

Centenary of the Natal Herbarium, Durban, 1882–1982

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ABSTRACT

The history of the Natal Herbarium is described from its inception in 1882 to 1982, the year of its centenary. Its history is inextricably linked with that of the Durban Botanic Gardens which started as an Agricultural Garden in 1848, and the Durban Botanic Station. The roles played by various curators and officers-in-charge, especially John Medley Wood, who held office for 32 years and did much to put the Herbarium on the botanical map, are emphasized.

AN AGRICULTURAL GARDEN NEAR DURBAN

Although Natal Herbarium began its existence officially in 1882, its colourful history goes back to 1848 when the then British colony of Natal was constituted a separate government. At this time the Natal Agricultural and Horticultural Society was formed in order to experiment with various economic plants for cultivation. The following advertisement heralded the occasion: 'A meeting will be held at the Commercial Hotel on Tuesday 18th April next, at 10 o'clock for the purpose of attempting to organise an Agricultural Society'. At this meeting, held in a small thatched building where the Royal Hotel stands today, office bearers and a committee were elected.

A second meeting in June led to an application being made to the Lieutenant Governor for a grant of a hundred acres at Umlaas, but this was refused. At a later meeting Dr Stanger, vice-president, and other committee members rode out to the Berea to select a suitable site and they finally decided on some land on the banks of the Umgeni River. Permission was then granted by the Governor to occupy this land pending approval by the Secretary of State. Mr Chas Johnson was appointed as the first overseer of the area on the 15th July 1849 and, instead of a salary, he was to sell the surplus products of the garden to cover his expenses.

The first agricultural show was held in 1850 in the Government school-room in the centre of the township and fruit, cotton, wheat, oats, yams and other vegetables were on display, although no flowers were shown. In spite of valuable prizes being offered to the public, the show was a failure and the newly formed society began to suffer through lack of practical support. Johnson left on 14th October 1850.

At a subsequent dinner at McDonald's Hotel, the society was virtually reorganized and a new board of officers and committee elected. The president was Mr Edmund Morewood of Compensation Estate to whom is attributed the first cultivation of sugar as a marketable product in Natal. The land near the Umgeni proved to be unsuitable because of inadequate soil and lack of available water so the Society selected and obtained a grant from the

government for 25 acres of land at the foot of the Berea ridge near the site occupied by the kraals and gardens of Chief John Cane's following. The area was ideal because of the everflowing artesian wells represented even today by Curries Fountain from which Durban's water supply was drawn in the early years. The grant was later increased to 50 acres, although the title deeds were not received until 1854.

MARK JOHNSTON MCKEN — FIRST CURATOR

Mark J. McKen, who had some experience of sugar-growing in Jamaica, had arrived in Natal from England in October 1850 and soon afterwards he joined the Society and injected new enthusiasm into it. The ultimate success of its fresh effort was largely due to the services of McKen who advocated the establishment of a Botanical Garden for the purpose of testing out and acclimatizing East Indian and South American plants. Among the various new



FIG. 1.—Mark Johnston McKen (1823–1872).

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introductions he brought with him from Kew were mangoes, breadfruit, ginger, coffee, arrowroot, camphor, pawpaw, guava, cocoa, cinnamon, blood orange, Assam Tea and black pepper, and these were first planted in Beningfield's property near the bay.

McKen (Fig. 1) was officially engaged as curator on 11th June 1851 at the 'staggering' salary of £50 per annum and a free hut to live in. During the first years all efforts were concentrated upon the introduction, propagation and distribution of plants considered to be suitable for commercial planting and at this stage arrowroot, coffee, tea and sugar gave the most success although, of these, only sugar remains an important product today. Arrowroot failed through lack of demand, the coffee plantations in Natal succumbed to a fungus disease and locally produced tea could not compete with the imported article.

The Society held its first show in its own grounds on 1st August 1851 and it was a gala day for everybody in town. Miss Forbes, in her account of the history of the Botanical Gardens, writes: 'All stores were closed during the morning and the majority of the townspeople found their way by the Pietermaritzburg road, and over the flat to the entrance of the Gardens.' Miss Forbes continues her account: 'Here a few poles and ships flags gave animation to the scene, while the exhibits were displayed on rough tables of yellow-wood planks, under an awning of wagonsails and evergreens. Farmers and visitors with their wagons and families all round, while children's voices and the curling smoke from under domestic kettles indicated a series of picnics within the shelter of the gardens. A lively interest was taken in this first most important occasion by the inhabitants generally, who had generously subscribed towards the prizes. This show was a success, happy and memorable; an occasion to be recollected by the new settler and his wife, who recognized the reproduction of the garden stuff which they believed grew nowhere outside England.'

In addition to the many kinds of fruit and vegetables displayed, tobacco, wheat, rice, coffee and pistachio nuts were offered. Great excitement prevailed over the ploughing match, which took place on the flat grassland at the lower part of the gardens, because it was held between the colonists and was not 'a trial of ploughs by experts'! The total area then under cultivation was reported by McKen as not exceeding four acres because the means at his disposal were very limited and this restricted the amount of bush that could be cleared.

EARLY SUGAR INDUSTRY IN NATAL

McKen had considerable experience in the growing of sugar cane prior to his arrival in South Africa, having worked on the Golden Grove Sugar Estate, Port Morant, in Jamaica from 1840 to 1849. It is not surprising, therefore, that he played an important part in the birth of the sugar cane industry in Natal.

Sugar-cane had been known to occur here before the advent of Europeans, because the earliest record

was of some shipwrecked mariners who in 1635 discovered natives near Umzimkulu growing cane amongst their other crops. In the early days of the colonists cane was found to be grown in small quantities about the kraals of chiefs. Edmund Morewood was first in growing cane on a commercial basis and, together with other canes imported from Mauritius in 1847, he provided the foundation of the sugar industry. It was originally thought that the cane found in Natal was indigenous but according to Dr A. McMartin, ex Director of Mt Edgecombe Sugar Research Station, 'The sugar-cane plant has a very long history in Central and East Africa, having been known in the twelfth century on the East African coast. The chief agents in its introduction were the Arab slave traders in the Lake regions and early Portuguese explorers along the Zambezi. It then became widely disseminated by the Africans as garden canes'. It appears the cane is Indonesian in origin and probably entered Natal via Mozambique. To distinguish the local cane from the imports, Morewood called it Green Natal and it was to form the basis of the industry until 1870.

McKen visited Morewood at Compensation Estate in May 1852 together with a party of other 'big names of the young colony' to discuss the general capabilities of the colony as a field for immigration with special reference to sugar planting and tropical agriculture.

Later McKen reported to the Natal Agricultural and Horticultural Society on his findings (Osborne, 1964). While at the farm for two days he had extracted sugar from two of the varieties and recorded the production of juice per weight of cane used. A description of how this was done is given by J. F. Hirst: 'Implements employed in the manufacture of sugar being a pair of wooden rollers hewn from an old mast, for crushing the canes and an ordinary kafir cooking-pot of about three gallons capacity for boiling the juice'. McKen ascertained the densities of the liquids and the amounts of cured sugar and molasses produced. He concluded that 'the canefields at Compensation, if properly attended to, would produce a profitable return: both soil and climate being peculiarly adapted for the growth of the plant'. This was an important report, because the resolution passed by the group was that they had 'full confidence in the capabilities of Natal as being not only equal but in many respects far superior to the island of Mauritius'. Sugar then began to attract interest, although Morewood ran into financial difficulties and had to sell out and emigrate to Brazil.

DURBAN BOTANIC GARDENS 1853–1872

On 9th July 1853 McKen resigned as curator of the Gardens to become Manager of Messrs Chiappini's sugar estate at Tongaat. A quick succession of curators followed by whom very little work other than garden maintenance appears to have been done: Alexander Smith from 5th August 1853 to July 1854, Robert William Plant, August 1854 to July 1856, Jasimir Weir, July 1856 — July 1857, R. Rogers July 1857 — notice given in 1859, De la

Chaumette, 3 months trial in May 1859, and A. Moore, May 1859 to September 1860. The Society then approached McKen and prevailed upon him to resume his position in the Gardens at an increased salary of £150 per annum. He agreed and started officially again in December 1860. During this period attention was paid to the introduction of economic plants other than food crops. Bamboos, Australian gums and other timbers were propagated and many purely ornamental plants were introduced, such as palms, foliage plants and flowering trees and shrubs.

McKen was an enthusiastic botanist as well as horticulturalist and he collected extensively in the coastal and inland areas of Natal. He also collected between 1862 and 1865 with an English naturalist, William Gerrard. The originals of these went to Kew via Cambridge, but the duplicates, together with McKen's own collections, of which some 500 specimens remain today, were to provide the basis for the Natal Herbarium which was established by John Medley Wood in 1882. McKen was particularly interested in ferns and he published a small booklet on *The ferns of Natal* in 1869, and, with Gerrard, the *Synopsis filicum capensium* in 1870. Gerrard contracted fever during his collecting trips and died in 1866 in Madagascar. The majority of the plants collected by the two men were new to science and both are commemorated in the scientific names of many of these plants.

During the whole of his term of office, McKen corresponded with Kew and other important botanical and agricultural stations in various parts of the world. In exchange for seeds and specimens of our indigenous plants, he obtained a great variety of interesting plants for the Gardens, many of which are still in existence today.

Gardening operations were carried out under serious difficulties in those days. All the water used was carried from a well at the bottom of the Gardens and, during the periodic droughts which occurred, many valuable plants were lost. Several complaints are recorded about the quantities of mud, tadpoles and mosquito larvae in the drinking water supply. The latter in their mature form still represent a menace at the herbarium today. McKen died on 20th April 1872 from yellow fever and a kidney disease and the following is recorded in Osborne: 'His loss was felt keenly enough but when 96 new varieties of cane arrived from Mauritius for propagation, his absence was greatly deplored'.

JULIUS WILHELM KEIT

While the post was vacant, first Mr Steel and then Mr Thomas Ridsdale, members of the committee, took charge of the Garden from April until the arrival of the new curator, Julius Wilhelm Keit, who assumed curatorship on the 14th November 1872. A Dresden-trained horticulturalist, he was employed at the Royal Botanic Garden, Glasnevin, Dublin, when on the recommendation of Sir W. J. Hooker at Kew, he was appointed to succeed McKen. He held the post for what appears to have been a difficult ten year period with little money or facilities for

development. The Society did not have the funds to improve the Garden and the sale of plants was the major source of revenue. Experimental work was still being done and trials with Ceara rubber were proving very satisfactory in 1880, although no success had been achieved with *Hevea brasiliensis*, the all important rubber-producing tree of the present day. His major interests were sea algae, palms and cycads and in December 1881 he resigned from the Botanic Gardens mainly because of the financial situation, to take up curatorship of the gardens of the Durban Municipality. He continued here until his death in 1916 and is responsible for planting the coconut palms along the esplanade, creating the Victoria and Albert Parks and laying out the gardens around the Town Hall. He owned his own nursery and supplied plants to the borough from this.

About the time Keit resigned, a definite break had occurred between the Natal Agricultural Society and the Horticultural Society and so at an urgent meeting it was resolved to ask the Government to help finance the Garden. This was granted with the formation of the new Durban Botanic Society. This body assumed control of the Botanic Gardens and continued to do so until it ceased to function in 1913.

JOHN MEDLEY WOOD

Prior to his appointment as the next curator on the 1st March 1882, John Medley Wood had been a successful farmer and trading store owner in Inanda. At the age of 24 he joined his parents, who had earlier emigrated to South Africa and, during the intermediate years, he farmed first with arrowroot and, when the price fell, he switched to sugar cane, coffee and castor oil.

From an early stage he had a consuming interest in botany and widely collected cryptogams, fungi, ferns and mosses as well as flowering plants. He built up extensive connections with local and foreign botanists sending large amounts of specimens to Kew and receiving many in exchange. At the time McKen was working in Tongaat he met Wood and later married his sister, Margaret Wood. In 1855 Wood married his stepmother's younger sister, Elizabeth Haygarth. Wood's interest in ferns led to his first publication in 1877, *A popular description of the Natal ferns*, followed in 1879 by *The classification of ferns*. He was assisted in this undertaking by Rev. John Buchanan, who was in Natal from 1861 to 1874.

A clergyman originally from Scotland, Buchanan set up the Presbyterian Church in Durban and Pietermaritzburg. He visited many mission stations and, because of his interest in grasses and ferns, he collected widely in Natal. In 1875 he published *A revised list of ferns of Natal* and some 570 of his specimens are preserved in the herbarium today.

ORIGINS OF NATAL HERBARIUM

Wood writes: 'On becoming the curator of these Gardens, my first and most important object in view was that of starting an herbarium, for without one the name of Botanic Gardens was not justified. An

herbarium means in reality a dry garden, a garden that in a few minutes can be consulted by a botanist like a dictionary'. He inherited a small collection of some two thousand specimens chiefly those collected by McKen and Gerrard, but some also from Australia and Syria. These were housed in a wood and corrugated iron building which was in very poor repair and the specimens were badly damaged by termites and rats, so he saved what was still of use and classified and named them. In his highly informative *Reports on the Natal Botanic Gardens and Colonial Herbarium* (1882–1910) he states: 'The Herbarium belonging to the Gardens is not in a state which renders it of much use to the student. The specimens are unmounted and old newspapers supply the place of both species covers and genus covers. So far, I cannot say the herbarium has been consulted by anyone but myself, only two persons have expressed any desire to see it'. At the same time he had his own collection housed in a separate building. Two self-made cabinets contained his collections, chiefly from Inanda, (1500 specimens), 200 American plants from Mrs Edwards of the seminary in Inanda and a large parcel of plants as a donation from Kew. The duplicates of his collections brought for the purpose of exchange were donated to the herbarium at the Gardens.

Although curator of the Gardens, Wood had no training in horticulture so in June 1882, when James Wylie who had been trained at Kew arrived, he was employed as gardener under Wood. This era now marked the beginning of a new phase in the development of the Gardens which was run along more generally accepted botanic garden lines and the agricultural aspect was dropped. New plants of all types were added to the collections, but the majority of introductions were ornamentals. Wood built up an extensive seed and plant exchange network and he was always ready to give help and advice to the farmers and horticulturalists on any subject to do with the culture of plants or on their diseases. He was also consulted about many pest and insect problems.

From the beginning he collected extensively making annual trips by oxwagon to various parts of Natal and Zululand. He added numerous new records to the flora of Natal and his name is now commemorated in the scientific names of many of our Natal plants.

WOOD AND THE SUGAR INDUSTRY

The sugar industry had flourished along the Natal coast and by 1870 another variety called China cane had superseded Green Natal as the major producer. However, in 1889, a blight disease caused by the smut *Ustilago sacchari* wiped out most of the popular varieties and it was fortunate that, through introductions of imported canes during the preceding years, one emerged to save the industry from virtual extinction.

Who first introduced Uba cane to Natal is not clear, but there are two likely possibilities. Mr Daniel de Pass, who owned an estate along the south coast, communicated with a number of sugar estates

around the world and obtained varieties of cane from Egypt, Louisiana, Mauritius, West Indies and India.

These were all planted on his Reunion estate when they arrived in 1884–1885. The last box to come was left carelessly underneath some sugar bins and was discovered only some time later. The box contained cane tops and, luckily, some had managed to survive. In trying to trace a label for the cane they could only make out the letters 'Uba' badly written on the box and so it was called by this name. It is believed that most of the Uba cane grown along the south coast arose from this original stock. However, another story closer to home is put forward to account for Uba introduction north of Durban. Osborne writes about the same time, 'Governor Mitchell arrived from India with two Wardian cases of cane plants which he gave to Medley Wood for attention. Only three plants were found to be alive but the Curator propagated them successfully giving the results to Anthony Wilkinson of Ottawa Estate'. Here it was hazarded that 'Uba' was part of the name 'Boubaya' — a Madagascan cane. Whatever the real origin, it appears that Uba is not a fortuitous name as it is also known by this name in Jamaica and Australia. The real advantage of Uba cane was that it withstood the Natal climate better than others and was resistant to the locust and fungal attacks that beset the other types. After 1890 Uba cane became the backbone of the sugar industry when the other varieties failed.

DEVELOPMENT IN THE HERBARIUM 1885–1900

By 1885 considerable interest had been shown by the colonial government and the Directors of Kew in the development of the Herbarium. Sir H. E. Bulwer visited the gardens in this year especially to inspect the herbarium and to see what was being done there. The result was, as Wood states, 'His Excellency was good enough to forward a cheque for forty guineas for the purchase of a first class microscope for use in the Herbarium'. In addition, the contents, but not the building, were taken over by the Government and it became known as the Colonial Herbarium from this time. At this stage the collection consisted of nearly 2 500 South African and 900 foreign specimens.

In 1886 the Government made a grant of £67 13s 1d to the Curator to be used for mounting specimens and for cabinets to house them. It was also for the purchase of botanical books and periodicals. Six cabinets were obtained each with sixteen compartments and the books, together with Wood's private library, were to be the start of the excellent collection housed at the Herbarium today. A £30 grant was made annually hereafter for the purchase of more books.

1888 saw the publication of Wood's *An analytical key to the natural orders and genera of Natal indigenous plants* and in 1889 the herbarium gained a significant contribution of specimens from Harry Bolus. Today there are nearly 1 300 of his specimens in the collection. Wood writes: 'Finding it most inconvenient to have to consult two separate

herbaria, situated in buildings far apart from each other; I have transferred a number of the specimens from my own herbarium to the cabinets of the Government Herbarium, many of them being rare and valuable specimens. I may never wish to resume possession of them again; but if at any time I should require them it will be easy to separate them, as the larger portion are still upon the original sheets with my own private stamp upon them, over which I have placed the Government stamp and number'. He actually transferred all his specimens and his own cabinets to the Government Herbarium at a later stage.

In July a bazaar was held in the Durban Town Hall under the direction of the Botanic Society for the purpose of raising funds for the erection of a residence in the Gardens for the Curator, the house in which he had lived hitherto, the oldest house on the Berea, 'having become dilapidated and almost uninhabitable'. To this bazaar was sent, in pots and tubs, 838 plants, 588 for sale and 250 for decoration, 6 hanging baskets and 5 window boxes filled with plants. Of these, 274 were sold realizing about £40 which went to the bazaar fund. This was the contribution of the Botanic Gardens. When the bazaar and closing concert were over and all the expenses were paid, a total of £758 had been collected. The balance needed to pay for the house was obtained by private subscription and the contractor started work on September 16th, though progress was delayed due to the difficulty in obtaining workmen and carts for delivering bricks. The house was finally completed in July 1890 for the grand total of £1147 1s 5d.

In his report for 1890 Wood says of his new house, 'It is well built and ornamental and I think reflects much credit on all those who were so energetic in procuring the funds for its erection. After the old residence had been evacuated by the Curator's family the hands were employed for some time in pulling it down and removing the materials which are now available for erecting a new store, tool house and potting shed which are much wanted'.

This first house (Fig. 2) on the site of the present Herbarium complex is still used as the administrative office today.

By 1891 H. Rutter was employed to bolster the staff of the Gardens and Wood was finding it difficult to cope with the growing herbarium on the slender funds granted to him. He notes there was a shortage of bookcases and herbarium cabinets and that the annual grant of £30 was inadequate. In 1894 Wood published *A primary catalogue of indigenous Natal plants*. By 1895 the collection had grown to over 17 000 specimens of which 7 300 were South African.

The Government grant was raised to £100 per annum which allowed Wood to obtain the services of a half-day assistant, Miss Lauth, who started in July. From March of the following year Wood was able to employ Miss Lauth full-time and, besides helping with general curating of the collection, she did botanical illustrations on the herbarium sheets, particularly dissections and sketch drawings of the Gramineae. At the same time, Maurice Evans, a businessman and politician, who was later to become MP for Durban in 1906, helped Wood in his spare time with work on the indigenous flora. He collected extensively in the Drakensberg bringing back many new records and he published, jointly with Wood, the first of the latter's 6 volume series of illustrated *Natal plants*. He collected about 800 specimens for the herbarium from Natal and Zululand between 1894 and 1897. Another person who contributed a number of illustrations for Wood's work was the artist Walter Haygarth, Wood's adopted nephew, and he collected some 200 specimens from Natal and the eastern Cape.

A NEW HERBARIUM BUILDING

By 1900 the herbarium collection stood at 26 000 with nearly 8 700 South African plants, and these were all housed in 34 cabinets. In his report for this year Wood calls attention to the fact that the iron and wood-lined building which housed the collection was owned by the Botanic Society and was urgently



FIG. 2.—Medley Wood's house completed in 1890 and now used as the administrative office. Photo: J. Reyburn.

required for other purposes. Besides, the building was too small and in great danger of fire particularly from the spirit lamps that were used. It was also subject to all sorts of insect attacks. Application was made to the Government to provide a suitable new brick building for the herbarium. Wood writes 'I was deputed to meet the Premier in Pietermaritzburg on the subject. I took a ground plan of the proposed building drawn out by myself and put into form by my nephew Mr Haygarth'. The plan was submitted by the Premier to the Public Works Department, which estimated the cost at around £1 600. The Premier agreed that funds could be provided and Wood was authorized to call for tenders. When these were received, the lowest was £2 200. The Government finally agreed to this and the reasons given for the differences in estimates were the sloping character of the ground and Wood's insistence that the walls and foundations be strong enough to enable another story to be built on at a later date. He envisaged the development of a Technological Museum on the lower floor with the herbarium above. Although this idea never came to fruition, much of the material he collected forms the basis of the museum at the herbarium today. Work started on the building on December 5th 1901 and it was completed in the following year (Fig. 3). An additional £200 was placed on the estimates for furniture and fumigation of all specimens before being transferred into the new building.

In November 1901 Miss M. Franks was employed as botanical artist and assistant to Wood and she did most of the illustrations from Volume 3 onwards of *Natal plants*. She also contributed plates for Marloth's *Flora of South Africa* and collected some 370 plants from Van Reenen, Camperdown and Durban.

By mid-1903 the collection had grown to nearly 29 000 housed in 41 cabinets. Volume 4 of *Natal plants* had been completed and Wood writes: 'I am glad to say that the building is commodious and, better than that, it is from its height above the

ground and the asphalt platform on which it is built, quite dry, so that the specimens are not in danger of damage from damp'. Miss Lauth left in 1903 after also drawing a number of plates for *Natal plants* and in 1905 Wood became the Director of the Gardens and Colonial Herbarium. Wylie was made Curator of the Gardens until his retirement in 1916, but he continued collecting after this and over 1000 of his specimens are now housed in the herbarium. In 1907 Wood published *A handbook of the flora of Natal*. At this stage funds were markedly reduced and the services of a junior assistant had to be dispensed with.

In Wood's last report in 1910 the herbarium contained nearly 43 000 specimens, 12 500 of which were South African. Funds were still a problem, but a grant of £35 made it possible to begin Part 2 of Volume 6 of *Natal Plants* which was completed only in 1912. In February 1913 Wood was awarded an honorary D. Sc. degree *in absentia* by the University of Cape Town.

NATAL HERBARIUM TRANSFERRED TO UNION GOVERNMENT

In the same year the Botanical Society, which had been suffering through a lack of funds, finally split the property, donating the two acres on which the herbarium stands today to the Secretary of Lands in the Union of South Africa. It was then transferred to the newly-formed Government Division of Botany and Plant Pathology under Dr I. B. Pole Evans. The rest of the Gardens was transferred to the Townlands of the Borough of Durban.

Wood retired from the Gardens but still remained in charge of the Herbarium as Director. Miss Franks left at the end of 1914 and was replaced by Miss K. A. Lansdell, who prepared the plates for the incomplete and unpublished Volume 7 of *Natal plants*. She also completed a number of plates of Natal plants in watercolour which today hang at Natal Herbarium. She moved up to Pretoria in 1917,



FIG. 3.—The Natal Herbarium built in 1902.

where she contributed many plates for the first volumes of *Flowering plants of South Africa*.

DEATH OF WOOD

John Medley Wood (Fig. 4) died on 26th August 1915 at the age of 87 in the house that was built for him as curator of the Botanic Gardens. He had built up, over 33 years, a herbarium with a world-wide reputation. He initiated a large scale exchange programme which led to the incorporation in 54 cabinets of nearly 30 500 extra African and over 2 000 tropical African specimens and he had also accumulated 13 500 South African plants, all of which were entered numerically and indexed for ready reference. It is unfortunate that, through this exchange, only 6 000 of his total collection of 13 099 remain at Natal Herbarium, the rest having been sent overseas and to other herbaria in South Africa. Through his contacts he was able to build up a most comprehensive library and much of his furniture and effects collected over the years are in the museum here.

It should be remembered, though, that the herbarium was part of the Botanic Gardens and it was the combination of the two that gained its reputation under the Directorship of Wood. After the split in 1913, both declined in influence and in the words of F. W. Thorns, a past curator of the Botanic Gardens, 'The loss of the herbarium made the Gardens very like a cart without a horse, and it soon lost its status as a botanical institution to become, in effect, a public park'. The herbarium, too, slipped into obscurity and for nearly 50 years the emphasis lay on plant pathology.

In the annual report of the Department of Agriculture for the year ending March 1913 reference is made to the acceptance by the Department of the Natal Herbarium from the Durban Botanic Society. A decision was made to maintain the herbarium in Durban and also to enlarge the scope of the station as a research centre for the investigation of diseases of tropical and subtropical crops. In the clause, however, the herbarium was handed over on the condition that it was not to be moved from Durban and that it was properly looked after.

BOTANIC STATION AND PLANT PATHOLOGY

The first mention of a plant pathologist becoming involved with the herbarium was when Dr P. A. van der Byl from Pretoria visited Wood in 1914. An Indian assistant and long-standing plant collector for Wood, Moonsamy, was working here at the time. He is heard of again and was pensioned off in 1928. 1914 saw the building of the present labourer's quarters for £125.

On the death of Wood, Van der Byl was transferred to Durban in September 1915 as the first Mycologist in charge of the Botanic Station. Wood's house was converted into a laboratory chiefly for the study of fungal and bacterial diseases and work consisted of giving advice to the public and doing research. Van der Byl worked particularly on those



FIG. 4.—John Medley Wood (1827–1915).

diseases affecting citrus and other subtropical crops, but there was also considerable interest in the diseases of fibre plants. Wood had pioneered work on indigenous fibres and his collection of samples of the fibres of many Natal plants, together with various indigenous dyes, are now housed in the museum. Van der Byl also acted as botanist providing a routine identification service.

In 1913–1914 the Natal Sugar Association obtained a piece of ground on the Eastern vlei (where Kingsmead stands today) to be used as a quarantine experimental station for new varieties of cane. Planting began in 1914 and this was done under supervision not only by the sugar industry but by the Government pathologist, entomologist and sanitary inspector. The entomologist at this time was C. P. van der Merwe who was based at a small office at the Point. The first issue of these canes came in 1916 and specimens were sent to Natal Herbarium. Valuable research into the fungi causing deterioration of sugar in storage was carried out by Van der Byl, as well as investigation into several other cane diseases. He also built up a very large collection of fungi, particularly bracket fungi and toadstools found on tree stumps, which provided the basis for a mycological herbarium.

The first batch of canes released from the quarantine station included some varieties from Argentina. Ironically, it was these that were later identified as having been infected with mosaic disease, and it was the control of this disease which occupied most of the research done at the Botanic Station for the next twenty years. Mosaic was first observed in 1918 and by 1923 it had spread so extensively that all soft cane and Argentinian varieties were infected. Uba cane, (alone), was free from it. Later, however, a second devastating

disease called streak ravaged Uba and most other varieties as well.

THE STATION EXPANDS 1919–1929

On 1st July 1919 Miss Helena M. L. Forbes was employed at the station as botanical assistant in the herbarium and she gradually took over its maintenance and the identification service of plants. She soon became involved in research and in 1920 revised the genus *Cassia* for Natal as well as preparing *The flora of Isipingo* and *The flora of the Malvern district*.

During this period the entomologist in Durban had been seeking an office at the station and subsequently he moved to an old shed just below the herbarium. There was talk of erecting a new office near the entrance for him so that it could be accessible to the public, but in 1921 Van der Merwe moved into the herbarium building instead and occupied the museum room there.

Plant inspection of the imports and exports of live plants and fruit and fumigation of sugar cane cuttings was carried out at the Point by a plant inspector who was supervised by the entomologist. R. H. Harris was inspector until January 1921 when C. C. Kent was employed to replace him.

In June 1920 J. Reyburn was taken on as general lay assistant at the station doing mostly clerical, photographic and maintenance work, while assisting the Mycologist or in the herbarium.

In June 1921 P. A. van der Byl retired from the civil service taking up the appointment of Professor of Phytopathology at the University of Stellenbosch. Dr H. H. Storey became the next mycologist in charge and he was responsible for pioneering work on plant virus diseases in South Africa. His major concerns were mosaic and streak in sugar cane as well as streak disease in maize and rosette in groundnut. To control mosaic in sugar cane, he introduced a campaign for the destruction of old susceptible varieties which were scattered throughout the cane areas. This idea had to be abolished later after Storey discovered that the wild broad-leaved grass *Setaria megaphylla* acted as a reservoir for mosaic, and the aphids feeding on it would continually reinfect the cane. The only solution was to grow sugar cane that was immune or highly resistant to the disease. The monitoring of the spread and control of sugar diseases necessitated the employment of a small staff of disease inspectors. The first of these were Levitt and MacKay and their routine was to travel up and down the Natal coast reporting back to the mycologist on the overall situation. Storey was also responsible for the advisory work on plant diseases in Natal.

In 1923 Miss Forbes started work on the revision of the genus *Psoralea* and an artist, Miss Gower, was employed for a while to paint and help prepare mosaic disease infections for research. During periods when Kent was on leave, Reyburn carried out the plant inspections at the Point, one of the products demanding attention from this time being seed potatoes.

1924 saw the establishment of the Sugar Research Station at Mt Edgecombe, while in June of this year Storey mentions that the rooms occupied by the Natal Entomologist were urgently wanted by officers of the Division of Botany and Plant Pathology to provide room for more technicians to investigate pineapple disease in sugar cane. The entomology buildings were then erected by the Public Works Department in 1925–1926 for £1632 and this third building placed behind the herbarium completed the facilities presently available at the station. As a result of the need for more staff, a scientific assistant post was created for the mycologist and Mr R. F. W. Nichols was employed in January 1925. The post was filled on and off until 1963 when Plant Pathology left the station. Miss A. M. Bottomley from Pretoria assisted Storey for a while. In 1925 the herbarium collection had increased to 17 689 specimens.

In April 1926 the Sugar Research Station opened a new Quarantine Greenhouse which they built at Natal Herbarium. Storey writes in an article published about the new greenhouse, 'The import of plants from foreign countries involves great risk of the introduction of new pests and diseases. Especially is this true when the plants are grown from cuttings and not from seed. Sugar cane is, therefore, a particularly dangerous plant to import without due precautions; and the majority of the serious outbreaks of disease in different cane-growing countries have been caused by the accidental introduction of disease in imported cuttings'. It goes on to say, 'It has recently become plain that the growth of imported cane in quarantine stations located in the open affords insufficient security, since it involves a risk that diseases may become disseminated before their recognition. It was to evade this danger that the construction of a quarantine greenhouse now erected at Natal Herbarium was deemed to be necessary.' The greenhouse was handed over to the custody of the Government Mycologist and considerable research at the Botanic Station resulted in the introduction of many new varieties of cane to the industry. The quarantine greenhouse is still used today but it is administered entirely by Mt. Edgecombe.

To emphasize the importance of the pathological work being done at Durban, another mycologist Dr A. P. D. McClean was transferred from Pretoria to the Botanic Station in mid-1926. He and Storey worked together until February 1928 when the latter left to go to the Amani Research Institute in Tanganyika. McClean then became the next mycologist in charge. Dr Storey (Fig. 5) was considered a very capable and brilliant research worker and he published prolifically. The number of sugar disease inspectors had also been increased with the employment of Sinclair and the seconding of R. H. Halse from citrus canker in late 1927.

The Division of Entomology was joined with Botany and Pathology under I. B. Pole Evans and it was about this time that the entomologist C. P. van der Merwe was transferred to Pretoria, because it was felt that the work in Durban did not warrant the post. Kent remained in the entomology building as plant inspector and assistant entomologist and from

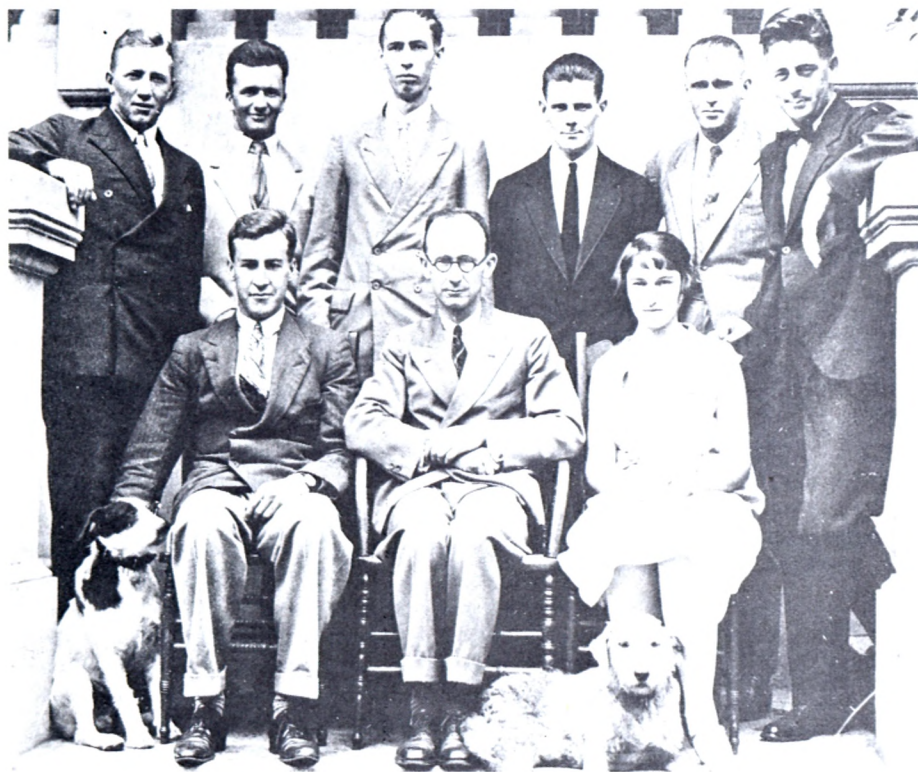


FIG. 5.—Staff of the Botanic Station, Durban, in 1927. Standing (left to right); Mr R. H. Halse, Mr D. Sinclair, Mr R. F. W. Nichols, Mr J. Reyburn, Mr J. S. Mackay and Mr C. Kent; sitting: Dr A. P. D. McClean, Dr H. H. Storey and Miss H. M. L. Forbes.

this period the mycologist answered most queries on entomology referring the problems often to Cedara or Pretoria. Kent remained under the supervision of Van der Merwe who returned to Durban in the thirties when phytosanitary considerations increased in significance, but he was then stationed at the Point office. In the herbarium, work was being done on a revision of the Umbelliferae. In March 1928 inspector Levett resigned and R. H. Halse was employed permanently in his place.

Dr McClean continued the work on plant virus diseases, particularly streak and mosaic in sugar cane and maize, mosaic in wild grass hosts, rosette and bacterial wilt in peanuts, bunchy top disease of tomatoes and leafcurl in tobacco. Attention was directed to a study of the methods by which the diseases were transmitted, the hosts of the causal viruses, the reaction of the susceptible hosts and the possibility of utilizing varietal resistance as a method of control.

The lay assistant appointed to the mycologist was involved in planting seeds, supervising sterilization of the soil, planting out seedlings to use in experiments, spraying and estimating and counting amounts of disease present under treatments. The facilities available for research included a laboratory equipped for study of plant diseases (fungus, bacteria and virus), the insect proof quarantine greenhouse which was used to study insect virus diseases and special insect chambers of various design to study the same.

DIVISION OF PLANT INDUSTRY

In 1929 the Division of Plant Industry was formed comprising the sections botany, plant pathology, horticulture, entomology, field husbandry and pasture research all under the directorship of Dr I. B. Pole Evans. Miss Forbes's revision of *Psoralea*

was published in 1930 and by the end of the year R. H. Halse was the only sugar inspector remaining at the station.

From June 1931 arrangements were made for Kent to move from the Botanic Station to the Point, although the entomology building remained a subsidiary office and two rooms were used as the library. Besides inspecting all produce at the harbour, Kent had to go up to Pietermaritzburg regularly to inspect nurseries for pernicious scale. Plants, bulbs etc had to be fumigated in a cyanide gas chamber before they were allowed to be planted. Reyburn continued to help Kent when the latter was away on leave. In 1931 it is recorded that there were 457 books in the library and 500 volumes of periodicals.

Up until 1933 clerical work and typing had been done by one of the lay assistants, usually Reyburn. On 1st December Miss Hessom was transferred to the station from the cotton graders office, as a temporary clerk, chiefly to take over clerical work, although she helped in the herbarium as well. This new post has been filled with short interruptions up to the present day. In 1933 Dr A. McMartin joined Mt Edgecombe as botanist and found that nearly all research work on sugar diseases was being done at Natal Herbarium. Since the emphasis was on viruses here he began work on fungal diseases at Mt Edgecombe. Dr McMartin later became Director of the Experiment Station.

In 1934 Miss Forbes began her revision of the genus *Tephrosia* and in 1935 six new cabinets were added to the herbarium. At this stage the collection of South African plants had grown to 26 606 with the inclusion of a large number of Thode specimens. There are now over 3 000 of these in the herbarium. Another collector, Rev. J. Gerstner, also contribu-

ted a large number of specimens collected from Zululand and northern Natal.

On 13th November 1935, Reyburn left the station on transfer to Pretoria and Mr R. H. Shears replaced him as general lay assistant. In May 1936 J. C. Howlett was transferred from Pretoria as a botanical assistant to help in the herbarium, while Miss Forbes went to Kew as South African liaison officer. Howlett was not a qualified botanist, but he looked after the curatorial side, doing mounting and pressing as well as helping elsewhere. In 1937 Shears resigned and it appears that the post of general assistant fell away. On 1st August Miss B. M. Ogilvie, a graduate botanist from Natal University, was employed to take over the identification service of the herbarium.

Another glasshouse was erected by the Division of Plant Industry in 1937 for £830 and it was used by the plant pathologist until 1965 when it was demolished.

DIVISION OF BOTANY AND PLANT PATHOLOGY

In January 1938 investigations were made and reports submitted in order to improve the staff situation in the herbarium and to promote research there. Accordingly, in June 1939 Dr H. G. W. Schweickerdt, a taxonomist, was transferred from Pretoria to Durban. He undertook research into the genera *Aristida*, *Tragus* and *Dactyloctenium* and added a considerable number of specimens to the herbarium particularly those of Volk and Dinter. At the end of September Miss Ogilvie was transferred to Pasture Research and in November Dr J. A. Payn from Natal University replaced her in the herbarium. In this year Pole Evans retired and the Division of Plant Industry broke up again into its separate divisions with Dr E. P. Phillips becoming head of the Division of Botany and Plant Pathology.

1940 saw some considerable changes in the Botanic Station as the effect of World War II began to be felt. Dr Payn resigned in April and in July R. H. Halse went on active service. Dr V. A. Wager, who had been awarded a Commonwealth Fellowship to California for two years, returned to Pretoria and was transferred to Natal in September. He was to replace McClean who had indicated that he would be leaving on active service shortly. By this time, work on sugarcane had ceased, as the Experiment Station at Mt Edgecombe took on all disease work in this field. Miss K. Lansdell returned to the herbarium in retirement to paint until leaving in 1943. In October 1940 Dr Schweickerdt left the station to be interned. The entomology building was again used for a short time by Captain Putterill of Defence who used the fumigation chamber and storeroom there as incubation rooms for the observation of certain canned foods.

Miss Forbes returned to Natal Herbarium in July 1941 after a period at the National Herbarium in Pretoria, where she had worked on her return from Kew. Together with J. C. Howlett, they continued to run the herbarium which by this time contained 33 840 specimens. On 1st July McClean left on

active service and Wager took over as acting mycologist in charge pending his return. All the type specimens which had been sent to Pretoria during the war were returned and filed in 1944 and three new cabinets were installed. R. H. Halse came back in December from a prisoner of war camp at Tobruk and Dr R. A. Dyer succeeded Dr Phillips as head of the Division.

1945 saw the split of the Department of Agriculture and Forestry and a further three new cupboards were placed in the herbarium. Dr McClean returned briefly in June 1946 to be transferred almost immediately to Pretoria and Wager officially took charge of the Botanic Station. He was involved in a lot of extension and field work giving talks to farmers and garden clubs and dealt with a large amount of correspondence, being the only pathologist in Natal. Most of his time was occupied in research on black spot in citrus, rust disease in *Gladiolus* and *Antirrhinum* and anthracnose in pawpaws. Research was also done into vegetable diseases especially bacterial wilt and bacterial canker in tomatoes. Field experiments were carried out in the Underberg area to increase the yield in potatoes. Results of most of this work were published in Government bulletins and scientific periodicals. The disease inspectors were still employed by Plant Pathology and in 1947 H. V. Frances joined Halse for inspections.

TIMBER CONTROL OFFICE

In 1948 Mr K. Bock was transferred from Pretoria for a while to help Wager with black spot disease in citrus and 1949 saw a new development in the third building where the Division of Entomology established a Timber Control office. A report in the Daily News in October 1947 read: 'The Union Government of Entomology regards it in the national interest not only to stem the tide of damage done by termites in Durban, but to prevent the spread of their ravages into the interior which may be more favourable to the pest than first thought. Officers recently sent to Durban to investigate the situation had made a report on the campaign to be used to control the pest. It was suggested that timber passing through the docks in Durban was greatly endangered. The termite is a slow working insect and timber moves through fairly fast. *Cryptotermes brevis* differs from other termites in that the whole colony lives sealed up inside the wood. They have been known since 1921 where the original infestation was found in an office desk. On later investigation it was found that the termite was already widespread'. In fact, it is believed that *C. brevis* entered Natal in a consignment of timber around 1918. A sample of the insect was sent to America for identification, but was wrongly named and thought to be harmless. Another American, Emerson, later positively identified it, but by then it had become established.

The first Timber Control officer to be based at the Botanic Station was C. C. van Zyl in November 1949 and the work included inspection of all imported timber yards. Secondhand furniture, demolitions where timber was to be used again, alterations and

additions to buildings involving wood and consignments of secondhand timber all had to be checked. Many calls and queries from the public were answered here and eradication work and the treatment of buildings by private firms had to be supervised. The work required a large staff and C. Kent was brought back to the station, and other plant inspectors were employed. In March 1951 Van Zyl died and was replaced by J. L. de Goeda who was transferred up from the Cape. The normal inspections of plants, fruit and potatoes, fumigations, and issuing of import permits and phytosanitary certificates were also handled from this office. By 1950 the herbarium collection had grown to 39 960 with large contributions by Acocks, West, Lawn, Schelpe and Fisher.

J. Reyburn was re-employed again for eighteen months in May 1951 but as an assistant to the mycologist this time, and J. C. Howlett, who worked for 14 years as botanical assistant at Natal Herbarium and who contributed over 300 specimens to the herbarium, retired on pension in February. The post of technical assistant in the herbarium, often shared with Plant Pathology initially, has been maintained ever since.

DIVISION OF BOTANY

In 1953 large organizational changes occurred within the Department of Agriculture and most outstations were transferred to regional control in a move towards decentralization. The separate Divisions of Botany and Plant Pathology now came into being; the former, to which the Botanic Station was transferred, remained centrally administered from Pretoria with Dr Dyer as Chief while the latter became regionalized. Dr Wager remained at the station as a senior officer in the region because of his specialist knowledge of plant diseases in the coastal area, but Miss Forbes now became officer in charge of the station. On 5th January Miss A. Dohse was transferred from the National Herbarium in Pretoria to help Miss Forbes who had been ill for some time with rheumatoid arthritis. The Division of Entomology which had until now contained a section called Plant Regulatory Services also split in this reorganization with the latter becoming known as Plant Control and Quarantine. It was to this division that the timber control work at the station belonged. In the same year C. Kent, who was already a pensioner, was transferred to East London and G. P. Botha continued as plant inspector.

The next few years saw the largest turnover of staff in the stations history. On the 10th October 1955 Miss H. M. L. Forbes retired unable to continue working through illness and she died in 1959. She had contributed over 1 400 specimens and in 36 years of service had been, 'the stalwart that kept botanical wheels turning at the herbarium'. Miss A Dohse became officer-in-charge from this date and on the 14th November Miss. S. M. Johnson, Senior Professional Officer was transferred to Durban from the Albany Museum at Grahamstown.

In the same year, J. L. da Goeda left as Timber Control Officer and was replaced by Mr T. H.

Marincowitz; and there was a large reorganization of Plant Control and Quarantine in Durban. Halse and Frances who had become attached to this Division left the station for the Indian Immigration Centre, which became the head office of Plant Control and Quarantine. Halse was made officer-in-charge of the Division and all import and export work, permits etc, were done from there. The Timber Control office and sugar cane cutting, fumigation facilities were all that remained at the station.

On 1st December 1956 Miss Dohse left Durban for Pretoria and Miss Johnson assumed control. In April of that year Mrs A. Wessels was employed as a clerical assistant and she continued in this post after remarrying and becoming Mrs Breytenbach until July 1975. For a number of years the herbarium was now able to employ students during their vacations and among them was R. A. Lubke who is now lecturer and curator of the herbarium at Rhodes University and W. J. Lawson who contributed over 350 specimens to the herbarium. In May 1956 Mrs M. Carr was employed as a technical assistant in the herbarium. She was one of the longest standing members of staff to fill the post leaving only in November 1962.

During 1957 and the following years it appears the station had a number of burglaries and eventually in 1960 a night watchman and day guard for public holidays and weekends had to be employed to control this. 1958 saw the renaming of the Department to Agricultural Technical Services and Miss Johnson writes in 1959 that the 24th February was 'a great day for the herbarium as strip lighting had been installed. Specimens had to be carried to the windows to see them before'. Extensive repairs and renovations were done to the buildings and all the library books had been dipped in Drexolon against bookworm.

In April R. H. Halse retired from control services and was later employed at Mt Edgecombe. Mr D. Thomas, an entomologist specializing in forest and timber insects was transferred to the station in October 1959. It was the first time an entomologist had been based here since the late 1920's and the office answered many queries from the public. In 1960 Marincowitz left the station and Timber Control was moved to what is now the police station in Gardener Street. He later became head of Plant Control and Quarantine.

In June 1960 the herbarium identified seeds of the water hyacinth, *Eichornia crassipes*, in a court case. Plants were being sold by street-hawkers to up-country customers, who were shown flowering specimens and then given barren plants on the pretext that they had different coloured flowers.

BOTANICAL RESEARCH INSTITUTE

Although most research activities, including entomology and plant pathology, were retained on a regional basis, the planning and co-ordination of research was strengthened by the formation of a number of national research institutes. The Division of Botany became the Botanical Research Institute and the outstations, including the one at Durban

were henceforth referred to as Botanical Research Units. The Plant Protection Research Institute was formed to deal with research of a national nature in fields of entomology and plant pathology, which resulted in taxonomic mycology (and the mycological herbarium), previously the function of the National Herbarium, being placed under Plant Protection. Plant Control and Quarantine was also regarded as a national service and became known as the Division of Plant and Seed Control.

On the 2nd April 1962, Mr R. G. Strey was transferred to Natal Herbarium from Pretoria and this led to major new collections being included in the herbarium. The library was re-organized in this year and fans installed in the herbarium roof.

1963 saw Dr L. E. Codd taking over as Director of the Botanical Research Institute and on 31st August Miss Johnson resigned with Mr Strey now becoming officer-in-charge of the unit. A re-organization of the herbarium ensued with five new metal cupboards being added as the collection had grown to 49 717 with the inclusion of Medley Wood's tropical African specimens and large collections of C. J. Ward, K. D. Huntley and D. J. B. Killick. Major improvements were started in the garden and a systematic planting of rare indigenous trees and shrubs began which today represent a unique collection. A photograph was obtained from the Natal Mercury of the occasion when the herbarium was transferred to the Union Government while Medley Wood was still Director, on 30th October 1913. This hangs in the hallway of Medley Wood's house today, together with a number of other photographs.

In November 1963 connections with Entomology were finally severed when Thomas was transferred to Cedara and the cyanide fumigation chamber in which sugar-cane cuttings had still been fumigated by Plant and Seed Control was closed down. A technical assistant post was made available and Miss R. A. Briggs, later to become Mrs Forssman, was sent from Pretoria to fill it.

1964 saw a re-organization of the museum collection, with Medley Wood's material for the technological museum, his fibre and dyed wool samples, Dr Schweickerdt's seed collection, samples of indigenous and imported wood tablets and many other interesting articles being displayed in the entomology building. Strey continued to build this up with his own seed, wood and insect collections and he took considerable interest in gathering information on the early curators of the Botanic Gardens and herbarium as well as early botanical collectors in Natal.

In 1965 Dr Wager retired and an officer of the Natal Region, Mr Levey was stationed at the office with the intention of making the station an extension centre for the Region. In April Wager was employed again as extension officer, but it was decided shortly afterwards to move the office to the newly formed headquarters in Pinetown. Wager, however, remained at the unit until November 1966 before retiring permanently.

HERBARIUM AND BOTANICAL SURVEY

In 1966 it was decided to increase the scope of work at the unit to include taxonomic and ecological research. Botanical Survey activities previously based at Pietermaritzburg were transferred to Natal Herbarium and the herbarium and library expanded. The double garage was built and the government vehicle which had been based in Pietermaritzburg came down to the unit. In January 1967 E. J. Moll, Botanical Survey Officer, was transferred and placed as officer-in-charge of the unit taking over the entomology building as an office. He undertook vegetation studies in Tongaland and completed a project on the three-rivers catchment area south of the Tugela.

The herbarium received 12 new cabinets and the library many additional books, while in March a contractor completed the new tarred road and fence in front of the unit. J. W. Morris, another survey officer, remained in Pietermaritzburg but used the unit as a base until September 1967. In August J. H. Ross of the Flora Section in Pretoria joined the Natal Herbarium to undertake a revision of *Acacia* for *Flora of Southern Africa* and to revise Bews's *Flora of Natal*. In March of the following year, Ross left Botany to help out in the family business but returned towards the end of November to carry on with his research.

During 1968 fluorescent lighting was fitted throughout the buildings although it is unfortunate that the pressed steel ceiling in the herbarium was damaged; and the dark-room was fitted out and made functional. Complete repainting followed in 1969 and a new asbestos roof which was specially made to resemble the original corrugated one was fitted onto the herbarium and house. A large amount of timber was replaced and an air-cooling plant installed in the library.

E. J. Moll returned in August from nearly a year spent in Europe. By mid-1968 the herbarium collection had risen to 58 900 with the inclusion of large collections from Ward, Venter, Strey, Nicholson, Hilliard, Huntley, Tinley, Moll, Morris, Vährmeyer and Coleman. Over the previous few years black staff had been introduced to take over pressing and mounting work to enable those in the herbarium to cope with the increased work load.

In May 1971 C. F. Musil was transferred from Pietermaritzburg to work on the ecology and eco-physiology of aquatic plants in Natal and later he was joined by M. D. S. Nel who, until June of the following year, assisted as a technician in water ecology (Fig. 6). J. H. Ross left at the end of May for Kew as liaison botanist for the Institute. Miss B. D. Pascoe and afterwards Miss Gafney, later Mrs Vorwerk, were botanical illustrators as well as technical assistants at this time and the latter completed many of the drawings for Mr Strey's revision of *Cussonia* which was later published.

At the end of April 1972, Strey retired but returned again in July to carry on at the herbarium. Dr Codd retired as Director of the Institute in 1973 to be succeeded by Dr B. de Winter, and at the end of July of the same year Moll left the Botanical



FIG. 6.—Staff of the Botanical Research Unit, Durban, in 1971: Left to right: Mr C. F. Musil, Miss R. E. de Jager, Mrs A. M. C. Breytenbach, Mr E. J. Moll, Mr A. Murray, Dr J. H. Ross and Mr R. G. Strey.

Research Unit to take up a post as lecturer in Plant Ecology at the University of Cape Town. At the same time T. H. Arnold who had recently been employed in Pretoria was temporarily seconded to Natal Herbarium to relieve Mr Strey who intended going overseas on vacation. This fell through, however, and Arnold left at the end of November to complete an M.Sc. at the University of Natal, Pietermaritzburg. Another officer seconded from the Institute. C. H. Stirton, worked on his M.Sc. thesis on *Eriosema*, while employed at the unit from December 1973 to January 1974, but returned to Pietermaritzburg to continue his studies.

At the end of July, 1975, Mr Strey retired permanently and moved to the Village of Happiness near Margate. From his numerous collecting trips, mostly in Natal and Transkei, he contributed well over 6 000 specimens to the herbarium and distributed large quantities of duplicates to all the major herbaria in South Africa. He discovered a new genus and a number of new species some of which he wrote up for publication and his name is commemorated in several of his discoveries. His observations led to the description of *Raphia australis* a new palm species, and the only one of this genus to occur in South Africa. During the period Strey was curator, the overall scientific activity in Natal Herbarium increased as it had not done since the days of Medley Wood.

The Botanical Survey Officer, C. Musil, was in charge of the unit after Strey retired until the arrival of P. C. V. du Toit from Pretoria in April 1976. During this period the museum was arranged and annotated as it is at present. Du Toit was mainly interested in grasses, soon starting work on the genus *Pentaschistis* and his wife, who was also employed at the Institute and transferred with him, worked on illustrations for the Pretoria Flora until 1978 when she resigned. In 1977 the tropical African and extra African collections accumulated by Medley Wood, and the moss collection, were transferred to Pretoria and the herbarium now concentrates on South African flowering plants and

ferns with emphasis on Natal. C. Buthelezi, the present black herbarium assistant, joined the staff in 1977.

REGIONAL HERBARIUM

In February 1979 Mrs B. J. Pienaar was employed in a new half-day technician-botanist post and she helped build up the separate cultivated plant section of the herbarium to cope with the increasing demand for identification of exotics. At the end of February, C. Musil was transferred back to Pretoria and this terminated the permanent occupation of the Botanical Survey section at the unit. It is now visited only occasionally by Dr P. J. Weisser, who is surveying the Zululand coastal dunes to establish conservation priorities as the result of dune mining. The new fence surrounding the property was completed in 1980 and in June Du Toit resigned from the Institute and left for Cedara Agricultural College to lecture in pasture management.

On 1st August 1979 B. D. Schrire was transferred from Pretoria as officer-in-charge five months after joining the Institute. The first priority was to establish a mini-herbarium or quick-guide of representative specimens of the Flora of Natal, and close contact with the Institute in Pretoria resulted in the inclusion of many recent revisions and name changes, generally updating the collection to facilitate identification. With the help of Mr G. Nichols of Durban Corporation, the garden has been extensively pruned and cleared of superfluous vegetation while being improved with the addition of many more Natal plants. Mrs Pienaar was transferred to Pretoria in May 1981 being replaced in June by Mrs M. Jordaan (née Prins) a previous employee of the Institute and, together with an additional half-day technician post created in May 1982 to replace the technical assistant post, the herbarium is now able to offer a more effective information and identification service to the public. The collection now stands at over 75 000 specimens mostly representative of Natal. Research is being done into

the tribe Desmodieae of the Leguminosae for the *Flora of Southern Africa* and requests for seed or other plant material and general collecting for the herbarium continue as facets of the work done at Natal herbarium today.

This account of the history of Natal Herbarium draws attention to the large contribution made by its staff over the years to agriculture in South Africa and botany in particular. It is fitting, therefore, that the Natal Herbarium is shortly to be declared a National Monument.

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Coleman, Parks Recreation and Beaches Department and Mrs S. M. Gillatt.

UITTREKSEL

Die geskiedenis van die Natalse Herbarium word beskryf vanaf die beginjare in 1882 tot 1982, die jaar van sy honderdjarige bestaan. Sy geskiedenis is onlosmaaklik verweef met dié van die Durbanse Botaniese Tuin, wat begin het as 'n Landbou-tuin in 1848, en die Durbanse Botaniese Stasie. Die rolle gespeel deur die verskeie kuratore en beamptes-in-beheer, veral John Medley Wood wat 32 jaar lank die pos beklee en veel gedoen het om die Herbarium op die botaniese kaart geplaas te kry, word beklemtoon.

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