iljin 2n=16. Kazakhstan, Karatau Mts, Mt. Mynzhylke, 1982, P & V 158.

Eryngium macrocalyx Schrenk 2n=16. Kazakhstan, Karatau Mts, near Leont'evka, 1982, P & V s.n. n=8. Kirghizia, Kirghiz Alatau Mts, near Kara-archa, 1988, K & V 125.

Ferula alaica M. Pimen & Melibaev. 2n=22. Kirghizia, Alai Mts, Arpalyk Mt. (type locality), 1986, P, K & V 251.

Ferula ceratophylla Regel & Schmalh. 2n=22. Kazakhstan, Karatau Mts, Mynzhylke, 1982, P & V s.n.

Ferula equisetacea K.-Pol. 2n=22. Tadzhikistan, Hissar Mts, valley of River Varsob, near Gushary, 1984, K 480.

Ferula ferganensis Lipsky ex Korov. 2n=22. Bot. Gard. of the Institute of Chemistry of Natural Products (Taschkent), 1986, V s.n.

Ferula gypsacea Korov. 2n=22. Kazakhstan, Chimkent prov., Alymtau Mts, 1986, P, K & V 131.

Ferula inciso-serrata M. Pimen. & J. Baranova 2n=22. Kirghizia, Fergana Mts, N. slope, River Bekachal, 1985, K s.n.

Ferula karataviensis (Regel & Schmalh.) Korov. subsp. *karataviensis* 2n=22. Kirghizia, Kirghiz Alatau Mts, Kichik-Koindy, 1988, K & V 111.

Ferula karataviensis subsp. *tschuiliensis* (Bajt.) M. Pimen. & Kljuykov n=11. Kirghizia, Kirghiz Alatau Mts, N. slope, near Beshkek, Kok-Dzhar, 1988, K & V 90.

Ferula litophila M. Pimen. 2n=22. Uzbekistan, Chatkal Mts, S. slope, River Resak-sai, 1986, P & V 181.

Ferula pallida Korov. 2n=22. Kazakhstan, Chimkent prov., Alymtau Mts, 1986, P, K & V 158.

Ferula renardii (Regel & Schmalh.) M. Pimen. 2n=22. Kirghizia, Talass Mts, Karabura

pass, River Karakasmak, 1976, P, K & V 754.

Ferula taucumica Bajt. 2n=22. Kazakhstan, Taukum desert, seeds from Institute of Botany, Kazakh Acad. Sci., 1984.

Ferula transiliensis (Herd.) M. Pimen. n=11. Kirghizia, Kirghiz Alatau Mts, River Barkol, 1988, K & V 290.

Ferula varia (Schrenk) Trautv. 2n=22. Kazakhstan, Chimkent prov., Alymtau Mts, 1986, P, K & V s.n.

Galagania ferganensis (Korvo.) M. Vasil. & M. Pimen. n=11. Tadzhikistan, Kabud-Krym Mts, Darai-Tanchak, 1988, P & V s.n. 2n=22. Kirghizia, Fergana Mts, near Suzak, 1987, V s.n.

Galagania neglecta M. Vassil. & Kljuykov 2n=22. Uzbekistan, Zeravschan Mts, Takhta-Karachacha Pass, 1984, K 496.

Galagania tenuisecta (Regel & Schmalh.) M. Vassil. & M. Pimen. 2n=22. Kazakhstan, Karatau Mts, near River Boroldai, Kiche-Tura Mt., 1987, P, K & V s.n.

Hyalolaena bupleuroides (Kar. & Kir.) J. Pimen. & Kljuykov 2n=20. Kirghizia, Alai Mts, Arpalyk Mt., 1986, P & K 239. n=10. Kirghizia, between Tjuz and Dzhanypachta, 1988, K & V 95.

Hyalolaena intermedia M. Pimen. & Kljuykov 2n=22. Kirghizia, Chatkal Mts, S. slope, Gava-sai, 1986, P & K 215.

Hymenolaena pimpinellifolia Rupr. n=11. Kirghizia, Alai Mts, Taldhyk Pass, 1989, P & K 156.

Kadenia dubia (Schkuhr) Lavrova & V. Tichomirov 2n=22. Altai, near Schtabka, 1989, P & V s.n.; Altai, near Charyshskoe, 1989, P & V s.n.; Altai, near Majorka, 1989, P & V s.n.

Karatavia kultiassovii (Korov.) M. Pimen. & Lavrova 2n=22. Kazakhstan, Karatau Mts, Mt. Mynzhylke, River Bojaldyr, 1982, P & V 149.

Kitagawia terebinthacea (Fisch. ex Spreng.) M. Pimen. subsp. *trichootheca* M. Pimen. 2n=22. Primorje, reserv. "Kedrovaja Pad'", 1983, P & K 199.

Korschinskya kopetdaghensis (Korov.) M. Pimen. & Kljuykov n=7. Turkmenia, Kopet Dagh Mts, Chuli, 1990, P & K 57.

Korschinskya olgae (Regel & Schmalh.) Lipsky 2n=18. Tadzhikistan, Vachsch Mts, waterfall Puchtybok, 1983, V 54.

Kosopoljanskya turkestanica Korov. n=11. Kirghizia, Talass Alatau Mts, Mt. Manas, River Arabik, 1988, K & V 249.

Laserpitium prutenicum L. 2n=22. Moscow Prov., near Troizk, 1989, V s.n.

Lomatocarpa albomarginata (Schrenk) M. Pimen. & Lavrova n=11. Kirghizia, Kirghiz Alatau Mts, S. slope, River Barkol, 1988, K & V 305.

Lomatocarpa steineri (Podlech) M. Pimen. n=11. Tadzhikistan, Peter I Mts, Sary-obi-shirin, 1987, P & V 469.

Pachypleurum alpinum Ledeb. 2n=22. Altai, Seminsky Pass, 1989, P & V s.n.

Pastinacopsis glacialis Golosk. 2n=22. Kazakhstan, Transili Mts, Medeo, gletcher Tujuk-su, 1989, P & K 677.

Pilopleura torodyloides (Korov.) M. Pimen. n=11. Kirghizia, Kirghiz Alatau, N. slope, Ala-Archa, 1988, P & K 380; Kirghizia, Kirghiz Alatau, S. slope, Kichik-Koindy, 1988, K & V 194.

Pleurospermum uralense Hoffm. 2n=18. Siberia, Altai Mts, Seminsky Pass, 1989, P & V s.n.; Altai, Charysh, 1989, P & V s.n.

Prangos latiloba Korov. n=11. Turkmenia, Kopet Dagh Mts, River Arvaz, Katagura Mt., 1990, P & K 12.

Rupiphila tashiroei (Franch. & Savat.) M. Pimen. & Lavrova 2n=22. Primorje prov., Sichote-Alin Mts, Tetukhe, 1983, P & K 169.

Scandix aucheri Boiss. n=10. Turkmenia, Kopet Dagh Mts, River Arvaz, Ipai-kala, 1990, P & K 4.

- Scandix stellata* Banks & Soland. $2n=22$. Kazakhstan, Karatau Mts, River Boroldai, Kiche-Tura Mt., 1987, P, K & V s.n.
- Schrenkia golickeana* (Regel. & Schmalh.) B. Fedtsch. $2n=22$. Kazakhstan, Karatau Mts, near River Boroldai, Kiche-Tura Mt., 1987, P, K & V s.n.
- Schrenkia papillaris* Regel & Schmalh. $n=11$, $2n=22$. Kazakhstan, Karatau Mts, near River Boroldai, Kiche-Tura Mt., 1987, P, K & V 216.
- Schrenkia pungens* Regel. & Schmalh. $n=11$. Kirghizia, basin of River Talass, Karachatau, 1988, K & V 270; Kazakhstan, Karatau Mts, Mt. Mynzhylke, near Sasgan, 1989, K 567.
- Schrenkia vaginata* (Ledeb.) Fisch. & C.A. Mey. $n=11$. Kirghizia, basin of River Talass, Sassyk-bulak, 1988, K & V 22; $2n=22$. Tadzhikistan, Zeravschan Mts, Lake Iskanderkul, 1984, K 422.
- Schtschurowskia meifolia* Regel & Schmalh. $n=11$. Kirghizia, Talass Alatau Mts, Mt. Manas, River Arabik, 1988, K & V 240.
- Semenovia dasycarpa* (Regel. & Schmalh.) Korov. ex Czer. $n=11$. Tadzhikistan, Kabud-Krym Mts, Dashti-Khirson, 1988, P & V s.n. $2n=22$. Kirghizia, Chatkal Mts, near Jangi-bazar, Mazar-sai, 1986, P, K & V 518.
- Semenovia pimpinelloides* (Nevski) Manden. $n=11$. Tadzhikistan, Zeravschan Mts, near Ven, 1988, P & V 117; Uzbekistan, Hissar Mts, Kainar-sai, 1988, P & V 150.
- Seseli korovinii* Schischk. $n=10$. Tadzhikistan, Zeravschan Mts, Kyrgachi pass, 1988, P & V s.n.
- Seseli lehmannianum* (Bunge) Boiss. $n=10$. Tadzhikistan, Zeravschan Mts, Pardon Pass, 1988, P & V s.n.
- Seseli seravschanicum* M. Pimen. & Sdobn. $n=11$. Tadzhikistan, Zeravschan Mts, Kyrgachi Pass, 1988, P & V 32.
- Seseli sessiliflorum* Schrenk $2n=20$. Kazakhstan, Karatau Mts, 22 km N. of Suzak, 1982, P & V 186. $n=10$. Kirghizia, near Beshkek, Kok-Dzhar, 1988, K & V 91.
- Seseli turbinatum* Korov. $n=10$, $2n=20$. Kazakhstan, Karatau Mts, near River Boroldai, Kiche-Tura Mt., 1987, P, K & V 277.
- Seseli valentinae* M. Pop. $n=11$. Kirghizia, Central Tian Shan, near Kochkorka, Kysart Pass, 1989, P & K 3.
- Seselopsis pusilla* M Pimen. & Lavrova $2n=22$. Kirghizia, Alai Mts, basin of River Gulcha, Chonkul, 1981, P, K & V 709 (type specimen).
- Sium latifolium* L. $n=6$. European Russia, Volgograd prov., River Ilovlja, 1978, P s.n. $2n=12$. Altai, near Schtabka, 1989, P & V s.n.
- Sium medium* Fisch. & C.A. Mey. $n=6$. Kirghizia, Lake Issyk-kul', on N. shore, Chon-Urjuky, 1988, P & K 427; Kirghizia, Kirghiz Alatau Mts, Ala-Archa, 1988, P & K 360.
- Sphaenolobium coriaceum* (Korov.) M. Pimen. $2n=22$. Kazakhstan, Talass Alatau Mts, reserv. "Aksu-Dzhabagly", 1981, V s.n.
- Sphaenolobium tianschanicum* (Korov.) M. Pimen. $2n=22$. Kazakhstan, Karatau Mts, River Badam, 1982, P & V 196.
- Tetrataenium olgae* (Regel. & Schmalh.) Manden. $2n=22$. Tadzhikistan, Chozretishoch Mts, River Obi-Pitau, 1983, V 87.
- Tilingia ajanensis* Regel. & Til. $2n=22$. Saghalien, south part, Chekhov Mt., 1983, P & K 139.
- Turgenia latifolia* (L.) Hoffm. $2n=32$. Kazakhstan, Karatau Mts, Boroldai, 1987, P & V s.n.; Tadzhikistan, Shakhristan Pass, 1984, K s.n.
- Vicatia atosanguinea* (Kar. & Kir.) P. Mukherjee & M. Pimen. $n=11$. Kirghizia, Kirghiz Alatau Mts, Ak-tjuz, 1988, K & V 48.

4. IOPB Symposium 1992: News from the Organizing Committee

Writes Peter C. Hoch, Missouri Botanical Garden:

We are somewhat behind schedule in sending the Second Circular, but hope to have it completed and in the mail within the next few weeks. The program of sections is now virtually set (see the enclosed line-up of speakers). Many people have indicated their interest in presenting papers/posters; we will request abstracts from them via the Second Circular, and will then organize contributed paper and poster sessions in time to include them in the final program.

Most other elements of the planning for Symposium 1992 are in order, and full information will be available in the Second Circular. Letters of invitation are about to be sent to anyone who requested it; we are still working to identify sources of funding for some participants from Eastern Europe, China and Latin America. As a courtesy, we will be sending the Second Circular to all IOPB members whether or not they sent in the form from the First Circular.

Section 1: DNA and Plant Biosystematics

Organizers: Barbara SCHAAL, Washington University, and Michael CLEGG, University of California, Riverside.

Konrad BACHMAN, Universitet van Amsterdam: Nuclear DNA markers for the evolution of *Microseris* (*Asteraceae*).

John DOEBLEY, University of Minnesota: Genetic analysis of the morphological evolution of maize.

Gabriel DOVER, England: title unavailable to date

Amy MACRAE, University of Missouri: Patterns and transposable element evolution in the grasses.

Pamela S. SOLTIS and Douglas E. SOLTIS, University of Washington: Fossil DNA: Its potential for biosystematics.

Section 2: Plant growth patterns

Organizer: Adrian BELL, University of Wales.

D. KAPLAN and P. GORFF, University of California: Development themes in vascular plants: functional and evolutionary significance.

G. ROTHWELL, Ohio University: Fossil history of branching patterns in vascular plants.

A.J.E. SMITH, University of Wales: The ecological and systematic implications of branching patterns in Bryophytes.

F. HALLE, University of Montpellier: Distribution of architectures across a taxonomic spectrum.

A. BELL and T. DINES, University of Wales: Branching patterns of the *Solanaceae*.

M. HUTCHINGS, University of Sussex, and R.C. TURKINGTON, University of British Columbia: Plasticity of branching pattern in herbaceous perennial plants.

Section 3: Plant reproduction: patterns and processes

Organizer: Andrew G. STEPHENSON, Pennsylvania State University.

David DILCHER, University of Florida: Using the fossil record to unravel current issues in plant reproduction.

James HAMRICK, University of Georgia: Patterns of gene flow.

Johanna SCHMITT, Brown University: Genetic and environmental variation for reproductive traits.

Oscar ROCHA, University of Costa Rica: Regulation of flower, fruit and seed production.

Andrew STEPHENSON, Pennsylvania State University: Regulation of offspring quality.

Gregory ANDERSON, University of Connecticut: Impact of reproductive biology on systematics.

Section 4: Phylogenetic analysis and population biology

Organizer: Michael J. DONOGHUE, University of Arizona.

Wayne P. MADDISON, University of Arizona: Phylogenetic histories within and between species.

Joseph FELSENSTEIN: Population samples of molecular sequences and estimation of effective population size.

Loren H. RIESEBERG, Rancho Santa Ana Botanic Garden: Multiple gene trees and the detection of reticulate evolution.

Lucinda MCDADE, Duke University: Reticulation and population-species boundary.

David A. BAUM, University of Wisconsin: Genealogical analysis and the species problem.

Richard G. OLMSTEAD, University of Colorado, Stephen G. WELLER, University of California, Irvine, and Michael J. DONOGHUE, University of Arizona: Phylogenetic studies of plant breeding systems.

5. IOPB Elections 1992: Information and Ballot

The forthcoming elections will have to be carried out and the results announced formally during the IOPB Symposium at St. Louis, June 1992.

As far as the **IOPB Executive** is concerned, the slate of Officers is considered as follows:

- The current President-Elect Dr. Peter H. Raven becomes automatically Present upon election of a new Vice-President. For the latter office, the sole candidate is Dr. Bengt E. Jonsell, Professor Bergianus at the Royal Academy of Sciences, Stockholm, and the Director of the Bergius Botanical Garden. Dr. Jonsell has agreed to serve and shall organize the next IOPB Symposium in Scandinavia. Dr. Krystyna M. Urbanska and Dr. Clive A. Stace will continue their works as Editors of the IOPB Newsletter in the next period. Dr. Hans C.M. den Nijs will continue likewise as IOPB Secretary/Treasurer, Dr. W. Hardy Eshbaugh remains as Regional Treasurer. The new Executive Member ex officio for IOPB Symposium 1995 is Dr. Liv Borgen, Botanical Garden, University of Oslo.

We suggest that the list of Executive Officers be accepted as a whole.

As far as the **IOPB Council** is concerned, the actual Officers will be selected by majority of votes. The ballot presented on p. 23 includes more than the maximum ten statutory names. Please consider carefully your choice, and observe the following rules:

- Not more than **two** of the Council Members shall be residents of the same country when elected, **except** for the Executive Officers. This means that only two candidates from the U.S.A. can be selected for the Council this time - you will have to select two out of the four names given.
- Candidates from various areas of residency should be elected to the Council.

- Some balance between renewal and continuity in the Council should be achieved, but please do remember that IOPB Council does need new people and new countries represented.

All IOPB Members are kindly requested to mail the ballot **not later than by the beginning of March 1992**. It should be sent to: **Krystyna M. Urbanska**, Geobotanisches Institut ETH, Stiftung Rübel, Zürichbergstrasse 38, CH-8044 Zürich, Switzerland.

6. Requests for Material and Information

CHENG-XIN Fu, Botany Division of Zhejiang Agricultural University, Hangzhou 310029, P.R. China. FAX: 0086-0571-774636, would appreciate material and information of *Smilax*, especially from America.

RAVANKO Orvokki, Herbarium, Department of Biology, University of Turku, 20500 Turku 50, Finland, would appreciate publications on morphology and chromosomes of *Oxycooccus* and *Geum* in Europe.

TURALA-SZYBOWSKA Krystyna, Dr., Institute of Botany, Department of Plant Cytology and Embryology, Jagellonian University, Grodzka 52, 31-044 Krakow, Poland, would appreciate information concerning the polyploidization of the antipodals and anther's tapetum.

7. Miscellaneous News and Notes

John McNeill took over as Director of the Museum in March 1991.

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100 Queen's Park, Toronto, Ontario M5S 2C6, Canada.
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IOPB Executive and Council members

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Vice President - President Elect:

Peter H. Raven

Missouri Botanical Garden,
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Secretary-Treasurer:

Hans C.M. den Nijs

Hugo de Vries Laboratory, University of Amsterdam
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Member *ex officio* for 1992 Symposium:

W. Hardy Esbaugh

Department of Botany, Miami University
316 Biological Sciences Building
Oxford, Ohio 45056, USA
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Fax: 1-513-529 4243

Council:

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

Liv Borgen, Botanical Garden and Museum, University of Norway, Trondheimsveien 23B, N-0562 Oslo 5, Norway.
Phone: 47-2-686 960; Fax: 47-2-19-75-75

D. Cartier, Laboratoire de Biologie Végétale B, Université de Paris XI, Centre d'Orsay, Bâtiment 362, F-91405 Orsay-Cédex, France.
Phone: 33-69-417 222

Hsu Ping-shang, Department of Biology, Fudan University, Handan Lu 220, Shanghai, P.R. China

Kunio Iwatsuki, Director of the Botanical garden, University of Tokyo, 3-7-1 Hakusan, Bunkyo, Tokyo 112, Japan
Fax: 03 8140139

B.E. Jonsell, Bergianus Botanic Garden, P.O. Box 50017, S-10405 Stockholm, Sweden.
Phone: 46-8-156 896; Fax: 46-8-612 9005

Meredith A. Lane, Director Herbarium, University of Kansas, 2045 Constant Avenue, Lawrence, Kansas 66047, U.S.A.
Phone: 1-913-864 4493; Fax: 1-913-864 5298

John McNeill, Director Curatorial, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6, Canada.
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Arne Rousi, Department of Botany, University of Turku, SF-20500 Turku 50, Finland.
Phone: 358-21-633 6101; Fax: 358-21-331 167

Suzanne I. Warwick, Biosystematics Research Center, W. Saunders Building, Central Experimental Farm, Ottawa, Ontario K1A 0C6, Canada.
Phone: 1-613-996 1665; Fax: 1-613-995 1823

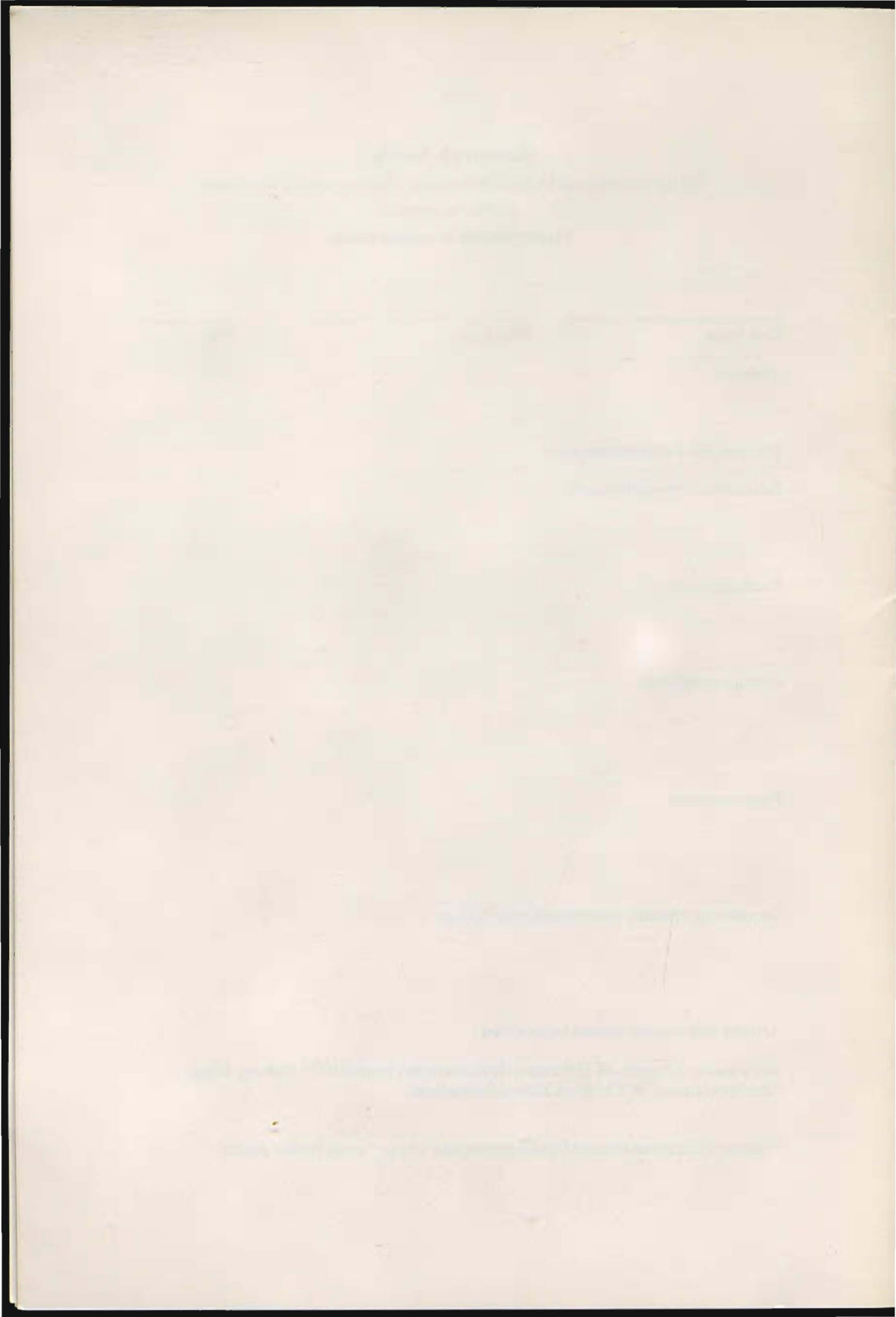
THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

REPORT OF THE
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A RESOLUTION PASSED
BY THE BOARD OF
LANDS AND MINES
ON FEBRUARY 14, 1902
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LANDS BELONGING TO
THE STATE OF CALIFORNIA
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1992**

IOPB Executive 1992-1995

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Vice-President/President Elect: **Bengt E. Jonsell**, Bergius Botanical Garden, Stockholm, Sweden.

Past-President: **Shoichi Kawano**, Dept. of Biology, Kyoto University, Kyoto, Japan
Editor Newsletter: **Krystyna M. Urbanska**, Geob. Institute ETH, Zürich, Switzerland
Co-Editor Newsletter: **Clive A. Stace**, Dept. of Botany, Univ. of Leicester, England
Secretary/Treasurer: **W. Hardy Esbaugh**, Dept. of Botany, Miami Univ., Oxford, OH, USA

Member ex officio for 1995 Symposium: **Liv Borgen**, Botanical Garden and Museum, Univ. of Norway, Oslo, Norway

IOPB Council 1992-1995

(maximum ten names to choose, please cross out the remainder)

Herwig Teppner, Institut für Botanik, Karl-Franzens-Univ., Graz Austria
S.C.H. Barrett, Dept. of Botany, Univ. of Toronto, Toronto, Ontario, Canada
Luc Brouillet, Institut Botanique, Univ. de Montreal, Montreal, Quebec, Canada
Paul Catling, Biosystematics Research Centre, Ottawa, Ontario, Canada
John McNeill, Royal Ontario Museum, Toronto, Ontario, Canada
Suzanne Warwick, Biosystematics Research Centre, Ottawa, Ontario, Canada
Mary T.K. Arroyo, Laboratorio de Sistemática y Ecología Vegetal, Universidad de Chile, Santiago, Chile, South America
Hsu Ping-shang, Dept. of Biology, Fudan Univ., Shanghai, P.R. China
Delphine Cartier, Laboratoire de Biologie Végétale, Univ. de Paris XI, Orsay, France
Herbert Hurka, Institut für Biologie, Univ. Osnabrück, Osnabrück, Germany
Kunio Iwatsuki, Botanical Garden, Univ. of Tokyo, Tokyo, Japan
Tetsukazu Yahara, Institute of Biology, Univ. of Tokyo, Tokyo, Japan
Daniel Crawford, Dept. of Botany, Ohio State Univ., Columbus, OH, USA
Meredith A. Lane, Univ. of Kansas, Lawrence, Kansas, USA
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