BOTANICAL SURVEY OF

CENTRAL PILBARA UPLANDS

Project (N709)

Progress Report - Second Year 1996

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PRECIS

BOTANICAL SURVEY OF CENTRAL PILBARA UPLANDS

Project N706

The botanical survey of Central Pilbara upland sites commenced in 1995. During the 1996 field program 12 upland sites were visited in the western portion of the Hamersley Range. These sites were selected through modifications to the 1995 site selection protocol which will ensure that the affects of biophysical gradients on plant species through the Hamersley Range are assessed during this project. On each of the upland sites visited in 1996 one 40 m^2 permanent benchmark quadrat was established. Within this quadrat all plant species present were recorded and voucher specimens collected for unknown taxa. Intensive opportunistic flora sampling was also undertaken outside the quadrat over the entire upland site.

A total of 269 taxa were recorded on the 12 upland sites visited in 1996. Combined with taxa recorded in 1995, a total of 352 taxa have now been recorded from upland sites during this project. These taxa represent 112 genera in 55 families. During 1996 a total of 151 voucher specimens were obtained. Several additional populations for taxa of conservation significance were recorded during 1996. Additionally, unusual Melaleuca *and* Pteracaulon *species were recorded in the study area.*

Subjectively, differences between the 12 upland sites were evident, which appeared to be related to heterogeneity with respect to geological setting. Quantitative interrogation of the plant specimen, geological and soil sample data bases should verify these differences. Plant specimens collected during the 1995 and 1996 field program are being processed and incorporated into the appropriate herbaria and specialist taxonomists are being consulted regarding the identification of poorly known species.

TITLE OF PROJECT:

Botanical Survey of Central Pilbara Uplands

AGENCY:

Western Australian Department of Conservation and Land Management (CALM), Science and Information Division.

CHIEF INVESTIGATOR:

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AIM OF PROJECT:

To comprehensively document the flora of upland sites within the Central Pilbara in order to facilitate an evaluation of the distribution of rare, geographically restricted and endangered plant species and to assist with the identification of areas of high floristic richness.

SCOPE:

1. Finalise identification of Central Pilbara upland sites using results from 1995 surveys.

2. Continue systematic sampling of permanent replicated quadrats on upland sites.

3. Compile results of 1996 survey.

4. Begin data entry and preliminary analysis of 1996 survey results.

5. Begin preparation of quantitative descriptions of species composition of each site sampled in 1996.

6. Map the distribution of any species of conservation significance recorded in 1996.

7. Begin the analysis of 1996 plant species data using multivariate and ordination techniques to determine patterns of species richness, turnover and distribution between upland sites.

8. Begin the development and presentation of management recommendations based on the 1996 survey, which will be designed to ensure that sites identified as biologically significant are not affected by deleterious perturbations. Such management recommendations may also include proposals for reserve gazettal if conservation values are considered to be significantly high.

PROGRESS TOWARDS COMPLETION OF SCOPE ITEMS:

During 1996 progress was made towards fulfilment of all scope items. The majority of the research effort during 1996 was directed at surveying an additional 12 upland sites in the western part of the Hamersley Range. Research also continued on the identification of plant specimens collected during the 1995 and current years field program. The development of specimen data bases and the incorporation of vouchers into the Pilbara Regional and Western Australian Herbaria also progressed during 1996. One field trip was undertaken during 1996. During this trip a helicopter was used to gain access to all 12 surveyed upland sites.

Progress on this project is outlined below.

Scope 1:

The upland site selection strategy employed in 1995 was not amended during 1996. However, some changes where made to the number and location of sites selected for survey as a consequence of logistical considerations; the desire to sample biophysical gradients across the Hamersley Range; and the need to capture uplands on the fringing edges of the project area. To this end, upland sites 2, 4 (Mt Wall), 7 (Mt Pyrton), 8 and 12 on Figure 1 were supplemental to the register of sites identified in 1995. These supplementary sites were all visited during the 1996 field program.

Landsat imagery of the project area was acquired during 1996 to help delimit the extent of upland sites throughout the project area. Similarly, the development of the GIS data base was ongoing with the capture of relief and some geological themes. It is also hoped that a fire history theme can be developed if suitable information on the location and extent of fire throughout the project area is forthcoming.

Scope 2:

One field trip was conducted during September 1996 as part of this project. A total of 12 sites were sampled during this field program, all in the western portion of the Hamersley Range (Figure 1). A helicopter was used to access all sites as they were remote and difficult to approach by vehicle or on foot.

During the 1996 field program the quadrat based sampling methodology was modified from that utilised during 1995. This modification involved reducing the number of permanent benchmark quadrats established on each upland site to one. Previously four permanent benchmark quadrats were established on each upland site. This change was necessitated as a consequence of difficulties encountered during the 1995 field program and reinforced during 1996 field activities. The necessity for methodology changes to the sampling strategy was promoted by an inability to establish four quadrats on each upland site due to insufficient size and logistical/safety considerations associated with accessing steep and unstable terrain (cliff faces, rock screes). The positioning of the single sample quadrat on each upland site was adjacent to and including the summit. In addition to the systematic sampling of these permanent plots, random

opportunistic sampling was undertaken over the entire upland site. This was achieved by walking over the site and opportunistically collecting and recording all plant species encountered. A minimum of three hours random opportunistic sampling was undertaken at each upland site.

In summary the current sampling methodology being employed to sample upland site includes the:

- establishment of a 40 m^2 permanently marked benchmark quadrat on the summit of the upland site;
- sampling of all plants within this quadrat;
- collection of a soil sample; and
- three person hours of opportunistic flora sampling on fringing slopes and screes outside the quadrat.

This sampling methodology will now be employed in surveys of all future upland sites. Flora records collected from the additional quadrats established in 1995 will now be included on the list of taxa opportunistically recorded for those upland sites.

Soil samples were obtained from all 12 sites established during 1996. The chemical and physical attributes of the soil from each site will be determined through standard analytical procedures. Information gathered from these samples will provide an additional data base to help justify patterns of species composition and turnover between upland sites throughout the study area.

Scope 3:

A total of 269 taxa representing 603 records were recorded during the 1996 field program. Within the permanent benchmark quadrats a total of 121 taxa representing 268 records were registered. A total of 151 voucher specimens were collected. Combined with records obtained during 1995 a total of 352 taxa representing 112 genera in 55 families have been registered during the course of this project (Appendix One). Taxa in the genus *Acacia, Senna, Sida, Eremophila* and *Eucalyptus* were the most commonly recorded and generally represented dominant elements of the vegetation associations on each upland site. The ground cover at each upland was usually dominated by *Triodia* species, however, few specimens were collected as their sterile state precluded identification.

Species of conservation significance identified during 1996 include:

Anthocercis sp. (SVL 2038)

This taxon was collected from the upland site south of Twin Peaks in 1995 (site 10 - Figure 1). Examination of collections housed in the W. A. Herbarium indicate that this taxon represents a novel species not previously collected or recorded in the scientific literature.

Brachychiton acuminatus

This species was recorded from three sites during the 1996 field program. Both sites represent new locations for this species which CALM has recorded on the Priority Flora List.

Brachychiton sp. (SVL 2702)

This taxon was located on three of the upland sites visited during 1996. The taxon was also collected on two upland sites in 1995. The taxon resembles *B. gregorii* which has a distribution throughout arid Australia from the Central Murchison and Southern Goldfield in Western Australia to the central Northern Territory. If populations of this taxon represent *B. gregorii* this is a significant north westerly range extension for this species.

Cryptandra monticola

This Hamersley Range endemic, which until late 1995 was listed on CALM's Priority Flora List, was recorded on 11 of the 12 upland sites visited during the current field program.

Eucalyptus pilbarensis

This species was possibly recorded from four sites during the 1996 field program. The species is a Pilbara endemic and is substantially confined to the Hamersley Range. The species is listed on CALM's Priority Flora List.

Eremophila "magnifica"

Two populations of this undescribed taxon, which appears to be endemic to the Hamersley Range, were collected during the 1996 field program. The species is listed on CALM's Priority Flora List.

Maytenus aff. *cunninghamii*

Several new populations of this taxon were located during 1996. The taxonomic status of this taxon is unclear, however, it may be identical to another undescribed *Maytenus* recorded in the Northern Territory.

Melaleuca sp. (SVL 2739)

This taxon superficially resembles *M. cardiophylla* although its habit and the habitat in which it occurs were notably different. The taxon was only collected from one upland site (Mt Wall - Figure 1) where it was the dominant shrub on a small breakaway and fringing scree slope.

Paraceterach reynoldsii

Three new populations of this species were located during 1996. Until the commencement of this project no specimens of this Central Australian taxon where housed in the W. A. Herbarium, although the species had previously been cited as occurring in Western Australia.[A]

Pteracaulon sp. (SVL 2770)

This taxon appears to represent a novel species. The taxon was collected from two upland sites during the current field program. Further taxonomic investigation is required to clarify the status of the specimens.

Many of the undescribed species listed, and some of those which have been tentatively identified in Appendix One, may also be of conservation significance. Some of the unidentified specimens collected may represent novel taxa which will require identification by specialist taxonomists before an assessment of conservation status can be made. Ongoing identification and specimen processing will clarify these problems.

As noted in 1995, there appears to be marked differences between upland sites based on geological considerations. Only one of the 1996 surveyed upland sites was dominated by basaltic lavas and the flora at this site was noticeabley

[A] Hnatiuk, R. J. (1990). ***Census of Australian Vascular Plants***, Bureau of Flora and Fauna, Australian Flora and Fauna Series, No 11.

different in composition from all the other sites visited which were dominated by banded jasperlites (ironstone). Hopefully, these geological differences will be evident in the chemical characteristics of the soil from these different sites. Topographical/terrain and fire history differences were also evident between sites, although the latter was difficult to quantify because of uncertainty with regard to previous fire history. These subjective assessments must be treated cautiously, however, and need to be confirmed through quantitative processes associated with multivariant and ordination analyses.

Scope 4:

Processing, incorporation and data basing of plant specimens into the Pilbara Regional Herbarium is underway. Duplicate specimens are also being forwarded to the Western Australian Herbarium and, in the case of specimens of taxonomic interest, vouchers are being forwarded to appropriate taxonomists at Eastern States and overseas institutions.

A specimen data base has been established and is continually being augmented as new specimen identifications become available. The GIS data base is under development and currently contains themes related to vegetation (Beard's 1 : 000 000 map) and land systems. During 1997 a geological and relief theme will be added to this database. A fire history GIS data base will also be developed based on CALM and Shire records, if sufficient information of a reliable quality is available.

Scope 5:

Preliminary work has commenced on the compilation of quantitative descriptions for the floristic composition and richness of the upland sites surveyed. Preliminary, exploratory analyses of data collected during the 1995 field program support the notion that geological considerations have a marked impact on species distribution and the composition of upland sites.

Scope 6:

A GIS data base for plant species of conservation and biological significance has been developed. This database is continuously augmented as new identifications become available. At the completion of this project it is envisaged that this GIS data base will include information on all species of conservation and biological significance found on upland sites within the Hamersley Range. This will include species recorded for upland locations not visited during this project.

Scope 7:

Preliminary exploratory analyses have been undertaken on the flora data set collected from the ten upland sites sampled in 1995. Results tentatively support the assertion that geological, geographical, and landscape considerations have a marked influence on the distribution of species and the floristic richness of sites. Incorporation of edaphic attributes obtained from the chemical and physical

analysis of soil samples should also highlight the influence of geological setting on species richness and distribution.

Scope 8:

Distributional data for flora species of biological and conservation significance is already being utilised for routine management and operational procedures within the Karijini National Park. Species distributional data has been incorporated onto Wildfire Threat Analysis maps for the national park and areas immediately adjacent. This distributional data has also been incorporated into operational plans, such as the Master Burn Plan for Karijini National Park which is associated with the development of strategic aerial buffers for the control and suppression of wildfires.

No proposals for reserve gazettal have been developed although preliminary analysis of distributional maps indicate that the majority of the flora species recorded during the 1995 and 1996 field programs are represented within the existing conservation estate (Karijini National Park). This assumption applies equally to those species of conservation significance. Exceptions were noted for *Melaleuca* sp (SVL 2739) from Mt Wall, *Anthocercis* sp. (SVL 2038) from south of Twin Peaks and *Pterocaulon* sp. (SVL 2770) from the Mt Pyrton area.

PLANNED ACTIVITIES TOWARDS COMPLETION OF SCOPE ITEMS:

During the remainder of the 1996 contract research will continue on the identification of plant specimens collected, their data basing and incorporation into herbaria. Analytical work will also commence on the soil samples collected during 1996. Development of the GIS database will also proceed with the capture of additional geological themes.

* * * * * * * * * * *

117 118 119

22

△ Mt Elvire

7 Mt Pyrton

8

9

Mt Sheila

6 Mt McRae

HAMERSLEY

5

10 Mt Brockman

Wittenoom

Mt King

Munjina

Mt Lockyer

1

Mt Bruce

2

Mt Windell

12

11 Mt Turner

1 Mt Sampson

Tom Price

3 Mt Hyogo

4 Mt Wall

Mt Nameless

2

Mt Barricade

4

5

6

Great

7 Mt Bennett

KARIJINI NATIONAL PARK

8 Mt Meharry

9 Mt Robinson

RANGES

Northern

Highway

3

Paraburdoo

Twin Peaks

Giles Point

10

Mt Newman

Snowy Mountain

Newman

23

0 20 40

Kilometers

◆ Proposed upland survey sites.

△ Tentative 'infill' upland sites

▼ Surveyed (1995) upland sites

▼ Surveyed (1996) upland sites

117 118 119

Appendix One

Vascular Plant Species

Botanical Survey of Central Pilbara Uplands

1997

This list of vascular plants includes all specimens collected during the 1995 and 1996 field programs and subsequently identified before 1 February 1997. Taxa are listed alphabetically in the order of genus and species in their respective families. The family sequence follows approximately the classification presented in Green (1985) "Census of the Vascular Plants of Western Australia". Nomenclature generally follows Green op. cit. *and that employed by the Western Australian Herbarium, apart from a few exceptions where recent taxonomic revisions have suggested alternative classifications.*

APPENDIX ONE

ADIANTACEAE

Cheilanthes brownii
Cheilanthes seiberi
Cheilanthes sp. (SVL 2812)
Paraceterach reynoldsii

CUPRESSACEAE

Callitris glaucophylla

POACEAE

Amphipogon caricinus
Aristida contorta
Cymbopogon obtectus
Cymbopogon sp.
Eriachne dominii
Eriachne mucronata
Paraneurachne muelleri
Themeda triandra
Triodia pungens

CYPERACEAE

Cyperus sp. (SVL 2026)

ANTHERICACEAE

Thysanotus manglesianus
Thysanotus sp. "VHF Hill"
Tricoryne "trudgenae" (SVL 2715)

MORACEAE

Ficus aff. *platypoda* (SVL 2695)
Ficus sp. (SVL 2757)

PROTEACEAE

Grevillea pyramidalis
Grevillea stenobotrya
Grevillea striata
Grevillea aff. *striata* (SVL 2730)
Grevillea wickhamii subsp. *aprica*
Grevillea sp. (SVL 1984)
Hakea suberea
Hakea sp. (SVL 2720)

SANTALACEAE

Exocarpus sparteus
Exocarpus sp.
Santalum lanceolatum

LORANTHACEAE

Amyema sp. (SVL 2780)
Amyema sp. (SVL 2825)

CHENOPODIACEAE

Dysphania rhadinostachya
Dysphania sp. (SVL 1985)
Rhagodia eremaea
Salsola kali

AMARANTHACEAE

Amaranthus sp.
Ptilotus aervoides
Ptilotus auriculifolius
Ptilotus calostachyus
Ptilotus exaltatus
Ptilotus helipteroides
Ptilotus macrocephalus
Ptilotus obovatus
Ptilotus polystachyus
Ptilotus rotundifolius

GYROSTEMONACEAE

Codonocarpus cotinifolius

PORTULACACEAE

Calandrinia sp.
Genus sp. (SVL 2043)

CARYOPHYLLACEAE

Polycarpaea longiflora
Polycarpaea sp. (SVL 2826)

MENISPERMACEAE

Tinospora sp.

LAURACEAE

Cassytha sp. (SVL 2802)

CAPPARACEAE

APPENDIX ONE

Capparis lasiantha
Capparis spinosa
Capparis umbonata
Cleome viscosa

BRASSICACEAE

Lepidium oxytrichum

PITTOSPORACEAE

Pittosporum phylliraeoides

SURIANACEAE

Stylobasium spathulatum
Stylobasium sp.

MIMOSACEAE

Acacia adoxa
Acacia aneura
Acacia arida
Acacia atkinsiana
Acacia ayersiana var. *latifolia*
Acacia bivenosa
Acacia coriacea subsp. *pendens*
Acacia dictyophleba
Acacia hamersleyensis
Acacia inaequilatera
Acacia kempeana
Acacia maitlandii
Acacia marramamba
Acacia monticola
Acacia pachyacra
Acacia pruinocarpa
Acacia pyrifolia
Acacia rhodophloia
Acacia spondylophylla
Acacia stowardii
Acacia tenuissima
Acacia tetragonophylla
Acacia validinervia
Acacia sp. (SVL 1948)
Acacia sp. (SVL 1977)
Acacia sp. (SVL 2024)
Acacia sp. (SVL 2044)
Acacia sp. (SVL 2082)
Acacia sp. (SVL 2738)

CAESALPINIACEAE

Petalostylis labicheoides
Senna artemisioides subsp. x *artemisioides*
Senna artemisioides subsp. *helmsii*
Senna artemisioides subsp. *oligophylla*
Senna artemisioides subsp. sp. (SVL 2063)
Senna artemisioides subsp. *sturtii*
Senna glutinosa subsp. *ferraria*
Senna glutinosa subsp. *glutinosa*
Senna glutinosa subsp. *luerssenii*
Senna glutinosa subsp. *pruinosa*
Senna notabilis
Senna pleurocarpa var. *augustafolia*
Senna sp. (SVL 1946)
Senna sp. (*cardiosperma* group)

PAPILIONACEAE

Daviesia sp.
Gastrolobium grandiflorum
Glycine tabacina
Gompholobium polyzygum
Indigofera "fractiflexa"
Indigofera monophylla
Indigofera sp. (SVL 2011)
Indigofera sp. (SVL 2023)
Indigofera sp. (SVL 2794)
Isotropis sp. (SVL 1964)
Mirbelia sp. (SVL 2763)
Mirbelia viminalis (SVL 1945)
Rhynchosia minima
Rhynchosia aff. *minima*
Swainsona maccullochiana
Genus sp. (SVL 1962)
Genus sp. (SVL 2015)
Genus sp. (SVL 2067)

ZYGOPHYLLACEAE

Tribulus astrocarpus
Tribulus platypterus
Tribulus suberosus

POLYGALACEAE

Polygala chinensis

APPENDIX ONE

EUPHORBIACEAE

Euphorbia boophthona
Phyllanthus sp.

CELASTRACEAE

Maytenus aff. *cunninghamii*

STACKHOUSIACEAE

Stackhousia sp. (SVL 1961)

SAPINDACEAE

Atalaya hemiglauca
Atalaya aff. *hemiglauca* (SVL 2773)
Dodonaea coriacea
Dodonaea lanceolata
Dodonaea peteolaris
Dodonaea viscosa subsp. *angustissima*
Dodonaea viscosa subsp. *spatulata*
Dodonaea sp. (SVL 2029)
Dodonaea sp. (SVL 2061)
Dodonaea sp. (SVL 2083)
Dodonaea sp. (SVL 2758)

RHAMNACEAE

Cryptandra monticola

TILIACEAE

Corchorus sp. (SVL 1956)
Corchorus sp. (SVL 2064)
Corchorus sp. (SVL 2080)
Corchorus sp. (SVL 2705)
Corchorus sp. (SVL 2750)
Corchorus sp. (SVL 2808)
Corchorus sp. (large)
Corchorus sp. (narrow) (SVL 2750)
Corchorus sp. (small)
Triumfetta sp. (SVL 1717)
Triumfetta sp. (SVL 2800)
Triumfetta sp. "woody" (SVL 2806)
Triumfetta sp. (large)
Triumfetta sp. (narrow)
Triumfetta sp. (small)

MALVACEAE

Abutilon lepidium
Abutilon sp. (SVL 1949)
Gossypium robinsonii
Hibiscus coatsii
Hibiscus aff. *coatsii* (SVL 2826)
Hibiscus goldsworthii
Hibiscus sp. (SVL 1998)
Hibiscus sp. (SVL 2716)
Hibiscus sp. (SVL 2813)
Malvastrum americanum
Sida fibulifera
Sida aff. *fibulifera*
Sida "golden calys"
Sida sp. (SVL 1951)
Sida sp. (SVL 1966)
Sida sp. (SVL 1978)
Sida sp. (SVL 1995)
Sida sp. (SVL 1997)
Sida sp. (SVL 2046)
Sida sp. (SVL 2066)
Sida sp. (SVL 2694)
Sida sp. (SVL 2707)
Sida sp. (SVL 2735)
Sida sp. (SVL 2746)

STERCULIACEAE

Brachychiton acuminatus
Brachychiton sp. (SVL 1957)
Brachychiton sp. (SVL 2702)
Keraudrenia integrifolia
Keraudrenia sp.
Rulinga sp. (SVL 2081)
Waltheria indica

DILLENIACEAE

Hibbertia sp. (SVL 2019)
Hibbertia sp. (SVL 2822)

VIOLACEAE

Hybanthus aurantiacus

THYMELAEACEAE

Pimelea forrestiana

APPENDIX ONE

MYRTACEAE

Calytrix carinata
Corymbia deserticola
Corymbia ferriticola
Corymbia terminalis
Corymbia aff. *terminalis*
Corymbia aff. *terminalis* (shiny)
Corymbia sp. (SVL 2737)
Corymbia sp. (SVL 2765)
Eucalyptus ewartiana
Eucalyptus gamophylla
Eucalyptus kingsmillii
Eucalyptus leucophloia
Eucalyptus pilbarensis
Eucalyptus aff. *pilbarensis* (SVL 2823)
Eucalyptus "*xerothermica*"
Eucalyptus aff. "*xerothermica*"
Eucalyptus striaticalyx
Eucalyptus trivalvis
Eucalyptus sp. (SVL 2085)
Eucalyptus sp. (SVL 2086)
Eucalyptus sp. (SVL 2671)
Eucalyptus sp. (SVL 2679)
Eucalyptus sp. (SVL 2680)
Eucalyptus sp. (SVL 2696)
Eucalyptus sp. (SVL 2697)
Eucalyptus sp. (SVL 2699)
Eucalyptus sp. (SVL 2713)
Eucalyptus sp. (SVL 2732)
Eucalyptus sp. (SVL 2754)
Eucalyptus sp. (SVL 2768)
Eucalyptus sp. (SVL 2785)
Eucalyptus sp. (SVL 2789)
Eucalyptus sp. (SVL 2795)
Eucalyptus sp. (SVL 2803)
Melaleuca sp. (SVL 2739)
Thryptomene wittweri

HALORAGACEAE

Haloragis gossei

ARALIACEAE

Astrotricha hamptonii

APIACEAE

Trachymene oleracea
Trachymene sp.
Genus sp. (Barricade)
Genus sp. (SVL 1971)
Genus sp. (SVL 2062)

OILEACEAE

Jasminum didymum subsp. *lineare*

ASCLEPIADACEAE

Gymnema sp. (SVL 2820)
Gymnema sp. (SVL 2824)
Rhyncharrhea linearis
Rhyncharrhea sp.
Sarcostemma viminale subsp. *australe*
Genus sp. (SVL 2027)

CONVOLVULACEAE

Evolvulus alsinoides
Ipomoea aff. *pes-caprae*
Ipomoea sp. (SVL 2068)
Porana commixta
Porana sp.

BORAGINACEAE

Halgania aff. *solanacea*
Heliotropium heteranthum
Heliotropium sp. (SVL 2033)
Trichodesma zeylanicum

VERBENACEAE

Clerodendrum sp. (SVL 1959)
Genus sp. (SVL 2010)

CHLOANTHACEAE

Newcastelia spodiotricha
Spartothamnella teucriiflora

LAMIACEAE

Plectranthus intraterraneus
Plectranthus aff. *intraterraneus* (SVL 2809)
Plectranthus sp. (SVL 2077)
Prostanthera albiflora

APPENDIX ONE

Prostanthera sp. (SVL 1969)
Prostanthera sp. (SVL 2749)

SOLANACEAE

Anthocercis sp. (SVL 2038)
Nicotiana benthamii
Nicotiana occidentalis
Solanum ferosissimum
Solanum horridum
Solanum lanceolatum
Solanum lasiophyllum
Solanum sturtianum
Solanum aff. *sturtianum* ((SVL 2718)
Solanum sp. (SVL 1974)
Solanum sp. (SVL 1988)
Solanum sp. (SVL 1994)
Solanum sp. (SVL 2028)
Solanum sp. (SVL 2718)
Solanum sp. (SVL 2753)
Solanum sp. (SVL 2815)

MYOPORACEAE

Eremophila cuneifolia
Eremophila exilifolia
Eremophila forrestii
Eremophila fraseri
Eremophila latrobei
Eremophila latrobei (broad) (SVL 2798)
Eremophila latrobei (filiform)
Eremophila longifolia
Eremophila "*magnifica*" subsp. "*magifica*"
Eremophila "*magnifica*" subsp. "*velutina*"
Eremophila sp. (SVL 1968)
Eremophila sp. (SVL 1968)
Eremophila sp. (SVL 2036)
Eremophila sp. (SVL 2041)
Eremophila sp. (SVL 2677)
Eremophila sp. (SVL 2681)
Eremophila sp. (SVL 2693)
Eremophila sp. (SVL 2743)

RUBIACEAE

Canthium latifolium
Canthium lineare
Hedyotis crouchiania
Pomax aff. *rupestris*
Pomax sp. (SVL 2689)
Pomax sp. (SVL 2756)
Pomax sp. (SVL 2827)

CUCURBITACEAE

Mukia maderaspatana

LOBELIACEAE

Lobelia heterophylla

GOODENIACEAE

Dampiera candicans
Dampiera sp. (SVL 1987)
Dampiera sp. (SVL 2047)
Dampiera sp. (SVL 2057)
Dampiera sp. (SVL 2070)
Dampiera sp. (SVL 2688)
Dampiera sp. (SVL 2692)
Dampiera sp. (SVL 2714)
Goodenia stobbsiana
Goodenia triodiophylla
Goodenia cusackiana
Goodenia heterochila
Goodenia prostrata
Goodenia sp. (SVL 1947)
Goodenia sp. (SVL 1980)
Goodenia sp. (SVL 2005)
Goodenia sp. (SVL 2013)
Goodenia sp. (SVL 2710)
Goodenia sp. (SVL 2722)
Goodenia sp. (SVL 2727)
Goodenia sp. (SVL 2747)
Goodenia sp. (SVL 2797)
Goodenia sp. (SVL 2828)
Scaevola parvifolia subsp. *pilbarae*
Scaevola stobbsiana
Velleia connata

BRUNONIACEAE

Brunonia australis

ASTERACEAE

Bidens bipinnata

APPENDIX ONE

Calotis eremaea
Calotis hispidula
Calotis multicalus
Olearia stuartii
Olearia xerophila
Pteracaulon sp. (SVL 2703)
Pteracaulon sp. (SVL 2810)
Pteracaulon sp. "big fruits" (SVL 2770)
Rhodanthe helichysoides
Sigesbeckia orientalis
Streptoglossa bubakii
Genus sp. (SVL 2819)
Genus sp. (SVL 1950)
Genus sp. (SVL 1963)
Genus sp. (SVL 1965)
Genus sp. (SVL 1975)
Genus sp. (SVL 1981)
Genus sp. (SVL 2018)
Genus sp. (SVL 2807)
Genus sp. (SVL 2819)