1-1-1967

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Department of Agriculture, Western Australia

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Recommended Citation

Department of Agriculture, Western Australia (1967) "Department of Agriculture services: the Botany Branch and the W.A. Herbarium," Journal of the Department of Agriculture, Western Australia, Series 4: Vol. 8 : No. 8 , Article 8.
Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol8/iss8/8

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DEPARTMENT OF AGRICULTURE SERVICES

THE BOTANY BRANCH AND THE W.A. HERBARIUM

ALTHOUGH the flora of Western Australia strongly attracted early botanists and collectors, it was virtually neglected by settlers faced with a century or more of hard pioneering.

Only recently has enthusiasm for our remarkable flora developed within the State and, with the formation of sponsoring societies and the establishment of the Kings Park Botanic Gardens, native species have become popular in home and civic gardens.

One result of this trend has been a doubling in very few years of the identification work of the Department of Agriculture's Botany Branch. More than 13,000 specimens were submitted in 1965-66—an increase from 5,000 in 1958.

Not only has identification increased in volume but it has become more difficult and time-consuming. With the increased number of specimens there has been a bigger proportion of poorly presented specimens and of species new to science.

Development of the Branch

A request from seed merchants in 1923 that the Department carry out routine purity and germination tests on seed samples, prompted the late Dr. G. L. Sutton, then Director of Agriculture, to suggest that this work could be facilitated if the three herbaria of the Forests and Agriculture Departments and the Museum were combined.

By 1929 the two departmental herbaria were combined with Mr. C. A. Gardner from the Forests Department appointed as Government Botanist and Curator of the State Herbarium. Lack of accommodation prevented combination of the two collections until 1933 and, in fact, not all the Forests Department material could be included until 1941.

The museum collection was added in 1957 after two other additions—that of the herbarium of the W.A. University's Institute of Agriculture and the extensive orchid collection of the late Colonel B. T. Goadby. The extensive collection of Dr. W. E. Blackall, who died in 1941, was bequeathed to Mr. Gardner who, in turn, donated it to the W.A. Herbarium where it is maintained as a distinct collection.

In this way the Department of Agriculture Botany Branch has become the principal botanical centre for the State, housing the W.A. Herbarium. The Herbarium contains some 85,000 specimens.

The work of the Botany Branch covers identifications, scientific classification, advisory services, surveys and various special projects.

Many inquirers have an optimistic faith in the botanist's ability to recognise any plant at first glance. Some submit a half-dead stem and sprig of leaves and expect an immediate answer. While many specimens are readily identifiable, others are so similar in appearance that good specimens are needed for positive identification. Ideally a specimen should be of sufficient size to show the character of the plant and should include flowers and, if possible, fruit or seed cases. Specimens may be sent in by post, suitably packed.

Classification and surveys

Classification or systematic botany is work which can never end. The study of a botanical family is a meticulous comparing and describing of each species. A botanist specialising in one family can become a world authority on it and receive specimens and scientific inquiries and correspondence from all parts of the world.
A most interesting ecological survey is being carried out in conjunction with zoologists of the W.A. University. This survey is investigating the conditions suitable for native fauna which lives in thick cover and feed on a different type of country by night.

The work is going on at Rottnest Island and at Pingelly. At Pingelly the animals live in the Dryandra thickets but nocturnally feed on adjacent sandplain country and eat the plants of that area. For the fauna to remain in this habitat both areas need to be in suitable condition. If either is not, the animals will leave the area for country more in balance with their requirements. Fire could upset the balance by destroying the suitable growth on one area and it has been noted that species of one vegetative type may invade another vegetative type if the burn favours one area rather than the other.

This survey has involved listing all the plants in the area, pegging many individual specimens and observing their progression or regression.

Herbarium

The West Australian Herbarium, housed at the Department of Agriculture Head Office, South Perth, is steel-furnished and highly fire-protected. The carefully arranged contents of the Herbarium represent many thousands of hours of collecting and patient mounting and classifying and include a large number of rare species, some of which have not been seen in the bush for many years.

The scope and importance of the work of the Botany Branch can be judged by the fact that there are nearly 7,000 separate species of flowering plants in the State, including exotic species which have become established. This figure does not include mosses, lichens and algae—and there are at least 460 known species of algae in the State.

Another very useful service to farmers has been the description of and provision of advice about native poison plants which have caused so many stock losses in various parts of the State over the years.

The branch has now commenced publication in the Journal of Agriculture of a series of articles describing and illustrating the poison plants.

The collections housed in the Western Australian Herbarium are the most comprehensive and extensive collection of Western Australian plants in the world. As such it is of great interest to other botanists who are working on groups of plants represented in this State, and sheets of specimens from this Herbarium are constantly being sent to such workers both in Australia and overseas. After critical examination and studying, these specimens are annotated by the experts and returned to the Western Australian Herbarium.

In other instances, the botanists themselves visit the State to collect specimens and to examine the plants as they occur in nature. These visitors usually work at the Western Australian Herbarium where they examine the large collections housed there as well as studying and identifying their own material.

In the past few years, the collections in the Herbarium have been extended to include species of plants from other Australian States. The number of these specimens is constantly being increased by exchange of duplicates of West Australian plants for duplicates available for distribution from other Australian herbaria. Under certain circumstances the Western Australian collections in a number of herbaria in America and Europe are being built up by direct donations from this Herbarium.
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