BOME STRUIKE en VOËLS
TREES SHRUBS and BIRDS
van of UNISARAND

MUCKLENEUKRANT, waar Unisa oor Pretoria uitkyk, is 'n tipiese Suid-Afrikaanse landskap met 'n groot verskeidenheid inheemse plantgemeenskappe. Met die argitektoniese beplanning van die kampus is daar ook getrag om noue aansluiting met die onmiddellike omgewing van die Fonteinedal te bewerkstellig. Dit is verder uitgebou deur die landskapbeplanning: die tuin is ontwikkel tot 'n botaniese besienswaardigheid waarin Bourketuin teen die rant, die Wandelpad, die Watergat, die Watertuin en die Broodboomtuin nie alleen fokuspunte is nie, maar as integrerende en funksionele dele van die tuinuitleg bygedra het tot die bewaring en uitbreiding van die plant- en voëllewe op die kampus.

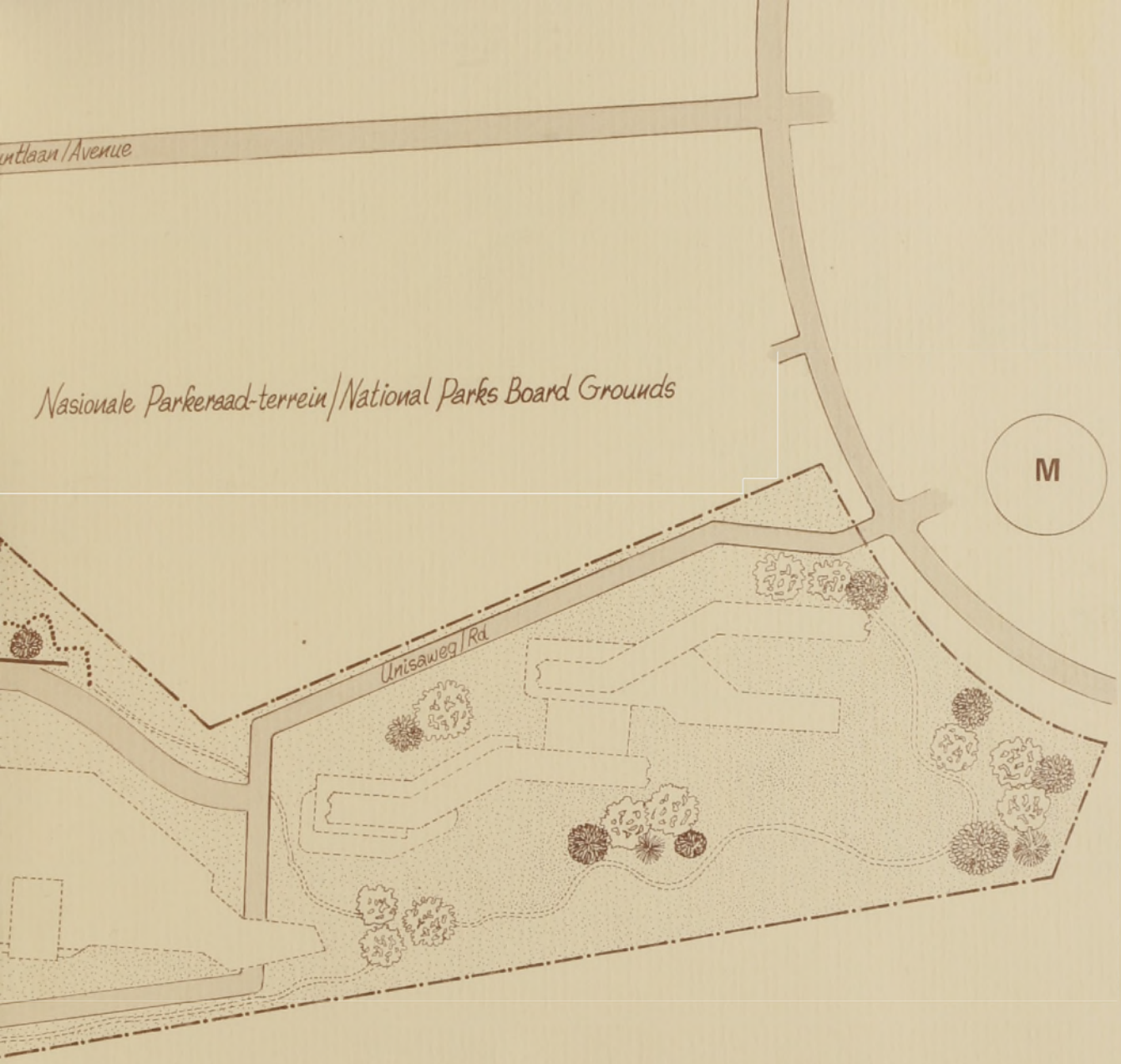
Hierdie boek is vir sowel die leek as die kenner 'n bekendstelling aan die bome, struike en voëls wat by Unisarand aangetref word. Benewens vele kleurplate word volledige alfabetiese registers van wetenskaplike en algemene name van plant- en voëlsoorte aangebied.

MUCKLENEUK RIDGE, where Unisa commands a view on Pretoria, is a typical South African landscape with a wide variety of indigenous plant families. In the architectural planning of the campus great care was taken to ensure that the buildings blend harmoniously with the surrounding environment of the Fountains Valley. It was further implemented through landscape planning: the surrounding area has been developed into a botanical garden in which Bourke Garden on the ridge, the Nature Trail, the Water Hole, the Water Garden and the Cycad Garden are not only focal points, but as integral and functional elements of the garden layout add to the conservation and extension of the plant and bird life on the campus.

This publication introduces the layman as well as the expert to the trees, shrubs and birds found on Unisa Ridge. In addition to many colour plates, complete alphabetical lists of scientific and common names of plant and bird species referred to, are included.

UNISA-KAMPUS

A	Theo van Wijkgebou
B	Administrasiegebou
C	Akademies II
D	Tegniese Gebou
E	Laboratorium
F	Cloghereen
G	Bourketuin
H	Wandelpad
J	Broodboomtuin
K	Watergat
L	Watertuin
M	John Vorstertoring
••••	Huidige wandelpad
=====	Toekomstige wandelpaaie



UNISA CAMPUS

A	Theo van Wijk Building
B	Administration Building
C	Academic II
D	Technical Building
E	Laboratory
F	Cloghereen
G	Bourke Garden
H	Nature Trail
J	Cycad Garden
K	Water Hole
L	Water Garden
M	John Vorster Tower
....	Present trail
========	Future trails

Unisa 1984

B. P. Barkhuizen

Bome, Struike en Voëls van Unisarand

Universiteit van Suid-Afrika
Pretoria, 1984

B. P. Barkhuizen

Trees, Shrubs and Birds of Unisarand

University of South Africa
Pretoria, 1984

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'n Woord vooraf

'n Universiteit is 'n plek van vele mense en aktiwiteite. Nòg die mense, nòg die aktiwiteite staan geïsoleerd van die samelewing. Indien 'n universiteit sin wil vind in sy bestaan, moet hy ook deel van die gemeenskap wees. Om deel te wees, beteken egter nie net maar om dáár te wees nie, maar om deelnemend, ondersteunend, bydraend medeverantwoordelik te wees vir die welsyn van die gemeenskap.

Een van die sigbaarste vorme van gemeenskapdiens wat deur 'n universiteit gelewer kan word, is sy bydrae tot betekenisvolle behoud en onderhoud van die natuurlike omgewing waarin sy kampus hom fisies bevind. Hierdie vorm van gemeenskapsdiens is egter nie net 'n poging om 'n bepaalde plek binne die struktuur van gemeenskapsfasiliteite mooi te laat vertoon nie. Dit sekerlik ook, maar veel meer nog: deur voorbeeld stel die universiteit 'n model daar van die waarde en noodsaak van 'n rustige, netjiese kompleks van geboue waarby ook die wondere van die skepping soos in die natuur aangetref 'n plek het en in harmonie met die argitektuur bewaar en in stand gehou word.

Vroegtydige en volgehoue beplanning en pogings om die natuurlike milieu en daarmee fauna en flora te behou en te bewaar, het meegebring dat UNISA enersyds voldoen aan die vereistes wat teenswoordig aan kampuskomplekse gestel word en andersyds nie die wondere van die skepping goedsmoeds negeer het nie. Daar is en word gepoog om wat deur die natuur self daargestel is sover moontlik te behou en te bewaar en waar dit nie anders kan nie, doelbewus in ere te herstel en aan te vul. Veral natuurlike plantegroei is oordeelkundig benut om die moontlikhede van ongeskonde natuur en funksionele argitektuur in harmonie te bring.

Vir hom wat 'n rustige wandeling op die kampus onderneem en die grootsheid van die natuur ervaar, verkry Rabindranath Tagore se uit-

Foreword

A university is a place of much activity and many people. Neither the activities nor the people are isolated from society. For its existence to be meaningful a university must be part of the community, but being part implies more than simply being there: it must participate, support, contribute, assume coresponsibility for the welfare of the community.

Among the more palpable forms of community service a university can render is to help conserve and preserve the natural environment in which its campus is physically situated. Such community service is more than just an attempt to beautify a particular spot within the framework of community facilities. That too, to be sure, but much more besides: for a university exemplifies the value – indeed, the necessity – of a tranquil, orderly complex of buildings which can incorporate the natural wonders of creation and conserve and preserve these as a harmonious complement to its architecture.

Because of its timeous and unremitting planning, and its efforts to conserve the natural environment with its flora and fauna, Unisa not only satisfies the standards set for modern campus complexes; it also does not presume to negate the miracles of creation. Constant efforts are made to preserve and conserve what nature has provided – or, failing that, consciously to restore and augment the natural environment. The natural vegetation in particular was judiciously made use of to create a harmony of unspoilt nature and functional architecture.

One has only to take a leisurely stroll around the campus and experience the grandeur of nature to appreciate afresh the truth of Rabindranath Tagore's words – and the point of nature conservation: *"God, the Great Giver, can reveal His entire creation in the narrow confines of a single lane."*

spraak en daarmee die sin van natuurbewaring opnuut betekenis: *"God, die Groot Gewer, kan die ganse heelal voor ons ooplê in die noue ruimte van 'n enkele laantjie."*

Die onderhawige publikasie vorm in 'n sekere sin verslag van UNISA se uitvoering van sy bewaringstaak. Terselfdertyd bied dit ook 'n wetenskaplike uiteensetting van die samestelling, soorte en besondere kenmerke van veral flora wat alreeds in en om die kampus aangetref word. Die skrywer word 'n welwillende leser toegewens, en die leser die besieling om verder saam te werk aan natuurbewaringspogings in Suid-Afrika en elders.

THEO VAN WIJK
REKTOR
UNIVERSITEIT VAN SUID-AFRIKA

In a sense this publication is a report on how Unisa has carried out its conservation mandate. At the same time it gives a scientific account of the composition, varieties and special features of the flora in particular that may be found on and around the campus. I trust that the author will find a sympathetic readership, and that the reader will be inspired to join in the conservation effort both in South Africa and abroad.

THEO VAN WIJK
PRINCIPAL
UNIVERSITY OF SOUTH AFRICA

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Inleiding

Telkens kom 'n mens onder die indruk van die Republiek van Suid-Afrika se merkwaardige rykdom aan plante, met sy verskeidenheid en prag wat so enig is dat dit deur die plantegroei van geen ander wêrelddeel oortref kan word nie.

Uit 'n opname van plante op die hoofkampus van die Universiteit het dit geblyk dat hier 'n aansienlike aantal inheemse bome en struike voorkom. Aan die noordoostekant van Muckleneukrant is Bourketuin geleë met 'n rykdom van inheemse plante terwyl talle spesies ook op die Unisaterrein ten suidweste van die rant natuurlik voorkom. Baie ander inheemse bome en struike is deur Unisa se Landskap- en Tuinboukomitee ook nog tot die bestaandes toegevoeg.

Om in een publikasie van beperkte omvang 'n insiggewende en breedvoerige oorsig van die voormelde gebied se inheemse bome en struike – met spesiale vermelding ook van voëlsoorte – te gee, is geen geringe taak nie. 'n Volledige bespreking is uit die aard van die omvangrykheid van soorte en vanweë die feit dat daar inhoudelik 'n beperking gestel is, nie moontlik nie.

Die doel met hierdie publikasie is egter eerstens om die leser met betrekking tot die uitleg en landskapaspekte van die hoofkampus te oriënteer. Tweedens word bekendstelling van die inheemse boom- en struiksoorte asook van die voëls wat hier op Muckleneukrant aangetref word aan personeellede, studente, skoliere of enige geïnteresseerde besoeker of plant- en dierkundige beoog. Op hierdie wyse kan die nodige belangstelling en uiteindelike liefde

Introduction

The remarkable beauty and variety of the Republic of South Africa's indigenous vegetation is truly impressive and indeed, unsurpassed by any in the world.

A survey of the vegetation on the University of South Africa's main campus revealed a considerable variety of trees and shrubs growing in their natural habitat. Bourke Garden, situated on the north-eastern slope of Muckleneuk Ridge, boasts a wealth of indigenous vegetation, while numerous species also occur on the main campus, on the south-western slope of the ridge. In addition, various species have also been added by Unisa's Landscape and Garden Planning Committee.

To attempt a comprehensive in-depth discussion of the indigenous trees and shrubs – with special reference to the bird species abounding in the area – within the confines of one publication of limited scope, is no easy task. Furthermore, the rich variety of species and the limitations set by the scope of this book preclude detailed discussion.

The aim of this publication is primarily to orientate the reader in regard to the lay-out of the main campus and secondly, to serve staff members, students, scholars, interested visitors, botanists and zoologists as an introduction to the indigenous trees and shrubs, as well as the bird species, found on the campus on Muckleneuk Ridge. Hopefully, this will generate the necessary interest to stimulate and encourage a love for our common heritage and the prodigious wealth of plant and bird species with which this country is blessed.

vir ons eie bodem met sy besondere rykdom van plant- en voëlsoorte onder meer geprikkel en aangemoedig word.

Die werkwyse ter bekendstelling berus op botanies en dierkundig wetenskaplike gronde en behels 'n kursoriese bespreking van inheemse bome en struike volgens 'n erkende klassifikasiesisteem, dit wil sê, met vermelding van plantfamilie, geslag en soort.

Dit is noodsaaklik dat die bespreking van die families stiptelik volgens die standaardwerk van Dyer, naamlik *The Genera of Southern African Flowering Plants*, Vol. 1 and 2 (1975) moet geskied. Die leser sal derhalwe opmerk dat die familiebespreking nie alfabeties verloop nie omdat verwante families bymekaar hoort ten einde op wetenskaplikheid aanspraak te kan maak. Enkele families is uitgelaat omdat dit nie deur geslagte en spesies op die kampus verteenwoordig word nie.

Ten einde die nodige belangstelling vir die groot verskeidenheid voëlsoorte in ons onmiddellike omgewing te prikkel, word daar op beknopte wyse verwys na die spesies wat op 'n migrerende of permanente basis hul êrens op ons hoofkampus bevind.

In navolging van die sisteem van klassifikasie wat deur Carl Linnaeus, die Sweedse natuurkundige, gedurende die 18de eeu begin is, word daar in die teks eers net na die geslagsnaam en spesifieke of individuele naam van voëls verwys. Die volksname in Afrikaans en Engels word ook vermeld, hier in navolging van Prozesky in *Veldgids – Voëls van Suider-Afrika* (1974)/*A Field Guide to the Birds of Southern Africa* (1974).

Aan die einde van hierdie publikasie word die families, geslagte en soorte voëls streng volgens die klassifikasiesisteem aangedui met die verwysing van die nommers (in hakies) soos dit in die standaardwerk van Roberts, naamlik *Birds of South Afrika* (1958) verskyn. Prozesky volg ook dieselfde nommers.

Verder word die groeiplek of habitat van die plantsoorte wat in hierdie publikasie ter sprake is, asook die woonplek of besoekplek van enkele voëlspesies, in die teks vermeld.

Wat Afrikaanse en Engelse algemene name betref, word die be-

The method of introduction follows scientific, botanical and zoological principles, comprising brief discussion of the indigenous trees and shrubs according to a recognised classification system; in other words, with due reference to plant families, genera and species.

The plant families are discussed in strict accordance with Dyer's standard work: *The Genera of Southern African Flowering Plants* vols. 1 and 2 (1975). The reader will thus find that the plant families are not discussed in alphabetical sequence, since related families have been grouped together in the interest of scientific accuracy. A few indigenous families not represented by genera and species on the campus, have been omitted.

In an attempt to stimulate interest in the large variety of birdlife in our immediate vicinity, brief reference is made to the numerous species which on a migratory or permanent basis, abound on the main campus.

In accordance with the classification system introduced by the Swedish naturalist, Carl Linnaeus, during the eighteenth century, reference in the text is first made to the generic and specific nomenclature while common names of birds in English and Afrikaans have also been included, in this instance according to Prozesky in *A Field Guide to the Birds of Southern Africa* (1974) /*Veldgids – Voëls van Suider-Afrika* (1974).

At the back of this book, the families, genera and species of birds are listed strictly according to the classification system, while reference is made to the numbers (in brackets) appearing in the standard work by Roberts, *Birds of South Africa* (1978). The same numbers are used by Prozesky.

The habitat of plant species discussed in this publication, as well as the various bird species found on the campus, are also mentioned in the text.

In regard to the English and Afrikaans common names, the principle has been adopted that existing, typically South African names should be preserved as far as possible. General or common

ginsel aanvaar dat bestaande en tipies Suid-Afrikaanse name in die grootste moontlike mate behou moet word. Algemene of volksname is nie alleen dikwels baie beskrywend, tiperend en interessant nie, maar beslis ook etimologies van waarde. De Winter en Von Breitenbach in *Die Nasionale Boomlys* (1978) merk tereg op dat daar 'n geweldige aantal aangetekende boom- en struikname bestaan wat onder meer korrekte, verkeerde en werklike volksname en kunsmatige produkte insluit. Baie naamduplikasies, ander teenstrydighede en die gevolglike onversoenbaarheid van soveel name met die behoefte aan klassifikasie op nasionale vlak is maar enkele probleme wat in hierdie verband genoem kan word.

In hierdie publikasie word die algemene name van bome en struike aangedui soos vervat in *Die Nasionale Boomlys* (1978). Dit is ten minste deur middel van oordeelkundige keuse of seleksie en verbetering op die grondslag van 'n gesonde ewewig tussen trou aan tradisie en aanpassing by moderne behoeftes onderneem.

In hierdie teks word die wetenskaplike en algemene name van voëls slegs aangedui omdat 'n volledige bespreking daarvan volgens 'n klassifikasiesisteem binne die raamwerk van hierdie publikasie nie moontlik is nie. Die korrekte indeling van die hoofkampus se voëlsoorte word, soos vroeër vermeld, egter volgens 'n klassifikasiesisteem agter in die boek aangedui.

Die algemene name van die voëlsoorte stem met dié van Prozesky in *Veldgids – Voëls van Suider-Afrika*, 1974, ooreen.

Aan die einde van hierdie publikasie word 'n volledige alfabetiese register van wetenskaplike en algemene name van plant- en voëlsoorte verskaf wat in hierdie publikasie vermeld is.

As hierdie werk sou bydra om belangstelling en liefde vir ons eie plantegroei en voëls op te wek en op beskeie wyse die wetensgebiede van die plantkunde en dierkunde te bevorder, sal die inisiële doelwit verwesenlik word. Hopelik sal hierdie werk daartoe bydra dat die natuurliefhebber genotvolle ure in die veld en tuin deurbring wat uiteindelik ook tot kennisverdieping in verryking sal lei.

names are often not only extremely descriptive and interesting, but undoubtedly also of etimological value. As de Winter and von Breitenbach in *The National List of Trees* (1978) so aptly remarked, the immense number of listed names for trees and shrubs include correct, incorrect and true common names, as well as artificially construed ones. The numerous duplications and other anomalies, and the resultant problems in rconciling such a plethora of names with a classification on a national scale, are but a few of the difficulties encountered in this regard.

The common names of trees and shrubs in this publication are those used in *Die Nasionale Boomlys/The National List of Trees* (1978). Fortunately, this has been compiled by judicious selection and carefully revised with a view to maintaining a healthy balance between being true to tradition on the one hand, and adapting to modern needs on the other.

Both the scientific and common names of birds have been included in the text, but the scope of this publication does not permit discussion of the various species according to a system of classification. For the correct classification of bird species found on the main campus, the reader is referred to the classification at the back of this book.

The common names of birds species included in the text are those used by Prozesky in *A Field Guide to the Birds of Southern Africa*, (1974).

A complete alphabetical list of the scientific and common names of the plant and bird species referred to in the text, appears at the back of this book.

If this book in some small measure succeeds in stimulating a love for and interest in our indigenous plant-life and birds and, in its modest way leads to a more scientific approach to botany and zoology, its initial objective will have been accomplished. Hopefully, by enhancing the nature lover's pleasant hours in the countryside and garden, this resumé will result in a deepening of knowledge and a pleasurable enrichment.

Kort historiese aanloop

In *Unisa Bulletin*, vol. 4, nr. 4, Mei 1979, word daar gekonstateer dat die Universiteit van Suid-Afrika deur die jare 'n besondere *beeld* in die samelewing as suksesvolle, dinamiese akademiese inrigting vir volwasse, deeltydse studente opgebou het.

Die voorkoms en instandhouding van die gebou en die terrein is egter deel van die uiterlike *beeld* van die Universiteit. Omdat die gebouekompleks 'n mooi estetiese geheel vorm, is dit essensieel dat die landskapbeplanning sodanig moet wees dat dit tot die verheffing van die geheelbeeld sal bydra. Die Landskap- en Tuinboukomitee van Unisa is belas met die verantwoordelikheid van landskapbeplanning, uitleg en instandhouding van onder meer die hofkampus op Muckleneukrant.

Aanvanklik is mnr. H. Bruyns-Lich, 'n voormalige Direkteur van Parke en Ontspanning van die Pretoriase Stadsraad, aangestel om met die voorlopige uitleg te help lank voor die gebouekompleks verrys het. Van die goed beplande klippaadjies en mooi inheemse bome en struike wat hy aangeplant het, het ongelukkig weinig oorgebly omdat dit vir geboue moes plek maak.

Gedurende die jaar 1971 word skrywer van hierdie publikasie deur die destydse Rektor, prof. Samuel Pauw, gevra om as voorsitter van 'n subkomitee van die Terreinbeplanningskomitee op te tree. Hierdie komitee het as die Plantekomitee bekend gestaan en moes plantsoorte selekteer vir aanbeveling by die Terreinbeplanningskomitee.

Op 15 Junie 1971 vergader die Plantekomitee vir die eerste keer

Brief historical review

The Unisa Bulletin, vol. 4 no. 4, May 1979 stated that the University of South Africa has succeeded, through the years in gaining a remarkable *image* in society as a successful, dynamic academic institution for part-time, adult students.

The appearance and maintenance of the buildings and campus, however, are an integral part of the University's external *image* and since the buildings are an aesthetically pleasing unity, landscape planning constitutes an essential element which contributes to this overall image. Unisa's Landscape and Garden Planning Committee is responsible for planning, lay-out and maintenance, including that of the main campus on Muckleneuk Ridge.

A former Director of Parks and Recreation of the Pretoria City Council, Mr H. Bruyns-Lich, was initially appointed to assist in the preliminary lay-out, long before the buildings were erected. Since then, many of the well-planned stone pathways and attractive indigenous trees and shrubs planted by Mr Bruyns-Lich have regretably had to make way for further building operations.

During 1971 the then Principal, Prof. Samuel Pauw, requested the author to chair a sub-committee on the Campus Planning Committee. This committee, dubbed the Plants Committee, later became known as the Plant Selection Committee and was responsible for selecting plant species for recommendation to the Campus Planning Committee.

Following the appointment of Mr Thys de Bruyn the first Landscape Gardener, the Plant Selection Committee held its first meet-

nadat die eerste veldtuinbouer, mnr. Thys de Bruyn, aangestel is. Ander lede van hierdie komitee was die volgende: Dr. A.J. Koen, Voorsitter van die Raad; mnr. A.P. Schutte, later Registrateur (Finansies); mnre. Brian Sandrock en T. Neethling, argitekte; en prof. Manie van der Schijff, van die Universiteit van Pretoria. Inisieel is daar ook van die dienste van 'n landskapargitek in die persoon van mnr. Ben Farrell gebruik gemaak.

Die primêre taak van hierdie subkomitee was om op oordeelkundige wyse die nodige beplanning te doen en plantsoorte te selekteer wat ter verfraaiing van die kampus aangeplant moes word.

Gedurende 1972 word prof. Theo van Wijk as Rektor van die Universiteit aangewys. Benewens sy legio pligte het die nuwe Rektor ook nog as voorsitter van die Terreinbeplanningskomitee opgetree. Met die herstrukturering van die verskillende komitees van die Universiteit, is skrywer op aanbeveling van die Rektor as voorsitter van die Terreinbeplanningskomitee aangewys. Die naam van hierdie komitee is later na die Landskap- en Tuinboukomitee verander.

Hierdie komitee het met die terreinbeplanning voortgegaan terwyl die uitvoering van projekte deur die destydse hoof van die Departement Gebouadministrasie, mnr. L. Nortje, en later deur sy opvolger, mnr. F.G. Hayes, onderneem is.

Die inheemse gedeelte van Bourketuin met sy unieke, gevestigde woonhuis en groot verskeidenheid plantsoorte, wandelpaadjies, mooi natuurlike plaveisel, grasperke, interessante landelike bruggies en stil waterpoele vorm deel van die verantwoordelikheid van dié komitee. Die pragtige "familietuin" in die onmiddellike omgewing van die huis word behartig deur die eggenote van die Rektor, mev. Cilna van Wijk, bygestaan deur mnr. F.A. Luther, senior veldtuinbouer by die Rektorswoning.

ing on the 15th June 1971. Other members of this committee were: Dr A.J. Koen, Chairman of the Board; Mr A.P. Schutte, who was subsequently appointed as Registrar (Finance); Messrs Brian Sandrock and T. Neethling, architects; and Prof. Manie van der Schijff, University of Pretoria. In the initial stages a landscape architect, Mr Ben Farrell, also served on the Committee. This subcommittee was primarily concerned with judicious planning and the selection of plant species to beautify the campus.

When Prof. Theo van Wijk was appointed as Principal of the University in June, 1972, he consented, in addition to his numerous duties, to chair the Campus Planning Committee. During the course of the subsequent reorganisation of the University's various commitees, the author was appointed as chairman of the Campus Planning Committee on the Principal's recommendation. This committee was the forerunner of the current Landscape and Garden Planning Committee.

The committee continued to concern itself with planning of the campus, while the projects were implemented by the then head of the Department of Buildings Administration, Mr L. Nortje, and subsequently by his successor, Mr F.G. Hayes.

The maintenance of the indigenous Bourke Garden with its unique, established residence and large variety of plant species, enchanting pathways and natural paving, spacious lawns, picturesque rustic bridges and tranquil pools, forms part of the responsibilities of this committee. The enchanting "family garden" in close proximity to the residence is tended by the Principal's wife, Mrs Cilna van Wijk, with the assistance of the Senior Landscape Gardener, Mr F.A. Luther.

Doel en strewe met die beplanning

Die doel en strewe van die Landskap- en Tuinboukomitee kan kortliks soos volg saamgevat word: Verfraaiing van die kampus of verheffing van die uiterlike geheelbeeld van die Universiteit, opvoeding, navorsing en bewaring van plante in hulle natuurlike groeiplek. Hierbenewens word al die voëlsoorte wat hulle op Muckleneukrant en in die onmiddellike omgewing as bewoners of besoekers bevind, bestudeer en sover moontlik ook beskerm.

Deurgaans word na die groeiplek of habitat en tuiste van respektiewelik die plant- en voëlspesies in hierdie publikasie verwys om sodoende identifikasie van soorte in 'n mate te vergemaklik en liefde vir die skoonheid aan te moedig. Oral by die mens is liefde vir die skoonheid en die vermoë om in verwondering voor die natuur te staan, te bespeur. Dit is ook die grond waaruit alle groot werke van die kuns en die wetenskap groei. Plantkunde, het William Henry Harvey by geleentheid gesê, is 'n baie aangename dwaasheid en as sodanig jaag hy dit na.

'n Groot verskeidenheid plantsoorte is reeds toegevoeg tot die bestaandes wat natuurlik op die kampus voorkom. Die strewe bly steeds om wat hierdie aspek betref, van die hoofkampus, 'n botaniese besienswaardigheid te maak. Die plante moet as "gereedskap" van 'n aktiewe opvoedkundige program kan dien. Die landskap met al sy plante moet nie slegs as verfraaiing van die omgewing gesien word nie, maar dit moet ook as 'n waardevolle navorsingsmoontlikheid vir werknemers van die Universiteit, studente, skoolkinders, besoekers van elders en plantkundiges kan dien.

The aim and object of planning

The purpose and aim of the Landscape and Garden Planning Committee may be summed up as: Beautification of the campus or enhancement of the University's total image; education, research and the conservation of plants in their natural habitat. Furthermore, birds species found in the immediate vicinity of Muckleneuk Ridge either permanently or as visitors, are studied and, as far as possible, also protected.

In this publication constant reference is made to the habitat of plant and bird species in order to facilitate identification and encourage a love for the aesthetic. Man's love of nature and his ability to gaze in wonder at the beauty of nature, is universal and is the well-spring of all great works of art and science. Botany, as William Henry Harvey once remarked, is an extremely pleasing stupidity and as such, he is happy to pursue it.

A large variety of plant species have already been added to the existing ones on the campus. The aim, as far as this aspect is concerned, is to develop the main campus into a place of botanical interest, with the vegetation serving as the "tools" of an active educational programme. The landscape and vegetation should not be considered as mere embellishment but should provide a valuable possibility for research by staff members, students, scholars, visitors and botanists.

The aim of the committee responsible for lay-out is further characterised by a desire to attain a harmonious relationship with the immediate surroundings. To this aim the relation between liv-

Die strewe van die komitee wat vir die uitleg verantwoordelik is, word verder gekenmerk deur 'n begeerte om noue aansluiting met die onmiddellike omgewing te bewerkstellig. Die verhouding van die lewende organismes tot hulle lewende en lewelose omgewing en hul verhouding onderling, is 'n aspek waarop deurgaans gelet word.

ing organisms and their living and lifeless environment, as well as their mutual relationship, is an aspect which is constantly borne in mind.

Uitleg en algemene riglyne

Die werksaamhede van die Landskap- en Tuinboukomitee vir sover dit die hoofkampus betref, sluit Bourketuin aan die oostekant van Muckleneukrant in en die gebied geleë aan die suidwestelike helling van hierdie rant. Saam met Salvokop wat direk wes geleë is, vorm Muckleneukrant 'n poort na die sentrale stadsgebied van Pretoria.

Muckleneukrant is deel van 'n reeks rante met 'n eiesoortige karakter en voorkoms. Plek-plek word die boomlose grashange onderbreek deur boomgroepe. Hierdie groepe inheemse bome en struike wissel in samestelling van **Suikerbosse** – 'n *Protea*-soort – tot 'n byna tipiese Magaliesbergbosveld. Klowe en waterlopies besit 'n eie karakter vir sover dit plantegroei en plantrangskikking betref. Kwartsietdagsome veral op die kruin van die rant, is 'n verdere besondere eienskap wat die rant se karakter bepaal.

Die terrein waarop die hoofkampus met sy mooi gebouekompleks geleë is, bestaan uit 'n deel van 'n groot kom wat deur Muckleneukrant, Salvokop, Schanskop en Klapperkop gevorm word.

Binne die visuele eenheid wat deur hierdie reeks koppies gevorm word, is die gebouekompleks van die Universiteit, die terreine van die Afrikaanse en Engelse onderwyskolleges en die Fonteinedal-natuurreservaat geleë.

Die breë landskap- en beplanningsbeleid kom daarop neer dat hierdie universiteitsterrein 'n visuele eenheid met die onmiddellike omgewing moet vorm. Beplanning is derhalwe sodanig dat

Lay-out and general guidelines

The responsibilities of the Landscape and Garden Planning Committee in regard to the main campus includes Bourke Garden on the eastern side of Muckleneuk Ridge and the area on the south-western slopes. This area with Salvokop, situated directly west of the campus, forms a natural gateway to Pretoria's central urban area.

Muckleneuk Ridge is one of a series of distinctive hills consisting of grassy slopes interspersed with clumps of trees. These indigenous trees and shrubs vary from the **Sugarbush** – a type of *Protea* – to almost typical Magaliesberg Bushveld with a unique distribution along streambanks and in tiny kloofs characteristic of these hills. Quartzite outcrops, especially on top of the Ridge, are another feature contributing to the distinctive qualities of the Ridge.

The area occupied by the main campus with its impressive buildings forms part of a large basin consisting of Muckleneuk Ridge, Salvokop, Schanskop and Klapperkop.

Within the visual unity formed by these hills, we find the buildings of the University, the campusses of the English and Afrikaans colleges of education and the Fountains Valley Nature Reserve.

Broadly speaking, the policy underlying landscaping and planning is to ensure that the campus forms a visual unity with its immediate surroundings. To this aim all possible and feasible plans have been devised to ensure that the University campus will blend harmoniously with its surroundings, in order to effectuate the ar-

daar voortdurend op allerlei moontlike en praktiese uitvoerbare wyses na aansluiting met die omgewing gesoek word. Hierdeur kan die argitektoniese konsep, naamlik dat die gebou uit die natuurlike berg moet "groei" soos deur die universiteitsargitekte bepaal, tot sy reg kom.

Die argitekte van die Universiteit het per geleentheid soos volg oor hierdie aangeleentheid kommentaar gelewer: "Die landskapkonsep waardeur natuurvingers die formele argitektoniese gebied binnedring, sal heel waarskynlik in die toekoms in die teenoorgestelde rigting ontwikkel. Die uitgangspunt van die argitektoniese ontwerp was om bouwerk nie op die natuur te dompel nie, maar om die berg diep uit te kerf om die gebou te 'ontvang' – sodat die omskepte omgewing die lang drywende vorm van die bosstruktuur benodig."

Ten einde die beleid van aansluiting met die omgewing – met inagneming van die argitektoniese – deur te voer, is dit essensieel dat plantegroei vanaf aangrensende terreine tot by die gebouekompleks deurvloei.

Alhoewel daar naby die geboue van enkele uitheemse jaar- en meerjarige plantsoorte, bome en struike gebruik gemaak word, is die detailbeplanning sodanig dat daar voortdurend na die skepping van 'n tipies Suid-Afrikaanse landskap met 'n groot verskeidenheid inheemse plantgemeenskappe gestrewe word.

Die grond bestaan uit skalie wat nie vir die verbouing van alle plantsoorte geskik is nie. Dit bewerk baie moeilik. 'n Chemiese grondontleding het aangetoon dat die grond baie suur is. Die grondvrugbaarheid is redelik swak, maar met die nodige bemesting en toevoeging van organiese materiaal is dit tog vir plantverbouing geskik.

Die skalieagtige bogrond moet deeglik bewerk word. Dit kry 'n ruim toediening kompos en superfosfaat. Op verskeie plekke word die grond nie dieper as 20–25 cm bewerk nie en nogtans is die resultate wat behaal word verstommend. Die teorie is dat bakteriese aktiwiteite wat die organiese materiaal, soos kompos en mis, afchitectural concept envisaged by the University's architects, namely, that the buildings should "grow" out of the natural hill.

In regard to this unique aspect, the University's architects have commented: "The landscaping concept, enabling the fingers of nature to penetrate into the architectural terrain, will in all probability be reversed in future. The point of departure for the architectural design was not to dump the buildings onto nature, but to carve the hill out to 'receive' the buildings, thereby recreating an environment in which the long, floating structure is complemented by the surrounding vegetation."

In order to implement the policy of adapting to the environment – with due consideration of the architectural features – it was essential to ensure that the vegetation in the adjacent areas should penetrate into and form and integral part of the buildings.

Although a number of foreign annual and perennial plants, trees and shrubs have been used near the buildings, the general aim of creating a typically South African landscape with a large variety of indigenous plant families, is constantly ensured by detailed and careful planning.

The shaly soil is not suitable for all types of plants; it is very difficult to cultivate and according to a chemical soil analysis, the soil is extremely acid. Moreover, it is not very fertile, but with the addition of the necessary fertilisers and organic material, it has been made suitable for cultivation.

Thorough cultivation and the addition of ample amounts of superphosphates and compost are essential in this shaly soil. In some areas, where the soil is cultivated to a depth of no more than 20 to 25 cm, astounding results have been achieved. The theory is that bacterial activity which breaks down organic materials such as compost and manure and makes it available to the plants, occurs mainly in the upper layers of the soil – some 20 cm in depth. Research has revealed that drought-resistant trees have two sets of roots. Under moist conditions the primary root system spreads over a large area and absorbs most of the soluble plant food. In

breek en toeganklik vir die plante maak, hoofsaaklik in die boonste oppervlakte van die grond plaasvind – ongeveer 20 cm diep. Navorsing het getoon dat droogtebestande bome twee stelle wortels het. Die primêre wortelstelsel sprei oor 'n groot oppervlakte en dit is hierdie sisteem wat die meeste van die oplosbare plantvoedsel opneem as die bome vogtigheid kry. As die grond uitdroog in die somer, sak die watertafel en om dan nog vog te kan bekom, moet die wortels diep in die onderlaag deurdring. Hiervoor word 'n sekondêre diep geleë wortelstelsel ontwikkel, terwyl die primêre oppervlakkige wortelstelsel tydelik ophou om te funksioneer.

By die beplanning moes daar altyd met die verspreiding van ryp rekening gehou word. Ryp hang nou saam met topografie. Koue, skerp, afgekoelde lug is swaar, sodat dit in stil nagte deur lugdreinering in laagtes en afgeslote valleie opdam. In Pretoria, byvoorbeeld, kry die noordelike hange van die rantjies van Muckleneuk en Magaliesberg feitlik nooit ryp nie, maar in die tussengeleë valleie kom dit elke nag gedurende die winter voor.

Benewens voorafgaande beknopte bekendstelling van die historiese agtergrond, doelstellings en uiteensetting van die algemene riglyne vir die landskapbeplanning, is besonderhede van die geskiedkundige Bourketuin en enkele besondere beplanningsprojekte van belang.

the summer when the soil dries out, the water level falls and in order to obtain moisture, the roots penetrate deeply into the subsoil. For this purpose the trees develop a secondary, deep root system while the primary, surface root system temporarily ceases to function.

In planning the lay-out of the gardens, due regard was constantly given to the distribution of frost, which is closely linked to topography. Cold, cool air is heavy and during windless nights tends to collect in low-lying areas and secluded valleys. In Pretoria, for instance, frost almost never occurs on the northern slopes of the Muckleneuk and Magaliesberg ranges, while it regularly occurs throughout the winter months in the valley separating these hills.

Besides this brief resumé of the historical background and the elucidation of the aims and general guidelines of landscape planning, a few details concerning the historical Bourke Garden and planning projects are also of interest.

BOURKETUIN

In 1926 het mnr. en mev. Myles Esmond Bourke die eiendom as 'n trougeskenk ontvang. Destyds was dit 'n kaal en klipperige stuk grond waaruit later, na bykans 'n halwe eeu, 'n pragtige pronktuin teen Muckleneukrant opgebou is.

Cloghereen – die Ierse naam vir 'n plek met baie klippe – grens aan Unisa se hoofkampus teen die noordelike hang van Muckleneukrant. Gedurende Julie 1969 het die Universiteit die Bourkelandgoed van mev. Marguerite Bourke gekoop en sodoende nog 2,5 hektaar by sy bestaande terrein gevoeg.

In 'n persverklaring van 23 Julie 1969 word gekonstateer dat die hoofdoel met die aankoop van die grond die behoud van die pragtige voorkoms en botaniese besienswaardigheid van die heuwel is. Die Universiteit het van meet af aan uitgegaan van die standpunt dat die natuurlike plantegroei van Cloghereen beskerm moet word – 'n doelwit wat voortdurend met nougesetheid deur die Rektorspaar en die Landskap- en Tuinboukomitee nagestreef word. Verdere toevoegings tot die bestaande soorte plante word steeds onderneem.

Hierdie besondere natuurtuin kan spog met meer as 180 plantspesies waaronder pragtige, groot inheemse boom- en struiksoorte tel. Die groot verskeidenheid plantspesies is meesal deur die egpaar Bourke van saad gekweek wat in die veld versamel is. Destyds was daar nie kwekerye waar plante en saad bekom kon word nie.

Agter die huis loop verskeie voetpaadjies tot aan die bopunt van

BOURKE GARDEN

In 1926 this terrain was given to Mr and Mrs Myles Esmond Bourke as a wedding gift. Almost half a century later, that erstwhile bare, stony ridge has been transformed into a delightful garden.

Cloghereen – an Irish word meaning a place of many stones – is situated on the northern slope of Muckleneuk Ridge adjoining Unisa's main campus. The University purchased the Bourke estate from Mrs Marguerite Bourke in July, 1969, thereby adding another 2,5 hectare to its existing site.

In a press release on the 23 July 1969, it was stated that the University's main purpose in purchasing the site was to conserve the beautiful surroundings and botanically interesting vegetation on the Ridge. And indeed, since acquiring the estate, the University has endeavoured to conserve the natural vegetation of Cloghereen – an aim which is still faithfully pursued by the Principal and his wife, and by the Landscape and Garden Planning Committee, who constantly add new plant species to the garden.

This unique natural garden boasts more than 180 plant species including some beautiful large, indigenous trees and shrubs. The majority of the considerable variety of plant species were propagated from seeds collected in the veld by Mr and Mrs Myles Bourke, since at that time, nurseries did not stock seeds of these species.

From the rear of the residence various pathways lead to the highest area in the garden. These paths are all paved with the

die tuin. Hierdie wandelpaadjies, met verskillende patrone, is met natuurlike klippe van die omgewing uitgelê. So is daar die "wawielpad" met vyf los wawiele wat met klippe in die paadjies ingemessel is. Hierdie idee kom oorspronklik van Alexis Preller, aldus mev. Bourke.

Naby die "wawielpad" is een van die hoogtepunte van die tuin. Wyle mnr. Bourke het hier twee sitplekke aangebring van versteende hout wat bykans 220 miljoen jaar oud is. Oral in hierdie groot tuin met sy wye verskeidenheid immergroen en bladwisselende bome en struike is mooi rusbankies aangebring wat 'n landelike atmosfeer skep. Liefhebbers van die Suid-Afrikaanse plantegroei en dierelewe kan rustig op die bankies verpoos om na die plantegroei en voëls te kyk waar laasgenoemde veral in die mooi, groot bome of by die stil, rustige waterpoeletjies kwetter en baljaar.

Vandag is Cloghereen voorwaar 'n lushof met sy eie watervoorraad bestaande uit 'n boorgat en twee opgaardammetjies. Soos wyle mnr. Bourke, is ook die Universiteit van Suid-Afrika daarop ingestel om die natuurlike plantegroei van hierdie besondere rant te verryk en noulettend in stand te hou. Positiewe natuurveredeling op Muckleneukrant is die ideaal, en die pragtige voorbeeld wat deur die Bourke-egpaar gestel is, behoort deurentyd 'n blywende inspirasie te wees.

Om die rykdom en verskeidenheid van hierdie tuin breedvoerig te bespreek, word nie binne die bestek van hierdie publikasie beoog nie. In die teks word daar egter deurgaans na die inheemse boom- en struiksoorte, asook die voëlspesies verwys wat in Bourke-tuin voorkom.

Sommige soorte is later aangeplant ten einde die verskeidenheid wat deur die oorspronklike eienaars geskep is, aan te vul. Party van die voëlsoorte wat in hierdie pragtige natuurtuin voorkom, is slegs besoekers, terwyl andere hulle in die bome en struike te midde van die stadsgewoel tuisgemaak het.

natural stone found in the area. For example, there is the "wagon-wheel path", with five separate wagon-wheels in natural stone mortared into the path. According to Mrs Bourke, this idea was originally suggested by Alexis Preller.

One of the garden's outstanding features is situated quite close to the "wagon-wheel path", where Mr Bourke erected two rustic benches of fossilised wood, believed to be nearly 220 million years old. In these spacious gardens, boasting a large variety of evergreen and deciduous trees and shrubs, attractive benches create a peaceful, rustic atmosphere where interested visitors may pause to admire the wealth of indigenous plants thriving in their natural habitat and the numerous birds chirping in the stately trees or frolicking beside the cool, tranquil pools.

Cloghereen is today indeed a paradise. It has its own water supply, provided by a borehole and two tiny reservoirs. Like the late Mr Bourke, the University of South Africa continually strives to enrich and maintain the natural vegetation occurring on this unique ridge. The ideal of positive improvement and the wonderful example set by the original owners should serve as a permanent inspiration.

This publication does not aspire to a detailed discussion of the rich variety of the natural vegetation in this garden. However, constant reference is made in the text to the indigenous trees and shrubs as well as the bird species which abound in the Bourke Garden.

The shrubs and trees planted by the original owners have been supplemented by various species added at a later date. Some of the bird species found in this beautiful, natural garden are migratory visitors, while others have made themselves at home in the trees and shrubs, a stone's throw from the bustle of the city.

Die Rektorswoning, Cloghereen, word op linkerkant omsoom deur die pragtige natuurlike Bourketuin (p. 12)

Cloghereen, the residence of the Principal, is bounded on the left by the splendid natural Bourke Garden (p. 12)

DIE WANDELPAD VAN UNISA

In die nabyheid van die gebouekompleks by Unisarand bestaan daar vandag nog gelukkig sekere inheemse plante wat bykans ongeskonde in hulle habitat gesien en wetenskaplik bestudeer kan word. Hierdie feit het tot die beplanning van 'n wandelpad in die kleine aanleiding gegee.

By die beplanning daarvan het die natuurbewaringsgedagte wel na vore gekom, maar die skep van 'n geleentheid vir persone om ontspanne en rustig met die natuur kennis te maak, is eweneens as van kardinale belang beskou.

Die Wandelpad wat noord van die laboratorium begin, is netjies met klippe van die omliggende omgewing geplavei. Vanaf die laboratorium loop die paadjie in 'n oostelike rigting om dan later verder suidwaarts deur die byna swartkleurige rantjie te kronkel. Verderaan lei dit jou weswaarts tot waar een van die rusbankies aangebring is. Nadat die Wandelpad Unisaweg kruis, loop dit uiteindelik verby die nuwe Tegniese Gebou tot by die Watergat wat in 'n gedeelte van die bekende Fonteinedal geleë is.

Waar die Wandelpad begin, sal *Erythrina lysistemon* gesien kan word. Algemeen staan dit as die **Gewone Koraalboom** bekend. Hierdie boomsoort blom gedurende die vroeë lente. Die lang gesteelde trosse oranjerooi blomme word dan deur talle insekte besoek. Laasgenoemde lok weer sekere voëlsoorte soos onder andere **Suikerbekkies** (Nectariniidae), **Vlieëvangers** (Muscicapidae) en **Glasogies** (Zosteropidae).

Die **Basboom** *(Dais cotinifolia)* met sy netjiese voorkoms, blin-

UNISA'S NATURE TRAIL

Close to the buildings on Unisa Ridge, certain species of indigenous plants have survived virtually untouched, where they may be admired and scientifically studied in their natural habitat. This fortunate circumstance has prompted Unisa to lay out a tiny nature trail in this area.

The trail was primarily planned with the idea of nature conservation in mind, although the intention of affording an opportunity to study nature at close quarters in a relaxed and peaceful atmosphere, was considered almost equally important.

The Nature Trail, which is neatly paved with stones from the surrounding hills, commences north of the laboratory and runs in an easterly direction before turning to the south and winding its way along the almost black ridge atop the hill. A little farther along, it turns to the west and leads to one of the many benches provided in the gardens. From there it crosses Unisa Road and eventually continues past the new Technical Building to the Water Hole situated in a part of the well-known Fountains Valley.

Visitors setting out to explore the nature trail are welcomed by a specimen of *Erythrina lysistemon*, generally known as the **Common Coral tree**. This species flowers in the early spring and its long-stemmed clusters of orange-red flowers attract numerous insects. The insects in turn attract various species of birds, including **Sugarbirds** (Nectariniidae), **Flycatchers** (Muscicapidae), and **White-eyes** (Zosteropidae).

In the spring, the **Pompon Tree** *(Dais cotinifolia)*, a tidy-

Ochna pulchra
(Lekkerbreek – Peeling Plane) (pp. 16, 18, 96)

In hierdie rotstuin begin die Wandelpad wat deur die hoofkampus kronkel (p. 14)

The Nature Trail which meanders through the main campus, starts in this rockery (p. 14)

kerige blare en trossies rooskleurige, stervormige blommetjies sal ook die oog van die wandelaar tref wanneer daar in die lente by die beginpunt van die Wandelpad 'n rukkie stilgestaan word.

Hoër op kan daar met die **Gewone Drolpeer** *(Dombeya rotundifolia* var. *rotundifolia)* kennis gemaak word. In die vroeë lente is hierdie spesie met 'n massa wit, peerbloeiselagtige blommetjies oortrek. Naby hierdie boomsoort sal die immer bewegende, energieke en aktiewe **Paradysvlieëvanger** *(Terpsiphone viridus)* waargeneem kan word. Blitsig sit hulle gewoonlik die verskeidenheid insekte in die nabyheid van die blommende boom agterna.

Watter Transvaler ken nou nie die **Stamvrug** *(Bequaertiodendron magilismontanum)* nie? Die wandelaar sal die sierlike vrugte aan die dikkerige stamme en takkies gedurende die somermaande dadelik herken. Die leeragtige blare met 'n viltlaag van silwerkleurige hare aan die agterkant is eweneens baie kenmerkend en ook opvallend. Vroeër het bobbejaantroppe in hierdie swartkleurige rantjies ongesteurd rondgestap en die veldvrugte verorber.

Iewers langs die pad groei *Combretum erythrophyllum* (**Rivier-vaderlandswilg**). Veral in die herfs wanneer die blare pragtig verkleur, sal dit maklik uitgeken kan word.

As die windjie waai en die droë viervlerkige vrugte van die **Raasblaar** *(Combretum zeyheri)* ritsel, sal identifikasie selfs vir die amateurplantkundige nie moeilik wees nie.

Teen die hange van die rante groei ook een van ons bekendste *Protea*-soorte in Transvaal, naamlik *Protea caffra* (**Gewone Suikerbos**). Hierdie spesie met sy knoetsige stam en ligrooskleurige blomme is nie te versmaai nie, al is dit nie so opvallend soos sekere Kaapse soorte nie. Dit is origens bekend dat die **Swartkroonlaksman** *(Tchagra senegala)* dikwels in die toppe van hierdie boomsoort opgemerk kan word.

Vrywe die blare van die **Kerriebos** *(Hypericum revolutum)* wat langs die wandelpad staan en ervaar die kerriegeur wat dit afgee. Die blommetjies van hierdie spesie is geel.

Al van die **Lekkerbreek** *(Ochna pulchra)* gehoor? Hierdie

looking tree with glossy leaves and clusters of tiny, pink, star-shaped flowers, will catch the eye of anyone who pauses to look about near the beginning of the Nature Trail.

A little nearer the ridge of the hill, the **Common Wild Pear** *(Dombeya rotundifolia* var. *rotundifolia)* may be admired. In the early spring this tree is covered in masses of small white flowers which are rather similar to pear-blossoms. Near this tree the ceaselessly fluttering, energetic **Paradise Flycatcher** *(Terpsiphone viridus)* will usually be seen darting swiftly after the insects buzzing about the flowers.

Every Transvaler is surely familiar with the **Transvaal Milkplum** *(Bequaertiodendron magalismontanum)* and will immediately recognise the decorative fruit borne on the sturdy stems and branches of this species during the summer months. The leathery leaves, covered with a layer of silvery, appressed hairs on the underside are also very striking. Many years ago, baboons frolicked undisturbed among these black ridges and enjoyed the fruit of these trees.

Along the trail you will see the *Combretum erythrophyllum* (**River Bushwillow**). This tree is easily recognised, particularly in the autumn, when the leaves turn a beautiful, reddish colour.

When the breeze rustles through the dry, four-winged fruit of the *Combretum zeyheri* (**Large-fruited Bushwillow**) even the amateur botanist will have little difficulty in recognising this species.

One of our best-known species of Transvaal *Proteas* flourishes on the slopes of Muckleneuk Ridge; *Protea caffra* (**Common Sugarbush**). This species, with its gnarled stem and pale pink flowers, is most attractive, even though it is not as striking as some of the Cape species. The **Black-crowned Shrike** *(Tchagra senegala)* is frequently seen perching atop one of these **Sugarbushes**.

Rub the leaves of the *Hypericum revolutum* (**Curry Bush**) in your hands and smell the strong odour of curry emitted by this spe-

Francolinus afer
(Rooikeelfisant – Red-necked Francolin) (p. 18)

boom met sy gryswit bas en die sitroengeel voorkoms as die jong blaartjies en die blomme in die lente uitkom, kan maklik uitgeken word deur slegs een van sy takkies af te buig.

Langs die Wandelpad groei daar ook **Wildemispelbome** *(Vangueria infausta)*. Die vrugtevretende **Tiptolle** (Pycnonotidae), **Muisvoëls** (Coliidae) en verwante spesies baljaar gewoonlik gedurende die najaar in hierdie bome. Eet maar gerus een van die geelbruin vrugte wat 'n droë frankerige smaak het. Dikwels word die **Rooikeelfisante** *(Francolinus afer)* in die nabyheid van hierdie spesie aangetref. Gewoonlik vlieg hulle skielik voor jou op.

Nader die omgewing van die Watergat baie versigtig en kyk onder andere mooi rond of die spierwit **Heilige Ibisse** of **Skoorsteenveërs** *(Threskiornis aethiopicus)* met hulle kaal, leeragtige swart koppe en nekke weer op die kampus rondstap. Gewoonlik stap hulle na 'n reënbui in die vlak water naby die Watergat of op die grasperke rond om insekte te soek.

Naas die enkele boom-, struik- en voëlspesies wat kortliks ter oriëntering geskets is, sal die goeie waarnemer en natuurliefhebber nog baie ander soorte bespeur en identifiseer.

Vir die moeë wandelaar is die houtbankie by die Watergat ideaal. In hierdie gedeelte van die Fonteinedal is baie ander voël- en boomsoorte aanwesig wat die belangstelling sal prikkel.

cies with its tiny, yellow flowers. This species may be seen along the Trail.

Have you heard of the *Ochna pulchra* (**Peeling Plane**)? This tree with its grey-white bark turns a beautiful lemon-yellow when the young leaves and flowers appear in spring and may be recognised by the ease with which its branches will break if bent downwards.

Along the Nature Trail you will also see the *Vangueria infausta*, (**Wild Medlar**). Numerous fruit-eating birds such as **Bulbuls** (Pycnonotidae), **Mousebirds** (Coliidae) and other species, often frolic about these trees in the autumn. Taste the yellow-brown fruit; it has a dry, astringent taste. Flocks of **Red-necked Francolins** *(Francolinus afer)* are frequently seen near these trees and usually start up in fright as one approaches.

Walk stealthily as you approach the Water Hole and you may be rewarded by seeing various bird species, including the snow-white **Sacred Ibis** *(Threskiornis aethiopicus)* with its bare, leathery black head and neck. After a shower of rain they are frequently seen wading in the shallow water near the Water Hole or stalking across the lawns in search of insects.

The observant nature-lover will be able to see and identify numerous species of trees, shrubs and birds besides the few briefly described above.

Rest awhile on the rustic bench beside the Water Hole and admire the numerous other interesting species of birds and plants found in this part of Fountains Valley.

Threskiornis aethiopicus
(Heilige Ibis of Skoorsteenveër – Sacred Ibis) (p. 18)

Ingrid Bredell '81

DIE WATERGAT

Die Wandelpad lei jou uiteindelik na die Watergat wat ten suide van die gebouekompleks op Muckleneukrant geleë is.

Die ontspanne wandelaar kan rustig op die houtbankie gaan sit om te rus en te peins oor vervloë jare toe die eerste Blankes in 1842 'n rusplekkie in die waterryke Fonteinedal gevind het.

Die Watergat is werklik in 'n gedeelte van die Fonteinedal geleë wat op 25 Februarie 1895 deur pres. Paul Kruger se proklamasie as 'n wildbeskermingsoord verklaar is – waarskynlik die eerste in sy soort in die hele Afrika.

In die nabyheid van die destydse waterryke Apiesriviervallei het letterlik honderde blou-apies in onder meer die **Witstinkhout-** *(Celtis africana)*, **Olienhout-** *(Olea africana)* en **Soetdoringbome** *(Acacia karroo)* gewoon en gespeel. Dit was in hierdie omgewing waar moeë en dorstige nedersetters meer as 100 jaar gelede uitgespan het om rus en verkwikking in die bos- en waterryke omgewing te vind.

Jou gedagtes word ook teruggevoer na die dae toe daar na die oewers van die Apiesrivier en die onmiddellike omgewing as 'n ware "leeunes" verwys is. Toe voëlsoorte in 'n groot verskeidenheid in die digte inheemse bome en bosse en op die water rondgevlieg, gewoon en gesing het. Voëlsang is gewoonlik die mooiste in die nabyheid van water, word gesê.

Van die destydse bykans ongerepte natuur het nie veel oorgebly nie, maar die natuurliefhebber sal vandag tog nog talle voëlsoorte hier kan waarneem.

THE WATER HOLE

The Nature Trail leads to the Water Hole, to the south of the buildings which top Muckleneuk Ridge.

Beside the Water Hole, weary visitors may rest awhile on the rustic bench and recall the days of yore, when in 1842 the first Whites settled in the Fountains Valley.

The Water Hole is situated in that part of Fountains Valley proclaimed a wild-life sanctuary by President Paul Kruger on the 25th February, 1895 – probably the very first of its kind on the African continent.

In the vicinity of the then well-watered Apies River Valley, numerous trees, including the **White Stinkwood** *(Celtis africana)*, **Sweet Thorn** *(Acacia karroo)* and **Wild Olive** *(Olea africana)*, were frequented by hordes of vervet monkeys which visited or lived in these trees. Many years ago, this well-wooded, well-watered valley was a haven for thirsty, weary settlers, who outspanned there in search of peace and quietude.

Let your mind wander back to the days when the banks of the Apies River were known as a veritable "lion's lair" – when the calls and cries of numerous bird species echoed among the dense, indigenous trees along the river banks. Birdsong, they say, is at its loveliest near water.

Although not much remains of the undefiled, natural beauty of this spot, the nature lover may still revel in the numerous bird species which frequent this area.

Malaconotus zeylonus
(Bokmakierielaksman – Bokmakierie Shrike) (p. 22)

Ingrid Bradell '81

Besoekers wat skielik by die Watergat uitkom, merk gewoonlik dadelik die **Hadida-ibis** *(Bostrychia hagedash)* op, veral wanneer hy skielik opvlieg met 'n lang droewige *ha-ha, ha-di-daa.* Dit is ook dan wanneer die **Bontkiewiet** *(Vanellus armatus)* onrustig van die Watergat wegdraf om die wêreld kopknikkend vanuit 'n veiliger posisie te bekyk, terwyl ander voëlsoorte eweneens tydelik verskrik wegvlieg.

Mettertyd sal die **Hoephoep** *(Upupa africana)* sy welluidende en kenmerkende roepgeluide vanuit 'n boomtak laat hoor, terwyl die **Gewone Lyster** *(Turdus olivaceus)* skugter met sy donker olyfkleurige bors weer te voorskyn kom om verder te skrop en te grawe op soek na insekte onder die bome.

In die riete wat by die Watergat aangeplant is, sal die besoeker lede van die **Vink**-familie (Ploceidae) sien terwyl hulle naarstiglik werskaf. As die **Witstinkhout-** en **Blinkblaar-wag²n-bietjie-**bome se bessies ryp is, weerklink die lawaai van die **Gevlekte Muisvoël** *(Colius striatus)*, die **Rooiwangmuisvoël** *(Colius indicus)*, die **Swartoogtiptol** *(Pycnonotus barbatus)* en die **Gewone Glansspreeu** *(Lamprotornis nitens)* onder meer. Die **Gewone Tortelduif** *(Streptopelia capicola)* en die **Gewone Mossie** *(Passer melanurus)* wag geduldig op die takke van die **Witstinkhoutboom** op die koms van die Veldtuinbouer wat die kos bring terwyl die **Janfiskaal** *(Lanius collaris)* afwagtend vanuit sy uitkykpos neerkyk.

Die fyn waarnemer sal dikwels ook die volgende voëlspesies om en by die Watergat opmerk, naamlik die **Swartkopreier** *(Ardea melanocephala)*, **Veereier** *(Ardeola ibis)*, **Kuifkophoutkapper** *(Trachyphonus vaillantii)*, **Bruinsy-langsterttinktinkie** *(Prinia subflava)* **Gewone Waterlaksman** *(Laniarius ferrugineus)* **Swartkroonlaksman** *(Tchagra senegala)*, **Bokmakierielaksman** *(Malaconotus zeylonus)*, en die **Blouvalk** *(Elanus caeruleus)* wat geen vrees by ander voëlsoorte inboesem nie.

Soms is die **Rooivlerkspreeu** *(Onychognathus morio)* en **Gewone Glasogie** *(Zosterops pallidus)* ook besoekers by die Watergat,

Visitors who approach the Water Hole undetected are usually fortunate enough to see the *Bostrychia hagedash* (**Hadeda Ibis**), particularly when they suddenly start up, uttering a long drawn-out, mournful *ha-ha, ha-de-dah*. As the visitor nears, the **Blacksmith Plover** *(Vanellus armatus)* will probably scurry restlessly away and, with its head bobbing up and down, watch from a safer distance, while other birds belatedly take to their wings.

After a while, the *Upupa africana* (**African Hoopoe**) may be heard uttering its melodious call from a nearby tree, while the *Turdus olivaceus* (**Olive Thrush**) warily emerges from the scrub and continues foraging for insects beneath the trees.

Among the reeds which have been planted near the Water Hole, the visitor is sure to see members of the **Weaver** family or Ploceidae, busily engaged in building nests or searching for food. When the berries of the **White Stinkwood** *(Celtis africana)* and **Buffalothorn** *(Ziziphus mucronata)* are ripe, the strident calls of the **Speckled Mousebird** *(Colius striatus)*, **Red-faced Mousebird** *(Colius indicus)*, the **Black-eyed Bulbul** *(Pycnonotus barbatus)* and the **Cape Starling** *(Lamprotornis nitens)* and other species may be heard. The **Cape Turtle Dove** *(Streptopelia capicola)* and the **Cape Sparrow** *(Passer melanurus)* wait patiently in the **White Stinkwood** tree for the Landscape Gardener to scatter food, while the **Fiscal Shrike** *(Lanius collaris)* perches atop his vantage point and peers expectantly down on the scene below.

The observant visitor will frequently also see the following species in the vicinity of the Water Hole: the **Black-headed Heron** *(Ardea melanocephala)*, the **Cattle Egret** *(Ardeola ibis)*, the **Crested Barbet** *(Trachyphonus vaillantii)*, the **Tawny-flanked Prinia** *(Prinia subflava)*, the **Common Bou-bou Shrike** *(Laniarius ferrugineus)*, the **Black-crowned Shrike** *(Tchagra senegala)*, **Bokmakierie Shrike** *(Malaconotus zeylonus)*, and the **Black-shouldered Kite** *(Elanus caeruleus)*, for whom the other bird species show not the slighest apprehension.

Sometimes the **Red-winged Starling** *(Onychognathus morio)*

Upupa africana
(Hoephoep – African Hoopoe) (p. 22)

asook die **Gewone Vleiloerie** *(Centropus superciliosus)* wat skugter vanuit die digte plantegroei toekyk om, soos Prozesky dit stel, af en toe sy reeks welluidende, borrelende *doe-doe-doe-doe* in 'n dalende toonnoot te laat hoor.

Nadat die **Slanghalsvoël** *(Anhinga rufa)* met sy baie kenmerkende kinkelnek die goudvissies in die Watertuin ten noorde van die Watergat ietwat uitgedun het, neem hy dikwels met oopgespreide vlerke en nat, afhangende stert plaas op een van die bome – 'n ruskansie, moontlik, alvorens hy weer afsit Watertuin toe waar voetgangers hom laas die skrik op die lyf gejaag het.

and the **Pale White-eye** *(Zosterops pallidus)* also visit the Water Hole, while **Burchell's Coucall** *(Centropus superciliosus)* peers timidly from under the dense scrub and, as Prozesky puts it, occasionally emits a series of bubbling, flute-like notes on a descending scale, *doo-doo-doo-doo*.

After the **Darter** *(Anhinga rufa)* with its characteristically curved neck has decimated the goldfish population in the Water Garden north of the Water Hole, it frequently perches atop one of the tall trees nearby with its wet, drooping tail, possibly to pause awhile before returning to the Water Garden from whence it fled when visitors approached.

Centropus superciliosus
(Gewone Vleiloerie – Burchell's Coucall) (p. 24)

DIE WATERTUIN

Water het deur die eeue heen nog altyd 'n onweerstaanbare aantrekkingskrag en bekoring vir die mens ingehou. In die vrye natuur roep dit beelde van bergpieke, valleie, strome met rotse omsoom en hemelsbloue mere op. Rotse en water is waarskynlik die basiese elemente van die natuur se mees verstommende en onvergeetlike landskappe. By tuinbeplanning kan die natuur met behulp daarvan kunstig nageboots word.

'n Rots wat kunstig in 'n watertuin geïnkorporeer word, skep die indruk van vastigheid of onveranderlikheid soos deur geologiese kragte van jare gelede gevorm. In teenstelling met rotse is water veranderlik – ja, ook onmisbaar in die voortbestaan van die mens. Bewegende water is strelend en dit wis verwarring as 't ware tydelik uit.

Een van die wonderlike kwaliteite van 'n watertuin is dat dit bykans altyd die aandag trek en as uitstekende fokuspunt in die tuin dien – iets wat dikwels by landskap- en tuinbeplanning uit die oog verloor word.

Die glansende blinkheid van die water, die spieëlgladde oppervlak daarvan en die skoonheid van die waterlelies met hulle lang blaarstele, groot ronde of ovaal gaafrandige of gekartelde blaarskywe wat drywend beweeg, is altyd 'n lus vir die oog en werk ontspannend in op die gemoed.

By die Watertuin van Unisa kan daar vir 'n wyle stilgestaan word. Die atmosfeer om en by hierdie tuin herinner jou daaraan dat daar noodgedwonge meermale verposing moet kom. Luister

THE WATER GARDEN

Through the years, water has always held an irresistible attraction and charm for man. Water in its natural surroundings conjures up images of mountain peaks, valleys, streams lined with rocky banks and sea-blue lakes. Rocks and water are probably the basic elements of nature's most amazing and unforgettable landscapes. In garden-planning, it may be skilfully employed to emulate nature.

A rock may be skilfully incorporated into a water garden to create an impression of stability and permanence – as if it had been placed there by geological forces, many aeons ago. In contrast, water is forever changing – and also equally indispensable to human existence. Running water creates a peaceful, tranquil atmosphere and transitorily succeeds in alleviating confusion.

One of the most wonderful qualities of a water garden is that it almost invariably catches the eye and serves as an excellent focal point in a garden – a fact which is not always fully appreciated in landscape and garden planning.

The lustrous sheen of water, the mirrored surface and exquisite beauty of waterlilies, with the long petioles and large, round or oval, crenate or entire leafblades floating gently on the water, are a never-ending joy to behold and manage to sooth our jaded nerves.

Pause awhile in Unisa's Water Garden. The atmosphere in this delightful spot brings to mind the much-neglected fact that it is essential to relax every now and then. Listen to the birds singing in the trees, oblivious of the restlessness and turmoil of the surround-

Die Watertuin met sy klaterende waterval en rustige waterpoele, vertoon benewens waterlelies ook die groenigheid van 'n wye verskeidenheid flora (p. 27)

Besides water lilies, the Water Garden with its splashing waterfall displays also the greenery of a wide variety of flora (p. 27)

dan na die voëlsang om jou heen te midde van 'n wêreld van beweging en woelinge. Bewonder die wolkweerkaatsings, die neerklaterende watervalletjies en bekyk die werweling van vissies wat telkens op die wateroppervlak verskyn. Dit alles verleen beweging en verskaf musiek in die Watertuin. Bewegende water is na die skrywer se mening esteties aangenaam, strelend vir die oog en musiek vir die oor. Die sprankelende sonskyn, die dansende reëndruppels gedurende die somermaande en die versombering wanneer swaar onweerswolke nader, word alles op water weerspieël.

Die Watertuin bied verder aan die landskapbeplanner of tuinier 'n wonderlike geleentheid om interessante plante by die beplanning daarvan te inkorporeer. Die aanwesigheid van water en rotse in die tuin open as 't ware 'n nuwe wêreld van plante wat in en om die Watertuin aangewend kan word.

Naas die bekoorlike drywende waterleliesoorte, behorende tot die geslag *Nymphaea*, is talle interessante jaarplante, meerjarige plante, bome en struike aangeplant – te veel om hier in besonderhede te bespreek.

Die **Afrikaanse Wildepiesang** *(Ensete ventricosum)* met groot heldergroen, gladde leeragtige blare wat 'n opsigtelike helderrooi hoofaar vertoon, versier die waterkant van die grootste poel. Die **Gewone Boomvaring** *(Alsophila dregei)* met sy haarbedekte stam en palmagtige voorkoms floreer in die vogtigheid terwyl die *Primula*-soorte (**Blouselblommetjie**) pragtige kleurkolle in die skaduwee van die groot rotse vorm.

Vertoef gerus ook in die lente by die Watertuin en bewonder die mooi, ligroos blomme van die **Basboom** *(Dais cotinifolia)* wat met 'n hofievormige bloeiwyse in oorvloed aan die takke gerangskik is.

In die **Kleinkoraalboom** *(Erythrina humeana)* kondig die **Gewone Glasogie** *(Zosterops pallidus)* gewoonlik al kwetterend sy teenwoordigheid aan terwyl daar lustig op insekte tussen die donkerrooi, langgesteelde blomme jag gemaak word. Selfs nie die tipiese geklap van die vlerke van die **Kransduif** *(Columba guinea)*

ing city. Marvel at the delicate reflections of the clouds or the cascading waterfalls and gaze in wonder at the concentric ripples made by tiny fish bobbing to the surface – all contributing to the enchanting movement and music of the Water Garden. To my mind, moving water is aesthetically pleasing, a joy to behold and music to the ears. The sparkling sunshine, the dancing raindrops of the summer months and the sombre clouds heralding the approach of a thunder storm – all are reflected on the water's surface.

The Water Garden also affords the gardener or landscape architect a wonderful opportunity for incorporating a variety of interesting plants when planning a garden. The presence of water and rocks in a garden opens up new vistas, as it were, of plants which may be cultivated in and around the Water Garden.

Besides various species of attractive, floating waterlilies of the genus *Nymphaea*, numerous interesting annuals, perennials, trees and shrubs thrive in the Water Garden – far too many to discuss in detail.

The **African Wild Banana** *(Ensete ventricosum)* with its large, smooth, brilliant green, leathery leaves and conspicuous, bright red midribs, adorns the edge of the large pool. The **Common Tree Fern** *(Alsophila dregei)* with its palmlike appearance and sturdy stem covered in hairlike structures, flourishes in the moist soil, while various *Primula* species add fine splashes of colour in the shade of the large rocks.

Pause awhile, also in the spring, amidst the tranquility of this exquisite Water Garden and admire the enchanting pale pink flowers of the **Pompon Tree** *(Dais cotinifolia)* bearing a profusion of capituliform inflorescences on its branches.

Among the branches of the **Dwarf Coral Tree** *(Erythrina humeana)* the **Pale White-eye** *(Zosterops pallidus)* usually utters its warbling cry as it darts about between the dark red, long-stemmed flowers in search of insects. Not even the typical *clap-clap* of wings as the **Rock Pigeon** *(Columba guinea)* soars across the

Bostrychia hagedash
(Hadida-ibis – Hadeda Ibis) (p. 22)

Anhinga rufa
(Slanghalsvoël – Darter) (p. 34)

wanneer daar van die lys van een gebou na die ander via die Watertuin gesweef word, skrik hierdie klein en lawaaierige voëltjies af nie.

Die groot geelwordende blare en opsigtelike wynrooi bessies aan die punte van die knoetsige stamme van die **Basterkobas** *(Cyphostemma juttae)* kondig aan dat die herfs naderkruip.

As die suidewinde later oor die Watertuin begin waai, is daar talle ander beskutte hoekies in die tuine op die hoofkampus. Ontspan dan maar op die houtstomp in die Broodboomtuin te midde van die talle **Broodboom**spesies en ander mooi inheemse plante terwyl die **Kransswawel** *(Hirundo rupestris)* bokant jou teen 'n blou wolklose hemel sy swaaie en draaie uitvoer.

Water Garden from one ledge to another, high against the surrounding buildings, will intimidate these noisy, restless little birds.

The large, yellowing leaves and conspicuous, burgundy-coloured berries on the terminal branches of the gnarled stem of the **Bastard Cobas** *(Cyphostemma juttae)* herald the coming of autumn.

Later, when the south wind sweeps across the Water Garden, the main campus still has numerous areas protected from the biting winter wind. Relax on a huge log in the Cycad Garden and admire the large variety of **Cycad** species and other beautiful indigenous plants, while the **Rock Martin** *(Hirundo rupestris)* unfurls its wings and soars high above in a clear, cloudless sky.

Columba guinea
(Kransduif – Rock Pigeon) (p. 28)

Ingrid Bredell '81

DIE BROODBOOMTUIN

Die Landskap- en Tuinboukomitee van die Universiteit het gedurende die veldtog Groen Erfenis van 1973 besluit om uit die ryk skat van die Republiek van Suid-Afrika se flora – ryk aan skoonheid en verskeidenheid – 'n aantal plante in 'n besondere inheemse tuin te versamel.

Met die Universiteit se eeufeesviering het die gedagte van bewaring vir die nageslag al hoe meer op die voorgrond getree. Aangesien min ander vorms van plantlewe so stadig is ten opsigte van groeikrag, rypwording en distribusie en derhalwe so kosbaar en bewarenswaardig soos die *Encephalartos*-soorte is, is op die sogenaamde Broodboomtuin besluit. Die meeste soorte **Broodbome** wat in die Republiek van Suid-Afrika aangetref word, kan in die besondere tuinhoekie besigtig word. Tans is 28 beskrewe spesies in die Republiek van Suid-Afrika bekend.

Broodbome kom hoofsaaklik langs die ooskus vanaf Port Elizabeth in die suide tot by die Wolkberge en Soutpansberge in die noorde voor. Hierdie plantsoorte is van onskatbare botanies-wetenskaplike waarde. Hulle mag alleen in persoonlike versamelings aanwesig wees as 'n permit daarvoor uitgereik is.

In hierdie verband wil die skrywer weer eens sy waardering betuig vir die hulp en bystand van die lede van die Departement Algemene Plantkunde van die Universiteit van Pretoria met 'n keurige publikasie oor die Broodboomtuin van Unisa in 1975.

Groot, skurwe, massiewe rotse is aangebring waarteen die groeperings broodboomsoorte mooi vertoon. 'n Waterstroompie

THE CYCAD GARDEN

During the Green Heritage Campaign in 1973, the University's Landscape and Garden Planning Committee decided that a number of species from the Republic's rich heritage of flora – both in variety and beauty – should be established in a unique garden of indigenous plants.

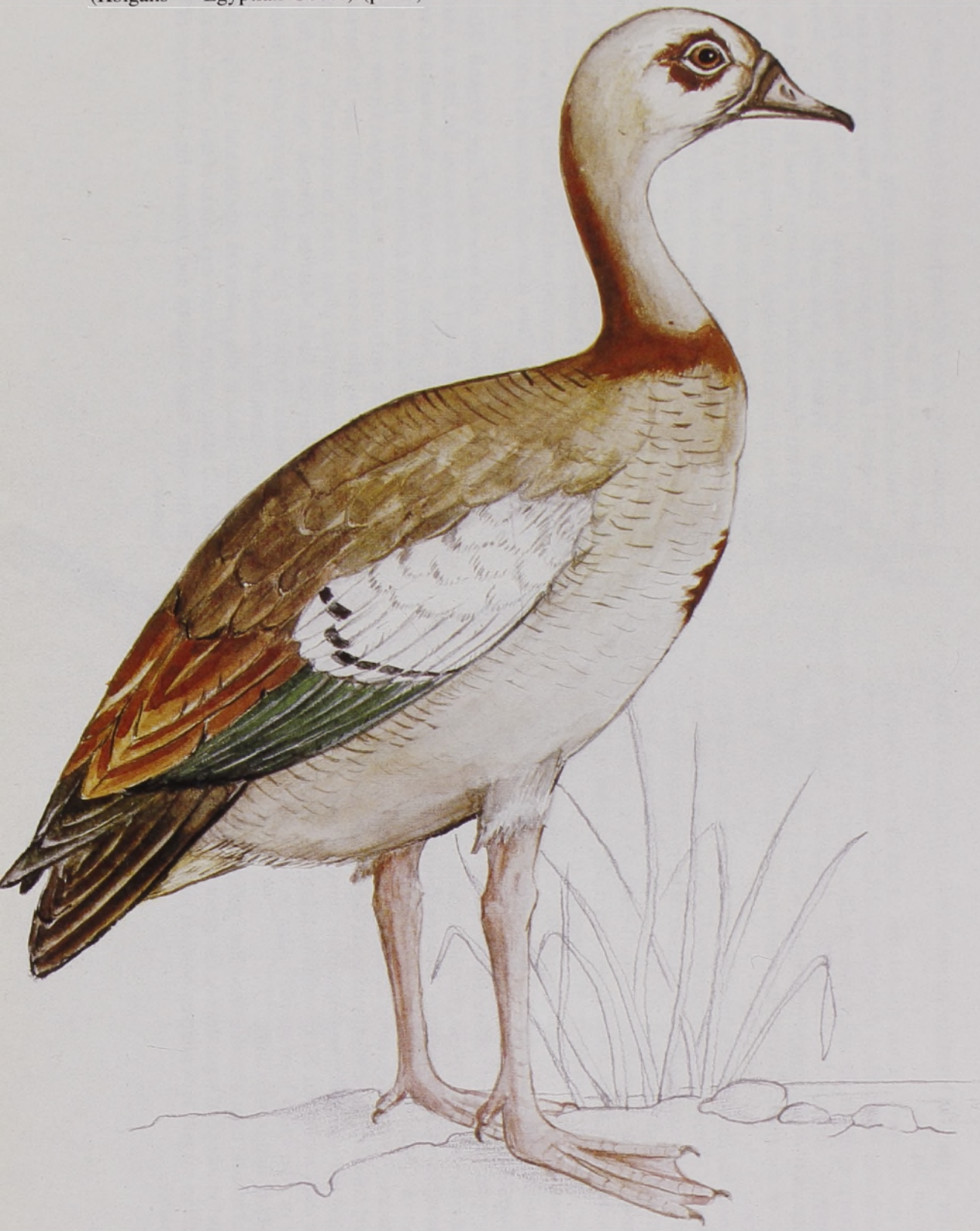
With the centenary celebrations of the University of South Africa, the desire for preservation of this flora for future generations came increasingly to the fore. As few other forms of plantlife are so slow with regard to growth, maturation and distribution, and thus so valuable and worth preserving as the *Encephalartos* species, it was decided to establish a so-called Cycad Garden. Most **Cycads** occurring in the Republic of South Africa may be found in this unique garden on Unisa's campus. So far 28 described species have been found in the Republic.

Cycads are found mainly along the east coast, from Port Elizabeth in the south to the Wolkberg and Soutpansberg in the north. These species are of inestimable botanical and scientific value and permits must be obtained for private collections.

In this respect the author again wishes to express his appreciation for the assistance and support received from members of the Department of General Botany at the University of Pretoria with a prestige publication on the Cycad Garden of Unisa in 1975.

Large, rough, massive rocks were positioned to show off the various Cycad species to best advantage, while a tiny waterfall

Alopochen aegyptiacus
(Kolgans – Egyptian Goose) (p. 34)



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