ENCEPHALARTOS

JOURNAL OF THE
CYCAD SOCIETY OF
SOUTHERN AFRICA

TYDSKRIF VAN DIE
BROODBOOMVERENIGING
VAN SUIDELIKE AFRIKA

NO. 1

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MAART/MARCH 1985

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VOORBLAD/COVER

Encephalartos longifolius

REDAKSIONEEL

Baie mense stel in broodbome belang, maar nie almal vir dieselfde rede nie. Die belangstellendes sluit versamelaars, plantkundiges, tuinboukundiges, kwekers en natuurbewaarders in. Baie van ons se belangstellings plaas ons in twee of meer van hierdie kategorieë. Die groot uit=daging van die Broodboomvereniging is om al hierdie persone, met soms uiteenlo=pende belangstellings, tot 'n eenheid saam te snoer. Soos die Nasionale Voorsitter egter elders in hierdie uit=gawe sê, is die krag van ons Vereniging juis te vinde in die wye verskeidenheid van belangstellings.

Bogenoemde uitdaging is ook van toe=passing op ons tydskrif, ENCEPHALARTOS. Dit sal altyd die redaksionele beleid wees om die gees van "eenheid in ver=skeidenheid" uit te beeld en aan te moedig. Daar sal altyd probeer word om al ons lesers se smake en belangstellings te bevredig. Terselfdertyd sal ons egter ook daarna streef om 'n gesonde kruisbe=stuiwing tussen die verskillende belange=groepe aan te moedig. Ons is daarvan oortuig dat daar ruimte hiervoor is.

EDITORIAL

Many people are interested in cycads, but not all for the same reason. Those interested include collectors, botanists, horticulturalists, nurserymen and conser=vationists. Many of us have interests which place us in more than one of these categories. The big challenge of the Cycad Society is to combine all these persons, with sometimes differing interests, into one unit. As the National Chairman states elsewhere in this edition, however, the strength of our Society is precisely to be found in this wide variety of in=terests.

The above-mentioned challenge also applies to our journal, ENCEPHALARTOS. It will always be the editorial policy to reflect and encourage the spirit of "unity in diversity". We will always attempt to satisfy the tastes and interests of all our readers. At the same time we will strive to encourage a healthy cross-pollination amongst these different inte=rest groups, however. We are convinced that there is scope for this. Collectors' collections will mean so much more to them

REDAKSIONEEL

-VERVOLG-

Versamelaars se versamelings kan vir hulle soveel meer beteken as hulle vol= doende plantkundige kennis het, en as hulle plante volgens tuinboukundige riglyne aangeplant is. Die kweker be= hoort nie net ook 'n versamelaar en plant= kundige te wees nie, maar kan, saam met ander versamelaars, betekenisvolle by= draes tot die plantkunde en die tuinbou= kunde lewer. En almal wat broodbome lief het, sal tog wil saamwerk om te verseker dat ons pragtige broodboomspe= sies ook in die natuur behoue bly, sodat ons kinders ook die genot sal kan smaak om broodbome te kan sien, daar waar hulle gebore is en waar hulle voorouers gestaan het, oor miljoene jare.

Om hierdie doelstellings te bereik, sal ons almal moet saamwerk. U as leser word uitgenooi en aangemoedig om aktief by ENCEPHALARTOS betrokke te raak. 'n Kort artikel of storie, 'n koerantuitknip= sel, 'n brief, 'n vraag oor 'n broodboom= probleem, 'n wenk oor die bestryding van peste, 'n foto van 'n broodboom, 'n voorstel t.o.v. die verbetering van die tydskrif - enigiets van u kant af sal ons help om ENCEPHALARTOS werklik ons almal se tyd= skrif te maak. Baie dankie alreeds aan almal wat bygedra het om hierdie eerste uitgawe moontlik te maak.

Graag wil ons ook baie dankie sê aan Cyril Manthe wat die inisiatief geneem het om 'n nuusbrief vir broodboomversa= melaars uit te gee. Hy het pionierswerk verrig. Saam met Adrian van Rensen het hy 'n standaard daargestel wat ons onge= lukkig, weens finansiële redes, nie in alle opsigte kan handhaaf nie. Die feit dat ons 'n hele paar eienskappe van Cyril en Adrian se nuusbrief in ENCEPHALARTOS behou het, moet as 'n kompliment beskou word.

Laastens; ons, en die Broodboomvereni= ging as geheel, erken met dank die finan= siële bydrae deur Associated Plastic Sales tot die posgeld-onkoste van hierdie uitgawe van ENCEPHALARTOS. Ons verwys graag ons lesers na die ingeslote pryslys van hierdie firma se produkte.

EDITORIAL

-CONTINUED-

if they have sufficient botanical know= ledge, and if their plants have been planted according to horticultural guide= lines. The nurseryman should not only also be a collector and a botanist, but could, together with other collectors, make meaningful contributions to botany and horticulture. And everyone who loves cycads, would surely want to co-operate to ensure that our beautiful cycad species are conserved in nature, so that our children will also be able to experience the joy of seeing cycads where they were born and where their ancestors had stood, through millions of years.

We will all have to co-operate to achieve these objectives. You as reader are invited and encouraged to become actively involved in ENCEPHALARTOS. A short article or story, a newspaper cutting, a letter, a question about a cycad problem, a hint on the combatting of a pest, a photograph of a cycad, a suggestion for the improvement of the journal - anything from you will help to really make ENCEPHALARTOS a journal for all of us. Thanks very much already to all those who have contributed to make this first edition possible.

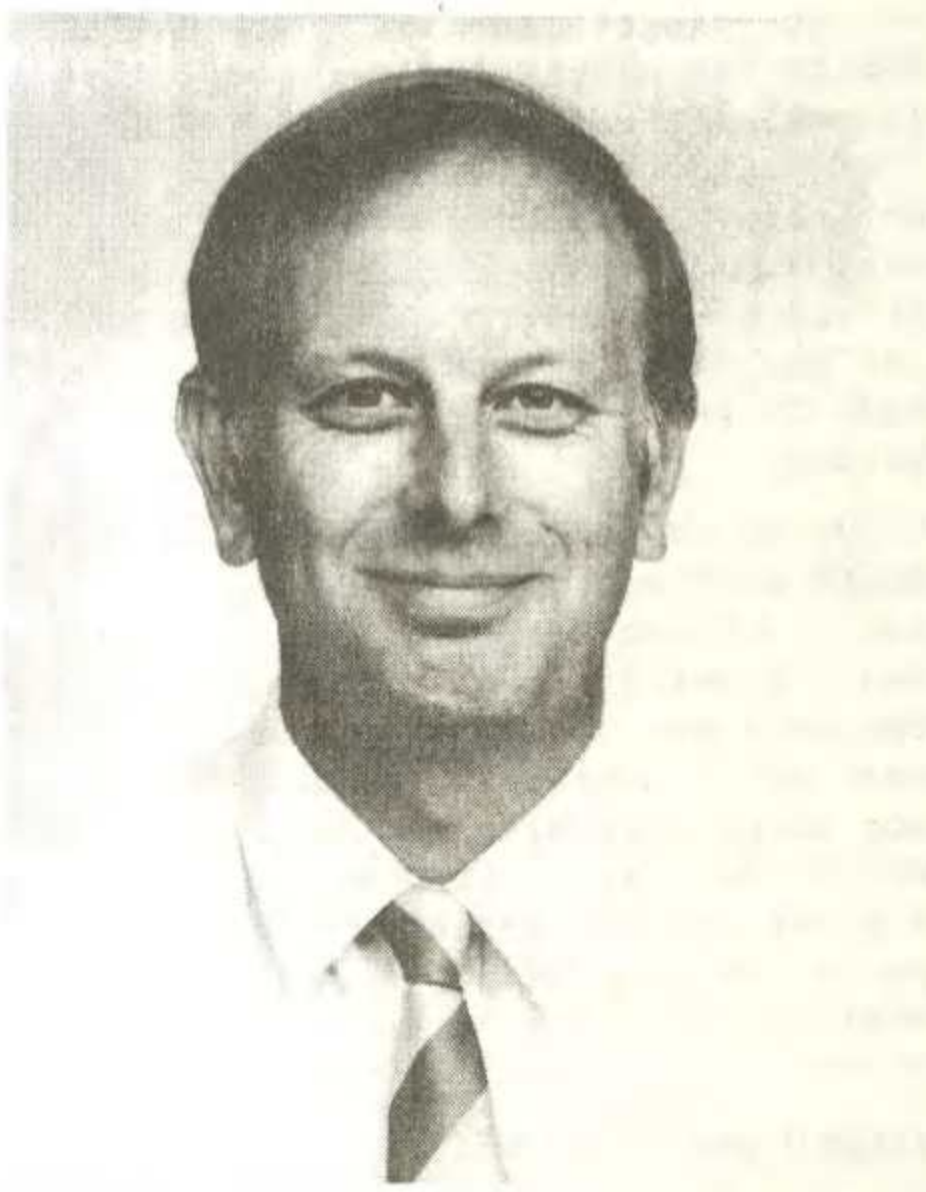
We would also like to thank Cyril Manthe who has taken the initiative to publish a newsletter for cycad collectors. He has performed pioneer work. Together with Adrian van Rensen, he has established a standard which we can unfortunately, for financial reasons, not maintain in all respects. The fact that we have retained quite a few characteristics of Cyril and Adrian's newsletter in ENCEPHALARTOS, should be regarded as a compliment.

Finally; we, and the Cycad Society as a whole, gratefully acknowledge the finan= cial assistance from Associated Plastic Sales towards the mailing costs of this edition of ENCEPHALARTOS. We refer our readers to the enclosed price-list of the company's products.

PROFILE PROFIEL

ROY OSBORNE: NATIONAL CHAIRMAN

Roy Osborne, founder and first national Chairman of our Society, was born in Hornchurch, United Kingdom in 1944 and came to South Africa with his parents at the age of four to settle in the Cape. After matriculating at Grey High School in Port Elizabeth, he ob= tained a B.Sc. degree with Honours in Botany at Rhodes University. Roy then worked in Zimbabwe prior to moving to Durban, where he started a chemical consultancy firm. After a spell of six months in New York, he obtained his present post as chemistry lecturer with the University of Natal. He was recent= ly awarded an MSc. degree for the disco= very of jessic acid, an unusual chemical compound found in the leaves of certain Combretum trees.



Roy's interests include flying - he has a private pilots' licence - and all forms of gardening and horticulture. "I used to collect bromeliads until our pet dog developed a passionate appetite for them, then switched to cycads," he says. "My greatest satisfaction comes from growing cycads from seed."

The family has several connections with the horticultural trade. Roy's wife, Angela, is the daughter of Ray & Joyce Williams of the Gardeners' Centre in Bulawayo, while his brother Max of Osborne's Nursery is well-known in the Port Elizabeth area. Roy & Angela have four children, the eldest of whom has already started a small cycad collec= tion.

NATIONAL COMMITTEE/ NASIONALE KOMITEE

CHAIRMAN/VOORSITTER

Roy Osborne - Durban

SECRETARY TREASURER/
SEKRETARIS - TESOURIER

Douglas Goode - Durban

NATAL CHAIRLADY/NATALSE VOORSITSTER

Cynthia Giddy - Umlaas Road/Weg

TRANSVAAL CHAIRMAN/
TRANSVAALSE VOORSITTER

David Hardy - Pretoria

CAPE CHAIRMAN/KAAPLANDSE VOORSITTER

Maans Kemp - Port Elizabeth

ADDITIONAL MEMBER/ADDISIONELE LID

Piet Vorster - Stellenbosch

HAVE YOU HUGGED YOUR CYCAD TODAY?

DIE VOORSITTER SÊ SY SÊ

Aangesien dit die eerste uitgawe van ons tydskrif is wat onder die volle beheer van die Vereniging verskyn, is dit gepas om ons opregte dank aan CYRIL MANTHE en ADRIAN VAN RENSEN oor te dra vir die entoesiasme wat hulle vroeëre nuusblaaie, "For the South African Palm & Cycad Collector", vir ons Vereniging uitgelok het. Ons beste wense gaan aan hulle "Suid-Afrikaanse Palmvereniging". Ons vertrou dat ons organisasies sal voortgaan om saam te werk op gebiede van gemeenskaplike belang.

Graag spreek ek ons dank uit teenoor MAANS KEMP wat met dié uitgawe die taak van redakteur oorneem. Die publikasie van 'n tydskrif is geen geringe taak nie. Versoeke sal voortdurend aan u gerig word vir u aktiewe bydraes - 'n kort nota oor enige onderwerp van belang, 'n swart-en-wit foto van u gunsteling-broodboom, 'n brief aan die redakteur insake enige punte vir bespreking, of 'n probleem waarop 'n antwoord verlang word - dít is waarvoor die tydskrif daar is.

VERENIGING SE BELEID

Met die ingang van die nuwe jaar, is dit ook gepas om die oogmerke van die Brood=boomvereniging uiteen te sit:

1. Bevordering van alle aspekte van die bewaring van Suid-Afrikaanse brood=boomspesies.
2. Aanmoediging van die voortplanting van broodbome.
3. Reëlings vir die uitruil tussen lede van stuifmeel, saad, saailinge en plante van verskillende broodboom=spesies.
4. Bevordering van botaniese navorsing oor broodbome.
5. Verspreiding van inligting aangaande broodbome.

Elkeen van bogenoemde punte is belangrik; ons is nie net 'n versamelaarsklub of 'n bewaringsvereniging nie, ons publikasie is ook nie 'n wetenskaplike tydskrif nie. Ek voel dat die krag van ons Vereniging te vinde is in die wye verskeidenheid van belangstellings en dat gesonde kruis=teelt ons resep vir sukses is.

LIDMAATSKAP

Entoesiasme vir die Vereniging groei steeds. Aan die einde van 1984 was die ledetal soos volg:

Transvaal	48
Kaap	43
Natal	41
O.V.S.	2
Swaziland	1
Zimbabwe	1
V.S.A.	3
Totaal	139

(Teen druktyd was die totaal 207 - Red.)

Verwittig asseblief u broodboomvriende van die Vereniging. Meer lede en meer aktiewe lede beteken 'n meer suksesvolle Vereniging.

FINANSIëLE VERSLAG

INKOMSTE EN UITGAWES VIR 1984

INKOMSTE	R912,50
Bydraes	902,50
Donasies	10,00
UITGAWES	R684,99
Drukwerk	410,78
Posgeld	195,87
Skryfbehoeftes	78,34
OORSKOT, INKOMSTE OOR UITGAWES	R227,51

BALANSSTAAT VIR 1984

KAPITAAL AANGEWEND	R286,68
Oorskot, inkomste oor uitgawes	227,51
Huidige Debiteure	59,17
AANWENDING VAN KAPITAAL	R286,68
SA Perm.-Bouvereniging	246,68
Kontantsaldo	40,00

DIE KOMENDE JAAR

Die komende jaar sal vir ons almal 'n uit=daging wees. Die veeleisende taak van die publikasie van die tydskrif is egter in bekwame hande en uitstappies is al=reeds deur twee streke vir 1985 beplan. U Komitee sal aandag gee aan die ont=wikkeling van 'n aktiewe broodboomsaad=bank in noue samewerking met ons suster=verenigings in die VSA, Australië en Nieu-Seeland. Ons sal voortgaan om positief met die Provinsiale Natuurbe=waringsowerhede en die Regering se Departement van Landbou in Pretoria te skakel. Verskeie opwindende navorsings=projekte is in die vroeë beplanning=stadiums en kan moontlik belangrike wetenskaplike vooruitgang tot gevolg hê. In die geheel gesien, is 'n besige tyd in die vooruitsig. Ons vertrou ook dat dit 'n suksesvolle jaar vir broodbome sal wees.

Broodboomgroete
Roy Osborne
VOORSITTER

BURNING ISSUE INVESTIGATED

Many cycad species are found in grassland areas which are subject to intermittent deliberate or accidental burning. The effect of these burning regimes on the cycads is certainly harmful as far as the regeneration of young plants is concerned; small seedlings just cannot survive the scorching. This may explain why the plants are so often found in the protection of rocky outcrops. But the effect on mature plants is debatable - it may be possible that occasional burning stimulates leaf growth or, more significantly, the coning frequency. This question is being investigated by Michael Huntley, Nick King and Roy Osborne on the farm "Winter's Valley" at the con=fluence of the Umkomaas and Ncwadi rivers in the Natal Midlands. The Society acknowledges the kind co-ope=ration and interest of Mr George Laurens, the farm owner, in this regard.

The study so far has consisted of a complete mapping of the cycad popula=tion (E. ghellinckii) on the farm, with details of trunk diameters and length, sex and coning being recorded for each plant. The 1984 summer coning was particularly vigorous - due possibly to the breaking of the drought in Natal or to the previous burning in winter 1983. The team also noticed the total absence of curculionid beetle activity at the time of coning, a point which may indi=cate that this species is entirely wind pollinated.

Plans are in hand to burn only part of the veld next winter and thus to keep a 'control' unburnt area. Measurements and observations will be continued thereafter to see if any significant differences appear between the burnt and the control groups. Who knows - we might yet advise readers to set fire to all their plants!

Any members with any specific informa=tion about this burning issue are asked to write to Roy Osborne with de=tails.

MAYOR'S DREAM COMES TRUE

The city council of Beacon Bay, near East London, has decided to establish a cycad garden. The council recently accepted a proposal to this effect put forward by the Mayor, Mr Cyril Manthe, who is a well-known cycad and palm enthusiast and who has been the editor of "Newsletter of the South African Cycad Collector", forerunner of ENCEPHALARTOS.

The cycad garden will probably be es=tablished behind the clinic buildings, next to the police station, a position which should provide sufficient security for the collection. Mr Manthe said at the council meeting that the man in the street should be given the opportunity to study and appreciate the cycads. He told the meeting that he was in a position to negotiate the purchase of an esta=blished cycad collection. He was con=fident that, once the garden had been established, donations to the garden would be made by people interested in the conservation of cycads.

The total cost of the project is esti=mated at R10 000 and the council will now investigate the siting, funding and development of the project.

FOCUS ON... FOKUS OP ...

In every edition of ENCEPHALARTOS the spotlight will fall on one South African cycad species in the form of an indepth article in layman's language. In this first edition we appropriately focus on the first South African cycad to be "discovered" by botanists:

ENCEPHALARTOS LONGIFOLIUS

deur MAANS KEMP

INLEIDING

Encephalartos longifolius beklee 'n spesiale plek tussen Suid-Afrikaanse broodbome. Dit is nie net die eerste van ons broodbome wat deur botaniste teëgekom, versamel en beskryf is nie, maar dit is ook die Suid-Afrikaanse spesie wat die verste suid voorkom. Daarby word dit deur almal beskou as een van ons aantreklikste en indruk= wekkendste broodboomsoorte.

EERSTE KENNISMAKING

E. longifolius is botanies ontdek deur die man wat later bekend sou staan as die vader van Suid-Afrikaanse plant= kunde: Carl Peter Thunberg. Thunberg was 'n student van die beroemde Carl Linnaeus, professor in plantkunde aan die Universiteit van Uppsala, Swede. In April 1772 het Thunberg in die Kaap van Goeie Hoop aangekom om die Suid-Afrikaanse plantegroei te bestudeer en om plante te versamel. Hy was 28 jaar oud toe hy hier aangekom het en hy het drie jaar vertoef; tot Maart 1775.

CARL PETER THUNBERG

FRANCIS MASSON

Gedurende sy verblyf aan die Kaap het Thunberg drie groot reise onderneem. Op sy langste reis, later in 1772, is hy vergesel deur Francis Masson wat hy aan die Kaap ontmoet het. Masson, 'n Skot, was 'n tuinier by die Koninklike Tuin te Kew in Engeland. Hy is deur sir Joseph Banks, wetenskaplike raad= gewer van Kew, na die Kaap gestuur om plante en saad vir die tuine te ver= samel. Masson het in Oktober 1772 aan die Kaap geland en hy het hier gebly tot in 1774.

Thunberg en Masson het saam ooswaarts vanaf die Kaap die Goeie Hoop gereis, langs die Langeberge en die Outenie= kwaberge, deur die Langkloof, oor die Gamtoosrivier tot by die huidige Coega, ongeveer 25 km noord-oos van waar Port Elizabeth nou is.

Gedurende hierdie reis het Thunberg en Masson die broodboom raakgesien, naby die "Zeekoe"-rivier, waarskynlik in die omgewing van die huidige Karee=douw. Hy het dit as volg beskryf: "The Bread tree Zamia caffra is a species of palm, which grows on the hills, below the mountains, on these tracts. It was of the height and thickness of a man at most, very much spread, and single. I have sometimes seen from one root, two or three stems spring .... I observed that the tree stood in dry sterile places and grew slowly." Thunberg het ook op sy reis nog 'n broodboom raakgeloop: die spesie wat nou E. caffer heet. Hy het egter gedink dat dit die kleintjies van die groot broodboom was.

Thunberg en Masson was die eerste persone wat botanies in die broodbome belang gestel het, maar nie die eerstes wat van hulle bewus was nie. Die destydse plaaslike inwoners, die Hottentotte, het ook in die broodbome belang gestel, maar vir 'n ander rede wat as volg deur Thunberg beskryf word: "It is out of the pith (medulla) of this tree that the Hottentots contrive to prepare their bread. For this purpose, after scooping out the pith, they bury it in the earth and leave it there for a space of two months to rot, after which they knead it, and make it into a cake, which, in their usual slovenly and filthy manner, they slightly bake in the embers." Thunberg was klaarblyk=lik nie baie beïndruk met die Hottentotte en hulle kookkuns nie!

Masson het van die geleentheid gebruik gemaak om een van die broodbome uit te haal om na Kew te stuur. Dieselfde plant floreer nog steeds in 'n houer in 'n kweekhuis in Kew, 213 jaar later.

Encephalartos caffer. Thunberg het gedink dit is die kleintjie van die groot brood=boom (E. longifolius) wat hy raakgeloop het.

NAAMGEFPROBLEME

E. longifolius het al meer name gehad as enige ander Suid-Afrikaanse broodboom. Toe Thunberg dit die eerste keer gesien het, het hy nie keëls gesien nie en aangeneem dat dit 'n soort palm was, wat hy toe Zamia caffra gedoop het. Later, na sy terugkeer na Swede, het hy dit Cycas caffra genoem. Dit moet egter onthou word dat hierdie naam, en die beskrywing wat hy van die plante gegee het, op die huidige E. longifolius sowel as die huidige E. caffer van toe=passing was.

In 1809 het Jacquin die spesie Zamia longifolia gedoop en terselfdertyd ook 'n spesie, Z. lanuginosus, beskryf. Laas=genoemde is later tot E. longifolius gereduseer. In 1834, toe hy die genus=naam Encephalartos geskep het, het Lehmann slegs Thunberg se naam C.caffra na E. caffer verander. In 1933 het J. Hutchinson en G. Rattray die twee betrokke spesies finaal onderskei as E. longifolius en E. caffer.

Die gesegde "all's well that ends well", is egter van toepassing in hierdie geval. Die spesie-naam "longifolius", wat die Latyn vir "lang blare" is, is 'n baie gepaste naam vir hierdie pragtige brood=boom met sy lang groen blare.

VERSPREIDING

E. longifolius kom voor vanaf die Kouga=berge, 'n paar kilometer wes van Jouber=tina in die Langkloof, ooswaarts deur die Humansdorp-distrik en die Elandsberge tot by die Van Stadensrivier, wes van Port Elizabeth. Verder noord kom dit voor in die Groot Winterhoekberge en ooswaarts tot in die omgewing van Uitenhage. Nog verder noord verskyn dit weer in die Klein Winterhoekberge, wes van Kirkwood, en strek ooswaarts deur die Suurberge tot in die omgewing van Grahamstad en noordwaarts tot in die Somerset-Oos-omgewing.

E. longifolius is 'n gevestigde inwoner van sy omgewing. Die fossiel-oorblyf=sels van breëblaarbroodbome, Zamites recta, word gevind in die Gamtoos- en Sondagsriviervalleie, naby die plekke waar E. longifolius nou nog voorkom. Volgens die beroemde Suid-Afrikaanse geoloog, prof. Alec du Toit, kan Zamites recta vergelyk word met E. longifolius.

Dit is interessant dat E. longifolius, wat die Suid-Afrikaanse broodboom is wat die verste wes voorkom, gevind word in die oorganggebied tussen die somer- en winterreënvalstreke. Al die ander spesies groei in die somerreënvalstreke. Volgens dr. Dyer is dit moontlik dat hierdie westelike grens ook verband kan hou met veldbrande. Die meeste brood=bome is onderhewig aan periodieke veld=brande en volwasse plante word beskerm deur die laag harde blaarbasisse om die stam. Dit is moontlik dat hierdie be=skerming nie voldoende is teen die meer intense vuur in die fynbos-tipe plante=groei van die Suid-wes-Kaap nie. In hierdie tipe plantegroei brand die vuur hoër bo die grond en ook langer as in die grasveldstreke en is die plante dus onderhewig aan hoër temperature oor langer tye. Die westelike broodboom=grens kan dus ook verband hou met die oorgang na fynbosplantegroei.

E. longifolius groei in 'n verskeidenheid habitatte met relatief groot verskille in reënval en topografie. Dit verkies klaarblyklik die suur grond wat met die Tafelbergsandsteen van die Kaap-sisteem geassosieer is. Verder groei dit altyd op plekke met goeie dreinering, ge=woonlik teen die hange van heuwels en berge. Op baie plekke, soos in die Suurberge en in dele van die Kougaberge en die laerliggende dele van die Humansdorp-distrik, groei die plante in oop, grasveldagtige plekke. Op ander plekke, bv. by Van Stadens en dele van die Kougaberge, groei dit tussen tipiese fynbosplantegroei, terwyl dit verder noord, bv. by Perdepoort, tussen Karoo-tipe plantegroei voorkom.

Die jaarlikse reënval in die versprei=dingsgebied wissel van 1250 mm in die suide tot so min as 300 mm in die noordelike dele. Wat hoogte bo see=vlak betref, is die kontras net so groot. In die Humansdorpdistrik groei E. longifolius teen die hange van lae heuwels, 200 meter bo seevlak, terwyl dit hoog teen die Cockscombberg voorkom op hoogtes van 1500 meter. Op plekke groei dit in vrugbare grond, terwyl dit in die Kougarivierkloof en ander klowe teen feitlik loodregte kranse hang.

BESKRYWING VAN PLANT

1. STAM

E. longifolius het lang, swaar stamme. Weens die rotsagtige of klipperige aard van die grond waarin hulle groei, is

die stam gewoonlik heeltemal bogronds. Stamme kan so lank as 4,5 meter word en die deursnee soveel as 45 cm. Die stam is gewoonlik onvertak, alhoewel vertakte stamme soms voorkom, waarskynlik as gevolg van skade aan die groeipunt. Meer as een stam uit dieselfde basis is egter meer algemeen. In die veld, sowel as in die tuin, vorm suiers soms aan die basis van 'n volwasse plant en ontwikkel dan in 'n aparte stam. Soms gebeur dit reeds in die saailingstadium, sodat 'n plantjie met twee ewe groot stammetjies ontstaan. In baie ou plante is die blaarbasisse onder-aan die stam deur die gewig van die stam sodanig saamge= pers dat hulle nie onderskei kan word nie.

Stamme van ou plante is soms krom en groei soms ook skuins. Teen die wande van kranse groei stamme soms byna horisontaal.

'n Jong plantjie van E. longifolius wat reeds 'n tweede stammetjie het

'n Voorbeeld van E. longifolius met 'n effense krom stam

2. BLARE

Die lang blare wat aan E. longifolius sy naam gegee het, is een tot twee meter lank. Die hoofas van die blaar is grasieus gekrul, veral langs die laaste derde. Die puntjie krul soms skerp terug na onder. Die hoofas is liggeel in ouer blare maar groen in jong blare. Die blaarsteel is 30 to 35 cm lank, maar soms heelwat korter, en is kaal, sonder stekels. Die blaarbasis is redelik groot en dieselfde kleur as die hoofas in jong blare. In ou blare het dit gewoonlik 'n geel tot grys rand.

Die blaartjies wissel in kleur van 'n glansende donkergroen, deur liggroen en geelgroen, tot 'n blougroen (die sogenaamde "blou" vorm). Die blou-groen plante word gevind in droër gebiede. Daar is nog twyfel of hierdie "blou" kleur standhou= dend is indien die plant in natter toe= stande geplant word. Daar is aandui= dings dat die eerste paar blaarkrone die blou-groen kleur behou maar dat die kleur later na groen verander.

Die blaartjies, sowel as die hoofas, is met fyn haartjies bedek in jong blare. Ouer blare is egter glad. Die blaartjies verskil baie in grootte en vorm oor die lengte van die hoofas. Dié teen die middel van die hoofas is tot 20 cm lank en tot 4 cm breed, maar gewoonlik 2 tot 3 cm. Nader na die blaarpunt en die blaarbasis word die blaartjies kleiner. In die rigting van die basis word dit egter nooit 'n reeks stekels soos in som= mige ander soorte nie. Hoogstens twee stekels kom soms voor. Die punte van die blaartjies wissel van stomp en gerond tot naaldskerp. Dit lyk of hierdie eienskap verband hou met die lokaliteit. Plante in die Suurberge se blaartjies het blykbaar meer geronde punte, terwyl dié in die Kougaberge en die Humansdorp-distrik skerp punte het. Die rande van die blaartjies is ge= woonlik glad, alhoewel een tot drie tandjies soms aan die onderste rand voorkom, meestal aan die blaartjies nader aan die punt van die blaar. Hier= die tandjies kan ook stomp of skerp wees.

Die blaartjies is só op die hoofas ge= rangskik dat hulle 'n V vorm wat smal is naby die blaarpunt en wyer naby die basis. Die blaartjies oorvleuel op= waarts naby die punt van die blaar.

Daar is gewoonlik 'n groot hoeveelheid blare aan 'n volwasse plant in die veld, wat wissel van jong groen blare tot ou, bruin, dooie blare wat tot teen die stam hang. Dr. Dyer wys daarop dat die blaarkroon soms sambreelvormig is, baie soos dié van E. woodii.

'n Baie groot voorbeeld van E. longifolius

3. KEËLS

E. longifolius dra een tot drie keëls. Sy keëls is die grootste van alle Suid-Afrikaanse broodbome. Vroulike keëls word 60 cm lank en 40 cm in deursnee met 'n massa van tot 30 kg. 'n Geval van 'n keël met 'n massa van 40 kg is bekend. Manlike keëls bereik 'n lengte van 60 cm met 'n deursnee van 15 tot 20 cm. Die keëls is sittend of het 'n baie kort steel en is min of meer eiervormig. Die vroulike keëls word skerper na bo en die skubbe gepunt. Soms eindig hierdie boonste skubbe in klein blaartjies; 'n bewys dat die keël= skubbe aangepaste blare is. Hierdie verskynsel is deur die skrywer waarge= neem by 'n plant in 'n tuin te Oesterbaai, naby Humansdorp.

Die kleur van die keëls is bruin-groen met rooierige haartjies op die oppervlak. Die puntjie van die middelste skubbe van die vroulike keël staan ongeveer 2 cm bo die oppervlak uit en die skub-opper= vlakte is gerimpel. In die manlike keël steek die puntjie van die skub ook ongeveer 2 cm uit by die middel van die keël.

Die middelste vroulike skubblare is ongeveer 8 cm lank, 6 cm breed en 4 cm dik, met twee prominente saadknoppe. Die middelste manlike skubbe is onge= veer 4 cm lank en 4 cm breed by die breedste kant. Die onderste oppervlak is byna geheel en al met stuifmeelsak= kies bedek, met net 'n randjie buite-om.

Die manlike skubbe kom in 'n groot aantal spiralige rye voor. By die vroulike keël is daar minder spirale.

Die vars saad se omhulsel is rooi van kleur. Die saad self is ongeveer 5 cm lank en 3 cm in deursnee, afhangende van waar op die keël dit voorkom.

VERBASTERING

E. longifolius se voorkomsgebied oorvleuel baie min met die van ander spesies. In Perdepoort groei dit redelik naby E. lehmannii maar geen voorbeelde van ver= bastering is hier bekend nie. Naby Uitenhage groei E. longifolius egter naby plante van E. horridus en kruisings tussen die twee is gevind. Kenmerke wat dui op 'n mengsel van dié van albei ouer- spesies kom in die blare en die keëls voor. So kom ongetande blaartjies by= voorbeeld voor tussen blaartjies met die lang, skerp tande wat so tipies van E. horridus is.

GROEITEMPO

Soos alle broodbome, groei E. longifolius stadig. Min is egter oor die presiese groeitempo in die natuur bekend. Daarby sal die groeitempo noodwendig afhang van die vrugbaarheid van die grond waar die plante groei, asook van die reënval= patroon.

Die plant wat in 1772 deur Francis Masson uitgehaal is, is in 1775 by Kew in 'n houer geplant en groei sedertdien in ideale omstandighede in 'n kweekhuis. Toe dit geplant is, was die punt van die stam min of meer op grondhoogte. In 1822 het dit 'n hoogte van 30 cm bereik, in 1848 90 cm, in 1908 240 cm en in 1960 330 cm. Dit moet in ag geneem word dat die plant aan die begin stadiger moes gegroei het omdat dit nuwe wortels moes vorm en by die nuwe omstandighede moes aanpas. As die groei vanaf 1822 tot 1960 in bere= kening gebring word, naamlik 300 cm in 138 jaar, dui dit op 'n gemiddelde groei van ongeveer 2,2 cm per jaar, in ideale omstandighede.

GIFTIGHEID

Daar is geen giftige stowwe in die stam of die blare van E. longifolius nie, en waarskynlik ook nie in die vlesige omhulsel van die saad nie. Die inhoud van die saad is egter eksperimenteel getoets en uiters giftig bevind. Hierdie eienskap het byna 'n dramatiese uitwerking op die Suid-Afrikaanse geskiedenis gehad, toe Generaal J.C. Smuts, latere Eerste Minister van Suid-Afrika, gedurende die Anglo-Boereoorlog byna aan vergiftiging gesterf het toe hy en sy kommando, ge= durende 'n tog na die Kaapkolonie, die sade van E. longifolius in die Suurberge geëet het. (Sien die artikel, "One Man's Poison", elders in hierdie uitgawe.)

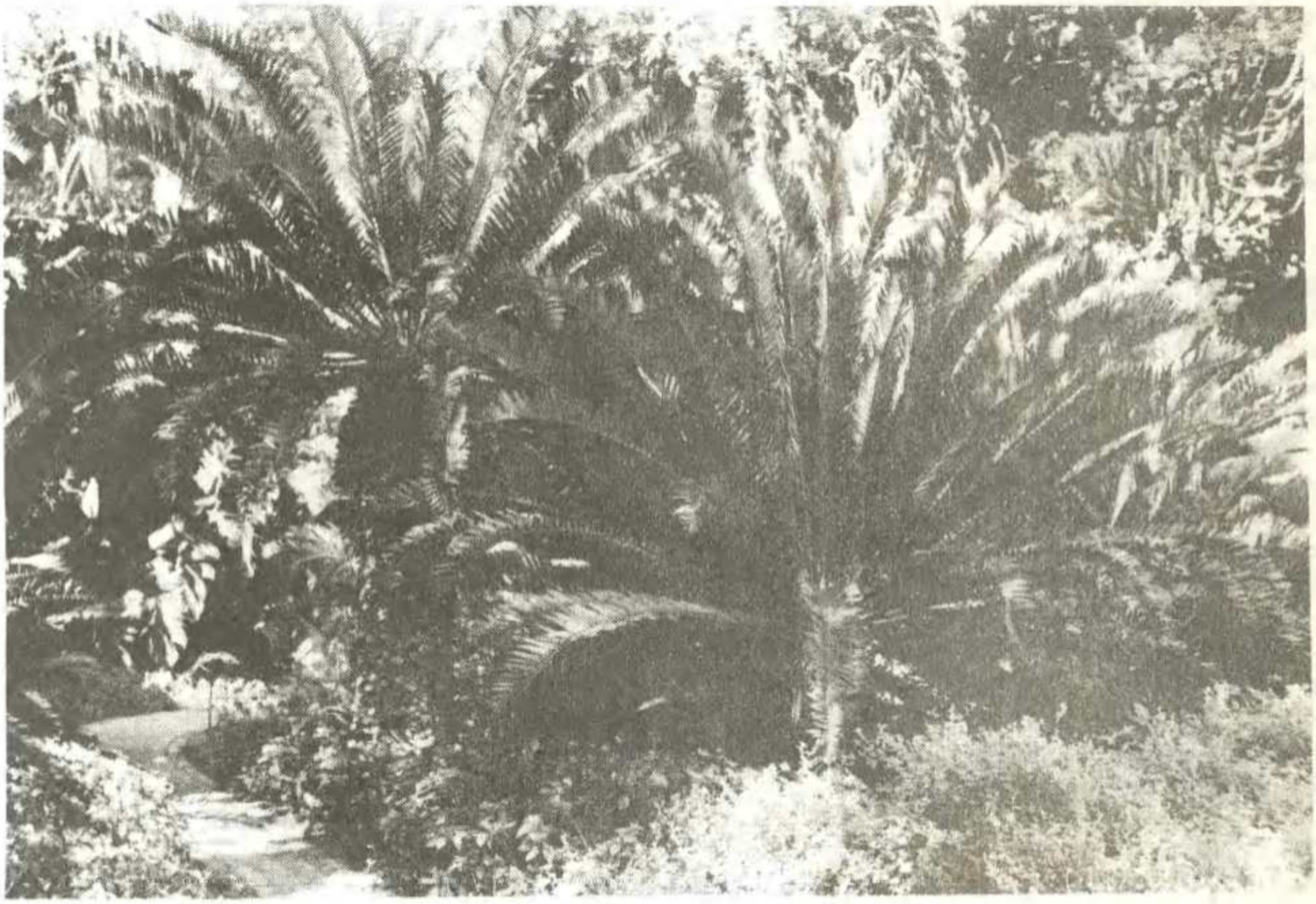
Daar is gevalle bekend van beeste wat dood is en waar half-verteerde sade van E. longifolius in hulle mae gevind is. Die gif affekteer blykbaar hoofsaaklik die lewer.

PLANTE IN DIE TUIN

E. longifolius is 'n pragtige plant in die tuin. Dit groei redelik maklik en die altydgroen groot blare kan baie bydra om 'n tuin aantreklik te laat lyk. Soos alle broodbome, vereis dit goed-gedrei= neerde grond. Dit verkies 'n effens suur, vrugbare grond en genoeg water, alhoewel dit droogte baie goed kan weer= staan.

Die plante kan in ligte skaduwee of in volle son geplant word. Dit is nie baie goed teen ryp bestand nie en behoort in rypgebiede in meer beskermde dele van die tuin geplant te word.

E. longifolius kan maklik van saad ge= kweek word en die saailinge groei relatief vinnig. 'n Vyfjaar-oue saailing kan reeds sy plek in die tuin volstaan. 'n Klein plantjie wat die skrywer gekry het toe sy stammetjie ongeveer 3 cm in deur= snee was en wat toe twee klein blaartjies, ongeveer 15 cm lank gehad het, het binne agt jaar gegroei tot 'n plantjie met 'n stamdeursnee van ongeveer 15 cm en 'n krans blare, 50 cm lank.



E. longifolius lyk pragtig in die tuin

BEWARING

E. longifolius word volgens die natuur=bewaring-ordonnansie van Kaapland as 'n beskermde plant geklassifiseer. Dit beteken dat plante, met die toestemming van die grondeienaar, uit die natuur verwyder mag word. Dit mag egter nie verkoop of uit die provinsie uitgevoer word sonder 'n permit nie en dit mag ook nie gekoop word van iemand wat nie 'n permit het nie.

Weens hulle gesogtheid as tuinplante, is baie volwasse plante uit die natuur verwyder, en hulle kan nou in privaattuine, sowel as in munisipale parke en tuine gesien word.

Die plantbevolkings in meer toegankelike gebiede, veral dié naby hoofpaaie, is baie uitgedun. Baie van die plante groei egter op plekke waar selfs die mees energieke en gedetermineerde versamelaar nie 'n kans het om by hulle te kom nie. Op sommige van hierdie plekke groei hulle in relatief groot getalle en is hulle voortbestaan dus verseker.

E. longifolius kom voor in amptelike bewaringsgebiede, waar hulle dus bykomende beskerming geniet. So groei baie plante in gebiede wat deur die Departement Bosbou beheer word, byvoorbeeld in die Kougaberge, die Baviaanskloofberge, die Elandsberge, die Groot-Winterhoekberge en die Suurberge. Naby Port Elizabeth word hulle beskerm in die Van Stadens-natuurreservaat wat onder die Afdelingsraad Dias ressorteer.

E.longifolius word op 'n redelike groot skaal deur kwekers van saad gekweek en plantjies is beskikbaar. Dit lyk dus asof in die behoeftes van versamelaars en tuinliefhebbers voorsien sal kan word, sonder dat die voortbestaan van die spesie bedreig word.

Dit is 'n gerusstellende gedagte dat toekomstige reisigers in die wilde plekke, net soos Carl Thunberg meer as twee eeue gelede, steeds verwonderd sal kan staan by 'n majestieuse voorbeeld van die broodboom met die lang blare; E. longifolius.

BIBLIOGRAFIE

- Dyer, R.A. "The Cycads of Southern Africa", in Bothalia, Vol.8, Deel 4, 1965
- Dyer, R.A. en I.C. Verdoorn, "Zamiaceae", in Flora of Southern Africa, Vol. 1, 1966
- Giddy, C., Cycads of South Africa, 1974
- Henderson, M.R., "Materials for a revision of the South African species of Encephalartos", in The Journal of South African Botany, Vol. 11, 1945
- Hutchinson, J. en G. Rattray, "Cycadaceae", in Flora Capensis, Vol. 5, Afd. 2, 1933
- Jessop, J.P., "Some Botanists and Botanical Collectors associated with Southern Africa", in Lantern, Vol. 13, No. 1, September 1963
- Palmer, E. en N. Pitman, Trees of Southern Africa, Vol. 1, 1972
- Pearson, H.H.W., "The Kirstenbosch Cycads", in The Journal of the Botanical Society, Deel 2, 1916
- Rourke, J.P., Die Proteas van Suider-Afrika, 1980

STUKKIES EN BROKKIES

BITS AND PIECES

CHAIRMAN NEEDS HELP

With the continuing growth of the Cycad Society, the administrative workload is becoming rather more than one person can easily handle. Roy Osborne, our National Chairman, wants to know if anyone in the Durban area would be prepared to help with some of the routine administrative work of the Society. Persons with typing/copying/printing facilities would be especially welcome. Tweetaligheid sal ook baie help. Please phone Roy at Durban 866953 if you can offer any assistance.

OUTSTANDING MEMBERSHIP FEES

Membership fees (R10,00 for ordinary members; R5,00 for scholars/full-time students/pensioners) for 1985 were due on 1 January 1985 and notices have been sent to all members. Members who have not yet paid their dues must please do so as soon as possible. Your kind co-operation will be appreciated.

UITSTAANDE LEDEGELD

Ledegeld (R10,00 vir gewone lede; R5,00 vir skoliere/voltydse studente/pensioenarisse) vir 1985 was betaalbaar op 1 Januarie 1985 en kennisgewings is aan alle lede gestuur. Lede wat nog nie ledegeld betaal het nie, moet dit asseblief so gou as moontlik doen. U vriendelike samewerking sal waardeer word.

MEMBERSHIP APPLICATION

Prospective members are invited to complete and return the application form at the end of this publication.

AANSOEK OM LIDMAATSKAP

Voornemende lede word genooi om die aansoekvorm aan die einde van hierdie publikasie te voltooi en terug te stuur.

R50,00 COMPETITION

If you are in the fortunate position to have a R50,00 note to flip around, flip over to the reverse side and try to identify the cycad represented by the artist. No prizes for the correct entry, but the answer will be announced in the next newsletter.

OUR OWN EMBLEM

Readers are invited to send us ideas or drafts for an emblem or logo for our Society. The emblem should preferably be distinctive and simple, and should effectively symbolise our goal: uniting cycad lovers. We look forward to hearing from you.

DYER AND VERDOORN - LIFE MEMBERS

The Cycad Society is very pleased to announce the acceptance of Honorary Life Membership of the Society by two distin=guished South African botanists, well-known to cycadophiles world-wide: Dr Robert Allen Dyer and Dr' Inez Clare Verdoorn. Our gesture was made as a modest token of goodwill for their life=long dedicated service to South African botany and to the taxonomy of cycads in particular.

Dr Dyer was born in Pietermaritzburg in 1900 and was educated at Michaelhouse and Natal University College, where he obtained M.Sc. and D.Sc. degrees. He worked at the Schonland Botanical Labo=ratories (Grahamstown), the Royal Botanic Gardens (Kew) and subsequently became Chief and later Director of the Botanical Research Institute in Pretoria. His work is vast: he started the official botanical surveys, founded the Pretoria National Botanic Gardens and initiated work on the Flora of South Africa. He has published very extensively in the field of plant taxonomy, including the first major collective publication on the South Africa cycads (Bothalia, 1965 - see separate feature 'From the Bookshelf'). Dr Dyer is the author of the following Encephalartos species: E. inopinus, E. princeps, E. trispinosus, E. arenarius, E. umbeluziensis, E. cupidus and E. heenanii. Since his retirement in 1963 he has continued work in this field.

Dr Verdoorn was born in Pretoria in 1896 and was appointed to the Division of Botany and Plant Pathology as herbarium assistant in 1917. After some time at Kew, she was placed in charge of the National Herbarium until she retired in 1951. It was Dr Verdoorn who located E. eugene-maraisii in the Waterberg area in 1944, naming the plant after her well-known poet and naturalist uncle, Eugene Marais, who first reported the occurence of a cycad in that area. She is also the author of E. humilis and E. lebomboensis and, jointly with Dr Dyer, the author of E. natalensis, E. pterogonus, E. concinnus, E. chimanimaniensis & E. munchii. Like Dr Dyer, she continues active work and has published more than 200 scientific papers on plant taxonomy. In 1967 she was awarded an Honorary Doctorate degree by the Univer=sity of Natal.

Both Dr Dyer and Dr Verdoorn have been the recipients of an impressive list of awards. In a typically modest fashion, Dr Dyer has asked us to pay special tribute to Dr Verdoorn as the first botanist to advocate the cultivation of South African cycads from seed in order to relieve pressure from collectors on natural populations; a spirit which forms a cornerstone of the Cycad Society's philosophy today.

We are greatly honoured by the support of Dr Dyer and Dr Verdoorn and wish them both a very sincere 'alles van die beste'.

WHY PLANT NAMES CHANGE

by PIET VORSTER

The most common abuse flung by non-botanists at plant taxonomists, is that they continuously change familiar plant names. The title of this article is misleading in so far as plant names are not wilfully changed but only corrected, and I shall try to explain why that happens.

The naming of plants is governed by a strict set of rules which is revised approximately every six years to improve its efficiency and to iron out problems which have been encountered in the application of the rules during the previous six years period. In simplified terms, the rules decree that a plant can have only one correct name, which is usually the oldest available name, unless this name contravenes the rules. In such a case the correct name is chosen from amongst the synonyms of the discarded name, with the oldest former synonym again having priority. If there are no synonyms from amongst which a name can be chosen, or if all the synonyms contravene the rules, an entirely new name has to be chosen for the plant.

Most often familiar plant names change either because a species is split up into two or more species, or because new information shows that two or more species which were formerly considered to be separate entities, are in fact only variants of a single species. In the latter case the combined species should get the name formerly used for the oldest component species. In the former instance the name of the original species is retained for one of the species into which the original species is split up, namely that species most closely conforming to the original concept, while new names have to be found for the other segregate species.

Yet another factor which may result in name changes, is the difficulty in deciding on the taxonomic ranking of a plant. In other words, should the plant in hand be considered to belong to a separate species, or is it a subspecies or a variety of some species? Unfortunately there are no fool-proof rules but only guidelines. When different populations, each consisting of more or less similar individuals, differ to a considerable extent from each other and do not or only rarely interbreed, they are considered to represent different species. Different species either cannot be interbred, and if they do, the offspring is usually either sterile or else less fertile than either parent. If different populations show only minor morphological differences and are prevented from interbreeding by a factor such as geographical separation, they are usually considered to represent different subspecies of the same species. When brought together, different subspecies of the same species can freely interbreed, and the offspring is usually as fertile as the parents. A variety is a group of individuals which occur scattered through a population of other individuals from which they differ only in minor respects, and with which they freely interbreed to produce fully fertile offspring. At present taxonomists are becoming reluctant to use varietal ranking, because the so-called varieties are considered to be part of the normal variation within a population, much like brown and blue eyes in a human population. From the above it should be clear that the whole matter of ranking rests on reproductive behaviour, about which we know very little. With cycads it is particularly difficult, because so many populations are relic populations which must have been isolated from each other for long periods of time which enabled them to develop minor aberrations, the first step in speciation. The information available to a taxonomist, and his interpretation of it, therefore determines the taxonomic ranking which he applies to a given population, and this in turn may affect the names previously used for that population. Examples of such problems are the relationship between Encephalartos altensteinii and E. natalensis, and the interrelationships within the E. manikensis group.

ONE MAN'S POISON

by ROY OSBORNE

Cycads are plants of many contrasts: great giants to bonsailike midgets, with palm-like trunks or without any apparent stems at all, occurring in lush forests to semi-deserts, with smooth delicate leaves to tangled barbs, more effective than any anti-personnel fencing! So it should not come as a great surprise to find the contrast of edible and poiso= nous properties often in the same species.

Cycads have been used as a source of food starch, particularly during times when normal food supplies have been curtailed, for many years in different parts of the world. The "arrowroot" starch, whilst generally obtained from the rhizomes of Marantha species, can also be extracted from the underground stems of Zamia floridana. "Sago" starch is derived from the stems of certain palms and various Cycas, Zamia and Macrozamia species. The Cape Hottentot peoples were fond of scooping out the pith from the trunk of Encephalartos species (especially longifolius), after which they tied it up in animal skins, buried these for a few weeks, then kneaded the product into a paste which baked to give a palatable form of bread - hence the name 'Broodboom'. (Readers are not advised to attempt to follow this recipe!)

Since most mature cycads produce large numbers of fairly sizeable seeds, it is not surprising that these too have been used as a food source. But many found out to their cost that the starch and protein-rich kernels of most cycads contain a dangerous poison with both acute and chronic toxicological proper= ties. That fascinating book by Denys Reitz, 'Commando', tells the story of how General J.C. Smuts and his men were camped in the Zuurberg mountains with food supplies running low and the British troops nearby.

".... the men had little or no food with them and were already beginning to feel hungry. Scattered about stood a strange growth known as 'Hottentot's bread' (then reported as E. altensteinii but thought now to be E. longifolius), a wild fruit not unlike a large pineapple. ..... one of the men sampled it and found it to his liking ..... many unfortunately followed suit." Reitz then goes on to say "I was astonished to find more than half our men groaning and retching on the ground in agony, some apparently at their last gasp. General Smuts was worse than the rest, so, with half our number out of action, we were also leaderless, for he was lying comatose. .... our position was critical... Com= mandant Van Deventer was too ill to take charge ..... the sick men were worse than ever .... However, as the darkness slowly passed, one man after another recovered sufficiently to stagger to his feet, and towards dawn there were not more than twenty unable to stand. General Smuts was still prostrate .... he gave orders that the men who could not help themselves were to be tied to their saddles and that the Commando was to march deeper into the mountains."

Smuts and his colleagues were lucky to survive. In 1912, two Mpondo children died at Tabankulu after eating seeds thought to be from E. villosus. Yet it appears that the outer fleshy part of the seed is relatively free from poison. Baboons, monkeys and dassies eat this part with impunity, and the pulp of the modjadji cycad is occasionally eaten by the locals in the Eastern Transvaal. Many birds enjoy the outer flesh too. Cynthia Giddy describes how the Trumpeter Hornbill, common in coastal areas, swallows seeds of E.ferox whole, later regurgitating the intact kernel. She believes this to be a signi= ficant factor in the spread of the species, often found immediately below the conve= nient perches afforded by the branches of the Umdoni tree.

The natural product chemists have extracted and analysed the toxins and found them to be rather unusual compounds called azoxyglycosides. Macrozamin is the one found in Macrozamia spiralis and M.riedlei, Bowenia serrulata, Cycas media and Encephalartos barkeri, E.hildebrandtii, E. transvenosus and E. lanatus. Cycasin, closely related chemically, is found in Cycas revoluta and C. thouarsii.

Encephalartos longifolius, the cycad of which the seeds almost killed General Smuts and his Commando

It is remarkable that many indigenous people in different parts of the world have quite independently found out how to de-toxify the seed. All 'recipes' are based on steeping the crushed seeds in water which slowly breaks down and dissolves out the poison. Members of Captain Cook's party told how the Australian aboriginals harvested seed of Cycas media, pounded it up and dried it, then soaked it in a stream for 4 to 5 days, after which it was made into a paste and baked into bread. In 1788, Governor Phillips of New South Wales reported that a similar process was used to render the seeds of Macrozamia spiralis (the 'burrawang') harmless. More recently this species has been used for alcohol production, manufac= ture of laundry starch and the produc= tion of adhesive pastes. Who says cycads aren't versatile?

Closer home, Medley Wood (of E. woodii fame) told how the Zulu people soaked cycad seeds in water and successfully removed the toxin. The problem is that 100% removal of the poison can never be guaranteed. It is now thought that the high incidence of amyotropic lateral sclerosis on the island of Guam is directly caused by the impro= perly-processed seeds of Cycas species consumed by the inhabitants.

Another, rather different problem arises from poisons in cycad leaves. Grazing by stock on leaves of certain Macrozamia species in Australia and Zamia species in the Americas has re= sulted in partial or total paralysis of the hind legs, a condition known as the 'wobbles' or 'staggers'. Whilst this rarely kills the animals, they are unable to obtain more food and water and thus perish as a result. The Australian government has embarked on quite extensive programmes to eradicate the offending species, particularly Macrozamia moorei, but fortunately a specific reservation has been set aside to prevent this very attractive species from becoming extinct. Very luckily, our Encephalartos leaves are free of this toxin.

Not all parts, and not all species, have been fully investigated for toxic effects. Research into the toxicity of South African Cycads has shown that poisons are almost certainly present in the kernels, and possibly to a lesser concentration in the outer flesh, of seeds of E. cycadifolius, E. eugene-maraisii, E. horridus, E. ferox, E. lehmanii, E. longifolius, E. laevi=folius, E. lebomboensis, E. umbelu=ziensis and E. villosus. Dr. Tustin gives the sound advice that "the inges=tion of any parts of plants of Encep=halartos is potentially fraught with danger and should be strenuously dis=couraged".

In the unlikely event of accidental consumption, the immediate first-aid step would be to induce vomiting. The patient should drink a glass of warm water and the "finger-down-the-throat" technique used. Qualified medical attention should be sought immediately.

References:

1. C.J. Chamberlain: "The Living Cycads", Hafner Publishing Co. (1919, reprin=ted 1969).
2. Cynthia Giddy: "Cycads of South Africa", C. Struik Publishers, Second Edition (1984).
3. R. Hegnauer: "Chemotaxonomie der Pflanzen" Band I, Birkhäüser Verlag (1962).
4. R.S. Palekar & D.K. Dastur, Nature, June 26, 1965, 1363-1365.
5. Denys Reitz: "Commando - a Boer Journal of the Boer War", Faber & Faber (1929, reprinted 1969).
6. D.G. Steyn, S.J. van der Walt & I. Verdoorn, SA Medical Journal, 11 December 1948, 758-760.
7. J.W. Thieret, Economic Botany, Vol. 12, No. 1, 1958, 3-41.
8. R.C. Tustin, SA Medical Journal, 23 Nov., 1974, 2369-2373.
9. J.M. Watt & M.G. Breyer-Brandwijk: "The Medical and Poisonous Plants of Southern and Eastern Africa" Second Edition, Livingstone, (1962).

NTAMVUNA RESERVE EXTENSION

The illegal sale of cycads (Encephalartos natalensis and E. villosus) and tree ferns along the lower Natal South Coast road=side has been a problem for conservatio=nists and Parks Board officials for some time and has become aggravated by the increase in traffic since the opening of the Wild Coast casino.

The Cycad Society is working closely with conservationist Tony Abbott of Port Edward and planning officer Paul Dutton of the Transkei Nature Conservation Divi=sion in attempts to find a solution to this problem. A real possibility now exists that the Transkei side of the Ntamvuna gorge will be proclaimed a con=servation area. Properly policed, this will remove the main source of supply of cycads from the roadside vendors.

A second proposal is that the Transkei Nature Conservation Division might esta=blish a nursery for the propagation of its indigenous cycads from seed, and for con=trolled sale to the public. Again, the Society has been asked to assist, and is making certain recommendations in this regard.

CYCAD CRIMINALS CAUSE CONCERN

EXPERT THIEVES ARE SUSPECTS IN RARE PLANT GRAB

SUNDAY TRIBUNE
26 SEPTEMBER 1976

FOUR KLOOF PLANTS WORTH R10 000 STOLEN

DAILY NEWS
18 JANUARY 1978

Like great works-of-art and valuable jewelry, cycads are not immune from the work of the unscrupulous. The headlines above illustrate two of the more dramatic crimes - many others go unannounced. The 'expert thieves' caption refers to the incident on the night of 25 September 1976 when a large specimen of the rare Encephalartos woodii was removed from the Medwood Gardens, opposite the Durban City Hall. Hank Frackers, municipal horticulturalist, said at the time that the theft had been carefully planned and executed by a team of at least four. Previous attempts at stealing the same plant had forced the corporation to erect an encircling fence embedded in concrete blocks - alas, to no avail.

The second headline refers again to E.woodii. In January 1978 Mr Peter Amm, a Kloof collector, suffered the loss of four specimens while away in Cape Town. Other private collectors in the Durban area have had similar unfortunate experiences; generally it is the rarer plants that are taken. Cynthia Giddy believes this might all be the work of one kleptomaniac collector.

Sadly, members with valuable cycad collections MUST become more security-conscious. The following suggestions might be worth considering:

1. Keep your more valuable cycads well out of public view - e.g. the back garden rather than the front.
2. Ensure your garden is adequately fenced or walled, and install a secure gate at the driveway entrance.
3. Keep a well-trained watchdog which has free reign of the garden, especially at night or when the owner is away.
4. Don't show 'casual' visitors around the garden. Make sure you know who they are first, and then escort them around personally.
5. Do report cycad thefts to the police - a pattern may emerge and your evidence might just result in a conviction. One must have no sympathy at all for these criminals.
6. Ask neighbours to keep a watchful eye on your property if you are away from home for any length of time.

LETTERS BRIEWE LETTERS BRIEWE

Lesers word genooi om aan die redak=teur te skryf (sien adres elders). Waar van toepassing sal kenners ge=vra word om spesifieke vrae te be=antwoord.

Readers are invited to write to the editor (see address elsewhere). Where applicable, experts will be asked to deal with specific ques=tions

Dear Sir
Some cycad names are absurd! In our own Encephalartos genus we have species with excellent descriptive names such as longifolius, latifrons, trispinosus, paucidentatus, etc.; which are fine. Others which refer to habitat localities e.g. ngoyanus, lebomboensis and umbelu=ziensis also have real meaning. Woodii, heenanii and eugene-maraisii I suppose one can accept as they do honour South African naturalists with keen cycad interests. But ghellinckii (after M. Ed. de Ghellinck de Wolle - 'a noted amateur horticulturalist from Ghent'), altensteinii (after the 19th Century German Chancellor) and worst of all friderici-guilielmii (after King Frederick William of Prussia) really get my goat. Both the spelling and the pronunciation are awkward - why do we have this nonsense?
NESTOR, CAPE TOWN

Roy Osborne replies:
I agree and sympathize absolutely! Once names have been 'registered' by publi=cation in the botanical literature, it's just about impossible to change them unless you can prove an earlier name to be valid (see Piet Vorster's article on 'Why Plant Names Change' -Ed.). You might like to take comfort from Prof. Chamberlain's comment (The Living Cycads, 1919) on 'the bad habit which taxonomists have of naming plants after one another'. Chamberlain suggests: 'Appropriate des=criptive names .... might have been given instead of meaningless commemorative ones ..... E. altensteinii might have been called E. pachyphyllus on account of its very thick leaflets, E. lehmannii might have been E. albus for the pale colour of the leaves, and E. friderici-guilielmii might have been E. tomentosus because the buds and cones have a dense covering of hair.' Your correspondent might also like to note that Frederick William's relatives also figure in the silly names scene - our Australian friends play host to Macrozamia pauli-guilielmi!

Macrozamia pauli-guilielmi

Sir,
I have heard that growing cycads in con=tainers often results in the leaves be=coming unattractively twisted and this is because the main root cannot grow straight down. Is this correct?
BEGINNER, DURBAN

Cynthia Giddy replies:
There is no reason why the direction of the root should affect leaf shape. A great many cycads grow naturally in rocky outcrops where it would be impos=sible for the root to grow vertically downwards. If leaves of container-grown cycads have become twisted as you des=cribe, I would suggest that this is the result of early damage by sap-sucking insects like thrips and aphids. Watch the next crop of soft new leaves and spray at the first sign of any trouble.

Meneer
Ek het reeds twee broodbome en vind dat die een nie elke jaar nuwe blare maak nie. Kan u my inligting in verband met grondgehalte en son of skadu verskaf?
M. GROBLER, PIETERSBURG

Cynthia Giddy antwoord:
Ongelukkig het mnr. Grobler nie genoeg inligting verskaf oor die spesies, ouderdom en kweektoestande vir 'n besliste antwoord in hierdie besondere geval nie. In die algemeen beinvloed die volgende faktore die blaarsiklus:

Jong saailinge sal onder gunstige kweek= toestande vir die eerste 3 tot 4 jaar feitlik voortdurend een of twee blare elke paar maande stoot. Vanaf 5 jaar begin die volwasse patroon van 'n jaarlikse blaarkroon van 5 of meer blare. Hierdie jaarlikse blaarkroonsiklus duur voort indien die plant genoeg water en voeding ontvang, totdat die plant begin keël wanneer 'n derde blaarpatroon volg, naamlik keëls en blaarkrone wissel mekaar nou af. Bogenoemde is die teoretiese groeistadia onder gunstige kweektoestande.

Wanneer plante begin keël sal die blare en keëls mekaar nie noodwendig jaarliks afwissel nie maar twee of meer jaar kan verloop voordat nuwe blare of keëls ver= skyn vanweë die fisiologiese druk wat dit op die plant plaas. Keëldraende plante moet ekstra plantvoeding geniet.

In die algemeen is die pH van die grond nie van groot belang nie maar streke waar die grond besonder suur of alkalies is, sal probleme ondervind. Brakwater is egter 'n groot probleem en plante moet verkieslik vars water ontvang. Brakwater verhoed die opname van beide vog en plantvoedsel.

Die groenblaarsoorte verkies om in half= skadu geplant te word, terwyl die blou= blaarsoorte in die volle son geplant moet word om die blou kleur te behou. Nietemin sal dit nie die afwesigheid van nuwe blare verklaar nie.

Die aanvaarbaarste rede is egter dat die plante nie voldoende water en voeding ontvang nie. Broodbome word slegs inheems in die somerreënvalstreke gevind en moet dus gedurende die somer voldoende water en bemesting ontvang, terwyl hulle in die winter heelwat minder tuinaandag nodig het. Ons basiese bemestings= program is 'n weeklikse aanwending van 2-3-4-kunsmis in klein hoeveelhede wat afgewissel word met een van die seewier= mengsels (Kelpak, Seabourne, Marinure). Op dié wyse word 'n balans geskep tussen voeding en minerale en spoorelemente. Indien geel vlekke op die blare opgemerk word, vervang dan die 2-3-4 met Kalium= nitraat totdat die blare weer groen word.

Dear Sir
I believe there is a magnificent cycad in the Botanical Gardens in Rio de Janeiro and have been asked about it by several people. I know one or two cycad enthu= siasts who have seen it but have never yet been able to find out what it is. Does anyone know?
DENIS HEENAN, SWAZILAND

Can anyone help? Please write to us.
EDITOR

Dear Sir
I am an an avid "cycad student" and do volunteer work at Honolulu Botanic Gar= dens to be near my favorite plant group. I am requesting aid in assembling a slide collection of cycads in habitat. If you can find the time, I would appreciate a list of what slides you have available, cost and shipping. I am interested in mature plants in the landscape; especially Encephalartos ghellinckii, E. friderici-guilielmii, E. lanatus and E. cycadifolius, since these species do not grow well in Hawaii. I am also highly interested in pictures of E. cupidus, E. inopinus, E. princeps, the blue forms of E.trispi= nosus and E. arenarius, and E. heenanii. If you have the variants of E. eugene-maraisii, that is another species I am trying to obtain photographs of. Need= less to say, any assistance whatsoever would be appreciated.

Thank you kindly.

Leland Miyano
619 Hakaka Street
Honolulu, Hawaii 96816
USA

Anyone who can help should write directly to Mr Miyano.
EDITOR

RUILHOEKIE SWOP SHOP

Members are reminded that the exchange of cycad plants and seeds is subject to the same regulations as those applying to the sale of such material. Those not familiar with the regulations should consult their local provincial nature conservation authorities.

Lede word daaraan herinner dat die ruil van broodboomplante en -saad onderhewig is aan dieselfde regulasies wat op die verkoop van sulke materiaal betrekking het. Doen asseblief by u betrokke provinsiale natuurbewaringsowerheid navraag indien u nie op hoogte van die regulasies is nie.

-Mnr. W. Pretorius (Tzaneen, tel.01523-41334) het sade en verskillende grootte saailinge van E. transvenosus om te ruil vir ander soorte.

-Mr J.C. Hoole (Kinkelbos, tel. 04282-3331) has seeds of E. trispinosus to exchange for Natal or Transvaal species.

-Paul and Marion Debruyne (Phalaborwa, tel. 01524-2357) have seeds of E. lebomboensis to swop for what-have-you. They are also very keen to obtain E. humilis and would appreciate hearing from anyone who can advise them where this species can be obtained.

-George Walters (Durban, tel. 031-464410) is anxious to buy a copy of Prof. Charles J. Chamberlain's book, 'The Living Cycads', first published in 1919 and later reprinted by Hafner Publishing Co. in 1965. Any members who have a copy which they might like to sell are asked to contact George.

-Mev. A.C. Eybers (Vryheid, tel. 03824-709) het sade en saailinge van E. natalensis om te ruil vir enige ander soorte.

-Mnr. M.J. Wright (Cradock, tel. 0481-3563) soek dringend na E. arenarius. Kan u hom help?

-Pierre Jacobs (Amalinda, tel. 0431-473325) has Cape species to swop for Natal and Transvaal species.

-Daniël Steyn(Durban, tel. 031-722211 at work) has seedlings of E. natalensis, E. lebomboensis and C. revoluta and would like E. heenanii, E. umbeluziensis and E. cycadifolius.

-Roy Osborne (Durban, tel. 031-866953) is anxious to get a few seeds of E. laurentianus, E. septentrionalis and E. tegulaneus. Can anyone help?

-Dr Ollie Minnie (Mtubatuba, tel. 03552-129) has pollen of E. lebomboensis and wonders if anyone might be interested in pollen exchange.

-Robbie Swanepoel (Pietermaritzburg, tel. 0331-64874) has E. ghellinckii, E. altensteinii and various other Cape and Natal species to swop for E. caffer, E. latifrons, E. arenarius, E. cycadifolius and any Transvaal or other African cycads.

-Peter Haigh's Nursery (Durban, tel. 031-455008) has advised the Society that they have an E. woodii specimen for sale. This cycad has been established for 3 years in a 210 liter drum, is very healthy, measures 240 mm stem diameter x 500 mm high, and has a head of 23 leaves. The cycad is priced at R3 800,00.

-Dr M.I. Claassen (Pretoria, tel. 012-453350) het enkele saailinge van E. lebomboensis (± 2 jaar oud) te ruil vir ander Encephalartos-soorte.

-Maans Kemp (Port Elizabeth, tel. 041-323344, huis, 041-533121 uitbr. 242, werk) het saailinge van E. horridus, E. friderici-guilielmii, Macrozamia moorei:(grys vorm), M.miqueílli en M. communis om te ruil vir Transvaalse spesies.

Members are invited to send their contributions for publication in SWOP SHOP to the Editor (see address elsewhere). There is no charge and you are encouraged to make use if this facility.

Lede word genooi om hulle bydrae vir publikasie in RUILHOEKIE aan die Redakteur te stuur (sien adres elders). Daar is geen koste aan verbonde nie en u word aangemoedig om van hierdie geleentheid gebruik te maak.

REGIONAL NEWS STREEKNUUS

NATAL

Two very successful functions were held by the Natal Region of the Cycad Society towards the end of 1984 and more are planned this year.

SOCIAL EVENING AND SLIDE SHOW: 29 Nov.'84
A total of 32 members and guests met for a cheese-and-wine get-to-know-you social, followed by a fascinating evening of slides presented by Cynthia and Ted Giddy and Francois du Randt. Cynthia gave a 'mini-lecture' on Cycads of Australia followed by many excellent slides of Cycas, Bowenia and Macrozamia species in natural habitat, while Francois brought us back home with local species. The Giddys finished off with slides which illustrated some controversial points on conservation and cultivation.

DRAKENSBERG EXPEDITION: 1 December 1984
A vigorous and exhilarating 18 km hike through the Mlambonja valley in the Drakensberg was endured and enjoyed by 10 stalwarts under the capable leadership of Francois du Randt. (Since Francois had only just returned from 10 weeks' climbing in the Himalayas, some of us found it difficult to keep up!) We saw E. ghellinckii by the hundreds. Despite the repeated burning cycles by the Forestry Department, it seemed that the mature plants survived admirably. Also apparent was the predatory activity of the baboons which had stripped every female cone of its seeds.

VISIT TO GIDDY'S NURSERY: 21 April 1985
This will be a joint outing with the Celtis branch of the Dendrological Society. Those who are interested must meet at 09h00 at the nursery, off the Umlaas Road. Cynthia will send a map to any members who are uncertain of the directions - phone her at 03325-478 if you need a copy.

Details of further 1985 excursions will be published in the next issue of ENCEPHALARTOS.

OOS-KAAP

'n Stigtingsvergadering en een ledevergadering is reeds in die Oos-Kaap gehou en minstens vier verdere byeenkomste word vir 1985 beplan.

STIGTINGSVERGADERING 23 OKTOBER 1984

Vier-en-twintig entoesiastiese broodboom=liefhebbers het die vergadering bygewoon om 'n Oos-Kaap-tak te stig. Die volgende komitee is verkies:
Frank Marx (Voorsitter), Bobby Webber (Ondervoorsitter), Maans Kemp (Sekretaris/Tesourier), John Boshoff (Uitenhage-verteenwoordiger), Danie Slabbert (Despatch-verteenwoordiger) en Leon Dyssel (Port Elizabeth-verteenwoordiger). Later is Deon de Bruyn as Assistent-Sekretaris gekoöpteer.

PANEELBESPREKING 14 FEBRUARIE 1985

Die eerste byeenkoms van 1985 is deur 21 persone bygewoon. Dit is in die lesing=saal van die PE Museum gehou en het die vorm van 'n paneelbespreking oor die aanplant, kweek en versorging van broodbome aangeneem. Frank Marx en "Grey" Greyling het as panneellede opgetree, met Maans Kemp as voorsitter. Die panneellede het verskillende aspekte van die kweek van broodbome kortliks behandel en daarna het vrae en algemene bespreking deur die lede gevolg.

BESOEK AAN KWEKERY 13 APRIL 1985

Op Saterdag, 13 April bring lede 'n besoek aan die broodboomkwekery van Danie Slabbert op Despatch. By die geleentheid sal Danie 'n bespreking en demonstrasie lewer oor die bestuiwing van broodbome en die kweek van saad.

BYEENKOMS 13 JUNIE 1985

Daar sal later oor die aard van hierdie byeenkoms besluit word.

UITSTAPPIE NA BROODBOOMRESERVAAT
3 AUGUSTUS 1985

Belangstellendes sal by hierdie ge=leentheid 'n besoek bring aan die Brood=boom-natuurreservaat naby Grahamstad waar waarskynlik die grootste kolonie van die bedreigde spesie E. caffer beskerm word. Die uitstappie sal gelei word deur 'n beampte van die Kaapse Natuurbewaringsdepartement.

ALGEMENE JAARVERGADERING 17 OKTOBER 1985

Die aard van die vergadering sal later bepaal word. Ampsdraers sal by die geleentheid verkies word.

FROM THE BOOKSHELF

BOTHALIA VOL VIII (PART 4), 1965
"THE CYCADS OF SOUTHERN AFRICA"
BY R.A. DYER

Dr Robert A. Dyer's monograph, 'The Cycads of Southern Africa', although now 20 years out of date, still offers a wealth of information to serious cycad enthusiasts. At the very modest price of R3,30, it certainly is the best value for money in the existing cycad literature. The work is published as Volume VIII (Part 4) of Bothalia, the record of contributions of the National Herbarium in Pretoria.

Printed in 1965, Dr Dyer's journal of 110 pages has 97 black-and-white illu= strations and gives detailed descrip= tions of the 26 Encephalartos species known at that time, as well as Stangeria eriopus. Each species has a botanical description, followed by a paragraph on its geographical localities, a discussion of affinities with other species and additional notes of interest. I parti= cularly enjoy Dr Dyer's lucid style, e.g. in his discussion on E. paucidentatus:

"One may claim with good reason that this is one of the most handsome species for cultivation, because of its graceful widely spreading leaves with long slender, often slightly recurved, leaflets. The numerous (up to about 30) conspicuous longitudinal raised veins on the lower surface of the leaflets are distinctive among related species, such as the giant Modjadji Cycad, E. transvenosus, from near Duiwelskloof and the Soutpansberg. It is comparatively rare, unfortunately, but in co-operation with the Department of Nature Conservation in the Transvaal, wise inhabitants of Barberton have esta= blished the Ida Doyer Nature Reserve where fine specimens are included."

Apart from the species descriptions, the early part of the publication deals with family characters of the Cycadaceae, notes on fossil records and the survival of the cycads over so many years, repro= duction, and propagation. The latter sections provide invaluable information for the cycad grower.

The price is R3,00 plus 30c GST and cheques may be sent directly to the Director of Agricultural Information, Private Bag X144, Pretoria 0001, with a covering letter. I am told by that office that there were only 90 copies available at the end of 1984, so prompt action is suggested.

Roy Osborne

CYCADS: STATUS, TRADE, EXPLOITATION AND PROTECTION, 1977-1982
BY SHERYL GILBERT

This overview of the order Cycadales explains how these plants have become one of the most threatened botanical groups on earth by examining the factors that have contributed to their decline. Import and export statistics provide information on the main cycad supplying and consuming nations from 1977 to 1982. Species currently the target of the most intense trade are highlighted.

The report is a must for cycad lovers and collectors, government officials charged with monitoring plant imports into the U.S. and out of source countries, conser= vationists, and anyone concerned with the judicious use of our planet's resources.

CYCADS has received enthusiastic support from plant experts worldwide, many of whom have generously contributed their knowledge and expertise.

The 75-page report is available for US $8.50 each. Make your cheque payable to World Wildlife Fund-U.S. and mail it to: TRAFFIC(U.S.A.), 1601 Connecticut Avenue, N.W., Washington, D.C. 20009, U.S.A.