THE HISTORY OF BOTANICAL COLLECTING ON THE RESERVE

The Reserve is important as an area where major historical collections have been made. The earliest collectors were W. Baxter (1828), J.S. Roe (1848), J. Drummond (1847,1848), and G. Maxwell (1863). They collected several hundred plants in the area and many of the specimens, sent to botanists in Britain and Europe, were named as new species. It is extremely important scientifically that such a type locality where the original specimens were collected, be preserved. These specimens also were the basis of some of the work for the "Flora Australiensis", written at the Royal Botanic Gardens, Kew, by G. Bentham between 1863 and 1878. This is still the standard work on the Australian flora as a whole.

It is worth noting that when Sir W.J. Hooker, Director of Royal Botanic Gardens Kew, received Drummond's 1848 collection from the Mt. Barren area, he wrote that he had "rarely seen so great a number of fine and remarkable species arrive at one time from any country."

Subsequent important collections in the area were made by C.Andrews (1903), H. Steedman (1930, 1932, 1938), W.E. Blackall and C.A. Gardner (1925, 1931) and C.A. Gardner (1948). More new species were described from these specimens.

Following his expeditions the late C.A. Gardner, former Government Botanist of Western Australia, recognised the importance of the area and was instrumental in having it gazetted as a Reserve.

Over the past 20 years collecting has continued intermittently, and with every expedition further plants of interest have been found. So complex is the Reserve, especially in the river valleys and around the mountains, that thorough exploration will take some years to complete.

The recent expedition stayed on the Reserve for 7 days and covered various areas in the western half. Even at this time of

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the year, with the main flowering season yet to come, many new and valuable collections were made. At least ten new species were collected. A further 8 species had previously been poorly collected, and 3 of these had not been represented in the Western Australian Herbarium.

THE JUPITER MINERAL CLAIM AREA

The Fitzgerald River valley and its tributaries, along which the Jupiter mineral claims lie, are unique in the Western Australian landscape. ~~Geologically the valley differs~~ from any ~~other formation~~. No other river along the whole south coast is comparable with its sweeping valleys bordered by richly-coloured cliffs, breakaways and tree- or shrub-covered slopes. The Murchison River valley is somewhat similar but differs in geology, flora and fauna.

The vegetation of the valley and its environs cannot be adequately summarised as it is extremely varied. It includes savannah woodland, mallee, mallee-heath, heath, breakaway formations and riverine formations. The changes are largely due to variations in soil, soil moisture, and aspect.

The presence of savannah is important, as there is little of this type in the South-West of the State. Previously Jam (Acacia acuminata) and York Gum (Eucalyptus loxophleba) savannah occurred quite widely, but they have now mostly disappeared with agricultural development. The savannah of the Fitzgerald occurs in the valley itself, the dominant tree being Swamp Yate, Eucalyptus occidentalis. Among the common native grasses are two species of Stipa which were collected recently for the first time and are new to science.

A number of plants in the river valley are of unusual interest. Besides the two new species of Stipa referred to above, there are four new species of Acacia, and one new species of Dampiera. For two other species this is the only definite locality known -

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Duriala villosa (F.Muell) Ulbrick and Olearia muricata (Steetz) Benth. (typical variant). Three more species have been rarely collected previously - Senecio squarrosus A.Rich and two species of Phebalium.

Of importance from a plant geographical aspect are several species which occur in the valley as outliers, their range otherwise being far to the north and northeast. These include Bassia inflora (R.Br.) F. Muell., Arthrocnenum lylei (Ewart & White) Black, Chenopodium desertorum (Black) Black, and Stenopetalum filifolium Benth.

There is a different flora on the sides of the valley, on the breakaways and on the upper level above these. The vegetation is mostly mallee-heath and heath, but many local variations occur. The breakaways themselves are an important feature floristically as well as scenically. Certain species are entirely restricted in the Reserve to these habitats e.g. Eucalyptus megacornuta C.A. Gardner a variant known only from this locality), Eucalyptus lehmanii Preiss ex Schau. (free form) and Hovea acanthoclada (Turcz.) F.Muell

The mallee-heath vegetation above the breakaways contains a wide diversity of species. The families Proteaceae, Myrtaceae, Fabaceae and Epacridaceae are represented by numerous species of outstanding interest both scientifically and from a tourist aspect. An unusual feature is the occurrence of small open pockets where the surface is rocky or has only a shallow soil cover. These carry an open shrub association with bare areas between the plants and include plants differing from the surrounding scrub, e.g. three species of Verticordia (one collected recently for the first time and known only from this locality), and Calothamnus villosus RBr.

It is difficult to see how the valley floors could be mined without damage to the sides and hilltops. It would be impossible to restore the vegetation to anything like its present state. The soil structure would be too disturbed, the soil moisture system completely altered, and the surface drainage pattern would also

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change. No restoration of natural vegetation has ever been achieved in this State. It would also be impossible to replant the area from seed, as many of the plants involved can still not be propagated, especially on a large scale.