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

DR. CODD HONOURED: At a graduation ceremony on 14th December 1983, Witwatersrand University awarded an honorary Doctor of Science degree to Dr. L.E. Codd, former Director of the Botanical Research Institute, Pretoria, in recognition of his contributions to botanical research in South Africa. Since his retirement in 1973, Dr. Codd has been re-employed in the Institute's Flora Research team and, among other publications, has recently completed an account of the Labiatae (mint family) for the Flora of Southern Africa.

UNIVERSITEIT VAN PRETORIA: Gedurende die periode 17-25 Junie 1983 het prof. J.G.C. Small en dr. F.C. Botha die 20ste kongres van die Internasionale Saadtoetsvereniging (ISTA) in Ottawa, Kanada bygewoon. Die kongres is deur 257 afgevaardigders uit 54 lande bygewoon en altesaam 82 navorsingsreferate is onder ses onderwerpe gelewer. Beide die referate van prof. J.G.C. Small en dr. F.C. Botha is in die afdeling "ontwikkelings in saadfisiologie" aangebied. Albei hierdie referate is goed ontvang en het goeie kommentaar en bespreking uitgelok.

Voor en tydens die kongres is Dr. H.W. Siegelman (Brookhaven Laboratoriums) en prof. F. Wightman en R. Joy (Carlton Universiteit) onderskeidelik besoek. Teen die einde van die kongres het dr. Botha die Biologie Departement van Queen's Universiteit besoek waar samesprekings met prof. D. Canvin en dr. J. Mierny gevoer is.

Na die kongres is besoeke afgelê by drr. R. Chandra, J. Tao, L.W. Woodstock, J.D. Anderson (Navorsingstasie, Beltsville), drr. A.C. Leopold en D.A. Priestly (Boyce Thompson Instituut, Cornell Universiteit) en dr. A. Khan (Navorsingstasie, Cornell Universiteit, Geneva).

Die navorsingswerk van hierdie wetenskaplikes, almal wêreldleiers op hulle gebied, is intensief bespreek en waardevolle inligting is verkry. Behalwe vir die leersaamheid van die besoeke is waardevolle kontakte opgebou.

CONGRESS QUESTIONNAIRE: In May 1983 a questionnaire was sent out to all members of SAAB asking them to comment on the timing of congresses. The results have come to hand and are given below for members' information. Of the total of 488 forms sent out 129 were returned. The clause inserted in the form to the effect that no replies would indicate that members were satisfied with the status quo gives an additional 350 votes notes under each heading.

1. Most suitable time for congress:

1st choice	Jan:	67 (+ 350)
	June/July:	53
	Nov./Dec.:	13
2nd choice	Jan.:	27
	June/July:	12
	Nov./Dec.:	20
3rd choice	Jan.:	2
	June/July:	3
	Nov./Dec.:	7
Not at all in	Jan.:	17
	June/July:	26
	Nov./Dec.:	46
Other	Sept.:	2
	Easter:	3
	Feb.:	1
	Variable:	1

2. Congress duration

2 days:	6
3 days:	55 (+ 350)
4 days:	53
5 days:	15

3. Excursion

Before:	17
During:	28
After:	81 (+ 350)
None:	3
Variable time:	3
Short daily:	1

Comments & requests received:

1. Related disciplines hold congresses one after other at same centres to reduce travel costs - AS & TS to organise them.
2. Congress to be arranged to allow cut-price mid-week travel possible, not week-end travel.
3. Improve standard of papers and shorten congress.
4. June/July clashes with S.A. Akademie meetings.
5. Congresses to be held biennially.
6. More time for informal discussions.
7. Mikologiese seksie moet uitgebrei word.
8. Avoid clashes with other disciplines.
9. Intensive congress with field workshops during excursions.
10. Individue moet aandui by watter sessie hulle referate inpas.
11. Organiseerders moet individue voor kongres met kongresrooster voorsien.
12. Meer plakaat referate.
13. Verminder plakaat besprekingstye en verleng teetyd dat hulle dan bespreek word.
14. An exhibition on computer aids, hardware, software etc.
15. Duur van kongres eerder 5 kort dae as 3 lang dae.
16. Future congress in Windhoek.
17. Meer buitelandse deelname in kongresse.

SOUTH AFRICAN COUNCIL FOR NATURAL SCIENTISTS:

The rate of registration. No reliable statistics are available as to the actual number of natural scientists in the RSA who are registrable in terms of the Natural Scientists' Act, 1982, i.e. those who comply with the following minimum requirements -

- . a 4-year bachelor's degree in the natural sciences (including mathematics and agricultural and forestry sciences)
- . at least 3 years experience in the performance of natural scientific work which, in the opinion of Council, is of sufficient variety and of a Master's degree or a Doctorate).

The figures quoted by different persons and organisations vary substantially. However, according to a paper delivered by the President of the CSIR at the Annual General Meeting of the S.A. Akademie vir Wetenskap en Kuns in June 1982, the number of registrable natural scientists would appear to have approximated to 10 000 in 1981. That this figure is probably not too far off the mark, is borne out by the fact that the various associations of natural scientists who

have applied for recognition in terms of Act 55 of 1982 have between 6 000 and 7 000 members who are registrable. It is also common cause that all natural scientists are not members of learned societies.

Until such time as more authoritative statistics are available, the figure of 10 000 will be used for purposes of comparison in periodically gauging the progress made with the registration of those who do meet the statutory requirements.

Gemeet aan die voorgaande, dus, en gelet op die feit dat registrasie in hierdie stadium vrywilliglik geskied, kan die Raad sy besliste tevredenheid betuig met die tempo waarteen aansoeke om registrasie gedurende sy eerste bestaansjaar ontvang is. Uit die aard van die saak is die Raad egter nie van voorneme om welbehaaglik oor dié vordering te voel nie en het hy reeds n verdere reklameveldtog van stapel gestuur om diegene wat nog nie geregistreer het nie tot dié stap te oordeel. n Afskrif van die reklamestuk wat in die verband versprei is, word by die nuusbrieff aangeheg vir kennisname en vir gebruik deur u, wat reeds geregistreer is, om minstens een kollega aan te spoor om u voorbeeld te volg.

Registrasiestatistiek. Die jongste statistiek, dit wil sê tot en met die Raadsvergadering wat op 28 September 1983 gehou is, sien soos volg daaruit:

Getal aansoeke ontvang	2920
Getal Natuurwetenskaplikes geregistreer	1968
Getal Natuurwetenskaplikes-in-opleiding geregistreer	177
Getal aansoeke teruggetrek	32
Getal aansoeke afgekeur	61
Getal aansoeke nog onder oorweging	682

Analise van geregistreerde Natuurwetenskaplikes en die natuurwetenskaplikes-in-opleiding.

Getal geregistreer	2145	%
Manlik	2000	93
Vroulik	145	7
Afrikaanssprekend	1273	59
Engelssprekend	872	41
Ouderdomsverspreiding		
60 jaar +	110	5
50-59	394	18
40-49	711	33
30-39	655	31
20-29	275	13

Geografiese verspreiding

Transvaal	1394
Kaap	405
Natal	161
OVS	136
Elders	49

Kwalifikasieverspreiding

		%
B.Sc. (3 jaar)	227	11
B.Sc. (4 jaar)/B.Sc. Hons.	398	19
M.Sc.	607	27
Ph.D./D.Sc.	913	43

Dissiplineverspreiding

Chemiese Wetenskappe	610	28
Aardwetenskappe	405	19
Planteproduksie	307	14
Fisiese Wetenskappe	230	11
Dierkundige Wetenskappe	191	9
Plantkundige Wetenskappe	185	9
Veekunde	158	7
Wiskundige Wetenskappe	108	6
Mikrobiologiese Wetenskappe	51	2

Beroepsektore

Staat	572	27
Universiteite	563	26
Privaatsektor	540	25
Statutêre Rade	425	20
Technikons	26	1
Afgetree	19	1

The title "Sci. Nat.". The attention of those registered as natural scientists is invited to sections 18(12)(a) and (b) of the Act, in terms of which anyone so registered is entitled -

- . to describe himself as a natural scientist and to carry on his profession in any part of the RSA and
- . to indicate his profession or make it known by using for all purposes the title "Sci. Nat.", after his name.

Die ervaringsvereistes vir registrasie. Die Professionale Adviserende Komitees het almal goeie vordering gemaak met die omskrywing van die ervaringskomponent wat deel uitmaak van die vereistes vir registrasie kragtens die Wet. Sodra finaliteit bereik is, sal besonderhede daarvan in n beleidsdokument van die Raad bekendgemaak word. Daar sal ook gepoog word om alle werkgewers van natuurwetenskaplikes te oorreed om hul in-diens-opleidingsprogramme vir pasafgestudeerdes of natuurwetenskaplikes-in-opleiding so te skik dat diesulkes na afloop van n dienstydsperk van 3 jaar, aan die ervaringsvereistes van die Raad sal voldoen.

The reservation of work for Natural Scientists. The Professional Advisory Committees have since their inception also been concerned with a task which is fraught with difficulties i.e. the determination of the work of a natural scientific nature which should be reserved for natural scientists registered in terms of the Act. In considering the matter, the following guidelines and precepts have had to be borne in mind -

- . The kinds of work to be reserved may not include those involving teaching and research (section 7(1)(n) of the Act)
- . It would be impossible to reserve for registered natural scientists all work which can be classified under the generic concept of the natural sciences. The level of the work to be reserved must be such that work which can and should be performed at accepted technical level, should be excluded. In formulating its proposals to Council, a Professional Advisory Committee must be able to reply affirmatively to any one or more of the following questions:
 - (a) does the work concerned require the skilled, proficient and responsible use and application of the principles, procedures and techniques relating to the basic natural sciences at a level where the knowledge for such use and application must of necessity be attained and developed by passing all the examinations towards a 4-year bachelor's degree in the natural sciences at a university in the RSA or an equivalent qualification awarded by another examining body, which is recognised for purposes of registration in terms of the Act?
 - (b) would the performance of the work concerned by a person not registered in terms of the Act and who is not subject to the control, direction or guidance of a registered natural scientist, pose a real hazard to public safety? - or to public health? - or to public interest generally?

The indications are that the preliminary proposals of the Professional Advisory Committees will be finalised before the end of 1983 after which extensive discussions will be held by Council with interested persons and organisations before a final proposal is formulated for submission to the Minister.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA): This notice calls your attention to the opportunity to submit unsolicited proposals to participate in continuing ground-based research and flight opportunities in the Space

Biology Program of the Life Sciences Division. The purpose of this dual research opportunity is to enhance scientific return from research by providing for a close coordination of flight and ground-based biological research.

The objectives of the Space Biology Program are to: use the unique characteristics of the space environment, particularly microgravity, as a tool to advance knowledge in the biological sciences; understand how gravity has shaped and affected life on Earth; and understand how the space environment affects both plant and animal species, thereby enhancing our capability to use and explore space.

While the major emphasis of the program to date has been on ground-based research, the projected frequency of Space Shuttle flights has also created the opportunity for biological experiments to be flown in the Shuttle-Orbiter middeck on a space available basis. This will provide an excellent opportunity for space flight exposure for experiments which do not require the sophisticated broad array of equipment or Payload Specialist presence of Spacelab, but which require microgravity as a biological research tool. Since funds are constrained, emphasis in this notice is on flight experiments that can be accomplished using existing or minimally modified flight equipment.

This announcement about the Space Biology Program is not time-limited, and unsolicited proposals may be submitted at any time. Scientific peer review and evaluation of unsolicited proposals will be conducted at least twice a year. U.S. proposals that are scientifically meritorious and programmatically appropriate will be funded as money and space flight opportunities become available. Non-U.S. proposals should follow the same proposal preparation guidelines and will be reviewed and evaluated in the same manner as U.S. proposals. To be considered, however, non-U.S. proposals also require endorsement and financial support from a foreign agency. Additional instructions for submittal of foreign proposals are contained in the enclosure.

The Space Biology Program is a continuing program and it is expected that this announcement will be updated at least once every three years. Funding at an annual level in the range of \$1 to \$2.5 million to support research proposed in response to this letter is expected to be available commencing in FY 1985. Proposals received by February 1, 1984, for the spring proposal review will be considered for the initial funds.

Questions regarding this program should be directed to the Space Biology Program Scientist, Dr. Thora W. Halstead, at the following address and telephone number:

Dr. Thora W. Halstead
Code EBT-3
NASA Headquarters
Washington, DC 20546
Telephone: (202) 755-3114

Present Focus of Program: The research focus of the Space Biology Program is dependent upon several dynamic factors: NASA requirements, the characteristics of flight experiment opportunities, the sensitivity of specific biological systems to gravity, the scientific value of the research, the state of knowledge and technology in the specific scientific areas, the interest of scientists in studying the biological questions, and the availability of funds to support the research.

Within the scope of the Space Biology Program, the current Program is focused on answering the following basic scientific questions:

1. What are the components of the gravity-sensing mechanisms of plants and animals? How do they perceive information? How is the information transmitted to evoke responses?
2. Does gravity influence plant and animal fertilization and development, and can fertilization and development proceed normally in a near zero gravity environment? If gravity does affect fertilization and development, what are the sensitive physiological systems and how are they affected? If early development is affected by gravity, is it a result of an effect on the parent or the direct effect on the embryo itself?
3. What is the role of gravity in the formation of structural elements such as lignin, cellulose, silica, chitin, and bone calcium phosphates at the molecular level as well as at more complex organizational levels?
4. What role does gravity play in calcium-mediated physiological mechanisms and in calcium metabolism?
5. How does gravity as an environmental factor interact with other environmental factors to control the physiology, morphology, and behavior of organisms? Or, how do gravitational and other environmental stimuli interact in their control and direction of living forms? Can the action of gravity be replaced by different stimuli?

Future Focus of Program: As longer flight missions become available, biological questions that require longer periods of micro-G, such as multigeneration and radiation experiments, will increase in importance. It has been recognized for some time that ionizing radiation causes cumulative damage in all living things, but knowledge of the biological effects of the cosmic radiation

encountered in space, which contains high energy, heavy particles, is poorly understood. Furthermore, the biological consequences of the interaction of this unique radiation and gravity are less known. Further details of this program may be obtained by contacting Dr. G. Heymann, c/o Joint Council of Scientific Societies, P.O. Box 395, PRETORIA, 0001.

SUPPLEMENT TO "BOTANICAL EXPLORATION OF SOUTHERN AFRICA" BY GUNN & CODD.

It is proposed to publish supplementary notes and corrections to the above publication in *Bothalia* and members of SAAB are earnestly requested to send in any additional information on collectors which they are aware of, or any corrections which are necessary, to the undersigned at BRI, Private Bag X101, PRETORIA 0001. Acknowledgement for such information will be recorded. If your name was omitted, or if you know of other collectors who were omitted, please let me know. This is also your opportunity to update the information in the above book by informing me of additional degrees acquired, advancement or changes in employment, projects undertaken involving special collections etc. Your co-operation will be much appreciated. (L.E. CODD).

XIV INTERNATIONAL BOTANICAL CONGRESS: The next congress, under the auspices of the International Union of Biological Sciences, will be held in Berlin (West), Germany, from 24th July to 1 August 1987.

The Programme will comprise 6 Divisions: metabolic botany, developmental botany, genetics and plant breeding, structural botany, systematic and evolutionary botany, and environmental botany. All plant groups will be considered, and aspects of both pure and applied research will be covered. Special emphasis will be laid on inter- and multi-disciplinary topics. There will be plenary sessions, symposia, and sessions for submitted contributions (posters).

The Nomenclature Section will convene in Berlin on 20th to 24th July 1987.

Pre- and post-congress scientific Field Trips will be arranged to various parts of Central, South and North Europe.

The First Circular, containing further details and a preliminary registration form, is being circulated with this issue of Forum.

Chairman of the Organizing Committee: Prof. Dr. K. Esser.

Enquiries should be sent to the Secretary of the Organizing Committee, Prof. Dr. W. Greuter.

Congress Address: XIV IBC, Bot. Garden & Museum, Königin-Luise-Str. 6-8,
D.1000 Berlin (West) 33, Germany.

PUBLICATIONS:

THE VEGETATION MAP OF AFRICA: 3 map sheets and 1 sheet for general
Legend plus descriptive memoir by Frank White (Unesco Natural Resources
Research Series No. XX, 27 x 21,5 cm, 356 p. 1983).

This map just published by Unesco is presented with a 350-page descriptive
companion text. They are designed to serve both as a lasting reference and
as a research and teaching tool in biology, geography and related environ=
mental fields.

Made up of three sheets: North-eastern, North-western, and Southern Africa,
the map scale is 1:5.000.000. An English-French legend to the 80 major
vegetation types and mosaics depicted is included.

The Vegetation map of Africa is compiled by the Association our l'etude tax=
onomique de la flore de l'Afrique tropicale (AETFAT), in collaboration with
Unesco and the United Nations Sudano-Sahelian Office (UNSO).

Dr. Frank White of the University of Oxford wrote the map's companion memoir,
the Vegetation of Africa. The volume's twenty-two chapters describe the vege=
tation of the main floristic regions of the African mainland, Madagascar, and
other off-shore islands. Included are a bibliography of over 2400 items and
an index of nearly 3500 plant species.

The preparation of the map with an accompanying memoir provides several valuable
cross-reference advantages to the researcher, while preserving a unified,
readable map presentation.

The classification used for the vegetation map is based almost entirely on
physiognomy and floristic composition of the vegetation, while the text provides
climatic maps for each of the major phytogeographic regions. Vegetation and
climate are dealt with separately. Only a few comparative climatic terms, such
as moist and dry, are occasionally used in the designation of mapping units.

Copies are obtainable from local Unesco distributors. The nearest to South
Africa are:

Mazenod Book Centre, P.O. Mazenod, LESOTHO

Textbook Sales Ltd., 67 Union Ave., Harare, ZIMBABWE

who should be contracted regarding the local price.

Two overseas suppliers are:

Her Majesty's Stationery Office, Box 276, LONDON, SW8 5DT
(cost in U.K. £37.50).

Unipub, 1180 Ave of the Americas, NEW YORK, NY 10036
(cost in U.S.A. \$92.00).

LESOTHO FERNS by Raymond A. Zepp. National University of Lesotho.
pp. 96. Price R6-00 including postage. 1982.

This illustrated account of ferns together with Psilotum, Lycopodium, Equisetum and Isoetes is a very welcome handbook for students, serious hikers and nature lovers. Psilotum was reported from Roma valley in November 1961, and searches in the same area proved unsuccessful. However, Psilotum has been recently (November 1983) rediscovered by the Curator of the National University Herbarium in a similar site in a neighbouring valley. This find is too late to be recorded in the present publication.

The book is written in an easy personal style, and is clear and easy to follow. The key, sketches and descriptions will be particularly useful for field work. There are illuminating notes about habitat and growth peculiarities based on Dr. Zepp's personal observations while travelling in many parts of Lesotho. Most of the sketches are true to size except for the very rare (in Lesotho) tree fern Alsophila dregei. Isoetes natalensis is depicted only by its leaf tips.

Dr. Zepp, who was a lecturer in Mathematics in the National University of Lesotho, recently returned to the United States of America.

Lesotho Ferns is distributed on behalf of the University by the Institute of Southern African Studies, National University of Lesotho, P.O. Roma 180, Lesotho.

CAPE PENINSULA is the title of a book, an old favourite, Wild Flowers of the Cape Peninsula by Mary Maytham Kidd, which has recently been republished as S.A. Wildflower Guide No. 3 by the Botanical Society. This certainly makes the book South Africa's botanical best seller. Mrs. Kidd's first edition appeared in 1950 with 814 species, was reprinted in 1973 and with 10 000 copies sold and still in demand, the Botanical Society decided to include a totally revised edition in its series of regional wild flower guides with a print of 15 000 copies. It is appropriate that the book was launched at Flora 83 in Cape Town by the Prime Minister, Mr. P.W. Botha. This edition has fully updated names, metrication and a fine illustrated introduction.

The plates were reprinted from the originals and are claimed to be a marked improvement. I have my doubts about some of the plates where the new ones look paler and greyer (although surprisingly no grey is used in the printing). The blues and yellows are much improved. The format is slightly squatter with the resulting reduction in the size of the paintings. This has also necessitated the cutting down of the attractive cover with the unfortunate loss of the artist's initials.

As a constant user of "Mrs Kidd" during my student days I know what a useful book it can be, carried around by hikers. I have, however, doubts about the claims that the cover was designed to withstand the wear and tear of outdoor use. My copy has already shown signs of wear thanks to the Post Office. I feel the hard cover of the original is much more serviceable.

Gremlins occur in all books and this one has its share. The map of the area on the inside cover shows a very odd Cape Peninsula and the main map contains Vasco da Gama Park instead of Peak. The Kirstenbosch emblem has taken on a blush - it need not have! Figures are always a nightmare and in this edition an errata slip has had to be included.

The work of Pauline Fairall of the Compton Herbarium and others in the updating of the names and text is stirring indeed. Prof. Schelpe's introduction is a very useful addition. It stresses the importance of this unique flora and covers aspects of conservation which are reflected in the main text as symbols indicating extinct, rare and endangered and alien species.

All in all this is a very fine publication. Having known Mrs Kidd since her marriage to my school headmaster, I know that it is a great thrill to her to see her work appearing again as fresh as the day she completed the paintings some 40 years ago. Students at UCT as well as many "students" of nature in Cape Town will find this work invaluable. Perhaps some off the Peninsula will buy a copy as well. At R14.50 (excl. GST) it is a good buy thanks to financial support from various government departments, S.A. Nature Foundation and Endangered Wild Life Trust. Die boek is ook nou in Afrikaans verkrygbaar (EGHO).

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7600.