has resulted in the inclusion of plants from an additional 15 genera and 6 families to the flora list for the Park.

Table 2. Plants recorded from the Meentheena Conservation Park. Names in bold and underlined are new records for the Park recorded during the May 2001 Landscope Expedition (* = non-native species, P2 = conservation status).

ADIANTACEAE
Cheilanthes sieberi
Cheilanthes brownii
TYPHACEAE
Typha domingensis
POACEAE
Amphipogon strictus
Aristida contorta
Aristida holathera
Aristida sp. (SVL 4533)
* *Cenchrus ciliaris*
* *Cenchrus setigerus*
Chryspogon fallax
Cymbopogon ambiguus
Dactyloctenium radulans
***Dicanthium* sp. (SVL 4820)**
Digitaria sp.
Enneapogon caerulescens
Enneapogon polyphyllus
Enneapogon sp.
Eragrostis cumingii
Eragrostis pergracilis
Eragrostis setifolia
Eragrostis tenellula
Eragrostis sp.
Eriachne aristidea
Eriachne benthamii
Eriachne helmsii
Eriachne ovata
Eriachne pulchella subsp. *dominii*
Eriachne sp. (SVL 4484
Eriachne sp. (SVL 4580)
Iseilema membranaceum
Paspalidium rarum
Perotis rara
Setaria dielsii
Sorghum sp. (SVL 4528a)
***Sorghum* sp (SVL 4817)**
Sporobolus australasicus
Themeda triandra
Themeda sp. (SVL 4536)
Triodia angusta
Triodia epactia
Triodia lanigera
Triodia longiceps
Triodia pungens
Triodia wiseana
Yakirra australiensis
Genus sp. (SVL 4504)
Genus sp. (SVL 4507)
Genus sp. (SVL 4567)
Genus sp. (SVL 4571)
Genus sp. (SVL 4766)
Genus sp. (SVL 4779)
Genus sp. (SVL 4820)
Genus sp. (SVL 4821)
CYPERACEAE
Bulbostylis burbidgeae
Cyperus cunninghamii
Cyperus vaginatus
Cyperus sp. (SVL 4511)
Cyperus sp. (SVL 4575)
Cyperus sp. (SVL 4564)
***Cyperus* sp. (SVL 4782)**
***Cyperus* sp. (SVL 4784)**
***Cyperus* sp. (SVL 4790)**
***Eleocharis* sp. (SVL 4789)**
COMMELINACEAE
Commelina ensifolia
MORACEAE
Ficus opposita var. *indecora*
Ficus brachypoda
PROTEACEAE
Grevillea pyramidalis
Grevillea wickhamii subsp. *aprica*
Hakea lorea
SANTALACEAE
Santalum lanceolatum
CHENOPODIACEAE
Dysphania kalpari
Dysphania rhadinostachya
Enchylaena tomentosa
Salsola tragus
Sclerolaena sp. (SVL 4569)
AMARANTHACEAE
Achyranthes aspera
* *Aerva javanica*
Alternanthera nana
Alternanthera nodiflora
Amaranthus mitchellii
Gomphrena affinis
Gomphrena canescens
Gomphrena cunninghamii
Ptilotus aervoides
Ptilotus appendiculatus
Ptilotus astrolasius
Ptilotus auriculifolius
Ptilotus axillaris
Ptilotus calostachyus
Ptilotus carinatus
Ptilotus exaltatus
Ptilotus fusiformis

Ptilotus helipteroides
Ptilotus mollis **P2**
Ptilotus sp. (SVL 4542)

NYCTAGINACEAE

Boerhavia coccinea
Boerhavia gardneri
Boerhavia schomburgkiana

AIZOACEAE

Trianthema cussackiana
Trianthema glossostigma
Trianthema oxycalyptra
Trianthema pilosa
Trianthema portulacastrum
Trianthema turgidifolia
Trianthema sp.

MOLLUGINACEAE

Glinus oppositifolius
Mollugo molluginis

PORTULACACEAE

***Calandrinia* sp. (SVL 4780)**
Portulaca oleracea

CARYOPHYLLACEAE

Polycarpaea breviflora
Polycarpaea corymbosa
Polycarpaea holtzei
Polycarpaea longiflora

MENISPERMACACEAE

Tinospora smilacina

PAPAVERACEAE

* *Argemone ochroleuca*

CAPPARACEAE

Cleome viscosa

DROSERACEAE

Drosera indica

MIMOSACEAE

Acacia ampliceps
Acacia ancistrocarpa
Acacia arida
Acacia bivenosa
Acacia coriacea subsp. *pendens*
Acacia cowleana
Acacia eriopoda
Acacia exilis
Acacia farnesiana
Acacia gregorii
Acacia hilliana
Acacia inaequilatera
Acacia maitlandii
Acacia ptychophylla
Acacia pyrifolia
Acacia retivenia subsp. *clandestina*
Acacia spondylophylla
Acacia sclerosperma
Acacia tetragonophylla
Acacia trachycarpa
Acacia tumida
Acacia victoriae
Dichrostachys spicata

CAESALPINIACEAE

Petalostylis labicheoides
Senna artemisioides subsp. *helmsii*
Senna artemisioides subsp. *oligophylla*
Senna glutinosa subsp. *glutinosa*
Senna glutinosa subsp. x *luerssenii*
Senna glutinosa subsp. *pruinosa*
Senna notabilis
Senna symonii
Senna venusta

PAPILIONACEAE

Alysicarpus rugosus
Cajanus pubescens
Crotalaria crispata
Crotalaria cunninghamii
Crotalaria medicaginea
Cullen leucochaites
Cullen leucanthum
Cullen martinii
Cullen pogonocarpum
Cullen stipulaceum
Cullen sp.
Desmodium filiforme
Glycine tabacina
***Glycine* sp. (SVL 4806)**
Indigofera colutea
Indigofera linifolia
Indigofera linnaei
Indigofera monophylla
Indigofera rugosa
Indigofera trita
Lotus australis
Rhynchosia minima
Sesbania cannabina
Sesbania formosa
Swainsona decurrens
Swainsona formosa
Swainsona kingii
Swainsona pterostylis
Swainsona stenodonta
Templetonia egena
Tephrosia bidwillii
Tephrosia sp. Bungaroo Creek (Met 11601)
Tephrosia sp. 1
Tephrosia sp. 2
***Tephrosia* sp. (SVL 4799)**
***Tephrosia* sp. (SVL 4846)**
Vigna lanceolata
Zornia albiflora

ZYGOPHYLLACEAE

Tribulus hirsutus
Tribulus macrocarpus
Tribulus occidentalis
Tribulus platypterus
Tribulus suberosus

POLYGALACEAE

Polygala isingii

EUPHORBIACEAE

Euphorbia australis
Euphorbia coghlanii
Euphorbia drummondii
Flueggea virosa* subsp. *melahthesoides
Leptopus decaisnei
Phyllanthus lacunellus
Phyllanthus maderaspatensis

STACKHOUSIACEAE

***Stackhousia* sp. (SVL 4837)**

SAPINDACEAE

Atalaya hemiglauca

TILIACEAE

Corchorus aestuans
Corchorus fascicularis
Corchorus laniflorus
Corchorus tridens
Corchorus walcottii
Corchorus sp. (SVL 4512)
Corchorus sp. (SVL 4525)
Corchorus sp. (SVL 4537)
Triumfetta appendiculata
Triumfetta chaetocarpa
Triumfetta maconochieana
Triumfetta plumigera
Triumfetta propinqua
***Triumfetta* sp. (SVL 4830)**
***Triumfetta* sp. (SVL 4841a)**
***Triumfetta* sp. (SVL 4841b)**

MALVACEAE

Abutilon fraseri
Abutilon lepidum
***Abutilon* sp. (SVL 4829)**
Gossypium australe
Hibiscus brachychlaenus
Hibiscus burtonii
Hibiscus coatesii
Hibiscus leptocladus
Hibiscus panduriformis
Hibiscus sturtii
Sida echinocarpa
Sida rohlenae
Sida sp. (SVL 4502)
Sida sp. (SVL 4517)
Sida sp. (SVL 4518)
Sida sp. (SVL 4520)
Sida sp. (SVL 4545)
Sida sp. (SVL 4550)
***Sida* sp. (SVL 4835)**

STERCULIACEAE

Waltheria indica
Waltheria virgata

LYTHRACEAE

Ammannia baccifera

COMBRETACEAE

Terminalia canescens

MYRTACEAE

Corymbia candida subsp. *dipsodes*
Corymbia ferriticola
Corymbia hamersleyana
Eucalyptus camaldulensis
Eucalyptus gamophylla
Eucalyptus leucophloia
Eucalyptus odontocarpa
Eucalyptus victrix
Melaleuca argentea
Melaleuca glomerata

HALORAGACEAE

Myriophyllum verrucosum

APIACEAE

Trachymene oleracea

OLEACEAE

Jasminum didymum

APOCYNACEAE

Carissa lanceolata

ASCLEPIADACEAE

Cynanchum floribundum

CONVOLVULACEAE

Bonamia pannosa
Bonamia rosea
Convolvulus erubescens
Evolvulus alsinoides
Jacquemontia pannosa
Ipomoea lonchophylla
Ipomoea muelleri
***Ipomoea* sp. (SVL 4811)**
Polymeria calycina
Polymeria sp. (SVL 4491)
Polymeria sp. (SVL 4560)

BORAGINACEAE

Heliotropium aff. *crispatum*
Heliotropium heteranthum
Heliotropium inexplicitum
Heliotropium murinum
Heliotropium ovalifolium
***Heliotropium* sp. (SVL 4833)**
Trichodesma zeylanicum

VERBENACEAE

Clerodendrum floribundum

SOLANACEAE

* *Datura leichhardtii*
Nicotiana benthamiana
Nicotiana occidentalis
Nicotiana rosulata
* *Physalis minima*
Solanum diversiflorum
Solanum horridum
Solanum lasiophyllum
Solanum sp. (SVL 4568)

SCROPHULARIACEAE

Peplidium sp. (SVL 4572)
***Peplidium* sp. (SVL 4816)**
Stemodia grossa
Stemodia viscosa
Striga squamigera

BIGNONIACEAE
Genus sp. (SVL 4538)
PEDALIACEAE
Josephinia sp. Mt Edgar Stn (NT Burbidge 1194)
MYOPORACEAE
Eremophila latrobei
Eremophila longifolia
Eremophila sp.
RUBIACEAE
Oldenlandia crouchiana
Synaptantha tillaeacea
CUCURBITACEAE
* *Cucumis melo*
***Cucumis* sp. (SVL 4822)**
Mukia maderaspatana
CAMPANULACEAE
Wahlenbergia tumidifructa
LOBELIACEAE
Lobelia quadrangularis
GOODENIACEAE
Dampiera candicans
Goodenia heterochila
Goodenia lamprosperma
Goodenia micrantha
Goodenia microptera
Goodenia stobbsiana
Goodenia triodiophila
Scaevola amblyanthera
Scaevola sp.
STYLIDIACEAE
Stylidium desertorum
Stylidium fluminense
ASTERACEAE
Centipeda minima
Centipeda sp. (SVL 4559)
Chrysogonum trichodesmoides
Flaveria australasica
Ixiochlamys cuneifolia
Ixiochlamys sp. (SVL 4523)
Olearia sp.
Pentalepis trichodesmoides
Pluchea tetranthera
Pteracaulon serrulatum
Pterocaulon sphacelatum
Senecio aff. *leucoglossus*
Streptoglossa adscendens
Streptoglossa bubakii
Streptoglossa odora
Genus sp. (SVL 4483)
Genus sp. (SVL 4522)
Genus sp. (SVL 4565)

Most of the plants recorded at Meentheena are typical, ubiquitous species found throughout the Pilbara. The grass family (Poaceae) with 50 species was the richest recorded, a feature typical of most Pilbara study areas. Twenty-two families were represented by only one species. Other common elements of the flora were peas (Papilionaceae), wattles (Mimosaceae), mulla mullas (Amaranthaceae) and daisies (Asteraceae) with 38, 23, 20 and 18 species respectively. By far the most visually conspicuous plants on Meentheena were regenerating spinifex (*Triodia*) and wattles (*Acacia*) which were conspicuous in all habitats with six and 20 species, respectively. Other conspicuous plants were the re-sprouting emergent eucalypts, especially the River Red gums (*Eucalyptus camaldulensis*) which fringed the Nullagine River, and the white-barked Snappy gums (*Eucalyptus leucophloia*) which stylishly graced the slopes of most hills. The tall majestic paperbarks (*Melaleuca argentea*) bordering most of the pools along the Nullagine River together with the White Dragon Tree or Corkwood (*Sesbania formosa*) were also a conspicuous component of the flora.

Most plants recorded at Meentheena have a ubiquitous distribution throughout the Pilbara and much of the arid inland regions of central Western Australia. However, two of the plants recorded on the Park, one for the first time during this expedition, are of conservation interest. These plants are *Josephinia* sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194) and *Ptilotus mollis*, as described below:

Josephinia sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194): This undescribed species is known from six collections all obtained from the Mt Edgar–Meentheena area. The species is currently not listed on CALM's Priority Flora List. The species was collected from three localities during the expedition. All localities were along the Nullagine River on alluvial wash areas close to the river in areas that had recently been burnt. This species is now known from five localities on Meentheena.

list as of 20/2/05

corrected loc of 4565?

— not coll before by SVL.

MEENTHEENA SPECIES LIST

Species	Coll. No.	Site coll.
Acacia adoxa	4576	RHM
Acacia arida	4517, 4571	M15, M11
Acacia bivenosa	4531	M14
Acacia hilliana	4579	RHM
Acacia inaequilatera	SR	M8
Acacia monticola	4582	Dol
Acacia ptychophylla	4580	RHM
Acacia synchronicia	4581	RHM
X no *Alysicarpus Muelleri*	4536, 4564A	M8 YC
Basilicum polystachyon	4553, 4572	ECamp PP
Boerhavia ?coccinea	4538	M8
Bothriochloa bladhii	4552	ECamp
Calandrinia quadrivalvis	~~4494~~, 4557	Camp + Strom X
Calytrix carinata	4578	RHM
Centaurium spicatum	4568	YC
Centipeda minima	4554	ECamp
Chrysopogon fallax	4566	YC
Clerodendrum floribundum	4550	KRH
Corchorus laniflorus	4506	M10
Corchorus parviflorus	4512	M10
**Cucumis myriocarpus*	4497	Camp
Cullen pallidum	4533	M8
Cullen stipulaceum	4527	M14
Cyperus diformis	4495	Camp
Cyperus ixiocarpus	4502	Camp
Cyperus squarrosus	4499	Camp
Dicanthium fecundum	4556	ECamp
Dodonaea coriacea	4583	Dol
Echinochloa colona	4502A	Camp
Eucalyptus aspera to MF	4587	Dol
Euphorbia biconvexa	4504	M10
Erymophyllum ramosum ssp.ramosum	4498A	Camp
Ficus opposita	4569	Bloodwood Well
B *Glinus lotoides*	4500	Camp
Glycine tabacina missing	4549	KRH
Gomphrena cunninghamii	4509, 4544	M10 KRH
Goodenia microptera	4516, 4556A	M10 ECamp
Goodenia muelleriana	4534	M8
Goodenia scaevolina	4523, 4563	M14 BH
Gossypium australe	4520, 4530, 4556B	M15, M14 ECamp
Gossypium robinsonii	4593	RHM
Gnephosis brevifolia	4499A	Camp

Heliotropium crispatum	4543 KRH
Hibiscus coatesii	4594 RHM
Hibiscus sturtii var. campylochlamys	4510A, 4589 M10 Dol
Indigofera colutea	4507, 4510B, 4547 M10 KRH
Indigofera rugosa	4560 ~~Strom~~ BH
Isotropis atropurpurea	4540 KRH
Ixiochlamys cuneifolia	4562 BH
Leptochloa fusca	4501 camp
Lobelia quadrangularis	~~4576~~ 4557A Strom YC
Lotus australis	4498 Camp
Maireana planifolia	4525 M14
Marsilea hirsuta	4541 KRH
~~*Melaleuca linophylla*~~	~~4548, 4546.~~
Melaleuca linophylla	4546, 4548. KRH
Melochia pyramidata	4575 PP
Mukia maderaspatana	4545 KRH
Pentalepis trichodesmoides	4532, 4574 M8 PP
Peplidium maritimum	4570 Bloodwood Well
Phyllanthus maderaspatensis	4542, 4558 KRH Strom
Pluchea rubelliflora	4555, 4561 E Camp BH
Pluchea tetranthera	4526 M14
Polycarpaea holtzei	4515 M10
Polymeria aff. calycina	4505, 4577 M10 RHM
Pseudognaphalium luteoalbum	4496 Camp
Pterocaulon sphaeranthoides	4524 M14
Ptilotus astrolasius var. astrolasius	4592 RHM
Ptilotus auriculifolius	4518 M15
Ptilotus axillaris	4508 M10
Ptilotus clementii	4519 M15
Ptilotus helipteroides	4521 M14
Ptilotus incanus	4584 Dol
Rhodanthe margarethae	4539 KRH
Senna aff. symonii	4596 RHM
Sida atrovirens	4588 Dol
Sida clementii	4511 M10
Sida echinocarpa	SR M8
Sida sp.	4529 M14
Solanum ellipticum	4528 M14
Solanum aff. cleistogamum	4591 Dol
Streptoglossa decurrens	4564 BH
Swainsona forrestii	4537 M8
Swainsona stenodonta	4513 M10
Tephrosia rosea	4559 ~~Strom~~ BH

Tephrosia uniovulata	4535	M8
Trachymene oleracea	4522	M14
Trianthema triquetra	4551	Camp
Triodia missing	4531A	M14
Triodia brizoides	4595	RHM
Triodia ? concinna	4513A	M10
Triodia longiceps	4565	
Triumfetta chaetocarpa	4503	M10
Triumfetta maconochiena	4514, 4586	M10 Dol
Triumfetta plumigera	4585	Dol
Waltheria virgata	4573, 4590	PP Dol

Meentheena collecting sites abbreviations

Campsite on Nullaguie R	camp
Trapping Sites M8, 10, 11, 14, 15	as are
King Rock Hole	KRH
E of camp over Nullaguie R.	E camp
Stromatolites	Strom
Benoora Hill	BH
Yilgalong Ck.	YC
Pelican Pool	pp
Rippon Hills Minesite or mining camp	RHM
Doline	Dol

Meenthreena Trap Site Species.

M 8

cacia inaequilatera	SR
lysicarpus muelleri	4536, 4564A
erbavia coccinea	4538
ilen pallidum	4533
oodenia muelleriana	4534
entalepis trichodesmoides	4532
ida echinocarpa	SR
vainsona forrestii	4537
phrosia uniovulata	4535

M 10.

orchorus laniflorus	4506
rchorus parviflorus	4512
Euphorbia biconvexa	4504
omphrena cunninghamii	4509
oodenia micioptera	4516
ibiscus sturtii var. campylochlamys	4510A
digofera colutea	4507
lycarpaea holtzei	4515
lymenia aff. calycina	4505
tilotus axillaris	4508
ida clementii	4511
vainsonia stenodonta	4513
iodia ? concinna	4513A
iumfetta chaetocarpa	4503
iumfetta maconochieana	4514

M 11.

cacia arida	4571

M 14

Acacia bivenosa	4531
Cullen stipulaceum	4527
Gossypium australe	4530
Maireana planifolia	4525
Pluchea tetranthera	4526
Pterocaulon sphaeranthoides	4524
Ptilotus helipteroides	4521
Sida sp.	4529
Solanum ellipticum	4528
Trachymene oleracea	4522
Triodia sp.	4531A
Goodenia scaevolina	4523

M 15

Acacia arida	4517
Gossypium australe	4520
Ptilotus auriculifolius	4518
Ptilotus clementii	4519

MEENTHEENA SPECIES LIST

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Calandrinia quadrivalvis	~~4494~~, 4557
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Cullen stipulaceum	4527
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Ficus opposita	4569
Glinus lotoides	4500
Glycine	4549
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Maireana planifolia	4525
Marsilea hirsuta	4541
~~*Melaleuca*~~	~~4548~~
Melaleuca linophylla	4546, 4548
Melochia pyramidata	4575
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Sida sp.	4529
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Triumfetta maconochiena	4514, 4586
Triumfetta plumigera	4585
Waltheria virgata	4573, 4590

Centaurium spicatum Gentianaceae

Passiflora foetida hill at King R Hole

has resulted in the inclusion of plants from an additional 15 genera and 6 families to the flora list for the Park.

~~Achyranthes~~

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Cheilanthes brownii

TYPHACEAE

Typha domingensis

31 POACEAE

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Aristida holathera

Aristida sp. (SVL 4533)

* *Cenchrus ciliaris*

* *Cenchrus setigerus*

Chryspogon fallax

Cymbopogon ambiguus

Dactyloctenium radulans

***Dicanthium* sp. (SVL 4820)**

Digitaria sp.

Enneapogon caerulescens

Enneapogon polyphyllus

Enneapogon sp.

Eragrostis cumingii

Eragrostis pergracilis

Eragrostis setifolia

Eragrostis tenellula

Eragrostis sp.

Eriachne aristidea

Eriachne benthamii

Eriachne helmsii

Eriachne ovata

Eriachne pulchella subsp. *dominii*

Eriachne sp. (SVL 4484

Eriachne sp. (SVL 4580)

Iseilema membranaceum

Paspalidium rarum

Perotis rara

Setaria dielsii

Sorghum sp. (SVL 4528a)

***Sorghum* sp (SVL 4817)**

Sporobolus australasicus

Themeda triandra

Themeda sp. (SVL 4536)

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Triodia epactia

Triodia lanigera

Triodia longiceps

Triodia pungens

Triodia wiseana

Yakirra australiensis

Genus sp. (SVL 4504)

Genus sp. (SVL 4507)

Genus sp. (SVL 4567)

Genus sp. (SVL 4571)

Genus sp. (SVL 4766)

Genus sp. (SVL 4779)

Genus sp. (SVL 4820)

Genus sp. (SVL 4821)

32 CYPERACEAE

Bulbostylis burbidgeae

Cyperus cunninghamii

Cyperus vaginatus

Cyperus sp. (SVL 4511)

Cyperus sp. (SVL 4575)

Cyperus sp. (SVL 4564)

***Cyperus* sp. (SVL 4782)**

***Cyperus* sp. (SVL 4784)**

***Cyperus* sp. (SVL 4790)**

***Eleocharis* sp. (SVL 4789)**

COMMELINACEAE

Commelina ensifolia

MORACEAE

Ficus opposita var. *indecora*

Ficus brachypoda

90 PROTEACEAE

Grevillea pyramidalis

Grevillea wickhamii subsp. *aprica*

Hakea lorea

SANTALACEAE

Santalum lanceolatum

105 CHENOPODIACEAE

Dysphania kalpari

Dysphania rhadinostachya

Enchylaena tomentosa

Salsola tragus

Sclerolaena sp. (SVL 4569)

106 AMARANTHACEAE

Achyranthes aspera

* *Aerva javanica*

Alternanthera nana

Alternanthera nodiflora

Amaranthus mitchellii

Gomphrena affinis

Gomphrena canescens

Gomphrena cunninghamii

Ptilotus aervoides

Ptilotus appendiculatus

Ptilotus astrolasius

Ptilotus auriculifolius

Ptilotus axillaris

Ptilotus calostachyus

Ptilotus carinatus

Ptilotus exaltatus

Ptilotus fusiformis

Ptilotus obovatus

Ptilotus helipteroides
Ptilotus mollis **P2**
Ptilotus sp. (SVL 4542)

NYCTAGINACEAE

Boerhavia coccinea
Boerhavia gardneri
Boerhavia schomburgkiana

110 AIZOACEAE

Trianthema cussackiana
Trianthema glossostigma
Trianthema oxycalyptra
Trianthema pilosa
Trianthema portulacastrum
Trianthema turgidifolia
Trianthema sp.

MOLLUGINACEAE

Glinus oppositifolius
Mollugo molluginis

PORTULACACEAE

quadrivalvis ***Calandrinia* sp. (SVL 4780)**
Portulaca oleracea

CARYOPHYLLACEAE

Polycarpaea breviflora
Polycarpaea corymbosa
Polycarpaea holtzei
Polycarpaea longiflora

MENISPERMACEAE

Tinospora smilacina

PAPAVERACEAE

* *Argemone ochroleuca*

CAPPARACEAE

Cleome viscosa

DROSERACEAE

Drosera indica

163 MIMOSACEAE

Acacia ampliceps
Acacia ancistrocarpa
Acacia arida
Acacia bivenosa
Acacia coriacea subsp. *pendens*
Acacia cowleana
Acacia eriopoda
Acacia exilis
Acacia farnesiana
Acacia gregorii
Acacia hilliana
Acacia inaequilatera
Acacia maitlandii
Acacia ptychophylla
Acacia pyrifolia
Acacia retivenia subsp. *clandestina*
Acacia spondylophylla
Acacia sclerosperma
Acacia tetragonophylla
Acacia trachycarpa
Acacia tumida
Acacia victoriae

Ac. monticola
Ac. pruinocarpa
whipstick pyrifolia

Gompholobium polyzygum

Dichrostachys spicata

164 CAESALPINIACEAE

Petalostylis labicheoides
Senna artemisioides subsp. *helmsii*
Senna artemisioides subsp. *oligophylla*
Senna glutinosa subsp. *glutinosa*
Senna glutinosa subsp. x *luerssenii*
Senna glutinosa subsp. *pruinosa*
Senna notabilis
Senna symonii
Senna venusta

165 PAPILIONACEAE

Alysicarpus rugosus
Cajanus pubescens or marmoratus
Crotalaria crispata
Crotalaria cunninghamii
Crotalaria medicaginea
Cullen leucochaites
Cullen leucanthum
Cullen martinii
Cullen pogonocarpum
Cullen stipulaceum
Cullen sp.
Desmodium filiforme
Glycine tabacina
***Glycine* sp. (SVL 4806)**
Indigofera colutea
Indigofera linifolia
Indigofera linnaei
Indigofera monophylla
Indigofera rugosa
Indigofera trita
Lotus australis
Rhynchosia minima = Cajanus
Sesbania cannabina
Sesbania formosa
Swainsona decurrens
Swainsona formosa
Swainsona kingii
Swainsona pterostylis
Swainsona stenodonta
Templetonia egena
Tephrosia bidwillii
Tephrosia sp. Bungaroo Creek (Met 11601)
Tephrosia sp. 1
Tephrosia sp. 2
***Tephrosia* sp. (SVL 4799)**
***Tephrosia* sp. (SVL 4846)**
Vigna lanceolata
Zornia albiflora

170 ZYGOPHYLLACEAE

Tribulus hirsutus
Tribulus macrocarpus
Tribulus occidentalis
Tribulus platypterus
Tribulus suberosus

POLYGALACEAE

Polygala isingii

185 EUPHORBIACEAE

E. boophthona

E. boophthona
Euphorbia australis
Euphorbia coghlanii
Euphorbia drummondii
Flueggea virosa subsp. melahthesoides
Leptopus decaisnei
Phyllanthus lacunellus
Phyllanthus maderaspatensis

STACKHOUSIACEAE
Stackhousia sp. (SVL 4837)

SAPINDACEAE
Dodonaea icosa var spatulata
Atalaya hemiglauca

220 TILIACEAE
Corchorus aestuans
Corchorus fascicularis
Corchorus laniflorus
Corchorus tridens
Corchorus walcottii
Corchorus sp. (SVL 4512)
Corchorus sp. (SVL 4525)
Corchorus sp. (SVL 4537)
Triumfetta appendiculata
Triumfetta chaetocarpa
Triumfetta maconochieana
Triumfetta plumigera
Triumfetta propinqua
Triumfetta sp. (SVL 4830)
Triumfetta sp. (SVL 4841a)
Triumfetta sp. (SVL 4841b)

221 MALVACEAE
Abutilon fraseri
Abutilon lepidum
Abutilon sp. (SVL 4829)
Gossypium australe
Hibiscus brachychlaenus
Hibiscus burtonii
Hibiscus coatesii
Hibiscus leptocladus
Hibiscus panduriformis
Hibiscus sturtii
Sida echinocarpa
Sida rohlenae
Sida sp. (SVL 4502)
Sida sp. (SVL 4517)
Sida sp. (SVL 4518)
Sida sp. (SVL 4520)
Sida sp. (SVL 4545)
Sida sp. (SVL 4550)
Sida sp. (SVL 4835)

223 STERCULIACEAE
Waltheria indica
Waltheria virgata

LYTHRACEAE
Ammannia baccifera

272 COMBRETACEAE
Terminalia canescens

273 MYRTACEAE
Corymbia candida subsp. dipsodes
Corymbia ferriticola
Calytrix carinata

Euc. aspera.
Corymbia hamersleyana was terminalis
Eucalyptus camaldulensis river gum.
Eucalyptus gamophylla blue leaves, glaucous
Eucalyptus leucophloia snappy gum
Eucalyptus odontocarpa
Eucalyptus victrix in flood plains
Melaleuca argentea ? or leucadendra
Melaleuca glomerata

HALORAGACEAE
Myriophyllum verrucosum

APIACEAE
Trachymene oleracea

OLEACEAE
Jasminum didymum

APOCYNACEAE
Carissa lanceolata

305 ASCLEPIADACEAE
Cynanchum floribundum

307 CONVOLVULACEAE
Bonamia pannosa
Bonamia rosea
Convolvulus erubescens
Evolvulus alsinoides
Jacquemontia pannosa
Ipomoea lonchophylla
Ipomoea muelleri
Ipomoea sp. (SVL 4811)
Polymeria calycina
Polymeria sp. (SVL 4491)
Polymeria sp. (SVL 4560)

BORAGINACEAE
Heliotropium aff. crispatum
Heliotropium heteranthum
Heliotropium inexplicitum
Heliotropium murinum
Heliotropium ovalifolium
Heliotropium sp. (SVL 4833)
Trichodesma zeylanicum

VERBENACEAE
Clerodendrum floribundum

316 SOLANACEAE
* Datura leichhardtii
Nicotiana benthamiana
or Nicotiana occidentalis
Nicotiana rosulata
* Physalis minima
Solanum diversiflorum
Solanum horridum
Solanum lasiophyllum
Solanum sp. (SVL 4568)

316 SCROPHULARIACEAE
Peplidium sp. (SVL 4572)
or **Peplidium sp. (SVL 4816)**
Stemodia grossa
Stemodia viscosa
Striga squamigera

BIGNONIACEAE
Genus sp. (SVL 4538)
PEDALIACEAE
Josephinia sp. Mt Edgar Stn (NT Burbidge 1194)
326 MYOPORACEAE
Eremophila latrobei
Eremophila longifolia
Eremophila sp.
331 RUBIACEAE
Oldenlandia crouchiana
Synaptantha tillaeacea
CUCURBITACEAE
* *Cucumis melo*
***Cucumis* sp. (SVL 4822)**
Mukia maderaspatana
CAMPANULACEAE
Wahlenbergia tumidifructa
LOBELIACEAE
Lobelia quadrangularis
341 GOODENIACEAE
Dampiera candicans
Goodenia heterochila
Goodenia lamprosperma
Goodenia micrantha
Isotoma petraea
Goodenia scaevolina
Goodenia microptera
Goodenia stobbsiana
Goodenia triodiophila
Scaevola amblyanthera
Scaevola sp.
343 STYLIDIACEAE
Stylidium desertorum
Stylidium fluminense
345 ASTERACEAE
Centipeda minima
Centipeda sp. (SVL 4559)
Chrysogonum trichodesmoides
Flaveria australasica
Ixiochlamys cuneifolia
Ixiochlamys sp. (SVL 4523)
Olearia sp.
Pentalepis trichodesmoides
Pluchea tetranthera
Pteracaulon serrulatum
Pterocaulon sphacelatum
Senecio aff. *leucoglossus* ?
Streptoglossa adscendens
Streptoglossa bubakii
Streptoglossa odora
Genus sp. (SVL 4483)
Genus sp. (SVL 4522)
Genus sp. (SVL 4565)

Most of the plants recorded at Meentheena are typical, ubiquitous species found throughout the Pilbara. The grass family (Poaceae) with 50 species was the richest recorded, a feature typical of most Pilbara study areas. Twenty-two families were represented by only one species. Other common elements of the flora were peas (Papilionaceae), wattles (Mimosaceae), mulla mullas (Amaranthaceae) and daisies (Asteraceae) with 38, 23, 20 and 18 species respectively. By far the most visually conspicuous plants on Meentheena were regenerating spinifex (*Triodia*) and wattles (*Acacia*) which were conspicuous in all habitats with six and 20 species, respectively. Other conspicuous plants were the re-sprouting emergent eucalypts, especially the River Red gums (*Eucalyptus camaldulensis*) which fringed the Nullagine River, and the white-barked Snappy gums (*Eucalyptus leucophloia*) which stylishly graced the slopes of most hills. The tall majestic paperbarks (*Melaleuca argentea*) bordering most of the pools along the Nullagine River together with the White Dragon Tree or Corkwood (*Sesbania formosa*) were also a conspicuous component of the flora.

Most plants recorded at Meentheena have a ubiquitous distribution throughout the Pilbara and much of the arid inland regions of central Western Australia. However, two of the plants recorded on the Park, one for the first time during this expedition, are of conservation interest. These plants are *Josephinia* sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194) and *Ptilotus mollis*, as described below:

Josephinia sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194): This undescribed species is known from six collections all obtained from the Mt Edgar–Meentheena area. The species is currently not listed on CALM's Priority Flora List. The species was collected from three localities during the expedition. All localities were along the Nullagine River on alluvial wash areas close to the river in areas that had recently been burnt. This species is now known from five localities on Meentheena.

MAMMALS

We were very lucky to have captured such large numbers of mammals. The table below shows where all the species we trapped came from. The list below that gives some additional information, as well as listing those species that we saw but did not actually catch.

In the listing below, the numbers of each animal species trapped or observed is given in parentheses after the relevant site number.

TACHYGLOSSIDAE — MONOTREMES

Tachyglossus aculeata — **Echidna**

Sign was sometimes observed in hilly and rocky areas, usually as diggings or scats. No animals were seen, but they are often shy and in any case, they look a lot like a spinifex clump.

DASYURIDAE — CARNIVOROUS MARSUPIALS

Dasykaluta rosamondae — **Little red antechinus (alias little red finger-biter)**

3(4) 6(2) 9(3) 14(6) 15(7)

17 males (average 34 g, n = 7); 4 females (23 g, n = 2).

These gutsy little predators seemed to prefer sites with good spinifex cover, rather than rocks or other shelter. Although not the most common mammal we trapped, they were the most abundant predator. This species is intermediate in size between the tiny *Ningaui* and the larger *Pseudantechinus*. It is widespread and common throughout the Pilbara. The males of this species never live long enough to see (or eat!) their offspring. Soon after mating, all the males suffer a simultaneous and catastrophic collapse of their immune systems, leading to a lingering and apparently unpleasant death.

Dasyurus hallucatus — **Northern quoll**

Rock-wallaby cliffs

1 male, 800 g.

The northern quoll, while much smaller than its southern cousin, is the largest marsupial carnivore in the Pilbara. They are unlikely to be trapped in pit traps, but cage traps seemed to work well (removing them from traps can be a perilous exercise). The cliffs and rocky ramparts along the river at this location are ideal for these creatures.

Ningaui timealeyi — **Pilbara *Ningaui***

4(2) 9(3) 11(1) 13(1) 14(2) 15(10) 18(2)

12 males (mean 6 g, n = 6); 9 females (mean 4 g, n = 6).

These tiny creatures were not particularly common, but they were found in a wide range of habitats (from sandplain to rocky hills and ridges). They are fearless predators, and will tackle a grasshopper or some such twice their size. They are however relatively placid, and despite fearsome teeth they will sit quietly in your hand. They live anywhere there is good spinifex cover.

Planigale ingrami (?) — **Planigale**

4(1) 11(1) 19(1)

3 males (mean 9.0 g, n = 2)

The Planigales are among the scientific mysteries of the north west. The taxonomy of these tiny carnivores is still poorly known, so we are unsure which species our *Planigale* belongs. Their very flattened heads and bodies appear to be especially adapted to pushing into cracks and crevices, and this could be why they were found on sites with lots of rockpiles.

Pseudantechinus roryi — **Rory's Antechinus**

4(1) 10(1) 19(1)

3 males (mean 27.0 g, n = 3)

These animals were all members species that staff from the WA Museum have only this year described. It is known only from the Pilbara, and is usually found in rocky sites. These are intermediate sized predators, and are not usually very common.

Sminthopsis youngsoni — **Lesser hairy-footed Dunnart**

2(1) 3(4) 4(1)

4 males (mean 9.0 g, n = 3); 2 females (mean 7 g, n = 2)

The hairy-footed dunnarts are specialists on sandy surfaces. The long, curled hairs on the soles of their feet seem to give them good purchase on surfaces, where they may travel up to two or three kilometres each night. All the hairy-footed dunnarts we found were in the western 'sand-plain' sites. We may have expected some on the sandy sites near the river, but these may be too isolated and small to support these specialised animals.

MACROPODIDAE — KANGAROOS AND WALLABIES

Macropus rufus — **Red kangaroo**

'Big reds' were often seen in open country and plains on Meentheena, particularly in the late afternoon or evening. We often saw them on the plains on the western part of the station, and in the large open areas along the river to the south. They are common elsewhere and widespread.

Macropus robustus — **Euro or Hill kangaroo**

Euros occur throughout the Meentheena area, but particularly near hills and rocky outcrops where they can shelter in small caves and overhangs during the day. Many euros are killed along the Ripon Hills road each year in this area, as they often feed along the road verge at night. They are common and widespread.

Petrogale rothschildii — **Rothschild's rock-wallaby**

One female wallaby was captured in a cage trap at the cliffs near the river, baited with apples and peanut paste. She had a small joey in the pouch. However, she was very cold when we got to the traps, and needed some work to revive her. Eventually, after being sat in the sun on warm rocks, she recovered enough to hop off (an event videoed by Sue). This species is widespread in the Pilbara, and quite common. We also saw signs of rock wallabies at King Rockhole.

PERAMELIDAE BANDICOOTS

Macrotis lagotis Rabbit-eared bandicoot or Greater Bilby

1 male, 835 g.

Active and inactive bilby burrows were found at various locations close to camp. However, the cheeky little things were found to be sneaking right through camp, after the soft ground was found to be covered in tracks one wet and cold morning. A young male bilby proved to be the last animal captured during the survey, in the last trap to be set and checked. They are known to grow to about double the size of our animal. Last seen, he was vanishing back down his burrow, at speed.

EMBALLONURIDAE SHEATH-TAIL BATS

Taphozous georgianus Common sheath-tail bat

Common sheath-tails are one of the most common bats in the Pilbara. While many bats live in tree hollows or under loose bark, the sheath-tails are obligate cave dwellers. The small caves at King Rockhole are ideal for this species. They are distinguished from their very similar relative, *T. hillii*, by having a relatively wider jaw. Our measurements confirmed this, and we released them un-harmed.

MURIDAE 'OLD ENDEMIC' RATS AND MICE

Leggadina lakedownensis Pilbara short-tailed mouse

5(2) 11(1) 17(1)

3 males (mean 13.5 g, n = 3), 1 female (12 g)

This species is another of the mysteries of the Pilbara. Until recently, very few records were available from anywhere on the Pilbara mainland, and repeated searches had not managed to confirm their presence. However, a giant form of the mouse is relatively common on Thevenard Island. Several years ago, and probably related to some good seasons, *Leggadina* started to pop up around the Pilbara, almost always in cracking clays. This is what makes our mice so interesting; two of the sites were from the crests of rocky hilltops. This is of great interest, and may indicate that *Leggadina* is more widespread than previously thought. In particular, finding *Leggadina* on Site 11, which was almost entirely bare rock, was very unexpected.

Pseudomys chapmani Northern pebble-mound mouse

6(2) 9(1) 11(2)

4 males (mean 10.5 g, n = 4), 1 female (9.5 g).

Pebble mound mice are not common at Meentheena. We saw only a handful of active mounds, although dead mounds were more common. However, the five animals we caught were all from the sort of sites where one might expect such a creature; sites with enough pebbles scattered around to form a mound. While we did not find the mounds that these animals might have come from, it is possible that they may range over quite long distances each night. Meentheena is close to the edge of this species' range in the Pilbara.

Pseudomys delicatulus Delicate mouse

3(1) 10(1) 13(9) 14(3) 15(1) 20(1)

3 males (mean 5.5 g, n = 3); 5 females (mean 6.5 g, n = 4); 2 juveniles.

These are probably the cutest of our Pilbara native mice. The Meentheena *P. delicatulus* are close to the inland limits of their range. They seem to like sites with lots of spinifex, in areas that have run-on drainage (although Site 15 is an exception there). The juvenile mice, which were too small to reliably determine sex, were probably born late in the previous summer season.

Pseudomys desertor Desert mouse

2(2) 3(5) 4(1) 5(2) 6(1) 9(14) 10(12) 13(8) 14(5) 15(10) 17(5) 18(2) 20(1)

33 males (mean 21 g, n = 22); 30 females (mean 22 g, n = 20); 3 juveniles.

Until recently, the desert mouse was not known from the Pilbara. However, in the last few years, it has been found at a variety of sites in the east and central Pilbara. These animals were our most common mammal, and were widely distributed across most habitats. Their absence from some sites appears to be more to do with the vagaries of sampling rather than an unsuitability of habitat.

Pseudomys hermannsburgensis Sandy inland mouse

3(9) 6(2) 13(1) 14(1) 15(8) 17(1)

11 males (mean 11.5 g, n = 11); 3 females (11.5 g, n = 1)

This is a species with an enormous geographical range, occurring throughout the arid zone and deserts across Australia. They can occur at high densities following good seasons, and are often the most abundant native mammal trapped. In this case however, they were totally eclipsed by *P. desertor*.

Notomys alexis Northern hopping-mouse

10(15) 13(29)

15 males (mean 22 g, n = 5, 1 juvenile of 11 g); 22 females (mean 24 g, n = 8)

Northern hopping mice were very common, but only on sites with sandy substrates. This conforms with their well known preference for sandy habitats. Two size classes of animals were apparent, with some juveniles only half the size of the large animals.

Zyzomys argurus Common rock rat

11(5)

No surprises that all out rock rats came from the rocky carbonate hills at site 11. We should have caught more on other rocky sites, but I am sure they will turn up in the future. Rock rats appear to be a favourite food of northern quolls, and they would certainly be found along the rock wallaby cliffs. With quolls in residence, they would be very wary rats.

Sites	1	2	3	4	5	6	7*	8*	9	10	11	12*	13	14	15	16*	17	18	19	20	other
Dasykaluta rosamondae Little red antechinus			+			+			+					+	+						
Dasyurus hallucatus Northern quoll																					+
Ningaui timealeyi Pilbara Ningaui				+					+		+		+	+	+			+			
Planigale ingrami Planigale				+							+								+		
Pseudantechinus roryi Rory's antechinus				+						+									+		
Sminthopsis youngsoni Little hairy-footed dunnart		+	+	+																	
Macrotis lagotis Bilby																					+
Petrogale rothschildii Rothschild's rock wallaby																					+
Leggadina lakedownensis Lakeland Downs mouse					+								+						+		
Mus musculus House mouse		+	+	+					+	+			+	+	+		+		+	+	
Pseudomys chapmani Northern pebble-mound mouse						+			+		+										
Pseudomys delicatulus Delicate mouse			+							+			+	+	+					+	
Pseudomys desertor Desert mouse		+	+	+	+	+			+	+			+	+	+		+	+		+	
Pseudomys hermannsburgensis Sandy inland mouse				+			+							+	+			+			
Notomys alexis Northern hopping-mouse										+			+								
Zyzomys argurus Common rock rat											+										

MURINAE 'NEW' RATS AND MICE

Mus musculus House mouse

2(8) 3(1) 4(4) 9(3) 10(1) 13(7) 14(2) 15(3) 17(2) 19(1) 20(1)

16 males (mean 9.5 g, n = 9);16 females (mean 9 g, n = 12)

The humble house mouse is one of the most successful invaders of our continent. It now lives in all parts of Australia, including the deserts. However, in the arid areas, it is often found to concentrate on those areas in the landscape where productivity is highest. It is no surprise that they are most common around people and houses. We could expect house mice anywhere in the Meentheena area, although they may not fare so well during a long dry spell.

CANIDAE DOGS

Canis lupus dingo Dingo

Australia's native wolf is common in the remote parts of the Pilbara, although it is difficult to know how much domestic dogs have contaminated the genetic integrity of the dingo. Dingos have been in Australia about 4000 years, originally coming from Asia. We saw tracks at many locations, particularly along the river.

FELIDAE CATS

Felis catus Cat

Again, a very successful invader. Cats now live throughout the continent, and are not dependent upon free water to survive. We saw their tracks and scats, but otherwise saw none.

EQUIDAE HORSE AND DONKEY

Equus caballus Horse

A small group of horse were living just up the river from our camp. They are station horses, and will probably be reclaimed for stock work during the final muster on Meentheena, in late 2000. Brumbies (wild horses) are a destructive pest, and are generally not useful working horses after they lose their breeding. Wild horses are controlled by aerial shooting in the Pilbara.

Equus asinus Donkey

Donkey are present throughout Meentheena, although we saw more tracks than animals. They are subject to intensive shooting, and numbers are much lower now than they have been in past years. Again, wild donkey are a pest. Aerial shooting is the only economical means of controlling their numbers.

CAMELIDAE CAMEL

Camelus dromedarius One-humped camel

Camel are very common in the deserts to the north and east of Meentheena. However, contrary to popular belief, camel are quite happy living in more rugged country, and are widespread in the Pilbara. We saw tracks on roads in the south of the station, and on the flat plains to the west. A large group of camel can drink a tank dry, and bulls have been known to destroy tanks, fences and even windmills. They are consequently destroyed as vermin. Their impacts on natural values are not so great in country like Meentheena, but in the desert large numbers have a very bad impact on natural waters.

BOVIDAE CATTLE

Bos taurus Cattle

Meentheena was an operating cattle station until a year before our expedition, and stock are still on the property. We didn't see a lot of them, but we could see where they had been. Once stock are removed by the past owners, CALM will try to keep the area free of cattle if possible.

AMPHIBIANS AND REPTILES

Our overall list for reptiles is quite respectable. However, partly because of the cool time of year, and also the heavy rain we experienced at the beginning of the expedition, some groups of reptiles were not so well represented as they could be. Many reptiles are much more active in the warm months of the year, so it is not surprising that they were not found.

In terms of frogs, however, we were very lucky with the rain. Many arid zone frogs can stay underground for years if need be, waiting for the rains to come. The *Cyclorana* and *Uperoleia* in particular respond very quickly to rain, and even light showers bring them to the surface. I am not sure whether the rains we experienced were sufficient to trigger breeding; these species usually breed following warm summer rain, usually from cyclones. However, we certainly had enough to allow them to feed and re-hydrate for another long spell below ground.

Reptiles are a difficult group to comprehensively survey. They often hide away out of sight, and many species occur at low densities, which means we only encounter them occasionally. Such species may only be detected after many repeated survey efforts. This is by no means a failure – it is a feature of the reptile fauna of the Australian arid zone. The example of the frogs is a good one – if we experienced dry weather, our survey would never have detected them. We were lucky, and caught nearly 200! This is why surveys are repeated over a period of years, in different seasons.

There are some obvious holes in the reptile data. For instance, we caught no geckos of the genus *Diplodactylus*, which is a large and generally abundant group. Similarly, species like the dragons *Ctenophorus isolepis* and *Pogona minor* were not seen. These are both usually very conspicuous. However, some measure of what a generally hopeless time we had with the reptiles can be gained from looking at where we caught *Ctenotus saxatilis*. This is a species that is very common throughout the Pilbara, and is easily trapped in both pit and Elliott traps. Of the 22 animals we captured, all but two were found while foraging under rubbish in the dump. Only two were trapped on the sites. This indicates that the conditions during our survey were quite unsatisfactory for getting a good look at the reptiles.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	other
MYOBATRACHIDAE – 'Burrowing' frogs																					
Limnodynastes spenceri	+		+																		
Uperoleia russelli		+	+	+		+			+	+			+	+	+		+	+	+	+	+
HYLIDAE – 'Tree' frogs																					
Litoria rubella			+	+	+	+				+			+	+	+			+			+
Cyclorana longipes		+		+	+										+						
Cyclorana maini				+						+			+							+	
GEKKONIDAE – Geckos																					
Gehyra purpurascens														+							
Gehyra variegata																					+
Heteronotia binoei													+							+	
Rhynchoedura ornata				+																	
PYGOPODIDAE – Legless lizards																					
Delma sp.																		+			
Pygopus nigriceps																	+				
Lialis burtonis																			+		+
AGAMIDAE – Dragon lizards																					
Ctenophorus caudicinctus			+	+	+																
Diporiphora sp.			+																		
SCINCIDAE – Skink lizards																					
Ctenotus grandis										+											
Ctenotus pantherinus			+							+					+		+				
Ctenotus saxatilis									+												+
Lerista bipes										+											
Lerista muelleri																					+
Morethia ruficauda											+			+							
Teliqua multifasciata														+							+
VARANIDAE – Monitor lizards																					
Varanus acanthurus																					+
Varanus eremius										+											
Varanus tristis																					
RAMPHOTYPHLOPIDAE – Blind snakes																					
Ramphotyphlops grypus																					+
Ramphotyphlops pilbaraensis								+													
BOIDAE – Pythons																					
Antaresia perthensis																					+
Antaresia stimsoni																					+
ELAPIDAE – Front fanged venomous snakes																					
Acanthophis wellsi					+																
Demansia psammophila																					+

BIRDS

During our stay at Meentheena, we kept an approximate tally of bird species seen during the trip. The list given below is far from comprehensive. Serious birding would need to be done early each morning, about when we were clearing our pit traps. Even so, the list is not a bad one.

Emu
Brown quail
Black swan
Black duck
Grey teal
Australasian grebe
Darter
Little black cormorant
Little pied cormorant
Australian pelican
White necked heron
White-faced heron
Nankeen night heron
Great egret
Black bittern
Straw-necked ibis
Yellow billed spoon-bill
Jabiru
Black shouldered kite
Black breasted buzzard
Black kite
Whistling kite
Spotted harrier
Wedge-tailed eagle
Little eagle
Little falcon
Brown falcon
Nankeen kestrel
Buff-banded rail
Australian bustard
Little button quail
Bush stone-curlew
Black-fronted dotterel
Crested pigeon
Spinifex pigeon
Diamond dove
Peaceful dove
Galah
Little corella
Cockatiel
Australian ringneck
Budgerigar
Horsfield's bronze cuckoo
Pheasant coucal
Barking owl
Barn owl
Southern boobook
Tawny frogmouth
Spotted nightjar
Australian owlet-nightjar
Blue winged kookaburra
Red-backed kingfisher
Sacred kingfisher
Rainbow bee-eater
Black-tailed tree-creeper
Variegated fairy-wren
White-winged fairy-wren
Rufous-crowned emu-wren
Yellow-rumped thornbill
Yellow-throated miner
White-plumed honeyeater
Golden-backed honeyeater
Grey-headed honey-eater
Brown honeyeater
Singing honeyeater
Crimson chat
Grey-crowned babbler
Rufous whistler
Grey shrike-thrush
Magpie lark
Willy wagtail
Black-faced cuckoo-shrike
White-winged triller
Little woodswallow
Pied butcherbird
Australian magpie
Torresian crow
Richard's Pippit
Zebra finch
Crimson firetail finch
Mistletoe bird
Welcome swallow
Tree martin
Fairy martin
Spinifex bird

FLORA OF THE MEENTHEENA CONSERVATION PARK

The Meentheena Conservation Park is located in the Pilbara Biogeographical Region of northern Western Australia. The bioregion conforms to the boundaries of Beard's (1975) Fortescue Botanical District. This natural region is characterised by extensive plains and mountainous rugged ranges with generally shallow, skeletal stony soils which support vegetation dominated by tree and shrub communities that chiefly comprise emergent eucalypts and acacias over spinifex *(Triodia)* grasses. The distribution of the flora and vegetation in the region is strongly determined by climatic influences, in particular rainfall, together with geological and edaphic (soil) considerations. These influences promote a diverse landscape mosaic of vegetation types and a surprisingly species-rich flora for such an arid area. Another strong selective force influencing floristic distribution and the arrangement of vegetation across the landscape is fire, particularly in relation to the burn history of an area.

The flora of the Meentheena Conservation Park was poorly known prior to the governmental acquisition of the pastoral lease in April 1999. At the time of acquisition only 89 plant species were recorded from the station. Most of these species had been collected in the 1990s by staff in the Rangeland Survey team from the Department of Agriculture or by well-known volunteers Daphne Edinger and Gilbert Marsh. The flora list for the Park was augmented during the May 2000 Meentheena *LANDSCOPE* Expedition by the addition of 197 species culminating in a flora of 286 species. This number is somewhat below expectations for such an area given florist richness estimates for other localities in northern arid Western Australia (Table 1). Using simple regression analysis procedures a flora in the vicinity of 430-460 species would be within expectations for an area the size of Meentheena.

Clearly, additional survey work is required in the Park to increase our botanical knowledge and

Table 1 Known plant species richness of various study areas within the Pilbara.

Locality	Area (km2)	No. of species	Species/km2	Authority
Mining Area C - Hamersley Range	560	422	753.6	*ecologia* 1997
Barlee Range Nature Reserve	1045	515	492.8	van Leeuwen, unpublished
Kennedy Range National Park	1416	314	221.8	Keighery *et al.* 2000
Cape Range Peninsula	2185	630	288.3	Keighery and Gibson 1993
Meentheena Cons. Park (2001)	2387	331	138.7	van Leeuwen, unpublished
Meentheena Cons. Park (pre 2001)	2387	286	119.8	van Leeuwen, unpublished
Karijini National Park	6274	800	127.5	Trudgen and Casson 1998
Kintyre Study area	7500	409	54.5	Hart, Simpson & Associates 1993
Southern Carnarvon Basin	75000	2133	28.4	Keighery *et al.* 2000
Pilbara Biogeographical Region	179305	1900	10.6	van Leeuwen, unpublished

appreciation of the flora. Similarly, it is apparent that the flora occurring within large areas of the Park had not been documented, as previous survey efforts had primarily been confined to the alluvial plain of the Nullagine River towards the centre of the Park and the associated rough basaltic, doleritic and sandstone terrain slightly to the west of this imposing drainage line (Figure 1). Some collecting has also occurred along the Ripon Hills Road and limited botanical collecting has occurred to the north-west and on the south-eastern side of the Park, which are characterised by granitic plains. Similarily, no botanical surveys have been undertaken to the north-east, which harbours extensive highly dissected basaltic, silcrete and doleritic plateaux and plains.

As already mentioned, fire is a significant force that influences the distribution of plants and vegetation types

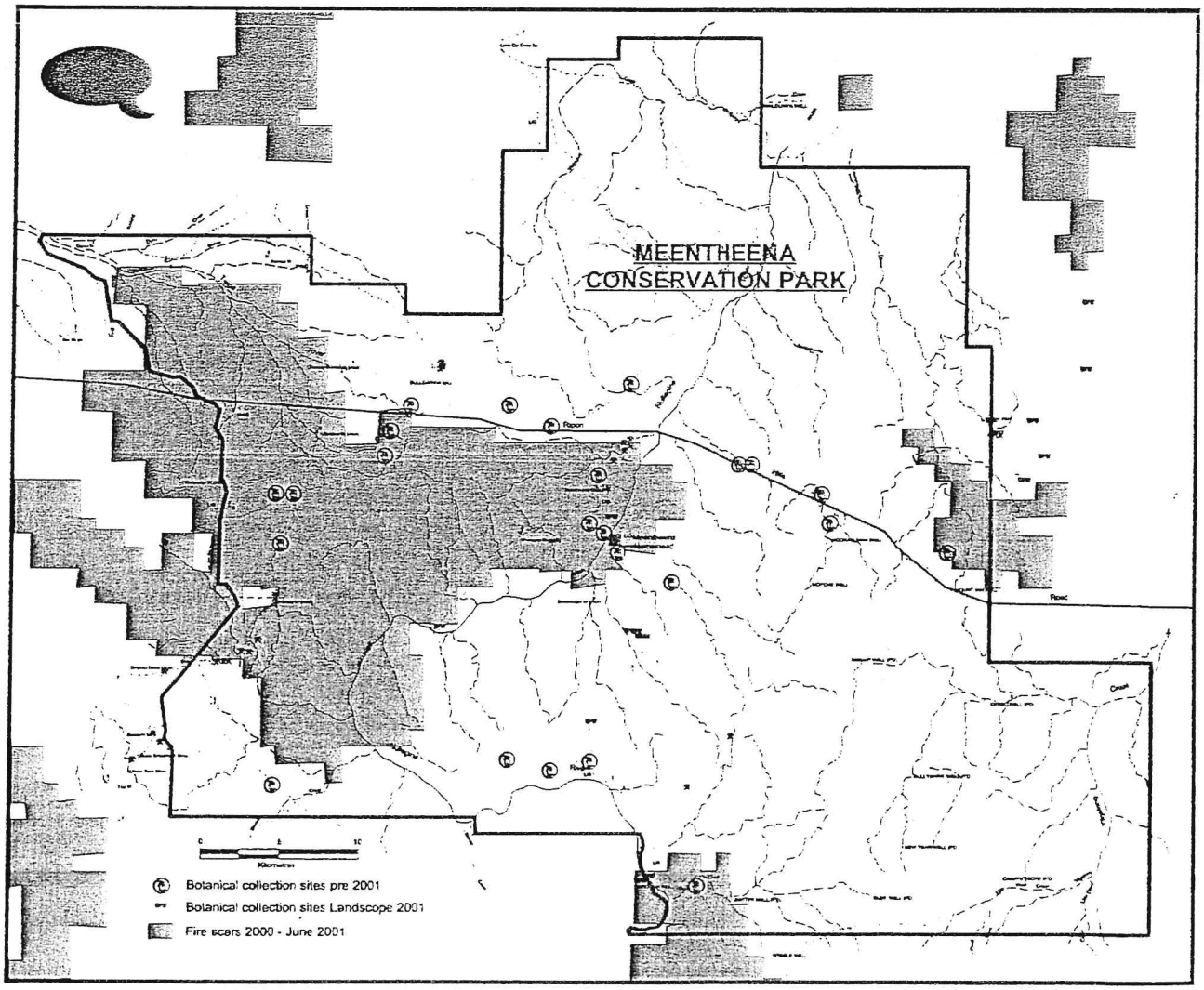


Figure 1 Location of botanical collecting sites and 2000-2001 burn scars in the Meentheena Conservation Park.

across the Pilbara. It is well documented in many arid zones that plants respond differently to fire depending on various life history strategies (e.g. seeders vs resprouters). A fire ephemeral life history is one such strategy that has important implications when documenting the flora of an area like Meentheena. This strategy describes plants, primarily annuals or short-lived perennials, which thrive in the post-burn environment (or after similar disturbances) and persist for a few years thereafter gradually disappearing from the regenerating vegetation community as seral progression towards a climax community occurs. Explanations for the proliferation of such plants are associated with reduced competition for light and nutrient resources along with physiological considerations such as seed dormancy mechanisms. Obviously, such life history strategies and responses to fire must be considered before the process of developing a comprehensive flora list can be deemed complete. A great opportunity therefore exists to document the fire ephemeral flora of the Meentheena Conservation Park as a consequence of large fires which raised over 51 960 ha (22%) of the Park during the 2000-2001 fire season.

Consquently, the botanical aim of the 2001 Meentheena *LANDSCOPE* Expedition was to augment the flora list for the Park. This was to be accomplished by three strategies, namely through:

- Revisiting sites which had been sampled in 2000 to document any new plants, particularly ephemeral species that may have responded to wet season rainfall;
- Sampling burnt habitats to document fire responsive ephemeral plants; and
- Visiting new areas of the Park, such as the Ripon Hills, to document previously unrecorded species in the Park.

Methods

During the Expedition, plant species present on Meentheena were recorded using an opportunistic sampling regime. Indeed, flora sampling was entirely opportunistic and comprised expeditioners and leaders collecting samples as they visited fauna sampling grids and explored the Park. Specimens were processed in the field and pressed in conventional herbarium plant presses for drying under ambient conditions. Details of habit, abundance, locality, habitat, vegetation type and associated species were recorded for each collected specimen. Sufficient material was collected from each sample to facilitate the lodgement of voucher specimens in the Western Australian Herbarium (PERTH), Pilbara Regional Herbarium (KARR) and the Australian National Herbarium (CANB). Upon return to the office, specimens were identified, databased and mounted ready for incorporation into the appropriate collections. Specimen identification was performed with reference to standard published floras applicable to the Pilbara (e.g. Jessop 1981; Wheeler *et al.* 1992), generic taxonomic treatments (e.g. Halford 1996; Grimes 1997) or through liaison with taxonomists at the PERTH and Eastern States' herbaria.

The classification of plants presented in this report conforms to that currently employed by the Western Australian Herbarium as portrayed in Paczkowska and Chapman (2000).

Results and Discussion

Fulfilment of the botanical aim of the 2001 Expedition was somewhat hindered by a lack of rainfall during the 2000/01 wet season. The rainfall at Marble Bar, the closest recording station to Meentheena, during the 2000/01 wet season was approximately 130 mm below the average of 360 mm, while that recorded over the first six months of 2001 was approximately 75 per cent below average. Clearly the ability to detect and record annual and ephemeral taxa, including fire ephemerals was severely impeded by this lack of rainfall.

Nevertheless, 128 specimens were collected during the expedition from 17 localities around the Meentheena Conservation Park. Excluding collections from outside the Park, which were all made in the Ripon Hills, a total of 72 species were represented by the 128 specimens. These 72 species represented 32 families and 52 genera. Forty-eight of the plants collected during the expedition were new records for the Park (Table 2).

Combining the new records obtained during the 2001 Expedition with records obtained during the previous 2000 Landscope Expedition (197 species) and historical records obtained from the Western Australian Herbarium and Agriculture WA, 330 species are now known to occur in the Park (Table 2). These species represent 133 genera from 53 families. The 2001 Expedition has resulted in the inclusion of plants from an additional 15 genera and six families to the flora list for the Park.

Table 2. Plants recorded from the Meentheena Conservation Park. Names in bold and underlined are new records for the Park recorded during the May 2001 Landscope Expedition (* = non-native species, P2 = conservation status).

ADIANTACEAE
Cheilanthes sieberi
Cheilanthes brownii
TYPHACEAE
Typha domingensis
POACEAE
Amphipogon strictus
Aristida contorta
Aristida holathera
Aristida sp. (SVL 4533)
**Cenchrus ciliaris*
**Cenchrus setigerus*
Chryspogon fallax
Cymbopogon ambiguus
Dactyloctenium radulans
Dicanthium sp. (SVL 4820)
Digitaria sp.
Enneapogon caerulescens
Enneapogon polyphyllus
Enneapogon sp.
Eragrostis cumingii
Eragrostis pergracilis
Eragrostis setifolia
Eragrostis tenellula
Eragrostis sp.
Eriachne aristidea
Eriachne benthamii
Eriachne helmsii
Eriachne ovata
Eriachne pulchella subsp. dominii
Eriachne sp. (SVL 4484
Eriachne sp. (SVL 4580)
Iseilema membranaceum
Paspalidium rarum
Perotis rara
Setaria dielsii
Sorghum sp. (SVL 4528a)
Sorghum sp (SVL 4817)
Sporobolus australasicus
Themeda triandra
Themeda sp. (SVL 4536)
Triodia angusta
Triodia epactia
Triodia lanigera
Triodia longiceps
Triodia pungens
Triodia wiseana
Yakirra australiensis
Genus sp. (SVL 4504)
Genus sp. (SVL 4507)
Genus sp. (SVL 4567)
Genus sp. (SVL 4571)
Genus sp. (SVL 4766)
Genus sp. (SVL 4779)
Genus sp. (SVL 4820)
Genus sp. (SVL 4821)
CYPERACEAE
Bulbostylis burbidgeae
Cyperus cunninghamii
Cyperus vaginatus
Cyperus sp. *(SVL 4511)*
Cyperus sp. *(SVL 4575)*
Cyperus sp. *(SVL 4564)*
Cyperus sp. *(SVL 4782)*
Cyperus sp. *(SVL 4784)*
Cyperus sp. *(SVL 4790)*
Eleocharis sp. (SVL 4789)
COMMELINACEAE
Commelina ensifolia
MORACEAE
Ficus opposita var. indecora
Ficus brachypoda
PROTEACEAE
Grevillea pyramidalis
Grevillea wickhamii subsp. aprica
Hakea lorea
SANTALACEAE
Santalum lanceolatum
CHENOPODIACEAE
Dysphania kalpari
Dysphania rhadinostachya
Enchylaena tomentosa
Salsola tragus
Sclerolaena sp. (SVL 4569)
AMARANTHACEAE
Achyranthes aspera
**Aerva javanica*
Alternanthera nana
Alternanthera nodiflora
Amaranthus mitchellii
Gomphrena affinis
Gomphrena canescens
Gomphrena cunninghamii
Ptilotus aervoides
Ptilotus appendiculatus
Ptilotus astrolasius
Ptilotus auriculifolius
Ptilotus axillaris
Ptilotus calostachyus
Ptilotus carinatus
Ptilotus exaltatus
Ptilotus fusiformis
Ptilotus helipteroides
Ptilotus mollis P2
Ptilotus sp. (SVL 4542)
NYCTAGINACEAE
Boerhavia coccinea
Boerhavia gardneri
Boerhavia schomburgkiana
AIZOACEAE
Trianthema cussackiana
Trianthema glossostigma
Trianthema oxycalyptra
Trianthema pilosa
Trianthema portulacastrum
Trianthema turgidifolia

Trianthema sp.
MOLLUGINACEAE
Glinus oppositifolius
Mollugo molluginis
PORTULACACEAE
Calandrinia sp. (SVL 4780)
Portulaca oleracea
CARYOPHYLLACEAE
Polycarpaea breviflora
Polycarpaea corymbosa
Polycarpaea holtzei
Polycarpaea longiflora
MENISPERMACACEAE
Tinospora smilacina
PAPAVERACEAE
**Argemone ochroleuca*
CAPPARACEAE
Cleome viscosa
DROSERACEAE
Drosera indica
MIMOSACEAE
Acacia ampliceps
Acacia ancistrocarpa
Acacia arida
Acacia bivenosa
Acacia coriacea subsp. pendens
Acacia cowleana
Acacia eriopoda
Acacia exilis
Acacia farnesiana
Acacia gregorii
Acacia hilliana
Acacia inaequilatera
Acacia maitlandii
Acacia ptychophylla
Acacia pyrifolia
Acacia retivenia subsp. clandestina
Acacia spondylophylla
Acacia sclerosperma
Acacia tetragonophylla
Acacia trachycarpa
Acacia tumida
Acacia victoriae
Dichrostachys spicata
CAESALPINIACEAE
Petalostylis labicheoides
Senna artemisioides subsp. helmsii
Senna artemisioides subsp. oligophylla
Senna glutinosa subsp. glutinosa
Senna glutinosa subsp. x luerssenii
Senna glutinosa subsp. pruinosa
Senna notabilis
Senna symonii
Senna venusta
PAPILIONACEAE
Alysicarpus rugosus
Cajanus pubescens
Crotalaria crispata
Crotalaria cunninghamii
Crotalaria medicaginea
Cullen leucochaites
Cullen leucanthum
Cullen martinii
Cullen pogonocarpum
Cullen stipulaceum
Cullen sp.
Desmodium filiforme
Glycine tabacina
Glycine sp. (SVL 4806)
Indigofera colutea
Indigofera linifolia
Indigofera linnaei
Indigofera monophylla
Indigofera rugosa
Indigofera trita
Lotus australis
Rhynchosia minima
Sesbania cannabina
Sesbania formosa
Swainsona decurrens
Swainsona formosa
Swainsona kingii
Swainsona pterostylis
Swainsona stenodonta
Templetonia egena
Tephrosia bidwillii
Tephrosia sp. Bungaroo Creek (Met 11601)
Tephrosia sp. 1
Tephrosia sp. 2
Tephrosia sp. (SVL 4799)
Tephrosia sp. (SVL 4846)
Vigna lanceolata
Zornia albiflora
ZYGOPHYLLACEAE
Tribulus hirsutus
Tribulus macrocarpus
Tribulus occidentalis
Tribulus platypterus
Tribulus suberosus
POLYGALACEAE
Polygala isingii
EUPHORBIACEAE
Euphorbia australis
Euphorbia coghlanii
Euphorbia drummondii
Flueggea virosa subsp. melahthesoides
Leptopus decaisnei
Phyllanthus lacunellus
Phyllanthus maderaspatensis
STACKHOUSIACEAE
Stackhousia sp. (SVL 4837)
SAPINDACEAE
Atalaya hemiglauca
TILIACEAE
Corchorus aestuans
Corchorus fascicularis
Corchorus laniflorus
Corchorus tridens
Corchorus walcottii
Corchorus sp. *(SVL 4512)*
Corchorus sp. *(SVL 4525)*
Corchorus sp. *(SVL 4537)*

Triumfetta appendiculata
Triumfetta chaetocarpa
Triumfetta maconochieana
Triumfetta plumigera
Triumfetta propinqua
Triumfetta sp. (SVL 4830)
Triumfetta sp. (SVL 4841a)
Triumfetta sp. (SVL 4841b)
MALVACEAE
Abutilon fraseri
Abutilon lepidum
Abutilon sp. (SVL 4829)
Gossypium australe
Hibiscus brachychlaenus
Hibiscus burtonii
Hibiscus coatesii
Hibiscus leptocladus
Hibiscus panduriformis
Hibiscus sturtii
Sida echinocarpa
Sida rohlenae
Sida sp. (SVL 4502)
Sida sp. (SVL 4517)
Sida sp. (SVL 4518)
Sida sp. (SVL 4520)
Sida sp. (SVL 4545)
Sida sp. (SVL 4550)
Sida sp. (SVL 4835)
STERCULIACEAE
Waltheria indica
Waltheria virgata
LYTHRACEAE
Ammannia baccifera
COMBRETACEAE
Terminalia canescens
MYRTACEAE
Corymbia candida subsp. dipsodes
Corymbia ferriticola
Corymbia hamersleyana
Eucalyptus camaldulensis
Eucalyptus gamophylla
Eucalyptus leucophloia
Eucalyptus odontocarpa
Eucalyptus victrix
Melaleuca argentea
Melaleuca glomerata
HALORAGACEAE
Myriophyllum verrucosum
APIACEAE
Trachymene oleracea
OLEACEAE
Jasminum didymum
APOCYNACEAE
Carissa lanceolata
ASCLEPIADACEAE
Cynanchum floribundum
CONVOLVULACEAE
Bonamia pannosa
Bonamia rosea
Convolvulus erubescens
Evolvulus alsinoides
Jacquemontia pannosa
Ipomoea lonchophylla
Ipomoea muelleri
Ipomoea sp. (SVL 4811)
Polymeria calycina
Polymeria sp. (SVL 4491)
Polymeria sp. (SVL 4560)
BORAGINACEAE
Heliotropium aff. crispatum
Heliotropium heteranthum
Heliotropium inexplicitum
Heliotropium murinum
Heliotropium ovalifolium
Heliotropium sp. (SVL 4833)
Trichodesma zeylanicum
VERBENACEAE
Clerodendrum floribundum
SOLANACEAE
**Datura leichhardtii*
Nicotiana benthamiana
Nicotiana occidentalis
Nicotiana rosulata
**Physalis minima*
Solanum diversiflorum
Solanum horridum
Solanum lasiophyllum
Solanum sp. *(SVL 4568)*
SCROPHULARIACEAE
Peplidium sp. *(SVL 4572)*
Peplidium sp. (SVL 4816)
Stemodia grossa
Stemodia viscosa
Striga squamigera
BIGNONIACEAE
Genus sp. *(SVL 4538)*
PEDALIACEAE
Josephinia sp. *Mt Edgar Stn (NT Burbidge 1194)*
MYOPORACEAE
Eremophila latrobei
Eremophila longifolia
Eremophila sp.
RUBIACEAE
Oldenlandia crouchiana
Synaptantha tillaeacea
CUCURBITACEAE
**Cucumis melo*
Cucumis sp. (SVL 4822)
Mukia maderaspatana
CAMPANULACEAE
Wahlenbergia tumidifructa
LOBELIACEAE
Lobelia quadrangularis
GOODENIACEAE
Dampiera candicans
Goodenia heterochila
Goodenia lamprosperma
Goodenia micrantha
Goodenia microptera
Goodenia stobbsiana
Goodenia triodiophila
Scaevola amblyanthera
Scaevola sp.
STYLIDIACEAE
Stylidium desertorum
Stylidium fluminense

ASTERACEAE
Centipeda minima
Centipeda sp. (SVL 4559)
Chrysogonum trichodesmoides
Flaveria australasica
Ixiochlamys cuneifolia
Ixiochlamys sp. (SVL 4523)
Olearia sp.
Pentalepis trichodesmoides
Pluchea tetranthera
Pteracaulon serrulatum
Pterocaulon sphacelatum
Senecio aff. leucoglossus
Streptoglossa adscendens
Streptoglossa bubakii
Streptoglossa odora
Genus sp. (SVL 4483)
Genus sp. (SVL 4522)
Genus sp. (SVL 4565)

Most of the plants recorded at Meentheena are typical, ubiquitous species found throughout the Pilbara. The grass family (Poaceae) with 50 species was the richest recorded, a feature typical of most Pilbara study areas. Twenty-two families were represented by only one species. Other common elements of the flora were peas (Papilionaceae), wattles (Mimosaceae), mulla mullas (Amaranthaceae) and daisies (Asteraceae) with 38, 23, 20 and 18 species respectively. By far the most visually conspicuous plants on Meentheena were regenerating spinifex *(Triodia)* and wattles *(Acacia)* which were conspicuous in all habitats with six and 20 species, respectively. Other conspicuous plants were the re-sprouting emergent eucalypts, especially the river red gums *(Eucalyptus camaldulensis)* which fringed the Nullagine River, and the white-barked snappy gums *(Eucalyptus leucophloia)* which stylishly graced the slopes of most hills. The tall majestic paperbarks *(Melaleuca argentea)* bordering most of the pools along the Nullagine River together with the white dragon tree or corkwood *(Sesbania formosa)* were also a conspicuous component of the flora.

Most plants recorded at Meentheena have a ubiquitous distribution throughout the Pilbara and much of the arid inland regions of central Western Australia. However, two of the plants recorded in the Park, one for the first time during this expedition, are of conservation interest. These plants are *Josephinia* sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194) and *Ptilotus mollis*, as described below:

Josephinia sp. 'Mt Edgar Stn.' (N.T. Burbidge 1194): This undescribed species is known from six collections all obtained from the Mt Edgar-Meentheena area. The species is currently not listed on CALM's Priority Flora List. The species was collected from three localities during the expedition. All localities were along the Nullagine River on alluvial wash areas close to the river in areas that had recently been burnt. This species is now known from five localities on Meentheena.

Ptilotus mollis: This species is listed on CALM's Declared Rare and Priority Flora List as a Priority 2 taxon. This designation implies that the species is known from one or a few (<5) populations, at least some of which are not believed to be under immediate threat. The species is under urgent consideration for addition to the Schedule of Declared Rare Flora but requires further survey to fulfil stringent survey conditions before addition to the schedule can be considered. This species has previously been collected from four localities in the inland Pilbara, from south-east of Marble Bar at the Warrawoona Mining Centre; in the Rudall River area; on the footslopes of Mt Bruce in the Hamersley Range and west of Marble Bar in the Gorge Range. During the expedition this species was collected at the base of a breakaway near the Ripon Hills sink-hole. The species was also recorded from the Ripon Hills Mining Centre, which is outside the Park.

Other plants of botanical interest recorded during the Expedition include:

Triumfetta plumigera: This tall (1.5 m) upright plant with small hairy burr-like fruit was collected from the access track to the Ripon Hills sink-hole. Suggestions made by SVL at the time indicated that this species was possibly new, having not previously been reported in the scientific literature. While these comments proved incorrect the species is a new record for the Pilbara and this collecting locality represents the first for the species outside the Kimberley region in Western Australia. The Ripon Hills population also represents the most southern known for the species, which typically has a distribution across semi-tropical northern Australia. The Ripon Hills population is 370 km south on the next nearest population, which is located in the southern Edgar Ranges. The Ripon Hills population represents a significant disjunct outlier population for this species.

Triumfetta appendiculata: This shrub was collected from the banks of the Nullagine River below Baroona Hill. This population is the most eastern recorded for the species, which has a distribution that is typically centred on the west Pilbara coastline and inland to the Hamersley Ranges.

Templetonia egena: This broom-bush shrub, which grows up to 2 m tall, was collected from the plateau adjacent to the Ripon Hills sink-hole. This population represents a significant north-westerly range extension for the species, which has a sporadic distribution throughout the southern rangelands and desert regions of Western Australia. The Ripon Hills population is the second recorded from the Pilbara Biogeographical Region.

Eucalyptus odontocarpa: The mallee was observed several times along the access track to the Ripon Hills Mining Centre and thereafter collected along the track to the Ripon Hills sink-hole. These populations represent a slight westerly extension of the distributional range of the species, which previously was delimited by the Oakover River, east of Meentheena.

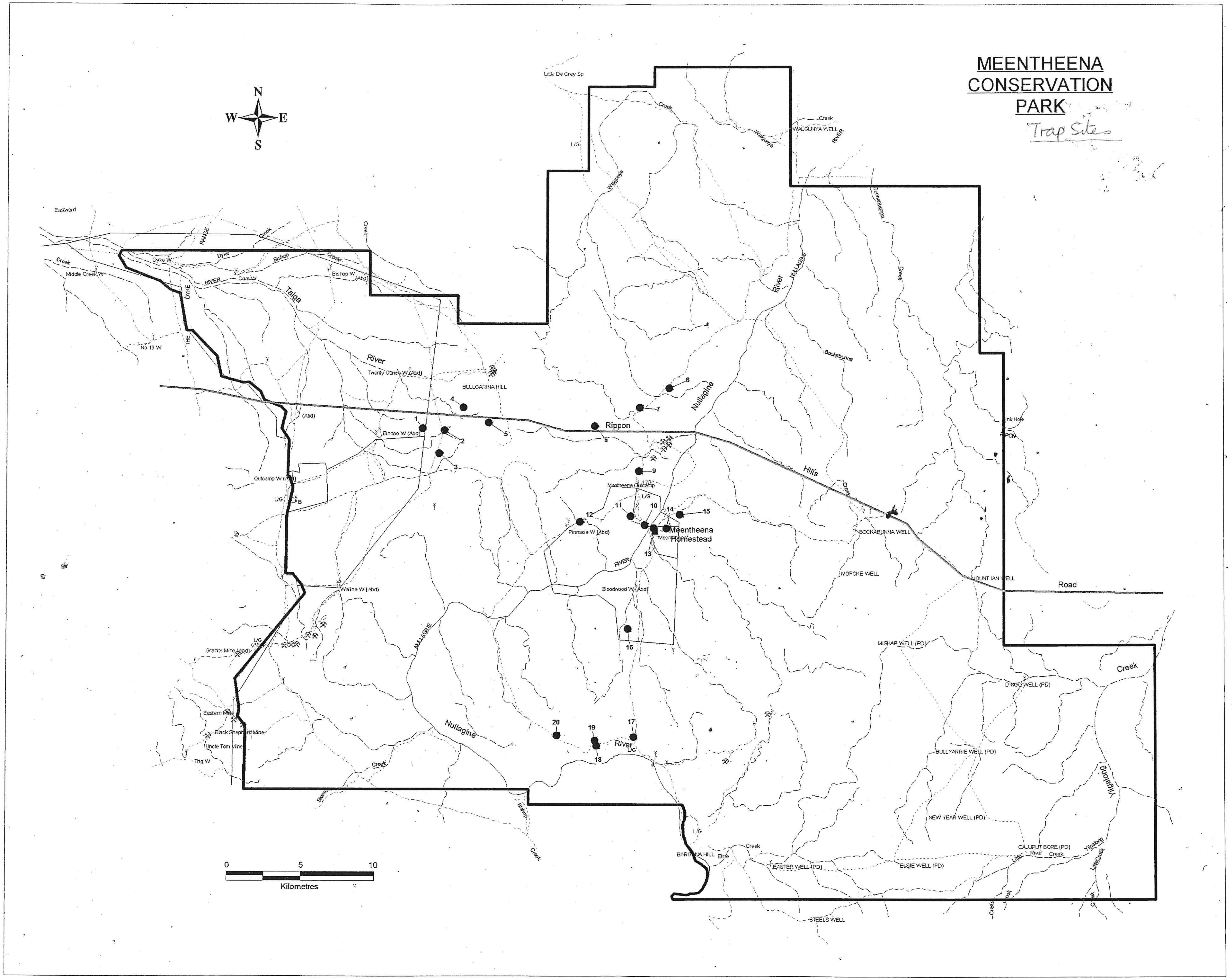
Seven non-native plant species have been recorded on the Meentheena Conservation Park (Table 2). Two of these were added during the 2001 Expedition. These non-native species are buffel grass *(Cenchrus ciliaris)*, birdwood grass *(Cenchrus setigerus)*, kapok bush *(Aerva javanica)*, Mexican poppy *(Argemone ochroleuca)*, thornapple *(Datura leichhardtii)*, ulcardo melon *(Cucumis melo)* and wild gooseberry *(Physalis minima)*. Mexican poppy and the ulcardo melon were recorded during the most recent survey. A few plants with cosmopolitan distributions throughout the Southern Hemisphere were also recorded on Meentheena. These include prickly saltwort *(Salsola tragus)*, purslane *(Portulaca oleracea)* and mimosa bush *(Acacia farnesiana)*.

Further botanical survey research is required in the Meentheena Conservation Park to comprehensively document the flora. The current flora list of 330 species is still below expectations for an area of this size in north-western Australia (Table 1). Examination of

the flora list for the Park suggests that it is currently depauperate in species representative of the Brassicaceae, Euphorbiaceae, Goodeniaceae, Papilionaceae, Poaceae and Solanaceae. As many of the presumed missing representatives from these families are annual and ephemeral species, planning future botanical surveys after sufficient rainfall and in spring would be a profitable strategy. Similarly, the sampling of burnt habitats after sufficient rainfall should be pursued, as should the documentation of the flora in the northern and western part of the Park as well as in the vicinity of Yilgalong Creek.

Stephen van Leeuwen and Bob Bromilow

D Edinger


MEENTHEENA
CONSERVATION
PARK
Trap Sites
N
W
E
S
Little De Grey Sp
Creek
Walgunya
WALGUNYA WELL
RIVER
L/G
Coonanbunna
Creek
Eastward
RANGE
Creek
Dyke W
Dyke
Bishop
Creek
Middle Creek W
RIVER
Dam W
Bishop W
(Abd)
DYKE
THE
Talga
River
No 16 W
Twenty Ounce W (Abd)
BULLGARINA HILL
Bootabunna
NULLAGINE
River
Nullagine
Rippon
Hills
Creek
(Abd)
Bindoo W (Abd)
Outcamp W (Abd)
L/G
B
Meentheena Outcamp
L/G
Pinnacle W (Abd)
Meentheena
Homestead
RIVER
Bloodwood W (Abd)
BOCKABUNNA WELL
MOPOKE WELL
MOUNT IAN WELL
Road
Waline W (Abd)
NULLAGINE
Granite Mine (Abd)
L/G
MISHAP WELL (PD)
DINGO WELL (PD)
Creek
Eastern Mine
Black Shepherd Mine
Uncle Tom Mine
Trig W
Nullagine
River
L/G
Creek
BULLYARRIE WELL (PD)
Yilgalong
Bishop
Creek
NEW YEAR WELL (PD)
L/G
BAROONA HILL
Elsie
Creek
EASTER WELL (PD)
ELSIE WELL (PD)
CAJUPUT BORE (PD)
River
Creek
Yilgalong
Little
Little Creek
STEELS WELL
0
5
10
Kilometres
1
2
3
4
5
6
7
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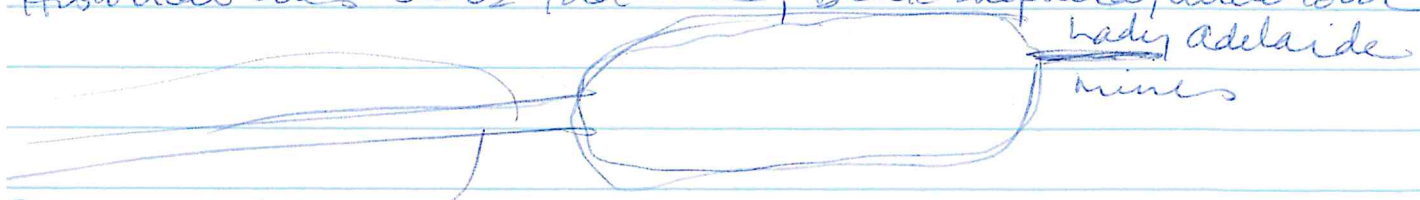
Directions: to Marble Bar Hosp.
Drive thro town heading towards the Bar + Chinaman's Pool.
2 Turn left at sign to Comet Gold Mine
. Travel along this rd + turn R onto first bitumen road
. Proceed down this rd, turn R onto Garden Pool Rd
. Take 1st Left into Denis O'Meara's Mining property.

Camp.
meeting at Nullagine R.: 3.15 pm on 16 Aug '04.
Rob Sleet + Yvonne on logistics; 2 toilets on banks + ash from fires.
Communal fire at 7pm; collect wood during day.
Scientific CALM + Club. Tax, affected GST,
1. Bird data necessary; notes on each species; what goes where, habitat for opportunistic, a
paper in Nats + for CALM officially. + Gordon.
Let Rob Sl or Yvonne if where going
100 Elliotts
Pit traps placed on basis of geol. + land forms. W + N, S, over river
ed Pseudantechinus 2 spp especially. Marsupial carnivore = Dasyurid
Legadena - short-tailed mouse. Pit traps on hills. Land snails.
Find afternoon close all pit traps + Alex Bain will arrive.
Sub fossil bones. Karst, carbonates, odd. silcrete on top
3 nights there (not vans) Sat am. PK must go Tues am latest.
Woody Woody Mn mine in '70s. up a gorge. can get in.
On way to Sinkhole.
Pelican Pool good.
Historical Sites - 20 oz Gold Mine, Black Shepherd, Uncle Tom
Lady adelaide mines



Barooma Hill = lonely graves
King Rock Hole near quarry

10 pits, 5 rows of 2
Collect anything in flower.
Stromatolites in carbonate

Mt Augustus: ~~Wed~~ 2nd week in June

Meentheena

John,
To address the points I can help with...

1. Caravans and trailers will be fine as far as the first river crossing (one of the the old homesteads). This is only about 10 km in off the Ripon Hills Rd, and with care, off-road caravans (an oxymoron if there ever was one) can be towed into the main camp site. This is one of the reasons why we have chosen to camp at this location. However, it is possible that some quite small gullies may have developed which may make access for such vehicles difficult - people should be prepared for that.

2. Distances travelled on the station will not be large. The tracks are pretty rough, and I expect that people will not want to bounce around on them too much. I would guess at a figure like 200 kilometres during the visit. Adventurous souls may want to double that. If we decide to do the run out to the Ripon sinkhole, we will need to budget an extra 200 km. This is definitely NOT for trailers or caravans, and frankly, drivers need to have a bit of confidence. It could be a day-trip, but I would recommend an over-nighter at least. It is well worth the effort, and I would like to make a collection of sub-fossil material there. 600–700 km 4WD

3. Drinking water is a matter of personal taste. We have always used the river, either direct if it is flowing, or after boiling or treating if it isn't. Some people react to 'bush' water poorly, so I recommend that such people bring their own if they are at all concerned. I won't be, unless the river is looking poorly later in the year. With the season we have had so far, I expect it will be fine. There will be plenty of swimming opportunities.

!

4. Fires are fine, and there is lots of wood. Fires in the river flood zone are no problem.

5. We have hard copy maps at 1:50 000 and 1:100 000. I can advise on the sheet numbers/names if you want. The 1:250 000 gives a general idea, and most of the tracks etc are correct. Get own.

6. As for the Nickol Bay Nat's, since I'm a member, I am delighted that members will be attending. We could get quite a good roll-up. 10 max.

Steve (van Leeuwen) and I will get the existing plant and fauna lists to you asap. I have no problems with giving a talk while on site, as I'm sure any other CALM people involved would be. I'm guessing that this would not necessarily need to relate directly to Meentheena?

I hope this assists. We will be in touch soon with the additional information.

All the best, pk

Dr Peter Kendrick
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Department of Conservation & Land Management
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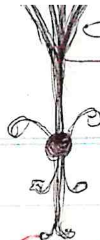
Phone +61 8 9143 1488, fax +61 8 9144 1118

Reunion? Essential 6 weeks after, Saturn night,
Maps. UHF radio esp. bus.
Rangelands maps. from Sue Patrick. + maps for us.
Ref library
Toilet section + emptying on roster.
take Puri tabs + Silver Iodide for water jerry cans.

NATS LONG RANGE for 2004.



Lake Mason } has facilities
Black Range } Birds OZ done these.

Cashmere Downs - accom in Shearers quarters + kitchen. basic Showers
part of. interesting Geol centrally. ring David McQuie
Goat problem. no birds been done. abuts Lake System, Saline

Ida Valley

Bulga Downs. SE of Sandstone

Kulwarrie - no facilities block, NE of Lake Mason.

333.

Ring John Luyer on 9384 2098. re
Cashmere Downs
270 km as c. flies NW of Kal. N edge of Lake
(or 342 from Kal. via Menzies. past L. Ballard) Barlee.
opp. ~~Jaurdi~~ Mt. Elvire David McQuie

collect Eremophila list ex Herb + other lists. ~~22~~ 10 days.

Post my Mornington lists + Herb list to Trish Thomas at
pnd in Herb. 17 Stirling Rd
Greenmount 6056

is 600 km via Paynes Find.

Cashmere Downs is 342 km NW of Kal (600) on N. edge of Lake Barlee
past Lake Ballard where Anthony Gormley's statues are.

Norah doing trapping at CD.
piece in autumn.

aug 14 — 25
or 12
~~8~~ days. 10 aug. - 29 aug KC away.

272
153
170
595

600

KC Suggests:
1. Perth to Baladjie Rock W of Bullfinch.
2. to Kal. via Wallaroo Rk.
3. Lake Raeside for birds Seven Mile Pool.
4 Kookynie Baway
5. 38 km N of Bulga Downs

Daphne Edt,

Kipon Hills collection July-Aug. '97.

Acacia ampliceps
Ac. bivenosa
Ac. inaequilatera
Ac. maitlandii
Ac. ptychophylla
Ac. pyrifolia
Argemone ochraleuca
Boerhavia schomburgkiana
Cyperus squarrosus
Drosera indica
Enneapogon caerulescens
Eriachne ciliaris
Goodenia lamprosperma
G. microptera
G. muelleriana
G. tenuiloba
Grevillea pyramidalis
Grev. wickhamii
Hakea lorea ssp. suberea SR.
Heliotropium heteranthum
Indigofera monophylla
Isotropis atropurpurea
Jacquemontia pannosa
Josephinia eugeniae
Lobelia quadrangularis
Mollugo molluginis
Nicotiana benthamiana
Psoralea leucantha
Rhodanthe battii
Stylidium desertorum
fluminense
Swainsona kingii
Swainsona sp.
Trachymene oleracea.

Long Range Excursion Aug. 2004. Sat 14 - 25th 7.15pm.

12 days. 08.03.04.

Meentheena 100 km E of Marble Bar.

on days c̄ Peter Kendrick - 6 days max. open traps

Suggestions

Day 1 - Pool at Nallan Dam camp. or Milly Milly Soak. 20 km N of Cue

Day 2 - Gascoyne R or Bilyuin Pool. or Ethel Creek.

Bus stock up in Marble Bar

7am start

Sat Day 1 - to Nallan Dam, 20 km N of Cue, night round back to camp.

Sun Day 2 - ~~to Milly Milly Soak~~. LH turn 3 km in, ~~Bilyuin Pool off hwy~~ ~~on Peak Hill Rd~~ - on Sun night. Russian Jack had Market Garden. Other side of Ethel Creek. Mulga camp site. Ethel Ck.

Mon Day 3 Check c̄ Ethel Creek 20 km off hwy.

~~Kennedys at Roy Hill along Fortescue R.~~

Day 4. 17th To Meentheena camp by 4 pm. Meet PK on way in.

6 Full days at Meentheena.

Working Backwards from Meentheena.

25 Aug. Perth

24 Aug

Mon 23 leave Meentheena am.

Tues 24

Wed 25 arrive Perth

Reunion - Herdsman Roast spit.

Meen to M Bar to Newman

Nanutarra; Auski campground

thro' Wittenoom

to Yannrie R.

Gasc. Jnctn. stay on

Wooramel R.

Murchison Rdhse

1 hr. S of Newman to camp on way home.

Granites at Mt. Magnet

Fuel at Marble Bar on Mon.

~~4~~ 5 17 on bus, 20 tagalongs. = 37

12 viable 18 people = 9 cars 2 waiting sheets

Toilet tents x 2 + one for bus. 6

Need own insurance: ask HBF? (RAC) or need extra?

Rob Sheet to coordinate tagalongs.

Diary coordinator both diaries. Yvonne Broome.

Newsletter write up. - Trish Gardner to ask.

Community grant

Budget for both gps. Les + John Luyer. contingency fund.

Evening Activities: Talks? Show + Tell after tea + briefing. not every night, 2nd night, 3 talks

Yvonne for briefing. PK + Steve, John Dell. History of area. J Luyer.

APC Bird Calls Les Hoaben + Sue Spotlighting