Bush Blitz on Karara, Lochada and Kadji Kadji Pastoral Leases and Charles Darwin Reserve, Western Australia

Vascular Plants

Report to Australian Biological Resources Study, Department of the Environment, Water, Heritage and the Arts, Canberra

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Cover picture: View of plain with varied vegetation associations mainly dominated by *Acacia*, with prominent ridges and hills in the distance. View from Mungada Ridge, September 2009. (Photo T.D. Macfarlane).

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Summary

The botanical results of a biological survey of the reserve properties Karara, Lochada and Kadji Kadji and Charles Darwin Reserve during September 2009 are reported. Significant numbers of taxa were added to the records of each property, with the following numbers of vascular plant taxa on each (with percentage increase as a result of the survey collections): Karara 429 (+ 9%), Lochada 159 (+ 96%), Kadji Kadji 176 (+ 44%) and Charles Darwin Reserve 462 (+ 19%). Three species believed new to science were discovered in the genera *Abutilon*, *Thysanotus* and *Lomandra*, and illustrated. A selection of other taxa is also illustrated. Other taxonomic uncertainties are highlighted. Taxa occurring on the individual properties are listed in appendices.

Project aim

This project was part of a general biological survey of properties representing recent additions to the National Reserve System covering several organism groups, to provide biodiversity information for reserve adequacy assessment and management and to contribute to taxonomic knowledge including description of new species as appropriate.

Survey structure

A team of scientists specialising in different organism groups with logistic support from ABRS, carried out the survey following individually devised field programs, over two weeks in mid-September 2009. The vascular plant survey reported here was carried out during 15-20 September on Karara, Lochada and Kadji Kadji Pastoral Leases by Terry Macfarlane and Melinda Trudgen working separately. The second leg of the survey, on Charles Darwin Reserve, was conducted by Melinda Trudgen.

Flora: introduction

Karara, Lochada and Kadji Kadji (hereafter referred to as the KLK leases) are three adjoining former pastoral leasehold properties that are now managed by the Department of Conservation and Land Management (DEC) for conservation purposes. They consist of a mainly subdued landscape of plains with occasional seasonal

watercourses, low ridges, isolated hills, substantial ranges of hills, and salt lakes. There are a range of soils, including red loams, yellow sands, laterite, granite and banded ironstone, supporting a number of different vegetation associations or communities, expressed as Land systems by Payne et al. (1998). The vegetation mosaic includes flora characteristic of the South West Botanical Province such as the species rich shrublands on yellow sands and other areas where it is characteristic of the Eremaean Province or Rangelands, such as *Acacia*-dominated tall shrublands with a sparse understorey.

The vegetation and species of plants occurring on the three leases are moderately well known, but as the results of this survey show, the area has not been exhaustively surveyed. The reasons for this include the fact that it was for so long devoted to pastoral pursuits, its remoteness, the lack of perceived threat from clearing, the large size of the area, the opportunistic nature of much of the collecting, and presumably the variation in the quality of seasons and flowering times between years. There are only a handful of collections in the WA Herbarium collection from before 1971, after which the amount of collecting increased markedly. These collections have often been made by general collectors for government agencies, by specialist collectors targeting particular plant groups, either taxonomic or functional such as trees, and opportunistic collections by professional or amateur collectors traversing the area. The greater number of collections have however been made in order to more comprehensively inventory the flora for the vegetation classification studies of Beard (1981) and Payne et al. (1998), for the Salinity Action Plan, and for environmental impact surveys connected with potential mining projects. Specific surveys of threatened flora have also been conducted by Department of Environment and Conservation (DEC) botanists and flora officers.

The list of possibly new taxa and taxa in the flora lists that have not been formally named also demonstrates that the Reserve flora is consistent with the general situation in south western Australia, which is that taxonomic knowledge is far from complete.

The Charles Darwin Reserve, separated from the KLK leases and located to the south east, likewise consists of a lease formerly used for pastoral purposes, and also located on the edge of the farming region of the wheatbelt. It has a range of soil and vegetation types including extensive plains of shrublands of various kinds, and *Eucalyptus*- and *Acacia*-dominated woodlands. It has lateritic breakaways, some granite rock outcrops, and a relatively limited area of greenstone and banded ironstone, and few significant hills.

Although there have been numerous botanical collections and surveys of the area, it has not been examined really intensively and comprehensively, and over a range of seasonal times and conditions. Although it was visited on an earlier survey in this series (Macfarlane 2009), the season was then very dry. The outcome of this present survey, even though it was not expected to be comprehensive, nevertheless was carried out in good seasonal conditions. It is therefore of interest to see how productive such a project would prove to be in terms of the number of flora species added to the reserve flora list and of presumed new taxa.

The Survey

Objectives of the flora survey

The size of the area, the time available, the existing level of knowledge and the objectives of the survey meant that a comprehensive coverage of the whole area of the KLK leases and the CDR was neither possible nor desirable. The approach taken was therefore to visit areas known to be poorly collected and where there was a diversity of Land Systems, especially where substrates such as sand and runoff area adjacent to rock surfaces were likely.

Although plots were not used, since the emphasis was on the species diversity and inventory rather than vegetation communities, reasonably comprehensive collections were made at selected sites. Some plot-based work has been done on the leases in other studies, including by a DEC Landscope Expedition operating at the same time as this survey.

In keeping with the overall project plan, there was a particular focus on species that for any reason were suspected of not having been collected on the reserves, that were considered to be likely to contribute to knowledge of the species, and for which there was known specialist taxonomic interest. Rare species are few in the area and already under study so this aspect was not emphasised. Special attention was paid to plants in taxonomic specialty groups of participants and other Western Australian botanists, e.g. *Wurmbea* and other petaloid monocots, grasses, *Calandrinia*, *Ptilotus*, Asteraceae, and Myrtaceae.

Of particular interest for the overall project were species that might be new records for the reserves, and species that might be new to science, and weeds as an indication of vegetation condition and threats to conservation.

Methods

In preparation for the survey a species list for the KLK leases was prepared from the Western Australian Herbarium (PERTH) specimen database WAHERB as a guide to species known to be present, to aid recognition of new records, and to visualise the spread of previous collecting via mapping of records. The list of specimens was prepared by making a series of rectangular queries to cover all the area of the leases and then removing records that were outside the somewhat complex boundaries. Note that the area excluded the Rothsay mining common, but included small included crown reserves (e.g. water reserves 10269 at Windinie Hill, 12148, 12147, 14246 and UCL 4185). Non-vascular plant records were also removed. The resulting set of specimens whose geocodes indicated that they were collected on the target area were saved for mapping of individual specimens. A small separate set consisting of specimens representing taxa that were not recorded from the leases but had been collected close to the boundaries was also saved. To prepare the taxon list, the specimen records were reduced to a list of the current scientific names, with repetitions removed. Records not identified to species level (e.g. Acacia sp.) and records only identified to species level when infraspecific names were present for the

same species, were removed. Records with phrase names listed as current in the WA Census were included.

Limitations of this process include the following. (1) Omission of any specimens present in other herbaria but not duplicated in PERTH, but it was not considered that there would be many such specimens and that they would represent even fewer otherwise un-recorded taxa. (2) Different and possibly more up-to-date expert identifications of duplicate specimens present in herbaria other than PERTH. In the time available this was considered to be too difficult to ascertain and is again unlikely to include many, if any, cases. (3) Specimens erroneously included or excluded because of geocode errors. This kind of error is difficult to detect unless they lead to the inclusion of very anomalous taxon occurrences. Some records are known to be based on old collections whose location was imprecise and the geocode had consequently been estimated, but this is considered to be a minor situation and is seldom the sole reason for listing a taxon for the leases. A similar process was used for a list of CDR flora prior to the May 2009 survey, and a refined list that also contained additions recorded during the survey was available in Macfarlane (2009).

The collecting and specimen processing work was assisted by other participants in the surveys as expressed on the specimen labels that have resulted form the work. Additional specimens were contributed by other participating scientists as vouchers of hosts for invertebrate collections.

Identifying the collections and vouchering

Plant identification was based on existing knowledge, advice from other botanists, specialists in the taxonomy of particular groups (see acknowledgements), available keys in floras and revisions, online resources especially the Western Australian Herbarium's FloraBase Web resource and the AVH (Australia's Virtual Herbarium), and WA Herbarium collections.

Selected collections were retained for lodgement in the Western Australian Herbarium as vouchers verifying the records, especially for new records for the reserves and for plants of taxonomic or variation interest, but very poor specimens or repetitious records were usually not kept. The vouchers will be able to be readily retrieved from the WAHERB database by querying for the property names in the voucher or locality field. The records are to be accessible to AVH queries and contribute to the AVH maps.

Figure 1. *Hemiphora elderi* (Lamiaceae), a mixed population of the common red form growing with the unusual yellow form, flowering on recently burnt yellow sand plain during the biological survey at Karara. (Photo T.D. Macfarlane).

Name list preparation.

Following identification the lists of names from the starting species lists from the Herbarium specimen database and the survey collections were compiled as a species data table in the WA Herbarium software Max, which enables the names to be compared to and updated from WACensus, the official list of WA vascular plant names. Appropriate lists can be prepared via reports and by exporting the data to Excel tables. For this report, the names are listed alphabetically by genus but other arrangements would be possible.

Results

Summary of the species lists

The statistics of the survey are presented in Table 1, showing the numbers of taxa recorded from each property at the outset and the position now, with the number and percentage increase of the known taxa indicated. The three leases Karara, Lochada and Kadji Kadji are presented as combined data because they adjoin and are managed together by DEC, and separately since they are separate land entities.

Clearly there are significant increases in the numbers of taxa recorded from the various areas, including Charles Darwin Reserve which has had a reasonable amount of botanical activity and a previous survey in this series. The outstanding case however was Lochada where the number of recorded taxa has practically doubled. This property had by far the lowest number of recorded taxa at the outset, despite having the largest land area of the three adjoining areas, perhaps because of having

less of the landform features that have attracted effort to the other properties, namely wetlands and banded ironstone hills. Charles Darwin Reserve has the most taxa known (462), about 30 more than the similarly rich Karara (429). The other properties have considerably fewer species known.

Table 1. Statistics of the survey outcome.

	Taxa recorded at outset	Taxa added by survey	New total of taxa	Percentage increase
Three leases (Karara, Lochada, Kadji Kadji) combined	508	60	568	12
Karara	395	34	429	9
Lochada	81	78	159	96
Kadji Kadji	122	54	176	44
Charles Darwin Reserve (CDR)	387	74	462	19
Overall number of taxa for all four properties			757	
Number of taxa in the combined Karara, Lochada and Kadji Kadji leases only (not recorded from CDR)			296	
Number of taxa in CDR only (not recorded from Karara, Lochada and Kadji Kadji leases)			188	

The Karara-Lochada-Kadji Kadji species list

A full list of the vascular plants of the KLK leases based on known specimen records including the collections of this survey is presented in Appendix 1. The list contains 568 taxa (558 separate species and 9 cases of two or three subspecies or varieties of the same species). The taxa are listed at their lowest level, i.e. species, subspecies, or variety, with care taken to avoid double counting of taxa at both species and infraspecies level. For this report the list is simply presented alphabetically by genus.

The flora list was strictly limited to the area within the boundaries of the KLK leases in keeping with the objectives. As a consequence some of the new records of occurrence are hardly surprising and might indeed have been already collected nearby, but it was considered important to maintain the integrity of the list as representing taxa recorded with vouchers from the actual KLK lease areas. In fact the data on nearby occurrences of additional species indicates that there are relatively few records lost by exclusion of neighbouring collections, unlike the case of the CDR which has a major highway nearby where much collecting has been done over the years.

Taxa newly recorded for Karara-Lochada-Kadji Kadji (KLK)

Appendix 1 also includes an indication of taxa that are additions to (newly recorded for) the flora list for the KLK leases as a result of the collections made during this survey. The voucher specimens are not individually indicated here, but the information is on record, and has been supplied to ABRS as a spreadsheet of the survey collections. The new records are for convenience presented separately in Table 2. When the leases are considered separately, there are many further new records, and these are indicated in Appendix 1.

Table 2. New records of vascular plants from Karara, Lochada and Kadji Kadji combined.

Number of newly recorded taxa: 60.

Number of newly recorded taxa that are weeds: 10.

Taxa are listed alphabetically by genus. Note that further taxa were added to individual leases that had already been recorded from the combined leases previously (see Appendix1). For additional explanations on the list format see Appendix 1.

TAXON	CONS CODE
Abutilon oxycarpum subsp. prostratum ms	
Abutilon sp. (M.S. Trudgen 80)	
Acacia duriuscula	
Amyema fitzgeraldii	
Arthropodium sp. (T.D. Macfarlane 4738)	
Austrodanthonia caespitosa	
Borya constricta	
Chamaexeros fimbriata	
Chrysitrix distigmatosa	
Crassula decumbens	
Crassula exserta	
Cryptandra apetala var. apetala	
*Cyperus tenellus	
Dicrastylis parvifolia	
Drosera glanduligera	
Drosera sp. (T.D. Macfarlane 4733)	
Duperreya sericea	
Ecdeiocolea monostachya	
Eragrostis dielsii	
*Erodium aureum	
*Erodium cicutarium	
Goodenia havilandii	
Goodenia mimuloides	
Grevillea sarissa subsp. sarissa	
Hakea invaginata	
Halgania integerrima	
Haloragis gossei	
Homalocalyx aureus	
Jacksonia arenicola	
*Juncus bufonius	
*Juncus capitatus	
Lachnagrostis filiformis	
Levenhookia leptantha	
*Limonium lobatum	
Lomandra effusa	
Lomandra sp. Lochada (T.D. Macfarlane 4833)	
Maireana atkinsiana	

Melaleuca laxiflora	
Mirbelia depressa	
Mirbelia ramulosa	
Mirbelia rhagodioides	
*Monoculus monstrosus	
Myriocephalus pygmaeus	
Nicotiana rotundifolia	
*Parentucellia latifolia	
Philotheca glabra	
*Polycarpon tetraphyllum	
Ptilotus gaudichaudii var. gaudichaudii	
Ptilotus polystachyus	
Rhagodia drummondii	
*Schismus barbatus	
Sida calyxhymenia	
Solanum sp. aff. lasiophyllum (T.D. Macfarlane 4874)	
Sondottia connata	
Swainsona gracilis	
Thysanotus pyramidalis	
Thysanotus rectantherus	
Thysanotus sp. Lochada (T.D. Macfarlane 4860)	
Tricoryne sp. Morawa (G.J. Keighery & N. Gibson 6759)	1
Triodia tomentosa	

A selection of species newly recorded or collected from KLK leases (photos by T.D. Macfarlane)

Figure 2. *Arthropodium sp.* (T.D. Macfarlane 4738), newly recorded for the KLK leases.

Figure 3. *Chrysitrix distigmatosa*, growing with *Triodia tomentosa* in a restricted habitat.

Figure 4. *Limonium lobatum*, a newly recorded weed of moderately saline habitats on Karara and Kadji Kadji.

Figure 5. *Ecdeiocolea monostachya*, forming ring-shaped tufts on shallow soil..

Figure 6. *Thysanotus pyramidalis*, newly recorded for both KLK leases and Charles Darwin Reserve.

Figure 7. *Triodia tomentosa*, a localised occurrence on the Lochada-Karara boundary, representing a substantial westward range extension.

Un-named taxa of the KLK leases

There are approximately 40 taxa listed in Appendix 1 that have various forms of informal name, e.g. manuscript, standardised phrase names, informal or un-registered phrase names, or names reflecting complete uncertainty such as ”sp.”. Of these a small number merit explanatory remarks (Table 3), usually because they are newly introduced here.

Table 3. Informally named taxa collected during the survey or otherwise requiring comment.

Name	Comment
Arthropodium sp. (T.D. Macfarlane 4738)	Temporary name pending study. Previously collected elsewhere but poorly known. This probably represents northern records of *Dichopogon* (or *Arthropodium*) *capillipes* (J. Conran, pers. comm.). Newly recorded for KLK leases.
Caesia sp. Wongan (K.F. Kenneally 8820)	Previously collected, an established phrase name, but poorly known taxonomically.
Drosera sp. (T.D. Macfarlane 4733)	Temporary name. Available specimen inadequate for definite determination at present, but this collection represents a species of *Drosera* different from those otherwise recorded from the area.
Solanum sp. aff. *lasiophyllum*	Distinct from *S. lasiophyllum* but not identified as yet. *S. lasiophyllum* is very variable.
Tricoryne sp. Morawa (G.J. Keighery & N. Gibson 6759)	This phrase-name appears to cover two species. The survey collections match the phrase name voucher.

New species to be described

Three taxa collected during the surveys are considered to represent previously unknown species new to science (Table 4). Two of the species are in specialist research groups of T.D. Macfarlane (*Lomandra*, *Thysanotus*), which is the reason that their significance was recognised, and the third, a species of *Abutilon* collected by Melinda Trudgen, has been referred to a specialist in that genus.

Table 4. Species considered new to science collected from Karara-Lochada-Kadji Kadji during the Outback Blitz survey.

Allocation of standardised phrase names for the *Lomandra* and *Thysanotus* is in process, the status of the *Abutilon* is as yet too uncertain for phrase naming.

Taxon	Comment
Abutilon sp. (M.S. Trudgen 80)	Preliminary advice from specialist indicates this is likely to be a new species
Lomandra sp. Lochada (T.D. Macfarlane 4833)	Definitely a new species, but flowering material required for formal description
Thysanotus sp. Lochada (T.D. Macfarlane 4860)	Definitely a new species, in the twining group of species which requires taxonomic study and field survey before this collection can be matched with other collections

***Lomandra* sp. Lochada (T.D. Macfarlane 4833)**

This species (Figure 8) was discovered growing in an unusual habitat consisting of *Eucalyptus* woodland with an understorey dominated by *Triodia tomentosa* ("Spinifex", Poaceae) (Figure 7), sedges (Cyperaceae), especially *Chrysitrix distigmatosa* (Figure 3), and restiads (Restionaceae), especially *Lepidobolus densus* ms. This spinifex area was of limited extent and is the only occurrence known on the KLK leases. Although *Triodia*-dominated vegetation occurs on Charles Darwin Reserve, that *Triodia* is *T. rigidissima*.

The *Lomandra* was either vegetative or in almost mature fruit, although withered male flower remnants were found. It is not known when this species flowers so that collection of adequate fertile material for its formal description may prove difficult. The species has a distinctive white membranous strip along the leaf margins (Figure 8), which is reminiscent of the related genus *Chamaexeros* which occurs in the region, but the membranes remain intact rather than becoming fringed. Furthermore, the plants are dioecious, a feature of *Lomandra*, and the floral and fruit details as far as known match Lomandra but not *Chamaexeros*. As far as is known, this species has not been collected before.

When adequate material becomes available, this species will be formally described.

Figure 8. *Lomandra* sp. Lochada (T.D. Macfarlane 4833): plant (left) and leaf tips (right).

Thysanotus sp. Lochada (T.D. Macfarlane 4860)

This species (Figure 9) was discovered at the base of a large granite outcrop in the northern part of Lochada. It would normally have been considered to be *Thysanotus manglesianus* but *T. manglesianus* was in common flower throughout the KLK leases in *Eucalyptus* woodland and *Acacia* tall shrubland at the time of the survey. Consequently the distinctive appearance of this new species stood out, in the size of the flowers and their parts, in the darker purple of the flowers, and the robustness of the plant. Since there were sufficient plants, it was decided to collect a full specimen by digging up the root system. This revealed the most distinctive feature of the plant, the tubers being on the ends of rather long roots rather than being sessile, which confirmed that it was not *T. manglesianus*.

The new *Thysanotus* is a twining species like *T. manglesianus* and *T. patersonii*. There are believed to be other un-named species in the twining group, but the herbarium collections are largely inadequate to solve the taxonomy and show their distributions because most specimens lack tubers and many lack flowers. Consequently it is not possible at present to determine the range of this species or indeed whether it has even been collected previously. Field work will be required to resolve this group and facilitate description of the new species.

Figure 9. *Thysanotus* sp. Lochada (T.D. Macfarlane 4860), flower and fruit (photo T.D. Macfarlane).

***Abutilon* sp. (M.S. Trudgen 80)**

Distinctly different species of *Abutilon* (Figure 10) was observed on Lochada and collected by Melinda Trudgen. This species has a distinctive flower colour which strongly suggested that it might be an undescribed species, and preliminary specialist advice has backed up this opinion. The specimen is being loaned to a specialist for further examination, and if the new status is confirmed, formal description of the species will be pursued.

Figure 10. *Abutilon* sp. (M.S. Trudgen 80), scan of herbarium specimen, M.S. Trudgen 80 (PERTH 08134421) (image W.A. Herbarium).

The Charles Darwin Reserve (CDR) species list

A full list of the vascular plants of the CDR based on known specimen records including the collections of this survey is presented in Appendix 2. The list contains 462 taxa (452 separate species and 10 cases of two subspecies or varieties of the same species).

The taxa are listed in the same way as for the KLK leases. Similarly the records of flora were again limited to the area within the boundaries of the CDR.

The number of taxa is over 100 less than are recorded from the KLK leases, but the land area is less, the range of habitats is perhaps less, and there has also been somewhat less collecting than the banded ironstone ranges and hills of the KLK leases have seen, although other habitats on the KLK leases have seen less intensive collecting.

The 74 new records of taxa from the CDR (Table 5) is a substantially greater number than for the KLK leases, and may be surprising considering that the CDR has seen a fair amount of survey and collecting. However this new survey was conducted in a very favourable season, and detailed collecting was carried out despite the limited time available.

Many of the new records are of herbaceous flora, which are the category of plants that are most likely to be absent or overlooked in poor seasons. In addition, the number of species of grasses (Poaceae) has been notably increased, including the first collection of *Triodia* which is a conspicuous element of a rather large area of vegetation in the northern half of the Reserve but had not been identified.

The number of weed species at 12 (Appendix 2) is low for such a large area of land. However since all but one of these is newly recorded, it appears that knowledge of weeds is still in the early stages. On the other hand, managers of the Reserve have been aware of and managing certain weeds for some time, e.g. *Emex australis*.

The survey has made a major contribution to knowledge of the flora of the CDR.

Table 5. New records of vascular plants from the Charles Darwin Reserve.

Number of newly recorded taxa: 74. Taxa are listed alphabetically by genus.

Number of newly recorded taxa that are weeds: 10.

Taxa are listed alphabetically by genus. For additional explanations on the list format see Appendix 2.

TAXON	**CONS. CODE**
Abutilon cryptopetalum	
Acacia inceana subsp. conformis	
*Anagallis arvensis var. caerulea	
Austrodanthonia acerosa	

*Briza maxima	
*Briza minor	
Bulbine semibarbata	
Calandrinia granulifera	
Calandrinia sp. Truncate capsules (A. Markey & S. Dillon 3474)	
Calotis hispidula	
Calotis multicaulis	
Chrysitrix distigmatosa	
*Cleretum papulosum subsp. papulosum	
*Cuscuta planiflora	
Cyanicula fragrans	3
Didymanthus roei	
Duperreya sericea	
Eragrostis dielsii	
Eremophila pantonii	
Eriochiton sclerolaenoides	
Euphorbia boophthona	
Euphorbia drummondii	
Euphorbia tannensis subsp. eremophila	
Feldstonia nitens	
Frankenia sp. (M.S. Trudgen 282)	
Genus sp. (M.S. Trudgen 288)	
Gnephosis trifida	
Goodenia havilandii	
Goodenia mimuloides	
Goodenia occidentalis	
Grevillea didymobotrya subsp. didymobotrya	
Gunniopsis quadrifida	
Gunniopsis rodwayi	
Gunniopsis septifraga	
Haloragis trigonocarpa	
Hydrocotyle pilifera var. glabrata	
Hypoxis glabella var. glabella	
Isoetopsis graminifolia	
Lachnagrostis preissii	
Maireana amoena	
Maireana marginata	
*Medicago minima	
Menkea australis	
Millotia myosotidifolia	
*Parentucellia latifolia	
Phyllangium sulcatum	
Plantago debilis	
Podolepis canescens	
Podotheca gnaphalioides	
*Polycarpon tetraphyllum	
Prostanthera magnifica	
Ptilotus divaricatus var. divaricatus	
Rhodanthe collina	1
Rhodanthe laevis	
Rhodanthe maryonii	
Rhodanthe polycephala	
Sarcozona praecox	
Schoenus humilis	
Schoenus variicellae	
Sclerolaena eurotioides	
Sclerolaena fusiformis	
Senecio glossanthus	
Sida calyxhymenia	
*Silene nocturna	
Stylidium warriedarense	
Thysanotus manglesianus	
Thysanotus pyramidalis	
Trachymene ornata	
Triglochin isingiana	
Triglochin longicarpa	
Triodia rigidissima	
*Zaluzianskya divaricata	

Un-named taxa of the CDR

No definite new taxa were found during the survey of the CDR, but three taxa deserve explanation (Table 6). Apart from these there are numerous taxa on the Reserve (and usually also elsewhere) which are not formally named, and a small number that are in the process of being described as part of this survey series, as previously reported (Macfarlane 2009).

Table 6. Charles Darwin Reserve survey collections requiring comment.

These species have not been allocated standardised phrase names.

Name	Comment
Genus sp. (M.S. Trudgen 288)	Vegetative voucher. Possibly a variant of *Dioscorea hastifolia*.
Frankenia aff. *cinerea* (M.S. Trudgen 282)	Temporary name. The genus requires taxonomic work, but this collection may represent a distinct species.
Sclerolaena diacantha (M.S. Trudgen collections)	This taxon is very variable, and the survey collections may represent more than one taxon.

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Appendix 1. List of vascular plants recorded from the three pastoral leases Karara, Lochada and Kadji Kadji.

Number of taxa: 568 (558 separate species and 9 cases of two or three subspecies or varieties of the same species). Taxa are listed alphabetically by genus.

Number of weed taxa: 41.

Key:
CONS CODE: Western Australian flora conservation codes. Codes for individual taxa taken from WACENSUS, the WA Census of Vascular Plants, current January 2010.

KLK: Taxon previously recorded from the three leases combined.
KLK+: Taxon newly recorded from the three leases combined.

KAR: Taxon previously recorded from Karara.
KAR+: Taxon newly recorded from Karara.
KAR(+): Taxon considered present and newly recorded in Karara by extrapolation from an immediately adjacent collection in a continuous habitat.

LOCH: Taxon previously recorded from Lochada.
LOCH+: Taxon newly recorded from Lochada.
LOCH(+): Taxon considered present and newly recorded in Lochada by extrapolation from an immediately adjacent collection in a continuous habitat.

KADJ: Taxon previously recorded from Kadji Kadji.
KADJ+: Taxon newly recorded from Kadji Kadji.

* (preceding a taxon name): a weed, i.e. a non-native taxon.
ms (after a taxon name): a manuscript name, i.e. a name not yet formally published.
aff. or cf. (associated with a taxon name): related to or similar to that taxon but not considered to fit the taxon concept well.
sp. after a genus name, with other information: an informal taxon name, either a phrase name registered with a herbarium, e.g. Acacia sp. Mullewa (B.R. Maslin 4269), or an un-registered informal name, e.g. Abutilon sp. (M.S. Trudgen 80), intended only for this report because of uncertainty about the identity of the plants collected. The use of the collector's name and number will permit an updated identity to be determined in future from specimen databases.

Sources:
1. WAHERB, specimen database of the Western Australian Herbarium, using a close match of the reserve boundaries. Data current as of December 2009. Taxon names in accordance with WACENSUS, the vascular plant census database of the Western Australian Herbarium, current as of January 2010.
2. Results of the ABRS Outback Blitz survey, September 2009. Separate collections by T.D. Macfarlane, M.S. Trudgen and C. Symonds (entomological vouchers).

TAXON	CONS CODE	THREE LEASES COMBINED	KARARA	LOCHADA	KADJI KADJI
Abutilon oxycarpum subsp. prostratum ms		KLK+			KADJ+
Abutilon sp. (M.S. Trudgen 80)		KLK+		LOCH+	
Acacia acanthoclada subsp. glaucescens		KLK		LOCH	KADJ
Acacia acuaria		KLK	KAR		
Acacia andrewsii		KLK	KAR		KADJ+
Acacia aneura var. cf. aneura		KLK	KAR		
Acacia aneura var. cf. argentea		KLK	KAR		
Acacia aneura var. microcarpa		KLK	KAR		

Acacia anthochaera		KLK	KAR		KADJ
Acacia assimilis subsp. assimilis		KLK	KAR	LOCH+	
Acacia aulacophylla		KLK	KAR		
Acacia burkittii		KLK	KAR	LOCH+	
Acacia colletioides		KLK	KAR	LOCH+	
Acacia coolgardiensis		KLK	KAR	LOCH	
Acacia diallaga	2	KLK	KAR		
Acacia duriuscula		KLK+	KAR+		
Acacia effusifolia		KLK	KAR		
Acacia eremaea		KLK			KADJ
Acacia erinacea		KLK	KAR		
Acacia exocarpoides		KLK	KAR	LOCH	
Acacia hemiteles		KLK	KAR		
Acacia incognita		KLK	KAR	LOCH	
Acacia karina	2	KLK	KAR		
Acacia latior		KLK	KAR		
Acacia ligulata		KLK			KADJ
Acacia ligustrina		KLK			KADJ
Acacia longispinea		KLK	KAR	LOCH+	
Acacia masliniana		KLK	KAR	LOCH	KADJ+
Acacia minyura		KLK	KAR		
Acacia multispicata		KLK		LOCH	
Acacia murrayana		KLK	KAR		KADJ
Acacia nigripilosa subsp. nigripilosa		KLK			KADJ
Acacia prainii		KLK	KAR		
Acacia ramulosa var. ramulosa		KLK	KAR	LOCH	KADJ+
Acacia rigens		KLK	KAR		
Acacia sibina		KLK	KAR	LOCH	
Acacia sibirica		KLK			KADJ
Acacia sp. Mullewa (B.R. Maslin 4269)		KLK			KADJ
Acacia sp. narrow phyllode (B.R. Maslin 7831)		KLK	KAR		KADJ
Acacia sp. Wubin (B.R. Maslin 4131)		KLK	KAR		
Acacia tetragonophylla		KLK	KAR	LOCH+	
Acacia tysonii		KLK			KADJ
Acacia umbraculiformis		KLK	KAR	LOCH	
Acacia woodmaniorum	R	KLK	KAR		
Actinobole uliginosum		KLK	KAR		
*Agave americana		KLK	KAR		
Allocasuarina acutivalvis subsp. acutivalvis		KLK	KAR		
Allocasuarina acutivalvis subsp. prinsepiana		KLK	KAR		
Allocasuarina campestris		KLK	KAR		
Allocasuarina dielsiana		KLK	KAR		
Alternanthera nodiflora		KLK			KADJ
Aluta aspera subsp. hesperia		KLK	KAR	LOCH+	
Alyogyne hakeifolia		KLK	KAR		
Alyogyne pinoniana		KLK			KADJ
Alyxia buxifolia		KLK	KAR		
Amphibromus nervosus		KLK		LOCH+	KADJ
Amphipogon caricinus var. caricinus		KLK	KAR		
Amyema fitzgeraldii		KLK+		LOCH+	
Amyema gibberula var. tatei		KLK	KAR		
Amyema miquelii		KLK		LOCH	
Amyema nestor		KLK		LOCH	
Amyema preissii		KLK	KAR		
Angianthus tomentosus		KLK	KAR		

*Arctotheca calendula		KLK	KAR		
Aristida contorta		KLK	KAR		KADJ
Arthropodium curvipes		KLK	KAR		
Arthropodium dyeri		KLK	KAR	LOCH(+)	
Arthropodium sp. (T.D. Macfarlane 4738)		KLK+	KAR+	LOCH+	
Astroloma serratifolium		KLK	KAR		
Atriplex bunburyana		KLK	KAR		KADJ+
Atriplex codonocarpa		KLK			KADJ
Atriplex hymenotheca		KLK			KADJ
Atriplex paludosa subsp. baudinii		KLK			KADJ
Atriplex semilunaris		KLK			KADJ
Atriplex vesicaria		KLK			KADJ
Austrodanthonia caespitosa		KLK+	KAR+	LOCH+	
Austrodanthonia setacea		KLK	KAR		
Austrodanthonia sp. Goomalling (A.G. Gunness et al. OAKP 10/63)		KLK	KAR		
Austrostipa blackii	3	KLK	KAR		
Austrostipa elegantissima		KLK	KAR	LOCH+	KADJ+
Austrostipa eremophila		KLK	KAR		
Austrostipa hemipogon		KLK	KAR		
Austrostipa nitida		KLK	KAR		
Austrostipa puberula		KLK	KAR		
Austrostipa scabra		KLK	KAR		
Austrostipa trichophylla		KLK	KAR		KADJ+
Baeckea benthamii ms		KLK	KAR	LOCH	
Banksia benthamiana	4	KLK		LOCH	
Banksia fraseri var. ashbyi		KLK	KAR		
Banksia purdieana		KLK		LOCH	
Bellida graminea		KLK	KAR		
Bergia perennis subsp. exigua		KLK			KADJ
Blennospora drummondii		KLK	KAR		
Boerhavia coccinea		KLK	KAR		
Borya constricta		KLK+	KAR(+)	LOCH+	
Borya sphaerocephala		KLK	KAR	LOCH	
Brachychiton gregorii		KLK	KAR		
Brachyscome cheilocarpa		KLK	KAR		
Brachyscome ciliaris		KLK	KAR		
Brachyscome ciliocarpa		KLK	KAR		KADJ
Brachyscome iberidifolia		KLK	KAR		
Brachyscome lineariloba		KLK		LOCH	
Brachyscome oncocarpa		KLK			KADJ
Brachyscome perpusilla		KLK	KAR		
Bromus arenarius		KLK	KAR		
*Bromus rubens		KLK	KAR		KADJ+
Brunonia australis		KLK	KAR		
Bulbine semibarbata		KLK	KAR		
Bursaria occidentalis		KLK	KAR		
Caesia sp. Wongan (K.F. Kenneally 8820)		KLK	KAR	LOCH(+)	
Caladenia doutchiae		KLK	KAR		
Caladenia drummondii		KLK		LOCH	
Caladenia exilis subsp. exilis		KLK	KAR		
Caladenia hirta subsp. rosea		KLK	KAR+		KADJ
Caladenia incensa		KLK	KAR		
Caladenia incrassata		KLK		LOCH	
Caladenia mesocera		KLK	KAR		
Caladenia petrensis		KLK	KAR		KADJ
Caladenia remota subsp. remota		KLK	KAR		

Caladenia roei		KLK	KAR		
Caladenia vulgata		KLK	KAR		
Calandrinia calyptrata		KLK	KAR		
Calandrinia disperma		KLK			KADJ
Calandrinia eremaea		KLK			KADJ
Calandrinia granulifera		KLK	KAR	LOCH+	KADJ+
Calandrinia polyandra		KLK	KAR		
Calandrinia primuliflora		KLK	KAR		KADJ
Calandrinia ptychosperma		KLK			KADJ
Calandrinia remota		KLK	KAR		
Calandrinia sp. Blackberry (D.M. Porter 171)		KLK	KAR		
Calandrinia sp. Bullardoo (F. Obbens & F. Hort FO 57/04)		KLK		LOCH	
Calandrinia sp. Bungalbin (G.J. Keighery & N. Gibson 1656)		KLK	KAR		
Calandrinia sp. Murchison - Gascoyne (F. Obbens & F. Hort FO 49/04)		KLK	KAR		
Calandrinia sp. Truncate capsules (A. Markey & S. Dillon 3474)		KLK	KAR		
Callitris columellaris		KLK	KAR	LOCH	
Calocephalus francisii		KLK	KAR		
Calocephalus multiflorus		KLK	KAR		KADJ
Calothamnus gilesii		KLK	KAR		
Calotis hispidula		KLK	KAR		KADJ+
Calotis multicaulis		KLK	KAR		KADJ+
Calotis sp. Perrinvale Station (R.J. Cranfield 7096)	3	KLK	KAR		
Calycopeplus paucifolius		KLK	KAR	LOCH	
Calytrix leschenaultii		KLK	KAR+	LOCH	
Calytrix sp. Paynes Find (F. & J. Hort 1188)		KLK	KAR	LOCH+	
Casuarina pauper		KLK	KAR		
Centrolepis aristata		KLK	KAR		
Cephalipterum drummondii		KLK	KAR	LOCH+	KADJ+
Ceratogyne obionoides		KLK	KAR		
Chamaexeros fimbriata		KLK+	KAR+	LOCH(+)	
Chamelaucium pauciflorum subsp. thryptomenioides ms		KLK	KAR		
Chamelaucium sp. Warriedar (A.P. Brown & S. Patrick APB 1100)	1	KLK	KAR		
Cheilanthes adiantoides		KLK	KAR		
Cheilanthes brownii		KLK	KAR		
Cheilanthes sieberi subsp. sieberi		KLK	KAR		
*Chenopodium murale		KLK	KAR	LOCH	
Cheyniana microphylla		KLK			KADJ
Chrysitrix distigmatosa		KLK+	KAR(+)	LOCH+	
Chthonocephalus pseudevax		KLK	KAR		
*Citrullus colocynthis		KLK		LOCH	
*Cleretum papulosum subsp. papulosum		KLK	KAR		KADJ+
Comesperma integerrimum		KLK	KAR	LOCH+	KADJ+
Cotula australis		KLK	KAR		
Crassula closiana		KLK	KAR		
Crassula colorata var. acuminata		KLK	KAR		
Crassula colorata var. colorata		KLK	KAR		
Crassula decumbens		KLK+	KAR+		
Crassula exserta		KLK+		LOCH+	
Crassula extrorsa		KLK	KAR		

Crassula tetramera		KLK	KAR		
Cryptandra apetala var. apetala		KLK+	KAR(+)	LOCH+	
Cryptandra imbricata		KLK	KAR		
Cryptandra micrantha		KLK	KAR		
*Cuscuta planiflora		KLK	KAR		
Cyanicula amplexans		KLK	KAR		
Cymbopogon ambiguus		KLK	KAR		
Cynoglossum sp. Inland Ranges (C.A. Gardner 14499)		KLK	KAR		
Cyperus rigidellus		KLK			KADJ
*Cyperus tenellus		KLK+	KAR+	LOCH+	KADJ
Dampiera lavandulacea		KLK		LOCH	
Dampiera salahae		KLK			KADJ
Dampiera wellsiana		KLK	KAR		
Darwinia capitellata		KLK	KAR	LOCH+	
Daucus glochidiatus		KLK	KAR		KADJ+
Daviesia hakeoides subsp. subnuda		KLK	KAR		
Dicrastylis fulva		KLK			KADJ
Dicrastylis parvifolia		KLK+	KAR+		
Didymanthus roei		KLK			KADJ
Disphyma crassifolium		KLK	KAR		
Dithyrostegia amplexicaulis		KLK			KADJ
Dodonaea adenophora		KLK	KAR		
Dodonaea inaequifolia		KLK	KAR		
Dodonaea lobulata		KLK	KAR		
Dodonaea petiolaris		KLK	KAR		
Dodonaea viscosa subsp. angustissima		KLK	KAR		KADJ+
Dodonaea viscosa subsp. mucronata		KLK	KAR		
Drosera glanduligera		KLK+	KAR+	LOCH+	
Drosera macrantha		KLK	KAR		
Drosera sp. (T.D. Macfarlane 4733)		KLK+		LOCH+	
Drummondita fulva	3	KLK	KAR	LOCH	
Duperreya sericea		KLK+		LOCH+	
Dysphania melanocarpa forma melanocarpa		KLK	KAR		
Ecdeiocolea monostachya		KLK+	KAR+	LOCH+	
*Echium plantagineum		KLK	KAR		
*Ehrharta longiflora		KLK	KAR		
Einadia nutans subsp. eremaea		KLK	KAR		
Elymus scaber		KLK	KAR		
*Emex australis		KLK		LOCH	
Enchylaena lanata		KLK	KAR		KADJ
Enchylaena tomentosa		KLK	KAR		KADJ
Enekbatus stowardii ms		KLK	KAR		KADJ
Eragrostis dielsii		KLK+		LOCH+	KADJ+
Eragrostis parviflora		KLK	KAR		
Eragrostis pergracilis		KLK			KADJ
Eremophila clarkei		KLK	KAR	LOCH+	
Eremophila decipiens subsp. decipiens		KLK	KAR		
Eremophila eriocalyx		KLK	KAR		KADJ
Eremophila forrestii subsp. forrestii		KLK	KAR	LOCH+	
Eremophila glabra		KLK			KADJ
Eremophila glutinosa		KLK	KAR		
Eremophila latrobei subsp. latrobei		KLK	KAR	LOCH	
Eremophila miniata		KLK		LOCH	KADJ+
Eremophila nivea	R	KLK			KADJ
Eremophila oldfieldii subsp. angustifolia		KLK	KAR		
Eremophila oldfieldii subsp. oldfieldii		KLK			KADJ

Eremophila oppositifolia subsp. angustifolia		KLK	KAR+	LOCH	
Eremophila platycalyx		KLK		LOCH	
Eremophila serrulata		KLK	KAR	LOCH+	
Eremophila shonae subsp. shonae		KLK		LOCH	
Eriachne ovata		KLK	KAR	LOCH+	KADJ
Eriachne pulchella subsp. pulchella		KLK	KAR	LOCH+	
Ericksonella saccharata		KLK	KAR		
*Erodium aureum		KLK+			KADJ+
*Erodium cicutarium		KLK+			KADJ+
Erodium cygnorum		KLK	KAR		KADJ+
Erymophyllum glossanthus		KLK	KAR		
Erymophyllum tenellum		KLK	KAR		
Eucalyptus clelandii		KLK	KAR		
Eucalyptus ewartiana		KLK	KAR		KADJ
Eucalyptus horistes		KLK		LOCH	
Eucalyptus jutsonii subsp. kobela	1	KLK	KAR	LOCH	
Eucalyptus kochii subsp. amaryssia		KLK	KAR	LOCH	
Eucalyptus kochii subsp. borealis		KLK			KADJ
Eucalyptus leptopoda subsp. arctata		KLK	KAR	LOCH+	KADJ
Eucalyptus loxophleba subsp. lissophloia		KLK	KAR		
Eucalyptus loxophleba subsp. supralaevis		KLK	KAR	LOCH	KADJ+
Eucalyptus petraea		KLK	KAR		
Eucalyptus salubris		KLK	KAR		
Eucalyptus synandra	R	KLK	KAR		KADJ
Euphorbia drummondii		KLK	KAR		KADJ
Feldstonia nitens		KLK	KAR		KADJ
Fitzwillia axilliflora	2	KLK			KADJ
Frankenia aff. cinerea		KLK			KADJ
Frankenia fecunda		KLK			KADJ
Frankenia pauciflora		KLK			KADJ
*Galium aparine		KLK	KAR		
Gastrolobium laytonii		KLK	KAR		
Gilberta tenuifolia		KLK	KAR		
Gilruthia osbornei		KLK	KAR		KADJ
Glischrocaryon aureum		KLK		LOCH	
Glycine canescens		KLK		LOCH	
Gnephosis acicularis		KLK			KADJ
Gnephosis angianthoides		KLK	KAR		KADJ
Gnephosis setifera	1	KLK	KAR		KADJ
Gnephosis tenuissima		KLK	KAR		KADJ
Gnephosis trifida		KLK			KADJ
Gonocarpus nodulosus		KLK	KAR		
Goodenia berardiana		KLK	KAR		
Goodenia havilandii		KLK+			KADJ+
Goodenia mimuloides		KLK+			KADJ+
Goodenia occidentalis		KLK	KAR		
Goodenia pinnatifida		KLK	KAR		KADJ
Goodenia pusilliflora		KLK	KAR		
Grevillea deflexa		KLK			KADJ
Grevillea extorris		KLK	KAR		KADJ
Grevillea globosa	3	KLK	KAR		
Grevillea granulosa	3	KLK	KAR		
Grevillea hakeoides subsp. stenophylla		KLK	KAR(+)	LOCH	
Grevillea levis		KLK	KAR	LOCH	
Grevillea nematophylla		KLK		LOCH	
Grevillea obliquistigma subsp.		KLK	KAR	LOCH+	

obliquistigma					
Grevillea paradoxa		KLK	KAR		
Grevillea pityophylla		KLK			KADJ
Grevillea sarissa subsp. sarissa		KLK+		LOCH+	
Grevillea scabrida	3	KLK	KAR		
Grevillea zygoloba		KLK	KAR		
Gunniopsis divisa	1	KLK	KAR		
Gunniopsis quadrifida		KLK			KADJ
Gunniopsis rodwayi		KLK			KADJ
Gunniopsis rubra	3	KLK	KAR		
Hakea invaginata		KLK+	KAR+		
Hakea preissii		KLK	KAR		KADJ
Hakea recurva subsp. recurva		KLK	KAR	LOCH	
Halgania integerrima		KLK+	KAR(+)	LOCH+& B	
Haloragis gossei		KLK+	KAR+		
Haloragis odontocarpa (incl. forma pterocarpa)		KLK	KAR		
Haloragis trigonocarpa		KLK	KAR		
*Hedypnois rhagadioloides subsp. cretica		KLK	KAR		
Hemigenia benthamii		KLK	KAR		
Hemigenia botryphylla		KLK	KAR		KADJ
Hemigenia sp. Yuna (A.C. Burns 95)		KLK		LOCH	
Hemiphora elderi		KLK	KAR		
Hibbertia arcuata		KLK	KAR	LOCH+	
Hibbertia glomerosa var. glomerosa		KLK	KAR		
Hibbertia stenophylla		KLK	KAR		
Homalocalyx aureus		KLK+	KAR+		
Homalocalyx thryptomenoides		KLK	KAR	LOCH+	
Hyalochlamys globifera		KLK			KADJ
Hyalosperma demissum		KLK	KAR		
Hyalosperma glutinosum subsp. glutinosum		KLK	KAR		
Hyalosperma glutinosum subsp. venustum		KLK	KAR		
Hybanthus floribundus subsp. curvifolius		KLK	KAR		
Hydrocotyle callicarpa		KLK	KAR		
Hydrocotyle coorowensis ms	2	KLK			KADJ
Hydrocotyle pilifera var. glabrata		KLK	KAR		
Hydrocotyle rugulosa		KLK	KAR		
*Hypochaeris glabra		KLK	KAR	LOCH	
Hypoxis glabella var. glabella		KLK	KAR	LOCH	
Isoetopsis graminifolia		KLK	KAR		
Isolepis congrua		KLK	KAR		KADJ
Isotoma petraea		KLK	KAR	LOCH	
Isotropis forrestii		KLK		LOCH	
Jacksonia arenicola		KLK+		LOCH+	
Jacksonia arida		KLK			KADJ
Juncus aridicola		KLK			KADJ
*Juncus bufonius		KLK+		LOCH+	
*Juncus capitatus		KLK+		LOCH+	
Keraudrenia velutina subsp. velutina		KLK	KAR	LOCH+	
Lachnagrostis filiformis		KLK+	KAR+		
Lachnagrostis plebeia		KLK	KAR		
Lachnostachys verbascifolia var. verbascifolia		KLK	KAR		
*Lamarckia aurea		KLK	KAR	LOCH+	

Lawrencella davenportii		KLK	KAR		
Lawrencella rosea		KLK	KAR		
Lawrencia glomerata		KLK			KADJ
Lawrencia squamata		KLK		LOCH	KADJ
Lechenaultia macrantha		KLK	KAR		
Lemooria burkittii		KLK	KAR		
Lepidium oxytrichum		KLK	KAR		
Lepidobolus densus ms	3	KLK	KAR	LOCH+	
Lepidosperma sp. Blue Hills (A. Markey & S. Dillon 3468)	1	KLK	KAR		
Leucopogon sp. Clyde Hill (M.A. Burgman 1207)		KLK	KAR	LOCH	
Levenhookia leptantha		KLK+		LOCH+	KADJ+
*Limonium lobatum		KLK+		LOCH+	KADJ+
Lobelia rhytidosperma		KLK	KAR		
Lobelia winfridae		KLK			KADJ
Lomandra effusa		KLK+	KAR+	LOCH(+)	
Lomandra sp. Lochada (T.D. Macfarlane 4833)		KLK+	KAR(+)	LOCH+	
Lysiana casuarinae		KLK	KAR		
Maireana amoena		KLK			KADJ
Maireana atkinsiana		KLK+			KADJ+
Maireana carnosa		KLK	KAR		KADJ
Maireana georgei		KLK	KAR		
Maireana marginata		KLK	KAR		
Maireana planifolia		KLK	KAR		
Maireana pyramidata		KLK			KADJ
Maireana thesioides		KLK	KAR		
Maireana tomentosa		KLK			KADJ
Maireana trichoptera		KLK	KAR		
Malleostemon roseus		KLK	KAR		
Malleostemon tuberculatus		KLK	KAR	LOCH	
*Medicago minima		KLK	KAR		
Melaleuca atroviridis		KLK	KAR	LOCH	
Melaleuca barlowii	3	KLK	KAR		
Melaleuca cf. concreta		KLK	KAR		
Melaleuca cordata		KLK	KAR		
Melaleuca hamata		KLK	KAR	LOCH	KADJ
Melaleuca lateriflora subsp. acutifolia		KLK	KAR	LOCH	KADJ
Melaleuca laxiflora		KLK+	KAR		KADJ+
Melaleuca leiocarpa		KLK		LOCH+	KADJ
Melaleuca nematophylla		KLK	KAR		
Melaleuca radula		KLK	KAR		
Melaleuca stereophloia		KLK	KAR	LOCH	
Melaleuca thyoides		KLK	KAR		
*Mesembryanthemum nodiflorum		KLK	KAR		KADJ
Micromyrtus acuta	3	KLK	KAR		
Micromyrtus racemosa var. racemosa ms		KLK		LOCH	
Micromyrtus sulphurea		KLK		LOCH	
Micromyrtus trudgenii	3	KLK	KAR		
Microtis graniticola		KLK		LOCH	
Millotia dimorpha	1	KLK	KAR		
Millotia myosotidifolia		KLK	KAR		
Mirbelia bursarioides ms		KLK	KAR		
Mirbelia depressa		KLK+	KAR+		
Mirbelia microphylla		KLK	KAR		
Mirbelia ramulosa		KLK+	KAR(+)	LOCH+	
Mirbelia rhagodioides		KLK+	KAR+		

Monachather paradoxus		KLK	KAR		KADJ+
*Monoculus monstrosus		KLK+			KADJ+
Myriocephalus guerinae		KLK	KAR	LOCH+	
Myriocephalus pygmaeus		KLK+			KADJ+
Nicotiana cavicola		KLK		LOCH	
Nicotiana occidentalis		KLK			KADJ
Nicotiana rosulata subsp. rosulata		KLK	KAR		
Nicotiana rotundifolia		KLK+	KAR+		
Olearia humilis		KLK	KAR		
Olearia pimeleoides		KLK	KAR	LOCH	
Omphalolappula concava		KLK	KAR		
*Parentucellia latifolia		KLK+	KAR+		
Parietaria cardiostegia		KLK	KAR		KADJ
Paspalidium basicladum		KLK	KAR		
*Pentaschistis airoides subsp. airoides		KLK	KAR	LOCH+	KADJ
Peplidium sp. C Evol. Fl. Fauna Arid Aust. (N.T. Burbidge & A. Kanis 8158)		KLK		LOCH+	KADJ
Persoonia hexagona		KLK	KAR		
Persoonia kararae	2	KLK	KAR		
Persoonia manotricha		KLK	KAR		
Persoonia pentasticha	3	KLK	KAR		
Petrophile pauciflora	3	KLK	KAR	LOCH	
Petrophile shuttleworthiana		KLK	KAR		
*Petrorhagia dubia		KLK	KAR+		KADJ
Philotheca brucei subsp. brucei		KLK	KAR	LOCH	
Philotheca deserti subsp. deserti		KLK	KAR	LOCH+	
Philotheca glabra		KLK+		LOCH+	
Philotheca sericea		KLK	KAR		
Philotheca tomentella		KLK		LOCH	
Phyllangium sulcatum		KLK	KAR		
Pimelea avonensis		KLK	KAR	LOCH	
Pimelea microcephala subsp. microcephala		KLK	KAR	LOCH	
Plantago debilis		KLK	KAR		
Plantago drummondii		KLK			KADJ
Pleurosorus rutifolius		KLK	KAR		
Podolepis canescens		KLK	KAR		
Podolepis capillaris		KLK	KAR		KADJ
Podolepis lessonii		KLK	KAR		KADJ+
Podotheca gnaphalioides		KLK	KAR	LOCH	KADJ+
Pogonolepis stricta		KLK	KAR		KADJ+
Polianthion collinum	3	KLK	KAR		
*Polycarpon tetraphyllum		KLK+			KADJ+
Poranthera microphylla		KLK	KAR		
Prasophyllum gracile		KLK	KAR	LOCH+	
Prostanthera althoferi subsp. althoferi		KLK	KAR		
Prostanthera campbellii		KLK	KAR		
Prostanthera eckersleyana		KLK	KAR	LOCH+	
Prostanthera magnifica		KLK	KAR		
Prostanthera patens		KLK	KAR		
Prostanthera sp. Karara (D. Coultas & K. Greenacre Opp 8)		KLK	KAR	LOCH	
Psammomoya implexa	3	KLK	KAR		
Pterostylis sp. inland (A.C. Beauglehole 11880)		KLK	KAR		
Pterostylis sp. scooped sepals (G. Brockman GBB386)		KLK	KAR		
Pterostylis spathulata		KLK	KAR	LOCH	
Ptilotus chamaecladus		KLK		LOCH	

Ptilotus divaricatus var. divaricatus		KLK	KAR		KADJ+
Ptilotus drummondii		KLK	KAR		
Ptilotus exaltatus		KLK	KAR		KADJ+
Ptilotus gaudichaudii var. gaudichaudii		KLK+			KADJ+
Ptilotus gaudichaudii var. parviflorus		KLK	KAR		
Ptilotus halophilus	4	KLK			KADJ
Ptilotus obovatus		KLK	KAR	LOCH+	KADJ
Ptilotus polystachyus		KLK+		LOCH+	KADJ+
Ranunculus pumilio		KLK			KADJ
Ranunculus sessiliflorus var. sessiliflorus		KLK	KAR		
Rhagodia drummondii		KLK+			KADJ+
Rhagodia eremaea		KLK	KAR		
Rhodanthe battii		KLK	KAR		
Rhodanthe chlorocephala subsp. rosea		KLK	KAR		KADJ+
Rhodanthe chlorocephala subsp. splendida		KLK	KAR		KADJ
Rhodanthe citrina		KLK	KAR		
Rhodanthe collina	1	KLK	KAR		KADJ
Rhodanthe forrestii		KLK			KADJ
Rhodanthe laevis		KLK	KAR		
Rhodanthe manglesii		KLK	KAR		
Rhodanthe maryonii		KLK	KAR		KADJ
Rhodanthe polycephala		KLK	KAR		
Rhodanthe spicata		KLK	KAR		KADJ
Rhodanthe stricta		KLK	KAR		
Rhyncharrhena linearis		KLK	KAR		
Ricinocarpos velutinus		KLK	KAR	LOCH	
*Rostraria cristata		KLK			KADJ
*Rostraria pumila		KLK	KAR		KADJ+
Rulingia luteiflora		KLK	KAR	LOCH	
Santalum acuminatum		KLK		LOCH	
Santalum spicatum		KLK	KAR		
Scaevola spinescens		KLK	KAR		KADJ
*Schinus molle var. areira		KLK		LOCH	
*Schismus barbatus		KLK+		LOCH+	
Schoenia cassiniana		KLK	KAR	LOCH+	KADJ+
Schoenus humilis		KLK		LOCH+	KADJ
Schoenus nanus		KLK	KAR		
Sclerolaena densiflora		KLK			KADJ
Sclerolaena diacantha		KLK	KAR		KADJ+
Sclerolaena eurotioides		KLK	KAR		KADJ+
Sclerolaena fusiformis		KLK	KAR		
Sclerolaena gardneri		KLK	KAR		
Sclerolaena microcarpa		KLK	KAR		
Senecio glossanthus		KLK	KAR		
Senecio lacustrinus		KLK	KAR		
Senecio pinnatifolius		KLK	KAR		
Senna artemisioides subsp. filifolia		KLK	KAR		KADJ+
Senna charlesiana		KLK	KAR	LOCH	KADJ+
Senna glutinosa subsp. chatelainiana		KLK	KAR		
Senna sp. Austin (A. Strid 20210)		KLK	KAR		
Sida calyxhymenia		KLK+		LOCH+	
Sida sp. dark green fruits (S. van Leeuwen 2260)		KLK	KAR		KADJ
Sida sp. Excedentifolia (J.L. Egan 1925)		KLK	KAR		
*Silene gallica		KLK	KAR		
*Silene nocturna		KLK	KAR	LOCH	KADJ+

*Sisymbrium orientale		KLK		LOCH	
*Sisymbrium runcinatum		KLK	KAR		
Solanum ellipticum		KLK	KAR	LOCH+	
Solanum lasiophyllum		KLK	KAR	LOCH+	
*Solanum nigrum		KLK	KAR		
Solanum nummularium		KLK	KAR	LOCH+& B	KADJ+
Solanum sp. aff. lasiophyllum (T.D. Macfarlane 4874)		KLK+		LOCH+	
Sondottia connata		KLK+			KADJ+
Spartothamnella sp. Helena & Aurora Range (P.G. Armstrong 155-109)	3	KLK	KAR		
*Spergula pentandra		KLK	KAR		
Stachystemon intricatus		KLK	KAR		
Stackhousia monogyna		KLK	KAR	LOCH+	
Stackhousia muricata		KLK	KAR		
Stenanthemum poicilum	2	KLK	KAR		
Stenopetalum anfractum		KLK	KAR		
Stenopetalum filifolium		KLK	KAR		
Stenopetalum lineare var. lineare		KLK	KAR		
Stenopetalum pedicellare		KLK	KAR		
Stenopetalum salicola		KLK		LOCH	KADJ
Stenopetalum sphaerocarpum		KLK	KAR		
Stylidium confluens		KLK	KAR		
Stylidium sp. Yalgoo (D. Coultas et al. Opp 01)	1	KLK	KAR		
Stylidium warriedarense		KLK	KAR		
Swainsona elegans		KLK			KADJ
Swainsona gracilis		KLK+		LOCH+	
Tecticornia disarticulata		KLK	KAR		KADJ
Tecticornia doleiformis		KLK		LOCH	KADJ
Tecticornia fimbriata	3	KLK			KADJ
Tecticornia halocnemoides		KLK			KADJ
Tecticornia indica subsp. bidens		KLK			KADJ
Tecticornia loriae		KLK		LOCH	
Tecticornia peltata		KLK			KADJ
Tecticornia pruinosa		KLK			KADJ
Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)		KLK		LOCH	
Tetragonia aff. moorei		KLK	KAR		
Tetragonia diptera		KLK	KAR		KADJ+
Tetragonia eremaea		KLK	KAR		
Thryptomene costata		KLK	KAR	LOCH+	
Thysanotus manglesianus		KLK		LOCH	
Thysanotus pyramidalis		KLK+	KAR+	LOCH+	
Thysanotus rectantherus		KLK+	KAR+		
Thysanotus sp. Lochada (T.D. Macfarlane 4860)		KLK+		LOCH+	
Trachymene cyanopetala		KLK	KAR		
Trachymene ornata		KLK	KAR		KADJ+
Trachymene pilosa		KLK	KAR	LOCH+	
*Tribulus terrestris		KLK	KAR		
Trichanthodium exile		KLK			KADJ
Trichanthodium skirrophorum		KLK	KAR		
Tricoryne sp. Morawa (G.J. Keighery & N. Gibson 6759)	1	KLK+	KAR+		
Triglochin isingiana		KLK	KAR		KADJ
Triglochin sp. A Flora of Australia (G.J. Keighery 2477)		KLK			KADJ

Triodia tomentosa		KLK+	KAR(+)	LOCH+	
Tripogon loliiformis		KLK	KAR		
*Ursinia anthemoides		KLK	KAR		
Velleia cycnopotamica		KLK	KAR		
Velleia hispida		KLK	KAR		
Velleia rosea		KLK	KAR		KADJ+
*Vulpia muralis		KLK	KAR		
*Vulpia myuros forma myuros		KLK	KAR		
Wahlenbergia gracilenta		KLK	KAR		
Wahlenbergia tumidifructa		KLK	KAR		
Waitzia acuminata var. acuminata		KLK	KAR		KADJ+
Waitzia nitida		KLK	KAR		
Wrixonia prostantheroides		KLK	KAR+		KADJ
Wurmbea inframediana		KLK		LOCH	
Wurmbea murchisoniana	4	KLK	KAR		
Wurmbea sp. Paynes Find (C.J. French 1237)		KLK	KAR		KADJ
Xanthosia bungei		KLK	KAR	LOCH+	
Xerolirion divaricata		KLK	KAR		
Zygophyllum eremaeum		KLK	KAR		
Zygophyllum fruticulosum		KLK			KADJ
Zygophyllum ovatum		KLK	KAR		
Zygophyllum reticulatum		KLK			KADJ

Appendix 2. List of vascular plants known from the Charles Darwin Reserve.

Number of taxa: 462 (452 separate species and 10 cases of two subspecies or varieties of the same species).

Number of weed taxa on the Reserve: 12.

Key:
CONS CODE: Western Australian flora conservation codes. Codes for individual taxa taken from WACENSUS, the WA Census of Vascular Plants, current January 2010.

CDR: Taxon previously recorded from Charles Darwin Reserve.
CDR#: taxa previously collected from Charles Darwin Reserve but these specimen records have only recently become available.
CDR+: Taxon newly recorded from Charles Darwin Reserve during the Outback Blitz project, Sept. 2009, i.e. additional to those marked CDR and CDR #.

* (preceding a taxon name): a weed, i.e. a non-native taxon.
For other taxon name format explanations, see Appendix 1.

Sources:
1. WAHERB, specimen database of the Western Australian Herbarium, using a close match of the reserve boundaries. Data current as of June 2009. Taxon names in accordance with WACENSUS, the vascular plant census database of the Western Australian Herbarium, current as of January 2010.
2. Results of the Pilot Outback Blitz survey, May 2009 (Report: Macfarlane 2009).
3. Results of the ABRS Outback Blitz survey, September 2009. Main collection by Melinda Trudgen, with an additional collection by C. Symonds (entomological vouchers).

TAXON	CONS CODE	Charles Darwin Reserve Occurrence
Abutilon cryptopetalum		CDR+
Acacia acanthoclada subsp. glaucescens	C	CDR
Acacia acuaria		CDR
Acacia acuminata		CDR
Acacia andrewsii		CDR
Acacia aneura		CDR
Acacia anthochaera		CDR
Acacia assimilis subsp. assimilis		CDR
Acacia aulacophylla		CDR
Acacia burkittii		CDR
Acacia cerastes	1	CDR
Acacia colletioides		CDR
Acacia coolgardiensis		CDR
Acacia duriuscula		CDR
Acacia effusifolia		CDR
Acacia erinacea		CDR
Acacia exocarpoides		CDR
Acacia formidabilis	3	CDR
Acacia inceana subsp. conformis		CDR+
Acacia jennerae		CDR
Acacia jibberdingensis		CDR
Acacia kalgoorliensis		CDR
Acacia kochii		CDR
Acacia latior		CDR
Acacia lineolata subsp. lineolata		CDR
Acacia longiphyllodinea		CDR
Acacia longispinea		CDR
Acacia murrayana		CDR
Acacia obtecta		CDR
Acacia prainii		CDR

Acacia ramulosa var. ramulosa		CDR
Acacia resinimarginea		CDR
Acacia restiacea		CDR
Acacia sericocarpa		CDR
Acacia sibina		CDR
Acacia sp. Goodlands (B.R. Maslin 7761)	1	CDR
Acacia sp. Kalannie North East (B.R. Maslin 7519)	1	CDR
Acacia sp. narrow phyllode (B.R. Maslin 7831)		CDR
Acacia steedmanii subsp. steedmanii		CDR
Acacia stereophylla var. stereophylla		CDR
Acacia tetragonophylla		CDR
Acacia tysonii		CDR
Acacia umbraculiformis		CDR
Acacia yorkrakinensis subsp. acrita		CDR
Actinobole uliginosum		CDR
Actinotus humilis		CDR
Allocasuarina acutivalvis subsp. prinsepiana		CDR
Allocasuarina campestris		CDR
Allocasuarina dielsiana		CDR
Allocasuarina tessellata	1	CDR
Aluta aspera subsp. hesperia		CDR
Alyogyne hakeifolia		CDR
Alyogyne pinoniana		CDR
Alyxia buxifolia		CDR
Amphipogon caricinus var. caricinus		CDR
Amyema nestor		CDR
Amyema preissii		CDR
*Anagallis arvensis var. caerulea		CDR+
Angianthus tomentosus		CDR
Anthotroche pannosa		CDR
Aristida contorta		CDR
Arthropodium dyeri		CDR
Astroloma serratifolium		CDR
Atriplex bunburyana		CDR
Atriplex stipitata		CDR
Atriplex vesicaria		CDR
Austrodanthonia acerosa		CDR+
Austrostipa elegantissima		CDR
Austrostipa scabra		CDR#
Austrostipa trichophylla		CDR
Baeckea benthamii ms		CDR
Baeckea elderiana		CDR
Baeckea sp. Bencubbin-Koorda (M.E. Trudgen 5421)		CDR
Bellida graminea		CDR
Blennospora drummondii		CDR
Borya constricta		CDR
Borya sphaerocephala		CDR#
Bossiaea sp. Jackson Range (G. Cockerton & S. McNee LCS 13614)	1	CDR
Bossiaea walkeri		CDR
Brachyscome pusilla		CDR
*Briza maxima		CDR+
*Briza minor		CDR+
*Bromus rubens		CDR
Brunonia australis		CDR
Bulbine semibarbata		CDR+
Bursaria occidentalis		CDR
Caladenia roei		CDR
Calandrinia eremaea		CDR
Calandrinia granulifera		CDR+
Calandrinia sp. Blackberry (D.M. Porter 171)		CDR#
Calandrinia sp. Truncate capsules (A. Markey & S. Dillon 3474)		CDR+

Calandrinia translucens		CDR
Callitris columellaris		CDR
Calothamnus aridus		CDR
Calothamnus gilesii		CDR
Calotis hispidula		CDR+
Calotis multicaulis		CDR+
Calycopeplus paucifolius		CDR
Calytrix glutinosa		CDR
Calytrix leschenaultii		CDR
Calytrix sp. Paynes Find (F. & J. Hort 1188)		CDR
Cephalipterum drummondii		CDR
Chamaexeros fimbriata		CDR
Chamaexeros macranthera		CDR
Cheilanthes adiantoides		CDR
Cheiranthera simplicifolia		CDR
Chrysitrix distigmatosa		CDR+
Chthonocephalus pseudevax		CDR
*Cleretum papulosum subsp. papulosum		CDR+
Codonocarpus cotinifolius		CDR
Comesperma griffinii	2	CDR
Comesperma integerrimum		CDR
Comesperma volubile		CDR
Commersonia stowardii		CDR
Crassula closiana		CDR#
Crassula colorata var. acuminata		CDR#
Crassula tetramera		CDR
Cryptandra apetala		CDR
Cryptandra imbricata	C	CDR
Cryptandra micrantha		CDR
*Cuscuta planiflora		CDR+
Cyanicula amplexans		CDR
Cyanicula fragrans	3	CDR+
Cyanostegia angustifolia		CDR
Cyanostegia microphylla		CDR
Dampiera eriocephala		CDR
Dampiera incana var. fuscescens		CDR
Dampiera luteiflora		CDR
Dampiera wellsiana		CDR
Daucus glochidiatus		CDR
Dianella revoluta		CDR
Dicrastylis parvifolia		CDR
Dicrastylis soliparma		CDR
Didymanthus roei		CDR+
Dodonaea adenophora		CDR
Dodonaea inaequifolia		CDR
Dodonaea viscosa subsp. angustissima		CDR
Drosera macrantha subsp. macrantha		CDR
Duboisia hopwoodii		CDR
Duperreya sericea		CDR+
Ecdeiocolea monostachya		CDR
Enchylaena lanata		CDR
Enekbatus sessilis ms		CDR
Enekbatus stowardii ms		CDR
Eragrostis dielsii		CDR+
Eremophila clarkei		CDR
Eremophila decipiens subsp. decipiens		CDR
Eremophila eriocalyx		CDR
Eremophila forrestii subsp. forrestii		CDR
Eremophila glabra subsp. elegans		CDR
Eremophila glutinosa		CDR
Eremophila latrobei subsp. latrobei		CDR
Eremophila miniata		CDR
Eremophila oldfieldii subsp. angustifolia		CDR
Eremophila oldfieldii subsp. oldfieldii		CDR
Eremophila oppositifolia subsp. angustifolia		CDR

Eremophila pantonii		CDR+
Eremophila serrulata		CDR
Eremophila shonae subsp. shonae		CDR
Eriachne ovata		CDR
Eriachne pulchella subsp. pulchella		CDR
Eriochiton sclerolaenoides		CDR+
Erodium cygnorum		CDR
Erymophyllum glossanthus		CDR
Erymophyllum ramosum subsp. involucratum		CDR
Erymophyllum tenellum		CDR
Eucalyptus brachycorys		CDR
Eucalyptus celastroides subsp. virella		CDR
Eucalyptus clelandii		CDR
Eucalyptus erythronema var. marginata		CDR
Eucalyptus ewartiana		CDR
Eucalyptus horistes		CDR
Eucalyptus kochii subsp. amaryssia		CDR
Eucalyptus kochii subsp. plenissima		CDR
Eucalyptus leptophylla		CDR
Eucalyptus leptopoda subsp. arctata		CDR
Eucalyptus loxophleba subsp. supralaevis		CDR
Eucalyptus moderata		CDR
Eucalyptus petraea		CDR
Eucalyptus salmonophloia		CDR
Eucalyptus salubris		CDR
Eucalyptus stowardii		CDR
Eucalyptus subangusta subsp. pusilla		CDR
Eucalyptus subangusta subsp. subangusta		CDR
Euphorbia boophthona		CDR+
Euphorbia drummondii		CDR+
Euphorbia tannensis subsp. eremophila		CDR+
Euryomyrtus recurva	3	CDR
Exocarpos aphyllus		CDR
Feldstonia nitens		CDR+
Frankenia laxiflora		CDR
Frankenia sp. (M.S. Trudgen 282)		CDR+
Gahnia drummondii		CDR
Gastrolobium laytonii		CDR
Genus sp. (M.S. Trudgen 288)		CDR+
Gilberta tenuifolia		CDR
Gilruthia osbornei		CDR
Glischrocaryon angustifolium		CDR
Glischrocaryon flavescens		CDR
Gnephosis tenuissima		CDR
Gnephosis trifida		CDR+
Gonocarpus confertifolius var. confertifolius		CDR
Gonocarpus confertifolius var. helmsii		CDR
Goodenia berardiana		CDR
Goodenia havilandii		CDR+
Goodenia mimuloides		CDR+
Goodenia occidentalis		CDR+
Goodenia perryi	3	CDR
Goodenia pinnatifida		CDR
Grevillea biformis subsp. biformis		CDR
Grevillea didymobotrya subsp. didymobotrya		CDR+
Grevillea extorris		CDR
Grevillea hakeoides subsp. stenophylla		CDR
Grevillea juncifolia subsp. temulenta		CDR
Grevillea levis		CDR
Grevillea nematophylla		CDR
Grevillea obliquistigma subsp. cullenii		CDR
Grevillea obliquistigma subsp. obliquistigma		CDR
Grevillea paradoxa		CDR
Grevillea pityophylla		CDR
Grevillea pterosperma		CDR

Grevillea subtiliflora	3	CDR
Grevillea teretifolia		CDR
Grevillea yorkrakinensis		CDR
Gunniopsis quadrifida		CDR+
Gunniopsis rodwayi		CDR+
Gunniopsis rubra	3	CDR#
Gunniopsis septifraga		CDR+
Gypsophila tubulosa		CDR
Gyrostemon racemiger		CDR
Hakea francisiana		CDR
Hakea invaginata		CDR
Hakea minyma		CDR
Hakea recurva subsp. arida		CDR
Hakea recurva subsp. recurva		CDR
Halgania cyanea var. Allambi Stn (B.W. Strong 676)		CDR
Halgania gustafsenii var. Mid West (G. Perry 370)		CDR
Halgania integerrima		CDR
Haloragis trigonocarpa		CDR+
Hannafordia bissillii subsp. latifolia		CDR
Hemigenia botryphylla		CDR
Hemigenia ciliata		CDR
Hemigenia sp. Yuna (A.C. Burns 95)		CDR
Hemigenia tomentosa		CDR
Hibbertia arcuata		CDR
Hibbertia glomerosa var. glomerosa		CDR
Hibbertia stenophylla		CDR
Homalocalyx aureus		CDR
Homalocalyx thryptomenoides		CDR
Hyalosperma glutinosum subsp. glutinosum		CDR
Hyalosperma glutinosum subsp. venustum		CDR
Hyalosperma zacchaeus		CDR
Hybanthus floribundus subsp. floribundus		CDR
Hydrocotyle pilifera var. glabrata		CDR+
Hypoxis glabella var. glabella		CDR+
Indigofera occidentalis ms		CDR
Isoetopsis graminifolia		CDR+
Isolepis congrua		CDR#
Isotoma hypocrateriformis		CDR
Jacksonia rhadinoclada		CDR
Keraudrenia integrifolia		CDR
Keraudrenia velutina subsp. velutina		CDR
Kunzea pulchella		CDR
Lachnagrostis plebeia		CDR#
Lachnagrostis preissii		CDR+
Lachnostachys verbascifolia var. verbascifolia		CDR
Lechenaultia macrantha		CDR
Lepidium oxytrichum		CDR#
Lepidosperma costale		CDR
Lepidosperma sp. Blue Hills (A. Markey & S. Dillon 3468)	1	CDR
Lepidosperma sp. Wolga Rock (S.D. Hopper 6513)		CDR
Leptosema aphyllum		CDR
Leptosema daviesioides		CDR
Leucopogon sp. Clyde Hill (M.A. Burgman 1207)		CDR
Levenhookia leptantha		CDR
Levenhookia stipitata		CDR
Lobelia rarifolia		CDR
Lobelia winfridae		CDR
Lomandra effusa		CDR
Lysiana murrayi		CDR
Maireana amoena		CDR+
Maireana brevifolia		CDR

Maireana carnosa		CDR#
Maireana diffusa		CDR
Maireana georgei		CDR
Maireana marginata		CDR+
Maireana planifolia		CDR
Maireana thesioides		CDR
Maireana tomentosa subsp. tomentosa		CDR#
Maireana trichoptera		CDR
Malleostemon roseus		CDR
Malleostemon tuberculatus		CDR
Marsilea drummondii		CDR
*Medicago minima		CDR+
Melaleuca atroviridis		CDR
Melaleuca calyptroides		CDR
Melaleuca conothamnoides		CDR
Melaleuca cordata		CDR
Melaleuca eleuterostachya		CDR
Melaleuca fabri		CDR
Melaleuca fulgens		CDR
Melaleuca hamata		CDR
Melaleuca hamulosa		CDR
Melaleuca lateriflora subsp. acutifolia		CDR
Melaleuca leiocarpa		CDR
Melaleuca longistaminea subsp. longistaminea		CDR
Melaleuca nematophylla		CDR
Melaleuca radula		CDR
Melaleuca stereophloia		CDR
Melaleuca vinnula		CDR
Menkea australis		CDR+
Microcorys sp. Mt Gibson (S. Patrick 2098)		CDR
Micromyrtus acuta	3	CDR
Micromyrtus clavata		CDR
Micromyrtus racemosa var. racemosa ms		CDR
Millotia myosotidifolia		CDR+
Mirbelia bursarioides ms		CDR
Mirbelia longifolia		CDR
Mirbelia microphylla		CDR
Mirbelia ramulosa		CDR
Mirbelia rhagodioides		CDR
Monachather paradoxus		CDR
Monotaxis bracteata		CDR
Muehlenbeckia adpressa		CDR
Myriocephalus pygmaeus		CDR
Nicotiana rotundifolia		CDR
Olearia dampieri ms		CDR
Olearia humilis		CDR
Olearia pimeleoides		CDR
Opercularia vaginata		CDR
*Parentucellia latifolia		CDR+
Parietaria cardiostegia		CDR#
Patersonia drummondii		CDR
Persoonia manotricha		CDR
Persoonia pentasticha	3	CDR
Petalostylis cassioides		CDR
Phebalium canaliculatum		CDR
Phebalium megaphyllum		CDR
Phebalium tuberculosum		CDR
Philotheca brucei subsp. brucei		CDR
Philotheca deserti subsp. deserti		CDR
Philotheca glabra		CDR
Philotheca nutans	1	CDR
Philotheca sericea		CDR
Philotheca thryptomenoides		CDR
Philotheca tomentella		CDR
Phlegmatospermum drummondii	C	CDR

Phyllangium sulcatum		CDR+
Pimelea aeruginosa		CDR
Pimelea angustifolia		CDR
Pimelea forrestiana		CDR
Pityrodia terminalis		CDR
Plantago debilis		CDR+
Podolepis canescens		CDR+
Podolepis capillaris		CDR
Podolepis lessonii		CDR
Podotheca gnaphalioides		CDR+
Pogonolepis stricta		CDR
*Polycarpon tetraphyllum		CDR+
Prasophyllum gracile		CDR
Prostanthera eckersleyana		CDR
Prostanthera magnifica		CDR+
Prostanthera patens		CDR
Psammomoya choretroides		CDR
Ptilotus divaricatus var. divaricatus		CDR+
Ptilotus drummondii		CDR
Ptilotus eriotrichus		CDR
Ptilotus exaltatus		CDR
Ptilotus gaudichaudii var. gaudichaudii		CDR
Ptilotus gaudichaudii var. parviflorus		CDR
Ptilotus helipteroides		CDR#
Ptilotus holosericeus		CDR
Ptilotus obovatus		CDR
Ptilotus polystachyus var. polystachyus		CDR
Rhagodia drummondii		CDR
Rhagodia eremaea		CDR
Rhodanthe chlorocephala subsp. rosea		CDR
Rhodanthe chlorocephala subsp. splendida		CDR
Rhodanthe collina	1	CDR+
Rhodanthe laevis		CDR+
Rhodanthe maryonii		CDR+
Rhodanthe polycephala		CDR+
Rhodanthe pygmaea		CDR
Rhodanthe spicata		CDR
Ricinocarpos velutinus		CDR
*Rostraria pumila		CDR#
Rulingia kempeana		CDR
Rulingia luteiflora		CDR
Santalum acuminatum		CDR
Santalum spicatum		CDR
Sarcozona praecox		CDR+
Scaevola hamiltonii		CDR
Scaevola restiacea subsp. restiacea		CDR
Scaevola spinescens		CDR
Schoenia cassiniana		CDR
Schoenus humilis		CDR+
Schoenus nanus		CDR#
Schoenus subaphyllus		CDR
Schoenus variicellae		CDR+
Sclerolaena diacantha		CDR#
Sclerolaena drummondii		CDR
Sclerolaena eurotioides		CDR+
Sclerolaena fusiformis		CDR+
Sclerolaena gardneri		CDR
Senecio glossanthus		CDR+
Senna artemisioides subsp. filifolia		CDR
Senna artemisioides subsp. petiolaris		CDR
Senna flexuosa		CDR
Senna glutinosa subsp. chatelainiana		CDR
Senna pleurocarpa		CDR
Senna sp. Austin (A. Strid 20210)		CDR
Senna stowardii		CDR

Sida calyxhymenia		CDR+
Sida sp. dark green fruits (S. van Leeuwen 2260)		CDR
*Silene nocturna		CDR+
Solanum coactiliferum		CDR
Solanum lasiophyllum		CDR
Solanum nummularium		CDR
Solanum oldfieldii		CDR
Stackhousia monogyna		CDR
Stenanthemum poicilum	2	CDR
Stenopetalum filifolium		CDR
Stylidium limbatum		CDR
Stylidium warriedarense		CDR+
Stylidium yilgarnense		CDR
Tecticornia disarticulata		CDR
Tecticornia sp. aff. halocnemoides		CDR
Tetragonia aff. moorei		CDR
Tetragonia diptera		CDR#
Thelymitra petrophila ms		CDR
Thomasia tremandroides		CDR
Thryptomene costata		CDR
Thryptomene cuspidata		CDR
Thysanotus manglesianus		CDR+
Thysanotus patersonii		CDR
Thysanotus pyramidalis		CDR+
Thysanotus rectantherus		CDR
Trachymene cyanopetala		CDR
Trachymene ornata		CDR+
Tricoryne elatior		CDR
Triglochin isingiana		CDR+
Triglochin longicarpa		CDR+
Triodia rigidissima		CDR+
Tripogon loliiformis		CDR
Velleia discophora		CDR
Velleia rosea		CDR
Verticordia eriocephala		CDR
Verticordia interioris		CDR
Verticordia rennieana		CDR
Waitzia acuminata var. acuminata		CDR
Westringia cephalantha		CDR
Wrixonia prostantheroides		CDR
Wurmbea densiflora		CDR
Wurmbea sp. Paynes Find (C.J. French 1237)		CDR
Wurmbea sp. White Wells (T.D. Macfarlane et al. TDM 4345)		CDR
Xerolirion divaricata		CDR
*Zaluzianskya divaricata		CDR+
Zygophyllum angustifolium		CDR
Zygophyllum eremaeum		CDR
Zygophyllum fruticulosum		CDR
Zygophyllum ovatum		CDR+
Zygophyllum tesquorum		CDR+