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NEWS-LETTER OF THE SOUTH AFRICAN ASSOCIATION OF BOTANISTS
NUUSBRIEF VAN DIE SUID-AFRIKAANSE GENOOTSKAP VAN PLANTKUNDIGES

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NEW PUBLICATION

Barrier plants of southern Africa. L. Henderson (1987). Memoir of the Botanical Survey of South Africa No. 55. Price: R7,00 + GST; other countries R8,50.

This memoir of 97 pages discusses 504 species of indigenous and exotic species that can be used in security hedges, garden hedges, windbreaks and as road-island plants. Ninety-six of these are being suggested as barrier plants for the first time. All plants are briefly discussed and 12 tables, covering a total of 39 pages, provide condensed information on their features and their potential as barrier plants in different geographical and climatic regions. Attention is drawn to the need to replace alien species which have become aggressive invaders with less aggressive, preferably indigenous species. The work includes 47 photographs and 2 maps. It is obtainable from the Division of Agricultural Information, Department of Agriculture and Water Supply, Private Bag X144, Pretoria 0001, Republic of South Africa.

INTERNATIONAL ASSOCIATION FOR PLANT PHYSIOLOGY, Newsletter 1986

Subscriptions for 1986 were received from the following national or regional members: Australia, Austria, Belgium, Czechoslovakia, Federal Republic of Germany, Italy, Japan, New Zealand, Scandinavia, (Denmark, Finland, Norway, Sweden), Singapore, South Africa, Spain, United Kingdom, USA.

XIV International Botanical Congress, Berlin (West), Germany, 24 July - 1 August, 1987. IAPP will hold its formal Council Meeting and Election of Officers at the International Botanical Congress (IBC). It is therefore necessary that each member nation or association nominate one delegate to be a representative to attend the Council Meeting. The Council Meeting is open to delegates who have voting rights, and observers of potential member nations. Members may also nominate for any of the executive positions of the Executive Committee, that is, President, Vice President, Secretary/Treasurer, and the three positions of Committee Member.

IAPP will also hold a General Meeting at the IBC, open to all plant physiologists, in order to discuss policies and activities of IAPP and any other matters relevant to IAPP.

Information Stand/Desk. IAPP will have a location at the Congress to advertise the activities of the Association and to provide information for new members.

IAPP Dinner. It is hoped to organise an IAPP dinner to be held during the Congress.

Meeting of Editors of Plant Physiology Journals at the International Botanical Congress. Professor Anders Kylin (Sweden), Editor of *Physiologia Plantarum*, together with Professor W. Schwabe (UK), Editor of *Journal of Experimental Botany* and Professor J. Guern (France) formerly Editor of *Physiologie Végétale*, has initiated a meeting of Editors of the plant physiological journals to be held at the International Botanical Congress. The purpose is to discuss matters of common concern including electronic publishing and the possibility of standardising common publication formats, e.g. bibliographic references. IAPP has strongly supported this move to the IBC which has agreed to schedule a meeting at the Congress. Seventeen journals have so far indicated their intention to participate.

International Congress of Plant Physiology, New Delhi, India, 8 - 13th February, 1988. Professor S.K. Sinha has undertaken the duties of Secretary-General for the Congress. IAPP is fully supporting the Congress and the President of the IAPP, professor H. Ziegler, and Secretary/Treasurer, Dr D. Graham, have accepted invitations to be members of the International Program Committee of the Congress. Planning for the Congress is now well in hand with the formation of a National Organising Committee. IAPP will make a contribution of funds to support the organisation of the Congress and will undertake to canvass funds from international sources such as UN etc. It will be co-sponsored with the Indian Society for Plant Physiology and Biochemistry and the Indian Society for Plant Nutrition.

The programme includes four symposia:

1. Physiological Basis of Crop Yield, Crop Modelling and Crop Improvement.
2. Environmental Stress
3. Nutritional Stress
4. Preharvest and Postharvest Physiology and Biochemistry of Storage, and the following general objectives will be addressed by the Programme Committee.
 1. To highlight the contributions and impact of plant physiology on agriculture, including food sciences.
 2. There must be some interaction among different scientists irrespective of the area of research they represent.
 3. The effort should be to bring out the importance of an holistic approach with a due emphasis on research at different levels of organization.

Contact address: Dr S.K. Sinha, Water Technology Centre, Indian Agricultural Research Institute, New Delhi - 110012, India.

International Congress on Eco-Physiological Problems in the Arid Regions of the Arab Countries - Cairo, Egypt, 5 days in March 1988 (date to be announced). The meeting is jointly sponsored by the Egyptian Botanical Society, (President, professor Dr A.M. Salama), the Egyptian Academy of Scientific Research and Technology (Presi-

dent, Professor Dr Mohammed Kamel) and the IAPP following the initiatives of the President of IAPP, Professor Dr H. Ziegler, and Professor Dr K.H. Batanouny of Egypt. The participating countries of the Arab Region include Egypt, Jordan, Iraq, Morocco, Algeria, Tunisia, Sudan, Somalia, Saudi Arabia, Kuwait, Qatar, United Arab Emirates, Oman, Yemen, Bahrain and Mauritania. It is expected that scientists will be invited to contribute to the programme from the following countries: Germany, France, Switzerland, United Kingdom, USA, Australia, Austria, Italy and India. Others with interests in the arid zone will also be welcome to participate.

The meeting for invited and contributed papers will run for five days (Saturday to Wednesday) with a half-day field visit. An associated equipment exhibition will display the latest developments in methods of measuring various parameters in the field e.g. gas exchange and leaf temperature etc. In addition a scientific trip for 2 days in the Sinai, St Catherine will be organised for all who care to participate. A further study trip of about 10 to 14 days with a more limited number of participants will be organized for interested scientists from different countries to undertake eco-physiological field measurements and studies under desert conditions.

The Organising Committee will be made up from the Egyptian Botanical Society and the IAPP. Further circulars will be issued by IAPP. Abstracts will be published prior to the conference and the full papers will be refereed and arrangements made for their publication.

Further details are available from: Professor Dr H. Batanouny, Botany Department, Faculty of Science, Cairo University, Giza, Egypt.

and

Professor Dr H. Ziegler, D-8 München 2, Arcisstrasse 21, Briefpostfach 202420, Lehrstuhl für Botanik, Institut für Botanik und Mikrobiologie, Der Technischen Universität München, Munich, Federal Republic of Germany.

IAPP Booklet on 'Recommendations for Units, Symbols and Terminology in Plant Physiology'. Professor Frank B. Salisbury, Utah State University, USA and a team of collaborators has produced a first draft

of the booklet for comment. It is presently over 100 pages long which will require publication through a commercial publishing house since IAPP itself lacks the substantial financial resources required for publication. Various sections of the work have already been sent out to a wide range of plant physiologists for comment. Editors of plant physiology journals are to be asked for their comments. It is now unlikely that the booklet could be published by July 1987 in time for the IBC. Rather it would seem appropriate to receive as wide a review as possible at this stage to ensure the general acceptance of the substance of the booklet. Professor Salisbury and his colleagues are to be congratulated on the immense amount of work which has gone into the preparation of the booklet and the high standards they have achieved. The final document will be of considerable value to all plant physiological authors.

Finances. Finances continue on a sound basis with A\$5682.61 in the IAPP Bank Account and interest-bearing deposit. The major expenses during the year to date have been \$800 paid to CSIRO for typing, postage and printing of the Newsletter for 1984 and 1985. A further \$400 will be required for the present Newsletter and US\$100-\$200 for expenses incurred to date on the booklet 'Recommendations for Units, Symbols and Terminology in Plant Physiology'. It is anticipated some expenses will be incurred for the IBC in Berlin and IAPP will make a contribution to support the organisation of the International Congress of Plant Physiology in New Delhi, India and the International Congress on Eco-Physiological Problems in the Arid Regions of the Arab Countries in Cairo, Egypt. These costs should be well within our budget capability providing members continue to pay their subscriptions. Fully audited accounts will be available at the Council Meeting at the IBC.

Policies. The IBC in Berlin will give an opportunity to assess the current policies of IAPP and where we should be going over the next few years. Some thoughts on the future are: How can IAPP reach plant physiologists in the developing countries? Should IAPP sponsor workshops and training programmes in laboratory and fieldwork methods in addition to regional conferences?

Should IAPP sponsor expeditions to carry out plant physiological fieldwork in areas which currently receive relatively little atten-

tion in research e.g. tropical rainforests, stressed environments such as high altitudes, some arid zones etc? This could include cross-disciplinary groups involving ecologists, taxonomists etc. The IUBS Decade of the Tropics could offer some opportunities.

Regional Meetings. The policy of holding regional meetings is beginning to bear fruit. However, it is very much dependent on a few individuals to take on the task of organising the meeting. It is a challenging opportunity and the Secretary/Treasurer of IAPP would be pleased to hear from any member nation, association or individual interested in holding a regional meeting.

Membership of IAPP is open to any interested national or regional group. IAPP is particularly keen to extend its international membership, especially among the developing countries where the discipline of plant physiology could be of great benefit in agriculture and horticulture. If anyone has suggestions or contacts, please advise the Secretary/Treasurer.

Malaysian Society of Plant Physiology (MSPP). Professor T.C. Shen of the Botany Department, University of Malaya, Kuala Lumpur, Malaysia, has very recently initiated an inaugural meeting to form the MSPP. Professor P.N. Avadhani of Singapore, member of the IAPP Executive Committee, has been in contact with professor Shen with a view to MSPP joining IAPP and the Secretary/Treasurer has issued an invitation to MSPP to take up membership.

Stephen Hales Memorial. The memorial to the founder of modern plant physiology, Stephen Hales DD. FRS., was dedicated by the Bishop of Kensington, the Right Reverend Mark Santer, on Sunday, 22nd June, 1986 at a service in the Church of St Mary, Teddington, England. The IAPP and some twenty other organisations and individuals contributed towards the restoration in the church of which Hales was Minister for 51 years until his death in 1763. His volume on "Vegetable Staticks", published in 1727, described many classical experiments in plant physiology which Hales carried out. He thus laid the foundation for much of modern plant physiology. Professor E.T. Pengelley of the University of California took the initiative in the restoration of the Stephen Hales Memorial, supported by Dr R.M. Chasson of the American Society of Plant Physiologists and Dr A.H. Sykes of Wye College, University of London. The Reverend Raymond

Carter, Vicar of St Mary's, arranged a fitting celebration of the event which was attended by representatives of many of the contributing organisations.

International Directory of Plant Physiologists. There has been a very poor response to the request in the last Newsletter for updated national membership lists in order to revise the IAPP Directory. Is this indicative that it is thought to be not useful and unnecessary? This is a topic that could be discussed at the IBC meetings.

International Union of Biological Sciences (IUBS). IAPP is a constituent member of IUBS as a Section of the International Association of Botanical and Mycological Societies and is represented by the President Professor Dr H. Ziegler and the Secretary/Treasurer Dr D. Graham. Summary reports of IAPP activities are provided to IUBS for publication by the IUBS Executive Committee. IAPP can make application to IUBS for loans to support meetings and scientific activities. IUBS supports scientific programmes, a notable one at present being the Decade of the Tropics.

International Meetings

1987

10th Annual Symposium in Plant Physiology

Plant Senescence: Its Biochemistry and Physiology

8 - 10 January, University of California, Riverside

(Mrs Cindi McKernan, Dept. of Botany and Plant Science, University of California, Riverside, CA 92521).

4th European Congress of Biotechnology

14 - 19 June, Amsterdam, the Netherlands

(R.R. van der Meer, P.O.Box 18531, NL-EM the Hague, the Netherlands)

International Workshop on Reproductive Ecology of Tropical Forest Plants

14 - 19 June, Bangi, Malaysia

(MAB Secretariat, Division of Ecological Sciences, UNESCO, 7 place de Fontenoy, 75700 Paris, France)

First International Conference on the Chemistry and Biology of Naturally-Occurring Acetylenes and Related Compounds (NOARC)

19 - 22 July, University of Arhus, Denmark

(Dr H. Breteler, ITAL, P.O. Box 48, 6700 AA Wageningen, the Netherlands).

Plant-Soil Interactions at Low pH

20 - 24 July, Grande Prairie, Alberta, Canada

(K.G. Briggs, professor, the University of Alberta, (403) 432-3239)

XIVth International Botanical Congress

24 July - 1 August, Berlin, FRG

(Botanisches Museum Berlin-Dahlem,
Konigin-Luise-Str. 6 - 8, D-1000 Berlin 33, FRG)

11th International Congress on Plant Protection

5 - 9 October, Manila, the Philippines

(E.D. Magallona, Dept. of Entomology, College of Agriculture, Univ.
of Philippines at Los Banos College, Laguna 3720, the Philippines)

1988

VIIth International Symposium on the Biological Control of Weeds

Date undeter., South Africa

(Ms E. du Plessis, Int'l Relations Div., CSIR, P.O.B. 395, Pretoria
0001, South Africa)

International Congress of Plant Pathology

18 - 27 August, Japan

(T. Kommedahl, Stakman Hall of Plant Pathology, 1519 Gortner Ave.,
University of Minnesota, St Paul, MN, USA)

16th International Genetics Congress

20 - 29 August, Toronto, Canada

(P.R. Day, Director, Plant Breeding Institute, Maris Lane,
Trumpington, Cambridge CB2 2LQ, UK)

XXIIIrd General Assembly of the IUBS

17 - 24 October, Canberra, Australia

(IUBS Secretariat, 51 bd. de Montmorency, 75016 Paris, France)

2nd International Society of Plant Molecular Biology Congress

13 - 18 November, Jerusalem, Israel

(M. Edelman, Organizing Committee Chairman, c/o The Aharon Katzir-
Katchalsky Center, The Weizmann Institute of Science, Rehovot, Is-
rael)

1990

4th International Congress of Systematics & Evolutionary Biology

1 - 7 July, Maryland, USA

(J. Corliss, Dept. of Zoology, University of Maryland, College Park, MD 20742, USA)

4th International Mycology Congress

August, Regensburg, F.R.G.

(D.L. Hawksworth, Commonwealth Mycological Institute, Ferry Lane, Kew, Surrey TW9 3AF, UK)

Dr D. Graham
Secretary-Treasurer, IAPP
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AUSTRALIA, 2113

In Memoriam, P.G. Jordaan, 1913 - 1987

Professor P.G. Jordaan van Stellenbosch is op 28 Februarie 1987 in die waakeenheid van die Tygerberg-hospitaal oorlede, nadat hy vir 'n geruime tyd siek gewees het. Hy word oorleef deur sy eggenote, twee seuns en 'n dogter. Prof. Jordaan het op 31 Desember 1978 uit diens van die Universiteit van Stellenbosch getree. Hy was tot sy aftrede hoof van die Departement Plantkunde, en ook hoof van die Botaniese Tuin van die Universiteit van Stellenbosch.

Pieter Gerhardus Jordaan is op 29 Oktober 1913 in die distrik Caledon gebore. In 1930 het hy gematrikuleer aan die Hoër Jongenskool Paarl en daarna met sy studies aan die Universiteit van Stellenbosch begin. In 1933 het hy die graad B.Sc. (cum laude) verwerf, in 1936 die graad M.Sc. (cum laude) en in 1944 die doktorsgraad in Plantkunde. Aan die einde van 1936 het hy ook die S.O.D. en M.Ed. 1 voltooi. Sy eerste vaste betrekking was dié van assistent vir die Direkteur van die Nasionale Dieretuin in Pretoria. In Junie 1939 het prof. G.C. Nel (destydse hoof van die Departement Plantkunde by die Universiteit van Stellenbosch) hom die pos van lektor in plantkunde aangebied. Hierdie verbintenis met die Universiteit van Stellenbosch sou voortduur tot met sy aftrede in 1978. Hy het 'n stipendium verwerf om vir 'n jaar in Berlyn te gaan studeer, en in September 1939 was hy reeds op pad na Berlyn maar moes weens die uitbreek van die oorlog

sy planne laat vaar. Eers 12 jaar later het hy die geleentheid gekry om 14 maande oorsee te gaan. Hy het toe in Cambridge en Leiden studeer, vir 'n aantal maande in die Kew- en Rijksherbarium (Leiden) gewerk, en plantkundige inrigtings en botaniese tuine in 'n tiental lande in Europa besoek.

In 1953 is hy aangestel as professor in plantkunde en hoof van die botaniese tuin by die Universiteit van Stellenbosch. Hy het hom met sukses beywer vir beter navorsingsfasiliteite in die departement. Die departementele biblioteek is georden en uitgebrei, nagraadse laboratoriums is verkry, en ruim fasiliteite vir plantfisiologiese navorsing is opgerig. Deur sy toedoen is die grootste gedeelte van die universiteitsherbarium aan die Staat oorgedra. Dit het die Departement Plantkunde verlos van die tydrovende taak om herbariumdienste te lewer.

Weens gesondheidsprobleme en 'n veeleisende organisatoriese- en doserende program, het prof. Jordaan te min tyd gekry vir navorsing op die gebiede waarin hy 'n diepgaande belangstelling gehad het. Hy het veral navorsing gedoen op die voortplanting van verteenwoordigers van die Proteafamilie en die ontwikkeling van plantgemeenskappe insluitende die invloed van brand, en verskeie artikels oor hierdie werk is deur hom gepubliseer. Hy het ook biografieë geskryf, onder meer van Rudolf Marloth, G.C. Nel en A.V. Duthie. In 1943 is 'n boek met die titel "Praktiese Plantkunde" deur hom gepubliseer.

Professor Jordaan was baie aktief sover dit vakverenigings aangaan: hy was 'n stigterslid van die Suid-Afrikaanse Genootskap van Plantkundiges en ook lid van die eerste Raad, hy was 'n volle lid van die S.A. Akademie vir Wetenskap en Kuns en jarelank voorsitter van die Stellenbosse Tak van die Afdeling Biologie. Hy was ook verskeie jare raadslid van die Botaniese Vereniging van Suid-Afrika. Hy dien op die Raad van Trustees van die Nasionale Botaniese Tuine as lid vanaf 1961 en as ondervoorsitter vanaf 1967. As voorsitter dien hy op die Adviserende Raad van die Jan Marais-natuurreservaat vanaf stigting in 1966. Professor Jordaan was ook medewerker van die Woordeboek van die Afrikaanse taal (WAT). Uit sy pen het die eerste Afrikaanse artikel in die "Journal of South African Botany" verskyn. Hy het hom deurgaans ten doel gestel om die Afrikaanse vaktaal in plantkunde uit te bou.

Met die afsterwe van prof. Jordaan het Suid-Afrika nog een van die goeie "ou-geslag" plantkundiges verloor. Sy vriende sal hom onthou as 'n veelsydige mens met 'n wye belangstelling. Hy was ook 'n diep gelowige. Deur al die jare van siekte en lyding het hy steeds blymoedig en standvastig in die geloof gebly. Ons dink in hierdie dae aan sy vrou Helen en sy kinders, mag hulle vertroosting vind uit die wete dat alles nou met hom wel is.

J.J.A. VAN DER WALT

ANNOUNCEMENT OF A SYMPOSIUM ON "CONSERVATION IN AN URBANISING ENVIRONMENT - THE GREATER CAPE TOWN REGION"

This symposium will be held on 10 and 11 September 1987 at the University of the Western Cape, Bellville.

The natural environment in and around South African cities is continually being threatened by housing and other pressures. In the Greater Cape Town Region, provision of housing remains a serious priority and will be, well into the 21st century. Apart from isolated nature areas and patches of farmland, the Cape Flats in the not too distant future will form a high density "metropolis" stretching from Table Mountain to Kuils River and from False Bay to the Tygerberg Hill. Cape Town's population of nearly a million will double by the year 2012, coupled with a major urbanization phase. This will place enormous burdens on our natural habitats and nature areas and their future security cannot be guaranteed. Further, the lowlands on Cape Town's doorstep are among the most endangered natural systems in South Africa, and Table Mountain cannot continue to withstand the annual onslaught of tourists and locals. Are our current conservation objectives in keeping with the above environmental problems? Are our conservation philosophies not outmoded and out of touch with an urbanizing South Africa where political and social issues are first priorities to a majority of our population?

Major government and non-government conservation organizations and concerned individuals have joined forces to plan a symposium which will deal with the environmental problems facing the Greater Cape Town Region. Issues to be addressed include: a statement on these problems and how they affect us, the demands being placed on our local natural environment, rationalizing urban and conservation planning, and examining appropriate case studies. Attitudes of dif-

ferent communities will be presented as will the relevance of conservation to these communities. Some of the topics will deal with conservation problems in the Region as well as the role of environmental education.

All are welcome to attend the first one and a half days of the symposium when invited papers on the above topics will be presented. Immediately after this invited participants will take part in a workshop whose chief aim will be to produce guidelines for future conservation planning and implementation in the urbanizing Greater Cape Town Region. A one day pre-symposium tour (9 September) will take delegates to areas of urban and conservation conflict in the Cape Town and Cape Flats areas.

During the 1st quarter of 1987, a circular will be sent out providing details of the symposium and inviting attendance.

Further information may be obtained from:

Mr M.G.J. Hendricks
Campus Coordinator, U.W.C. Conservation Symposium
Department of Zoology
University of the Western Cape
Private Bag X17
BELLVILLE
7535

(Tel.: 959-2475).

BOTANICAL EDUCATION IN SOUTHERN AFRICA - A TOPIC FOR DEBATE AT
FUTURE CONGRESSES

At the A.G.M. at the University of Transkei in 1986, the following motion was put forward and adopted:

Educational Committee

The undersigned propose that SAAB call a meeting on at least annual basis, of all Heads of Plant Science Departments and Research Groups to discuss or research or co-ordinate the following:

- (a) the teaching of plant science in Southern Africa.
- (b) where have post graduates been employed and what are the future employment opportunities?
- (c) is there any particular area within plant science that needs to be emphasized?

- (d) is there a differential between black and white tertiary education in this field and if so, should this be addressed?
- (e) what role should Botany be playing in the training of plant scientists and for future research?
- (f) should there be a greater input by departments or groups in teacher training institutions particularly in the black sector?

Goedgekeur/Proposed by Prof. A.J. Tew and Prof. C.F. Cresswell.

Consequently, Council acted on this initiative and in 1986, Professor Theron wrote to all Heads of Botany Departments and institutes for their response. Some of the replies were very interesting and I include quotes from these letters, which I have kept anonymous, for your information:

"Wat die mosie betref, gee ek my volle steun daaraan. Ek sou ook nog 'n aspek vir moontlike bespreking wou byvoeg en dit is of dit nie dalk wenslik is om die voorgraadse opleiding 'n vierjarige kursus te maak nie. Ek besef natuurlik dat dit sal beteken dat die hele B.Sc-gradopleiding dan geherstruktureer sal moet word".

"Dit moet egter in gedagte gehou word, dat hoewel daar gekyk kan word na die verskillende aspekte, genoem in jou skrywe, die ontwikkeling en spesialisasie van 'n departement grootliks afhang van die aard van die kundigheid/kundiges in die betrokke departement. 'n Departement behoort daarom die vryheid te hê om te ontwikkel sonder spesifieke voorgeskrewe reëls. Ten einde egter die Plantkunde dissipline nasionaal tot sy reg te laat kom sal die beoogde samesprekings van groot waarde wees om veral die knelpunte/grys gebiede in die Plantkunde gebied van Suid-Afrika uit te wys".

"Ek ondersteun graag die voorstel dat die hoofde van ons land se Plantkunde departemente en navorsingsgroepe eenkeer per jaar vergader om gemeenskaplike probleme te bespreek. Die onderwerpe wat in u brief genoem word kan gerus aangespreek word al is dit om te wys dat verskillende belangegroepes uiteenlopende menings op party sake nahou. Ek sal byvoorbeeld eerder wil sien dat my personeel meer met hoëgraadse navorsing betrokke moet raak eerder as om meer betrokke te raak by die opleiding van onderwysers, veral swart onderwysers. Myns insiens moet ons daarteen waak dat Universiteitsdosente suiwer tersiëre onderwysers word".

"There are so many vested interests in academic institutions that frank objective discussion is fraught with difficulty. Indeed, I think the new FRD funding will aggravate the situation and prejudice our ability to develop appropriate courses, particularly for those students wishing to follow a career in teaching. Perhaps it is because of these issues that I support the initiative suggested by SAAB".

"Obviously SAAB should not and would not wish to prescribe to academics how they should structure and run their courses. At best therefore we can hope through frank and open discussion, to gradually mould thinking so that attitudes are receptive to new ideas and to change. The implication is that the approach should at least initially, be aimed at discussion and not at coordination".

"How does one decide which issue will stimulate most discussion? Perhaps SAAB could consider a symposium 'Perspectives on undergraduate training in botany' in which five speakers present key note addresses. The discussion and the papers could be drawn together and published. This approach would initiate discussion and help identify issues where feelings are strong enough to encourage subsequent action. A 'post mortem' could be held afterwards in order to plan further action".

"(a) I doubt that there is any uniformity in the teaching of Botany at the undergraduate level, in the Black and White University sectors.

(b) Our graduates (admittedly few in number) do not at present, have recourse to equivalent posts - this is a problem - The country is in need of black graduate Botanists, to take up posts in State, Government, and Independent State Departments of Nature Conservation, Forestry, Agriculture etc. We have found that students do not take more than 1 year of botany, simply due to the lack of suitable career opportunities".

"My reservation is that all too often in South Africa when meetings are called to discuss certain items of interest to societies or the public at large, the results of these discussions tend to become prescriptive and before you know what's happening it is being sug-

gested that people should be working, teaching, researching and conducting their lives in a particular fashion. What I am really trying to say is that any resolution, suggestion, etc., that may come out of this type of meeting must never become prescriptive to any body or any institution".

"As a general comment on the terms of reference of the Educational Committee, particularly point (a), I would say that you should guard against the temptation to offer "job training" at undergraduate level. This is not really the function of a B.Sc., which I think is more correctly seen as a general education; and after all, for which of the spectrum of available careers should one try to prepare the students? I believe that specialization should start only in the Honours year, and continue through M.Sc. and Ph.D."

"I am in accord with the view that teaching in plant sciences needs to be discussed. I believe that this will always be so, and must be done, in the changing world in which we live. And my emphasis is on 'discuss' rather than 'research or co-ordinate' (the other two possibilities which you mention). I am a believer in the spirit of free-thinking, free-teaching and free-research. In particular, those of us fortunate to be appointed to universities occupy, I believe, privileged positions in which we are expected, by virtue of our individuality, to set the pace in teaching and thereby in thinking and in the values of society. In a sense, then, I do not advocate looking at the detailed requirements of outside institutions in designing my teaching. The broad nature of things may well influence me. For example, I observe that much governmental research in South Africa would benefit from more questioning, analytical-cum-synthetic intellect. The subject matter of what I teach is therefore usually by the way. I focus more on the problems of society, how we can analyse them, how we can use ecological theory to resolve them. I guess I get across a good bit of current theory in this way - hopefully rather painlessly. While some facts are necessary, I tend not to put them 'up front', partly because they are outdated quickly, partly because they are only relative, and partly because I want to instill an ability and an enthusiasm for perspective to tackle and solve problems. I lose no sleep over the fact

that my colleagues might not see things the same way. The broader the views that the students are exposed to, especially within a single department, the better I think our teaching is".

Because of this positive reaction to further discussion on botanical education in southern Africa a meeting was held at the Durban Congress which Heads of departments and institutes or their representatives attended. It was resolved that at future congresses, an evening (1 - 2 hours) be set aside for an open informal discussion of the aims, methods or problems in botanical education.

Dr Richard Cowling of the University of Cape Town has agreed to coordinate the ideas that are forthcoming for the next congress and come up with a theme for the meeting and appoint a Chairman or panel to handle the discussion. We would like all members (students included) who have items of interest for discussion to send their contributions to Richard Cowling. If you have any points which you would like to make in reply to the Heads of Departments and Institutes comments or raise amongst the association at large, please write to the Editor of Forum Botanicum for inclusion in the next issue.

PROFESSOR R.A. LUBKE, (PRESIDENT : SAAB)

SOUTH AFRICAN SPECIAL COMMITTEE FOR THE ICSU INTERNATIONAL
GEOSPHERE-BIOSPHERE PROGRAMME (IGBP)

The 21st General Assembly of ICSU (International Council of Scientific Unions), meeting in Berne in September 1986, approved the establishment of an "International Geosphere-Biosphere Programme : A Study of Global Change". The programme goals are to describe and understand the interactive physical, chemical and biological processes that regulate the total earth system, the unique environment that it provides for life, the changes that are occurring in this system, and the manner in which they are influenced by human actions. It was recognised that two phases of activity would be required: the first (1987 to 1990) to review the state of knowledge and plan and define precise goals, operational requirements and logistic needs for the programme; and the second (1991 to 2000) for the operational implementation of the programme and to draw the results together.

The South African National Committee for ICSU approved a recommendation that South African scientists be provided with an opportunity to make a meaningful contribution to the programme, and a South African Special Committee for the IGBP was appointed under the chairmanship of Professor P.D. Tyson to accept responsibility for the definition and successful attainment of South African goals within the international programme. Certain key aspects have been identified for the focus of the South African programme, of which one or more may be of relevance to members of the Association. The Foci include (convenor in parenthesis):

1. Climate change (Prof. P.D. Tyson)
2. Geomagnetism and aeronomy (Dr G.J. Kuhn)
3. Record of environmental change from the Quaternary period (Prof. H.J. Deacon).
4. Soils and land forms (Prof. T.C. Partridge)
5. Sequence of human population change (Prof. P. Smit)
6. Anthropogenic changes in native biota in recent history (Mr I.A.W. Macdonald)
7. Changes in terrestrial ecosystems (Mr F.J. Kruger)
8. Mammal population dynamics in the Kruger National Park (Dr S.C.J. Joubert)
9. Hydrology and water resources (Prof. R.E. Schulze)
10. Namib/Benguela interactions (to be appointed)
11. Estuarine and coastal change (to be appointed)
12. Response of marine populations to environmental change (Prof. J.G. Field and Dr L.V. Shannon)
13. Mathematical and statistical modelling (Prof. J.E. Steffens)
14. Use of remote sensing techniques in the study of environmental change (Dr O.G. Malan)
15. Integration of different systems and synthesis of results (Prof. W.R. Siegfried)

The IGBP is going to be an exciting programme and the committee is anxious that the South African research community be fully appraised of the possibility of their contributing at all stages. All contributions and ideas will be most welcome. It is not intended that the Special Committee of the IGBP will take over the running of all the relevant research and funding thereof. Instead the committee will be concerned only with planning, co-ordinating and facilitating. The CSIR policy is that actual research should be undertaken

and funded through existing normal channels, e.g. the FRD Main Research Programme, National Programmes, universities and other agencies.

Any comments or ideas which members of the South African Association of Botanists may have relating to the proposed South African programme would be appreciated. Please direct your reply to the IGBP Secretariat, Ecosystem Programmes, FRD, CSIR, P.O. Box 395, Pretoria, 0001.

RESEARCH ON PINEAPPLES IN THE PLANT NUTRITION RESEARCH UNIT RHODES UNIVERSITY, GRAHAMSTOWN

Applications are invited from postgraduate research students who wish to undertake research on one or other of the following projects:

1. Nitrates and detinning: Detinning of canned products sometimes occurs at accelerated rates. This could be caused by nitrates in the fruit or in different sources of water used for making up syrups. This is a very wide subject and problems with detinning are not predictable in occurrence. Considerable research has been done in this field but the problem remains.
2. Mould and yeast contamination: From time to time high counts of moulds and yeasts are found in juice concentrate. A project would include sampling at various points during processing for possible contamination and also analysing fruit at various stages of ripeness and post harvest storage. High counts could thus come from the product or inadequate hygiene.
3. Iron content of product: Iron can be picked up at various points in the preparation of fruit and juice. The extent to which iron levels are increased by the product being in contact with iron are to be determined. The 'contamination' points include such things as juice presses, trimming knives, etc.
4. External corrosion of cans: Cans rust or become pitted under certain conditions of moisture. The cause could be in washing and cooling water, temperatures or storage conditions.
5. Artificial colouring of product: Use of products such as carotene for colouring canned products, levels to be added, detectability, etc.

6. Cloud stability of juice concentrate: Particles settle out relatively quickly in reconstituted pineapple juice produced in South Africa. This is not the case with juice produced in more tropical countries. The cause is probably related to enzyme activity. Stability can be improved by additives. Their action, detectability and use require study.

Applicants should have at least a B.Sc. degree with majors in Plant Science (Botany), Biochemistry or Microbiology. Study will lead towards a B.Sc. (Hons), M.Sc. or Ph.D. The value of the research scholarship will be dependent on the qualifications and experience of the applicant. This research scholarship is to be filled as soon as possible but applicants who are still completing degrees in 1987 are also invited to apply.

Those interested should send a copy of their curriculum vitae and the names of two referees to:

The Director
Plant Nutrition Research Unit
Department of Plant Sciences
Rhodes University
GRAHAMSTOWN
6140

NEWS FROM THE BOTANICAL RESEARCH INSTITUTE

THE FLOWERING PLANTS OF AFRICA/DIE BLOMPLANTE VAN AFRIKA

It has been brought to my attention that there are rumours circulating to the effect that this journal, which has been going since 1921, is about to discontinue. There is absolutely no truth in this rumour and, if anything, the journal is stronger in every way, than it has ever been. We are particularly blessed in this country with a wealth of world-standard artists as is evidenced by top awards received at overseas art exhibitions, enthusiastic botanists are only too willing to contribute texts, our present printer is excellent and, of course, there is no shortage of suitable subjects to illustrate.

The journal is unique in that it is the only illustrated inventory of the flora of Africa, particularly southern Africa. Apart from its botanical value, the journal has considerable Africana value, a complete set recently fetching \$6 000. The comments of Professor H.P. van der Schijff in this connection are worth

quoting: 'This series is world famous and, to my mind, represents one of the best Africana-publications that has been produced in South Africa a series so beautiful and so carefully compiled that it will be a delight to everyone who buys it' (translated from Beeld, 1984.05.18). Readers will be interested to hear that from Volume 50, 1 & 2 which appears in June 1988, the cover of the journal will take on a 'new look'. Instead of the present grey, rather dull cover, the new cover will carry one of the inside colour plates slightly reduced - rather after the style of Kew Magazine. In addition, an up to date index will be issued.

D.J.B. KILLICK (EDITOR)
BOTANICAL RESEARCH INSTITUTE

EXHIBITION OF BOTANICAL ART, PRETORIA ART MUSEUM

Between 4 - 22 March 1987, the Botanical Research Institute presented its third exhibition at the Pretoria Art Museum. Once again, it was very well received by the public. The exhibition was officially opened by Dr Dolf van Niekerk, Director of the Directorate of Agricultural Information, Department of Agriculture and Water Supply. The 200 water-colour paintings were executed for the Institute's prestigious journal Flowering Plants of Africa, which celebrates its 50th volume next year. The pen and ink line drawings were examples from Bothalia, Flora of Southern Africa, Palaeoflora of Southern Africa, Pretoria Flora and A guide to Drakensberg Flora. The works were all produced since 1974. The 11 artists represented were Gillian Condy, Rosemary Holcroft, Rita Weber, Marguerite Scott, Claire Smith, Jill Kimpton, Esmé Hennessy, Auriol Batten, Fay Anderson, Herrat March and Elaphie Ward-Hilhorst. It is hoped that the exhibition will be shown in Pietermaritzburg in the near future.

G. CONDY

EDITOR/REDAKTRISE

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