

FORUM BOTANICUM

Vol. 19, No. 7

December 1981
Desember

ISSN 0015 — 847X

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

STATUS OF BOTANY IN SOUTH AFRICA: A number of botanists have expressed concern regarding the standing of Botany in South Africa. The Council of SAAB decided to investigate to what extent this concern is justified before attempting some remedial measures. A questionnaire was compiled and this was circulated to Council members for comments. Some improvements were made and the questionnaire was sent out to heads of Botany Departments. After several reminders we finally received answers from all Departments with the exception of one.

Because conditions at some of the State Universities differ largely from those at other universities they were treated separately so that comparisons between them could be made as well.

To monitor tendencies the heads of departments were requested to submit data for the 1966-1968, 1971-1973 and 1976-1978 periods (i.e. three year periods centred around 1967, 1972 and 1977). In some cases data could not be obtained for earlier periods and some universities did not exist during the first period. Especially in evaluating the differences between the 1967 and 1972 data, it should be borne in mind that RAU and UPE started with few students initially which increased average student numbers per Department from 1967 to 1972. All the data are given per University per year.

The data for the state universities are given in parentheses and are the average of four figures whereas for the other universities they are the average of ten figures.

Student numbers: The total number of undergraduate students in Botany per University increased from 294 to 302 (66 to 158) which does not compare too well with the increase in total student numbers at South African universities. This may be due to a decrease in the number of students following science courses because the percentage of Science students majoring in Botany stayed relatively constant, i.e. 13,2%, 10,7%, 18,4% (26%, 23%, 21,3%). The number of third year students in Botany per Department increased slightly more than the total number of under-graduate Botany students did, i.e. 16; 12;

20 (4,7, 4,0, 7,5).

The most encouraging aspect concerns postgraduate students. The honours students increased from 2,8; 3,8; 6,7; (0,6, 0,6, 1,4) whereas the Masters and Doctoral students increased from 10; 12; 15 (0,2. 0,4, 1,0) per Department per year.

As far as the quality of the students is concerned the students were judged to be academically more or less the same by 8 (2), worse than by 2 (1) or much worse by 0 (1) heads of Departments. The percentage of third year students obtaining distinctions in Botany increased somewhat over the ten year period, i.e. 5,0%, 9,8%, 7,0% (0%, 0%, 0%).

Lecturing situation: The number of lecturers per Department increased in the ten year period as follows: 5,4; 7,1; 8,1 (3,5, 4,3, 5,0) and the total number of undergraduate students in Botany per lecturer decreased slightly as follows: 54:1, 35:1, 37:1 (19:1, 28:1, 21:1). Because many students follow only introductory courses in Botany or Biology as a service course for other professions the data could be misleading. Based on third year student numbers the student to staff ratios were 3,0:1, 1,7:1 and 2,5:1 (1,3:1, 0,9:1 and 1.5:1).

The measure of inbreeding taking place is reflected in the number of staff members who were undergraduate students, i.e. 40%, 28% and 31% (0%, 4% and 12%) or graduate students, i.e. 38%, 35% and 38% (0%, 11% and 19%) at the University of employment.

Technical assistance: The number of technical staff members increased from 2 to 3 to 5 (1,5, 2,0, 2,3).

Research activity: The research grants from all sources increased from roughly R2 000 to R23 000 (R3 000 , R3 500 , R4 300) over ten years and the number of publications also increased to a marked degree in South African journals, i.e. 5; 12; 13 (0,5. 1,3, 3,5) and in overseas journals 3; 9; 12 (0,5, 1,0, 2,5). The number of full time researchers increased sharply, i.e. 1,8; 3,5; 7,9 (1,5, 2,0, 2,3).

These figures could be very misleading because big differences exist between the various universities. Two universities for example have total research grants of R10 000 - R50 000 whereas three Departments have grants in excess of R30 000. The differences as far as publication performance and number of full time researchers are concerned are also very big. On the whole it does

seem, however, as if the research activity is of an acceptable standard.

The percentage of lecturers who attend a botanically orientated congress in South Africa at least once a year also increased roughly as follows: 33%, 61%, 60% (40%, 60%, 75%). The attendance of international congresses once in five years was roughly the following: 27%, 29%, 22% (10%, 15%, 10%).

Evaluation of the apparatus situation at present by heads in their departments was as follows: excellent 0 (0), good 7 (1), reasonable 3 (3), bad 0 (0) and very bad 0 (0).

Teaching funds: The allocation to departments for general running costs was R4 500; R9 800; R17 700 (R5 400, R4 800, R20 700). The library allocation at present was thought to be excellent by 0 (0), good 4 (1), reasonable 5 (3) and bad by 1 (1) heads of departments.

Employment opportunities: To determine whether an overproduction of botanists is taking place the number of applicants for vacancies requiring different academic status during the past five years was determined. Number of applicants with Ph.D. for vacancies: 3 applicants were drawn from 4 (4), 4-8 applicants were drawn from 3 (0) and 8 applicants were drawn from 1 (0) Universities. Similar results were obtained with vacancies requiring M.Sc. or B.Sc. Hons. degrees.

Ten heads of departments stated that 0-5% of students experienced problems in obtaining work in Botany; one said 6-15% had problems. Three heads of departments did not know and more than 50% of graduates from one State University experienced problems in obtaining work in Botany

On the whole it does seem as if there is not much wrong in Botany with regard to the quality of teaching if one uses research activity as an indirect criterion. It should be stressed that enormous differences exist between Universities and this is not always correlated with the size of the University. Generally research is of a high standard at some Universities whereas at others it is nearly non-existent.

There is no indication of any overproduction of Botanists but rather an underproduction as far as any deductions may be made from the number of applicants for academic positions. Apparently Botany graduates do not generally experience any problems in obtaining work in Botany.

The growth in undergraduate student numbers is low, but this may be part of

the pattern of the lower number of students going into pure Science. The quality of the pure science students is apparently about the same as that of the other students and there has been a slight increase in the percentage of third year students who passed in Botany with distinction. The number of post-graduate students increased significantly over the past ten years. This is probably the result of the increased research activity and also the tremendous increase in the available research funds.

The State Universities were generally much worse off than the other universities and this must be ascribed, at least partly, to the lower post-graduate student numbers. With the large increase in student numbers expected at these Universities the situation could change dramatically within another ten years if students could be encouraged to enroll for post-graduate study.

Finally one should bear in mind that the data come from heads of Departments of Botany and in many cases only estimates of some figures e.g. percentage of B.Sc. students who majored in Botany or the figures of a predecessor could be given. Nevertheless it does seem as if Botany, if not thriving, is at least still alive in South Africa. (This report compiled by Prof. J.N. Eloff, President of SAAB for 1979/80).

SUID-AFRIKAANSE TYDSKRIF VIR PLANTKUNDE: In die Augustus uitgawe van Forum was daar 'n aankondiging oor die totstandkoming van die nuwe nasionale tydskrif vir Plantkunde. Die Wetenskaplike Redakteur, Prof. N. Grobbelaar het 'n ernstige beroep op alle lede gedoen om 'n daadwerklike poging aan te wend om die tydskrif te ondersteun deur artikels vir publikasie aan hom te stuur. Die voorskrifte aan outeurs is in Engels uiteengesit en word nou in Afrikaans herhaal met dieselfde versoek deur Prof. Grobbelaar.

VOORSKRIFTE AAN OUTEURS:

Redaksionele beleid: Vollengte artikels en kort mededelings oor oorspronklike navorsing sal gepubliseer word. Die Suid-Afrikaanse Genootskap van Plantkundiges sal oor die kopiereg van bydraes wat in die Tydskrif verskyn beskik, maar outeurs dra volle verantwoordelikheid vir die feitelike korrektheid van hul artikels. Manuskripte moet oor ongepubliseerde werk handel wat nie geliktydig elders vir publisering aangebied is nie.

Bydraes kan in Afrikaans of Engels geskryf word maar moet 'n uittreksel in beide tale bevat. Elke manuskrip sal krities maar streng vertroulik, deur een of meer vakkundiges beoordeel word alvorens die redaksie oor die aanvaarbaarheid van die artikel sal besluit.

Aanbieding: Manuskripte moet dubbel gespaseerd slegs op een kant van A4 papier getik word met 'n 30 mm kantruimte links. Die oorspronklike manuskrip plus drie duidelike ligafdrukke daarvan moet ingedien word.

Die manuskrip moet soos volg uitgelê word: 'n Titel bladsy met die titel, outeursnaam(e), adres(se), albei uittreksels en die sleutelwoorde daarop. Beginnende op 'n nuwe bladsy volg die Inleiding, Materiaal en Metodes, Resultate of Waarnemings, Bespreking, Dankbetuigings, Literatuurverwysings, Onderskrifte van figure, Figure self en Tabelle. Alle bladsye, figure en tabelle moet opeenvolgend genommer word.

Titel: Dit moet kort en saaklik wees maar oor genoeg inligting beskik vir suksesvolle ontsluiting deur moderne opspoorategie. Taksonname moet nie van outeursitate vergesel wees nie.

Outeur(s): Vanne moet slegs deur voorletters voorafgegaan word behalwe in die geval van dames waar een voornaam uitgeskryf moet word. 'n Adresverandering moet deur middel van 'n voetnota voorsien word.

Uittreksels: Dit behels samevattinge van die artikel van ⁺200 woorde elk waar in die titel nie mag verskyn nie. Artikels wat in Afrikaans geskryf is moet van 'n bykomstige uitgebreide opsomming in Engels voorsien word ten einde die inligtingsontsluiting vir internasionale samevatting-agentskappe te vergemaklik.

Uittreksels mag slegs inligting bevat wat in die artikel voorkom. Taksonname tesame met hul outeursitate moet in die uittreksels verskyn behalwe as te veel name betrokke is in welke geval slegs die belangrikste taksons genoem moet word.

Sleutelwoorde: Hoogstens vyf sleutelwoorde moet in alfabetiese volgorde in Engels voorsien word.

Inleiding: Hierin moet die probleem in breë trekke gestel word en die doel van die navorsing verduidelik word. Vermelding van vorige werk is alleenlik wenslik as dit direk met die onderwerp van die bydrae verband hou of die noodsaaklikheid van verdere ondersoek beklemtoon. 'n Uitgebreide literatuuroorsig is gewoonlik onvanpas.

Prosedures of Metodes: Saaklikheid is noodsaaklik maar genoeg besonderhede moet verstrekkend word om die werk te kan herhaal. Bronvermelding van materiaal wat gebruik is, is dikwels belangrik, veral in die geval van lewende wesens.

Erkende benamings en afkortings kan vir standaardmetodes, chemiese verbindings, hormone, ensieme, ens. gebruik word. Verwys na 'n beskrywende metode deur middel van 'n verwysing tensy die betrokke beginsel onduidelik is in welke geval dit toegelig behoort te word.

Resultate: Die belangrikste bevindings moet in die teks uiteengesit word met verwysing na ondersteunende tabelle, diagramme en/of illustrasies. Die inhoud van tabelle hoef nie in die teks beskryf te word nie.

Bespreking of Gevolgtrekkings: Soms is hierdie opskrifte onnodig. Die tweede opskrif is paslik wanneer die afleidings in 'n paar sinne saamgevat kan word. Onder die eerste opskrif moet die vernaamste resultate krities en in 'n logiese volgorde bespreek word en afleidings daaruit gemaak word; resultate wat op die wenslikheid van 'n nuwe benadering dui moet uitgewys word; aandag behoort op die implikasies van die resultate asook op ooreenkomste met of verskille van vorige werk gevestig word. Die bespreking moet nie bloot 'n hergerangskikte herhaling wees van wat in voorafgaande afdelings aangebied is nie.

Dankbetuigings: Dankbetuigings moet tot die minimum beperk word maar nogtans hoflik wees.

Literatuurverwysings: Verwysings na die literatuur moet as volg in die teks aangehaal word. "Volgens Reyneke (1974) het die" of "..... verskil in blaarvorm (Reyneke & Kok. 1976). As meer as twee outeurs in 'n verwysing betrokke is, moet die van van slegs die eerste outeur, gevolg deur et al en die datum, as aanhaling gebruik word.

'n Lys van alle publikasies waarna daar in die teks verwys word moet op 'n aparte bladsy aangebied word. Die verwysings moet alfabeties volgens outeurs gerangskik word.

Indien daar meer as een verwysing vir 'n betrokke outeur per jaar is moet hulle chronologies gerangskik word deur die letters a, b, c, ens. na die jaartal te plaas. 'n Persoonlike mededeling moet in die teks vermeld word en nie in die literatuurlys aangehaal word nie.

Soos hieronder aangedui word, moet outeursname in die literatuurlys, in hoofletters getik word.

CODD, L.E., 1975. Plectranthus (Labiatae) and allied genera in Southern Africa. Bothalia 11: 371-442.

JONES, E.P., SMITH, P. & MASTERS, Q., 1974. Methods in photosynthesis. In: Methods in plant physiology, red. Sykes, J.P., 2e uitgawe, Vol. II, Hfst. 8. Longman, Londen.

VILJOEN, P.J.C., 1953. Die embriologie van enkele onkruidspesies. M.Sc. verhand., Univ. van Onseepkans.

Titels van tydskrifte, afgekort volgens die mees onlangse uitgawe van "*World List of Scientific Periodicals*" asook Latynse name en frases moet onderstreep word.

Tabelle: Vanweë hul hoë drukkoste moet hul getal en grootte tot die minimum beperk word. Tabelgegevens moet nie in grafiekvorm herhaal word nie. Elke tabel moet op 'n aparte vel getik word en opeenvolgend, soos wat daarna in die teks verwys word, met Arabiese syfers genommer word. By die opstel van tabelle moet daar met die grootte van die gedrukte bladsy rekening gehou word. 'n Asterisk moet slegs gebruik word om statisties-betekenisvolle verskille mee aan te dui. 'n Voetnota moet d.m.v. 'n klein letter wat as eksponent aange=wend word, aangedui word.

Illustrasies: Illustrasies moet apart van die teks ingedien word. In die teks word daarna as "Fig. X" verwys. Dieselfde reëls vir die nommering van tabelle geld ook vir figure. Foto's moet van hoogstaande gehalte wees, voldoende kontras besit, besonderhede duidelik toon en op glanspapier afgedruk wees. Tekeninge, diagramme, grafieke ens. moet die oorspronklikes insluit en moet met Indiese ink op goeie kwaliteit papier soos bv. "Bristol Board", aftrekpapier of ligblou gelinieerde papier geteken wees. Ligafdrukke kan nie vir die finale drukproses gebruik word nie. 'n Illustrasie moet nie sy verwagte finale grootte met meer as tweekeer oorskry nie. Laat ruimte vir die onderskrif in gevalle waar 'n volbladillustrasie beoog word.

Lyne en simbole op figure moet sodanig wees dat hulle na verkleining nog bevredigend sal vertoon.

Vergrotings aangedui by figure, moet op die grootte waarin hulle ingedien is van toepassing wees. Die gebruik van 'n skaalbalkie op die figuur self word egter sterk aanbeveel.

Die plek waar outeurs die betrokke figure en tabelle in die teks wil hê moet duidelik met potlood aangedui word.

Agter op elke figuur moet die naam van die outeur, die nommer van die figuur asook die bopunt van die figuur met 'n sagte potlood aangebring word.

Figuuronderskrifte moet almal op 'n aparte bladsy met 'n opskrif "Figuuronderskrifte" getik word. Die onderskrif sowel as enige byskrifte wat op die finale figuur moet verskyn, moet netjies op die ligafdrukke van die oorspronklike figuur getik word of in drukskrif daarop aangebring word.

Taksonomiese bydraes: Normaalweg behoort dit te handel oor 'n omvattende studie van 'n natuurlike groep plante van Suider Afrika en/of die nabygeleë eilande. Outeurs moet toesien dat hul manuskripte in ooreenstemming is met die jongste uitgawe van "*International Code of Botanical Nomenclature*". Verwysings na herbariums moet volgens die jongste uitgawe van "*Index Herbariorum*" geskied. Versamellokaliteite van herbariumeksemplare moet volgens die ruitverwysingsstelsel soos voorgestel deur Leistner en Morris in *Ann. Cape Prov. Mus.* 12 (1976) geskied.

Algemeen: Waar 'n organisme vir die eerste keer in die teks genoem word moet sy volledige wetenskaplike naam (genus, spesie en outeur) gegee word. Hierna mag die genusnaam deur sy eerste letter aangedui word mits daar nie ander genusse met dieselfde afkorting tussenin gebruik word nie. Wetenskaplike name van genusse, spesies en subspesifieke kategorieë moet onderstreep word ten einde kursiefdruk aan te dui. Name van taksons bo die genusvlak moet nie onderstreep word nie. Enige ander merke op die manuskrip moet aan die redaksie oorgelaat word.

Slegs SI-eenhede mag gebruik word. Voetnotas moet sover moontlik in die hoofteks vermy word deur van hakies gebruik te maak. Op die titelblad, waar 'n adresverandering van 'n outeur aangedui moet word, is voetnotas egter toelaatbaar.

100 oordrukke word gratis verskaf. Al die kort mededelings van een tydskrifuitgawe word saam as 'n enkele vollengte artikel vir oordrukdoeleindes hanteer. As daar vier kort mededelings in 'n uitgawe is, sal met ander woorde 25 oordrukke van elk gratis voorsien word.

Manuskripte moet aan onderstaande vir publiserings voorgelê word:

Die Wetenskaplike Redakteur
Prof. N Grobbelaar
Departement Plantkunde
UNIVERSITEIT VAN PRETORIA
PRETORIA
0002

Voorskrifte van outeurs verskyn beurtelings in Afrikaans en Engels.

MEDLEY WOOD COMMEMORATED: At a ceremony in the Durban Botanic Garden on 14 October, a bronze bust of Dr John Medley Wood was unveiled by the Mayor of Durban, Councillor Mrs S.C. Hotz. The occasion took place almost 100 years from the time of Medley Wood's appointment as Curator of the Durban Botanic Garden in 1882. Born in Mansfield, Nottinghamshire, on 1 December 1827, John Medley Wood came to Natal in 1852 and shortly afterwards started a farming and trading business at Inanda, not far from Durban. Here he started building up a collection of plants, particularly cryptogams, and began corresponding with leading botanists in Europe and the United States. When he accepted the post of Curator of the Botanic Garden, he insisted that his duties would include the development of a herbarium, of which his own collection formed the nucleus, together with a few earlier gatherings mainly by Gerrard and McKen.

In February 1913 an honorary D.Sc. degree was conferred on him by Cape Town University and, in the same year, the Natal Herbarium was taken over by the Union Government. Medley Wood remained on in charge of the herbarium while the Botanic Garden, with J.S. Wylie as Curator, was placed under Durban Municipality. Probably his best known publication was the *Natal Plants*, consisting of illustrations and accompanying text. Six volumes appeared between 1898 and 1912 and he wrote up the plate of *Cotyledon orbiculata* for Vol. 7 the day before he died, aged 87, on 26 August 1915. (L.E. Codd)

XITH ISCCEF CONGRESS: Prof. Albert Eicker van die Departement Plantkunde, Universiteit van Pretoria het die elfde "International Scientific Congress on the Cultivation of Edible Fungi" in Sydney, Australië bygewoon. Hierdie kongres het van 14 - 18 Augustus 1981 plaasgevind en is deur ongeveer 500 afgevaardigdes van oor die hele wêreld bygewoon. Prof. Eicker was egter die enigste wetenskaplike uit Afrika wat 'n bydrae tot hierdie kongres gelewer het. Hy het twee referate voorgedra. Die eerste referaat het gehandel oor die aard en voorkoms van swavelkristalle wat in sampioenkompos voorkom. Hy het gevind dat die kristalle van suiwer swavel ontstaan as gevolg van die aktiwiteite van tot dusver nog nie aangemelde anaerobiese swavelreducerende bakterieë. Sy tweede referaat wat op uitnodiging van die organiseerders van hierdie internasionale kongres plaasgevind het, het gehandel oor die verbouing van eetbare sampioene in Suid-Afrika en die navorsing wat op dié gebied ter plaatse gedoen word.

Na afloop van die kongres is 'n uitgebreide toer van sampioenplase in Australië onderneem. Plase is in die state Nieu Suid Wallis, Queensland, Suid Australië en Victoria besoek. Waardevolle inligting is met hierdie besoeke

ingesamel en die gegewens word ter beskikking van die sampioenbedryf in Suid-Afrika gestel.

Opsommings van die twee referate, soos in die amptelike kongresprogram verskyn het, volg hieronder.

The occurrence and nature of sulphur crystals in Phase I mushroom compost:

Eicker, Prof. A.

Tiny, whitish, highly reflective crystals can often be found in mushroom compost by day 5 or 6 during Phase I composting. Nothing has been published on this very interesting phenomenon. I have investigated these crystals and identified them as octahedral crystals of pure elemental sulphur in the so-called S8 configuration. I propose that the crystals originate from the gypsum (CaSO_4) used in compost preparation.

I believe that the CaSO_4 is reduced to hydrogen sulphide (H_2S) under anaerobic conditions by the action of sulphate reducing bacteria belonging to the genus *Desulfovibrio*. The hydrogen sulphide is oxidized in the hot, aerobic central core of the compostpile to elemental sulphur and water. The sulphur then crystallizes out. Experiments to prove this hypothesis will be described and the practical significance of the presence of these sulphur crystals in mushroom composts will be discussed.

Mushroom growing and research in South Africa: Eicker, A. and Muzzell, P.

From a small beginning in 1940, the mushroom growing industry has expanded considerably and now produces 7 000 tonnes of fresh and canned mushrooms annually. The methods of growing are similar to those practised in most countries that produce *Agaricus brunnescens* Peck. The short method of composting is used and mushrooms are grown in wooden trays. The most important producing area is the Johannesburg - Pretoria metropolitan complex. Research is done on many aspects, particularly on composting substrates, casing media and mushroom diseases.

THREE YEAR THIRD WORLD RESEARCH PROGRAMME FOR KEW: After several years of preparation, the Royal Botanic Gardens at Kew have, with the financial support of OXFAM, set up a unit to investigate plants of potential economic importance for the tropical arid and semi-arid regions of the world.

Kew Gardens have experience and information concerning much of the world's plant life, outstanding in extent and depth. The Reference Collections in the Herbarium and Museums, amounting to several millions of specimens collected from

all over the world often with important but unpublished associated information, together with its fine Library, form an unrivalled source of knowledge about plants of potential economic importance for the arid regions of the world. In addition, Kew has a long and honourable tradition of service to mankind in the field of economic botany.

For much of the world's land, arid climates and droughts are normal features - and not infrequently disastrous in their effects. Many millions of people live in these regions under conditions that are often precarious. Plant life is often sparse and inadequate. The introduction of new plants to give more food, more plentiful firewood, better grazing and forage for cattle and so on, could make an important contribution to human welfare. Lack of knowledge is usually the main obstacle.

The Survey, which is to be known as the Survey of Economic Plants of Arid and Semi-Arid Tropics (SEPASAT), has been generously funded by OXFAM for a period of three years, as part of its aid programme to the developing world. The Unit will cover plants of both domestic and wider commercial value for such purposes as forage, food, and firewood, although the highly specialised subject of pharmaceutical plants would not be included.

The results of the survey will be published in the form of a handbook which, it is hoped, will serve the countries concerned as a guide to those plants considered to be particularly promising, as a prelude to testing and development.

NEW BOOKS: Several new books on aspects of the flora of Southern Africa have recently been published:-

Pelargoniums of Southern Africa, Volume 2 by J.J.A. van der Walt & P.J. Vorster with paintings by Elaphie Ward-Hillhorst. 168 pp, 50 colour plates. Published by Juta & Co Ltd P.O. Box 30 CAPE TOWN or P.O. Box 1010 JOHANNESBURG. Price R29.75 plus GST R1.19 plus delivery 35c = R31.29. Jutas offers Vol 1 and Vol 2 for R36,50 excl GST where normal price is R42.70 excl GST. Vol 1 was published by Purnells.

South African Parasitic Flowering Plants by Johann Visser. 192 pp, 184 colour photographs, 36 photographs in black and white. Published by Jutas. Price R45.00 plus GST R1.80 plus delivery 35c = R47.15.

Namaqualand and Clanwilliam being South African Wild Flower Guide I by A. le Roux and E.A. Schelpe. 176 pp of colour photographs. Published by

Botanical Society of South Africa, Kirstenbosch, CLAREMONT 7735. Price of R7.95 or R8.75 incl. GST, postage and packing.

Published at end of last year:-

Wild Flowers of South Africa by an unknown author with 406 colour photographs of 350 species in 66 families, 128 pp. Published by C. Struik, Struik House, Oswald Pirow Street CAPE TOWN, 8001. Price R15.95 including GST.

Published in 1979:-

The Aloineae, a Biosystematic Study by H.P. Riley and S.K. Majumdar. 192 pages including maps, diagrams, photographs, photomicrographs and electron micrographs. Published by the University Press of Kentucky, Lexington, KY 40506, U.S.A. Price \$28.75.

Note: General Sales Tax is not payable by buyers from outside South Africa.

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