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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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DEPARTEMENT PLANTKUNDE, UNIVERSITEIT VAN STELLENBOSCH: Prof. Miriam de Vos is vanaf 1 April 1972 bevorder tot mede-professor in hierdie departement.

Verskeie navorsingsprojekte is in die loop van verlede jaar deur dosente en studente verbonde aan hierdie departement, afgehandel:

Prof. M.P. de Vos het die hersiening van die Suid-Afrikaanse spesies van *Romulea* aan die einde van 1971 afgehandel. Die manuskrip getiteld: "The genus *Romulea* in South Africa, a revision", beslaan ± 300 getikte bladsye en 96 sketse en is nou gereed vir publikasie.

Mnr. J.J.A. van der Walt het die taksonomies-morfologiese studie van die genus *Commiphora* in Suid-Afrika afgehandel, en die D.Sc.-graad is gedurende September 1972 deur die Universiteit van Pretoria aan hom toegeken.

Gedurende Desember 1971 is die Ph.D.-graad aan Marie M. Vogts toegeken. Die titel van haar proefskrif is: "Die geografie en geögrafiese variasie van *Protea cynaroides*".

M.Sc.-grade is behaal deur mnr. A.N. Hanekom wat 'n studie oor die seisoens-opname van fosfaat en rubidium deur *Protea* spp. onderneem het, en deur mnr. H.B. Lombaard wat navorsing gedoen het oor die generatiewe voortplanting van enkele verteenwoordigers van die Proteaceae.

Ons wil langs hierdie weg ook vir mnr. H. Herre van harte gelukwens met dié verskyning van sy boek getiteld: "The genera of the Mesembryanthemaceae".

Prof. J.A. de Bruyn bestudeer die fisiologie van stuifmeelontkieming by *Setaria sphacelata*. Daar word veral gepoog om vas te stel waarom hierdie grassoort so min saad produseer.

Mnr. J.H. Jooste se ondersoek na die opname van yster deur die wortels en blare van plante, wat hy uitvoer met die oog op die verkryging van die Ph.D.-graad,

nader voltooiing.

Die navorsingsprojek van mnr. J.E. Watts (vir M.Sc.) oor die invloed van boor op die metabolisme van fenoliese verbindings in plante, is bykans voltooi.

Mnr. A.D. Spreeth gaan voort met die taksonomies-morfologiese studie van *Agathosma* spp. (boegoe).

Prof. M.P. de Vos het vanjaar begin met 'n hersiening van die genus *Syringodea* (Iridaceae) wat in Suid-Afrika deur ongeveer 10 soorte verteenwoordig word. Die studie behels 'n sistematiese ondersoek van herbariumeksemplare, veral van tipe-materiaal, asook 'n sitologiese en anatomiese ondersoek van vars materiaal.

Dr. J.J.A. van der Walt beoog 'n taksonomies-morfologiese studie van *Commiphora*-soorte wat in S.W.A. voorkom. Hy is van voorneme om in die loop van die jaar verskeie kere na S.W.A. te gaan ten einde persoonlik materiaal van die verskillende soorte te versamel.

Ander Ph-D.-studente met navorsingsprojekte:

Mnr. J. Aalbers: "Die invloed van boor op nukleïensuur- en proteïenmetabolisme in plante".

Mnr. L.J. van Lelyveld: "'n Fisiologiese studie van die swarthart-verskynsel by pynappels".

Ander M.Sc.-studente met navorsingsprojekte:

Mej. M.F. Thompson: "An anatomical and cytological study of the Hypoxidaceae viz. the genera *Spiloxene*, *Empodium* and *Pauridia*". Hierdie studie sal waarskynlik vanjaar voltooi word.

Mnr. M.C. Rutherford: "A study of ecosystem function in a *Burkea-Terminalia* savanna in the northern Kalahari". Al die veldwerk is alreeds afgehandel.

Mnr. P.J. Laubscher: "'n Embriologiese studie van die genus *Lachnanthes*". (Noord Amerikaanse Haemodoraceae).

Mnr. L. Raitt: Die groei van rooigrasplante (*Themeda triandra*) in waterkultuur met verwysing na die rol van mikorrhisas.

DEPARTEMENT ALGEMENE PLANTKUNDE, UNIVERSITEIT VAN PRETORIA: Prof. P.J. Robbertse is as mede-professor aangestel en sal op 1 April 1972 diens aanvaar.

Prof. Robbertse was vanaf 1964-1969 as lektor in hierdie departement werksaam en is daarna na die Universiteit van Fort Hare as senior lektor. Gedurende 1970 - 1971 was hy as senior lektor verbonde aan die Universiteit van Port Elizabeth.

Mnr. Johan Venter, hoof van die Departement Plantkunde, Universiteit van Zoeloeland, is vir ses maande studieverlof in Pretoria. Hy is besig met die finalisering van sy doktorsale proefskrif in hierdie departement, getitel "Die plantekologie van Richardsbaai".

Mnr. L.A. Coetzer is vir 'n jaar van die Navorsingsinstituut vir Plantkunde na hierdie departement gesekeundeer. Mnr. Coetzer is tans besig met 'n monografiese studie van die genus *Bauhinia* L. en verwante genera.

Die senior studente van hierdie departement sal gedurende die Aprilvakansie 'n studietoer na die Knysna en Bettysbaai omgewing onderneem. Die toer staan onder leiding van dr. Albert Eicker en mnr. William Reyneke.

Drie studente uit hierdie departement het hul navorsingsprojekte voltooi en het M.Sc.-grade ontvang op die gradeplegtigheid van die Universiteit van Pretoria op 25 Maart 1972:

Mej. Hester Coetzee, onderwyseres aan die Ladysmithse Hoërskool. Verhandeling getitel "'n Morfologiese-taksonomiese studie van die Velloziaceae in Suid-Afrika en Suidwes-Afrika".

Mnr. William Reyneke, lektor, Dept. Algemene Plantkunde, Universiteit van Pretoria. Verhandeling getitel: "'n Monografiese studie van die genus *Eucomis* L'Hérit. in Suid-Afrika" (met lof).

Mev. Elzabé Schoonraad, navorsingsassistente, Dept. Algemene Plantkunde, Universiteit van Pretoria. Verhandeling getitel: "'n Morfologiese studie van die genus *Podocarpus* L'Hérit. in Suid-Afrika". (met lof).

VEGETATION OF SOUTH WEST AFRICA: Number 4 (Nov. 1971) of the publication DINTERIA produced by the South West Africa Scientific Society covers a most important milestone in botanical study in Southern Africa namely "A preliminary Vegetation Map of South West Africa" by W. Giess. It is printed in English, Afrikaans and German.

In his forward Dr. L.E. Codd says:- Mr. Giess, Curator of the State Herbarium,

Windhoek, has shown that his interests extend much wider than floristic exploration. He has shown ability to analyse the available information and has presented the most comprehensive account of the natural plant cover of South West Africa, both in words and in pictures, that has been published to date. The author and the South West African Scientific Society which supports this publication, deserve our thanks for a work which should prove of great importance, not only to the scientist and informed layman, but to the entire country.

A preliminary vegetation map of South West Africa has been compiled subdividing the vegetation into three main groups, viz.: DESERTS, SAVANNAS and WOODLANDS. 15 main vegetation types have been established, 5 of which belong to Deserts, 8 to Savannas and 2 to Woodlands. The winter rainfall area in the extreme south-western region of the territory, which is included amongst the deserts, range from Desert to Succulent Steppe; similarly the Etosha Pan is regarded as Saline Desert with a Dwarf Shrub Savanna Fringe. Also included under Savanna is a transitional zone leading from its western parts, which can still be considered as Semi-desert, to its eastern regions which may be regarded as Savanna. The woodlands include the Riverine Woodland of the rivers and dry rivers. On the accompanying map only 14 types of vegetation have been indicated as the 15th, the Riverine Woodland, could not be mapped satisfactorily on the present scale. The short descriptions of the vegetation types are accompanied by 70 illustrations. It has been endeavoured to indicate the boundaries of the different vegetation types as accurately as possible. As transitions from one type to another occur frequently, however, the depicted limits must be regarded as preliminary until a more intensive botanical survey of the whole territory is made.

Enquiries regarding DINTERIA should be addressed to Dr. H.J. Rust, P.O. Box 67, Windhoek, S.W.A.

PROF. H.-D. IHLENFELDT of the Staatsinstitut für Allgemeine Botanik, Hamburg and one of his students, Mr. H.-H. Poppendick recently visited the Republic and South West Africa to collect further material for their research on the Mesembryanthemaceae. They visited in particular the Richtersveld in northern Namaqualand. In the Cape they based themselves at the Hortus Botanicus, Stellenbosch, to prepare their material for sending back to Germany.

While there Prof. Ihlenfeldt gave a most interesting lecture on "The Phylogeny and Taxonomy of the Mitrophyllinae (Mesembryanthemaceae)" at the University of Stellenbosch and later at the University of Cape Town. At the Stellenbosch lecture he announced his naming a new genus after Prof. P.G. Jordaan - *Jordaananthus globosus* (L. Bolus) Ihlenf.

CHAIR OF MICROBIOLOGY, CAPE TOWN: Dr. M.H.V. van Regenmortel will take his appointment as professor of microbiology at the University of Cape Town at the end of the year.

Dr. van Regenmortel, a Stellenbosch graduate and former senior lecturer in the department of microbiology there, is presently visiting professor at the Louis Pasteur University in Strasbourg.

He completed his doctorate at UCT in 1961 and from then till 1970 headed a research team in plant virology for the department of agriculture. During this period he spent a year at the University of California as an international fellow of the U.S. Public Health Service.

In 1967 he was appointed professor of virology in the department of microbiology and virology at the University of Stellenbosch. He resigned in 1971 to take up his Strasbourg post.

Prof. W.J. Lütjeharms is to retire as professor of microbiology at the University of Cape Town at the end of this year. Dr. Van Regenmortel will arrive in September to help plan the future work of the department.

SUMMER SCHOOL 1972, UNIVERSITY OF CAPE TOWN: As part of this year's Summer School a course of 10 lectures was organised by Mrs. E.P. du Plessis. The topics were selected to cover various aspects of vegetation types of South Africa with particular reference to the Cape Flora. The lecturers and their subjects were:- Mr. H.C. Taylor on vegetation types of the world and how the Cape Flora is related to these; Mr. O. Kerfoot on Forests of Africa; Prof. E.A. Schelpe on the flora of the Drakensberg; Mrs. Du Plessis on the historical aspects of plant collecting; Dr. J.P. Rourke on the origin and evolution of the Cape Flora and another on the Proteaceae; Dr. L.E. Codd on the grassland and bushveld vegetation of South Africa; Mr. E.G.H. Oliver on the Ericaceae; Dr. P. Goldblatt on the Iridaceae and Prof. H.B. Rycroft on the role of the

National Botanic Gardens in conservation. The course proved very popular with on an average 400 people attending each lecture.

Following the course a two-day excursion was arranged but limited to 45 persons with Villiersdorp as the overnight stop. Stopping points had been selected to show various aspects of the Cape vegetation at Steenbras, Betty's Bay, Caledon, Villiersdorp area and Fransch Hoek Pass. The excursion was accompanied by Mr. C. Boucher, Miss M.F. Thompson and Mr. H.C. Taylor of the Botanical Research Unit, Stellenbosch and Dr. J.P. Rourke of Kirstenbosch.

S.A. AKADEMIE, AFDELING BIOLOGIE: Die negende Jaarvergadering van die Tak Biologie (Stellenbosch) is op 8 Maart 1972 by die Universiteit van Stellenbosch gehou. Die onderwerp ter bespreking was "Hoe die nuwe universiteitsvereistes en skoolleerplan in biologie die universitêre opleiding van bioloë raak". Inleiers was Prof. M.J. de Vries (Chemie), Prof. P.G. Jordaan (Plantkunde, mnr. J.J. du Toit (Wellington Opleidingskollege).

PROFESSOR E.A. SCHELPE: Prof. Schelpe, Curator of the Bolus Herbarium, University of Cape Town, will be attending an International Symposium on the Phylogeny and Classification of the Filicopsida organised by the Linnaean Society of London and the British Pteridological Society and to be held in London on 13th and 14th April. He has also been invited by the Centro de Botanica of Portugal to undertake a revision of the Angolan ferns for the Conspectus Florae Angolensis and will visit Kew, the British Museum (Nat. Hist.) and the Lisbon Herbarium to initiate this project. He will be away for approximately a month.

DEPARTMENT OF GENETICS, UNIVERSITY OF ORANGE FREE STATE: The staff of this department headed by Prof. A. Kritzinger includes Dr. K. Brix and Mr. A.O. de Lange. Dr. Brix is currently working on apomixis in fodder crops. The department has 5 post graduate students, 5 third years, 25 second years and 22 first years.

DEPARTMENT OF HORTICULTURE, UNIVERSITY OF STELLENBOSCH: This department is at present offering two courses, Pomology and Ornamental Horticulture and Floriculture. Students for the latter course were accepted for the first time

this year with the subjects the same as for all courses in agriculture. The second major subject to Ornamental Horticulture and Floriculture will be Botany. The staff for this year is Prof. D.K. Strydom, Dr. S.P. Erasmus and Mr. J. de V. Lötter for Pomology and Mr. G. Jacobs for Ornamental Horticulture and Floriculture. Research is continuing on the anatomical and physiological aspects of bud dormancy and on seasonal uptake of nutrients by fruit trees.

BOTANICAL SOCIETY OF SOUTH AFRICA: At the recent annual general meeting the 19 office bearers for 1972/73 were elected. They include the following S.A.A.B. members - Prof. R.H. Compton, Dr. L.E. Codd, and Prof. H.B. Rycroft, Vice-Presidents; Prof. P.G. Jordaan, Prof. E.A. Schelpe, Mrs. E. Powrie, Mr. E.G.H. Oliver and Mr. H.C. Taylor. At the meeting Dr. L.E. Codd, Director of the Botanical Research Institute, and Miss. W.F. Barker, Curator of the Compton Herbarium at Kirstenbosch were both unanimously elected Hon. Life Members for their services to botany in South Africa.

COORDINATING COUNCIL FOR NATURE CONSERVATION IN THE CAPE: This Council which represents and coordinates the conservation interests of 17 societies in the south-western Cape recently held its annual general meeting at the University of Cape Town. Dr. A.V. Hall was unanimously re-elected as chairman. Mr. E.G.H. Oliver represents S.A.A.B. and the Botanical Society on the executive committee. The Council has at present 20 projects and matters of enquiry on its current programme. These range from oil pollution of beaches to the need for reserved areas, exploitation of coastal areas, and estuaries and lagoons to unsightly road and town planning and to the threat of alien vegetation.

PASTURE RESEARCH, HIGHVELD REGION, OF THE DEPARTMENT OF AGRICULTURAL TECHNICAL SERVICES: Pasture research in the Highveld Region - that is approximately the Southern half of the Transvaal Province and the Northern half of the Orange Free State - is divided into:-

1. Botanical surveys.
2. Veld reclamation studies.
3. Veld management.
4. Veld improvement.
5. Veld replacement and planting of pastures.

1. Surveys: The object of botanical surveys is the describing, evaluation and classification of the veld. As a result of the surveys the research worker becomes acquainted with his region, and is able to utilize the gathered data to determine priorities for and the application of research.

This type of survey is primarily the responsibility of the Botanical Survey, (Botanical Research Institute) but Pasture Officers of this region are presently conducting a botanical - grazing utilization survey of the Highveld Region portion of the Upper Orange River Catchment.

A collection of 3 000 mounted plant specimens is available for reference purposes.

2. Veld reclamation: This entails the reclamation of denuded veld. Because there is already a considerable fund of information on this subject, little research is devoted to this aspect at present.

There are at present a project on termite control and a pilot trial on the reclamation of "bitterbos" (*Chrysocoma*)-infested veld in operation. Two pilot projects on the protection of waterways are planned to begin this year.

3. Veld management: This is the improvement and optimum utilization of veld. The control of poisonous plants is included under this subheading. A considerable amount of research work has been carried out on veld management. In the current research programme an attempt is made to study each of the facets which combine to make a veld management system. It is an impossible task to attempt to evaluate all possible veld management systems. (It has been calculated that with only three levels of each of about 24 variables involved in a grazing system, some 282 000 million grazing systems are possible).

There are thus five projects on veld management, four on "gousiekte" (*Pachystigma*) plant poisoning; two new projects are planned on veld utilization.

4. Radical veld improvement: This involves the improvement of veld by means of fertilization and by over-seeding with selected plant species (usually legumes). Over-seeding involves the selection of suitable plants, and their establishment, fertilization and management. Two projects at Potchefstroom and an observation trial at Bethlehem are at present concerned

with this subject. The results obtained from the fertilization of veld are influenced by soil series, botanical composition, amount and source of fertilizer nutrients, as well as climatic conditions. Attempts are being made to measure the results of veld fertilization in terms of beef production. There are at present twelve projects dealing with this subject.

5. Veld replacement and planted pastures: Adapted pasture plant species are selected for soils which are unsuitable for annual crops and their establishment, fertilization and utilization are investigated.

At present three projects are in operation at Potchefstroom on this subject, while the Agronomy section has a number of projects on *Eragrostis curvula* at Bethlehem.

BOTANY DEPARTMENT, UNIVERSITY OF NATAL (PIETERMARITZBURG): This department continues to have a very active post graduate school with 7 M.Sc.'s and 8 Ph.D's. registered in 1971.

Staff: Prof. C.H. Bornman will spend 7 months at the Forstbotanisches Institut, University of Göttingen, Germany, working with Prof. W. Eschrich, the phloem biochemist, on physiological aspects of the *Nelwitschia* shoot apical meristem.

Dr. J. van Staden has returned from a year's furlough when he worked on cytokinin relationships in seedlings in Prof. P.F. Wareing's laboratory at the University College of Wales, Aberystwyth.

Dr. O.M. Hilliard who has recently completed a revision of the genus *Streptocarpus* and is curator of the herbarium, will be working at the Royal Botanic Gardens, Edinburgh during 1972.

Departmental development: The plant physiology laboratories were remodelled and can now accommodate more students. The new lecturer in plant physiology, Mr. J. Button, who is currently working on his Ph.D. on the differentiation in *in vitro* cultured *Citrus* and *Nelwitschia*, has been appointed.

The Electron Microscope Unit is now one of the best equipped and sophisticated units in the Republic. A scanning electron microscope has been purchased. Mrs. M.G. Gilliland is in charge of the unit, particularly the transmission electron microscope. She is working on the anatomy of the pedicel abscission zone in *Hibiscus rosa-sinensis* for her M.Sc.

Mrs. M. Carter operates the scanning electron microscope. Mrs. Carter previously worked in the post-graduate Medical School, Royal Hammersmith Hospital in the U.K.

Field trips: During September Prof. Bornman ran a field trip of 19 members of the departments of Botany, Zoology and Geology to the Namib to study *Melwitschia mirabilis* and other desert flora and fauna.

Visitors: Dr. Malcom Wilkins Regius professor of Botany at Glasgow University will visit the Pietermaritzburg Botany department in August and September under the auspices of the Student Visiting Lecturers' Trust Fund.

Dr. J. Kochba of the Volcani Institute of Agricultural Research, Israel, will be coming on a post doctoral research fellowship to work on citrus pollen tissue culture.

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