Wilinggin-West Kimberley Bush Blitz

Flora

18–29 July 2022

Submitted: 22 December 2022

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Nomenclature and taxonomy used in this report is consistent with:

The Australian Plant Name Index (APNI)

http://www.anbg.gov.au/databases/apni-about/index.html

The Australian Plant Census (APC)

http://www.anbg.gov.au/chah/apc/about-APC.html

Florabase (for conservation listing and common names)

https://florabase.dpaw.wa.gov.au/

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Abstract

The Wilinggin-West Kimberley Bush Blitz expedition was held from 18-29 July 2022 in the south-western area of Western Australia's central Kimberley plateau region on Wilinggin Country. Fourteen (14) sites were selected across the Charnley River-Artesian Range Wildlife Sanctuary, Wilinggin Indigenous Protected Area, and Wunaamin Conservation Park for flora surveys. Habitats included permanent river pools, a perched lake in a floodplain on a sandstone plateau, monsoon vine thicket patches in the valleys or sides of deep sandstone gorges, open savanna woodlands, black soil plains, riparian woodlands and an unusual, dry-season active seep on a sandstone pavement. 285 plant taxa were recorded during the Bush Blitz, and 520 specimen vouchers and 262 genetic vouchers were collected and lodged at the Western Australian Herbarium. No collections had been previously recorded from the vicinity of four of the collection sites and had not been made from the vicinity of other localities in more than 10 years. Four Western Australian conservation-listed taxa were recorded; two sightings were made of the invasive weed *Emilia sonchifolia* var. *sonchifolia,* which has not previously been recorded from the area along with four other exotic taxa; and nine un-named taxa were collected. A further 30 taxa were documented range extensions and new records for the survey areas. Three teachers were introduced to flora collecting, and two Department of Biodiversity, Conservation & Attractions (DBCA) regional staff and one Australian Wildlife Conservancy staff member were instructed in advanced collecting techniques. Five Rangers from the Wilinggin Aboriginal Corporation supported the survey team in the field. As part of the outreach component of the Bush Blitz, the team participated in a radio interview and online teaching components.

1. Introduction

This Bush Blitz expedition was held in the south-western area of Western Australia's central Kimberley plateau region on Wilinggin Country.
The specific land units that the expedition included:
• Charnley River-Artesian Range Wildlife Sanctuary, managed by Australian Wildlife Conservancy (AWC). The Base Camp was situated at the Charnley River homestead area;
• Parts of the Wilinggin Indigenous Protected Area (IPA) that wrap around the western, northern and eastern boundaries of the Sanctuary, managed by Wilinggin Aboriginal Corporation; and
• Wunaamin Conservation Park, managed by WA Parks and Wildlife Service which is part of the WA Department of Biodiversity, Conservation and Attractions (DBCA).
These areas have been poorly and infrequently surveyed for flora, with the most recent collections in the area being made about 10 years ago. If the minimum number for adequate floristic inventory in tropical areas is considered to be 50 collections per 100 km^2 (Stevens 1989), the Central and West Kimberley are considered under surveyed, having a collection density of only about 35 specimens per 100 km^2.
Of the 13 sites selected for the Bush Blitz, four had not been previously collected for flora within close vicinity (>50 km). The timing of the survey, during the dry season, was not ideal for high quality research collections throughout most of the region, but mesic and permanently wet sites in the region were targeted.

2. Methods

2.1 Site selection

Sites were selected based on intensity of previous surveys (as documented by vouchered collections at the Western Australian Herbarium), availability/accessibility to water, accessibility by helicopter and car, permission to enter and collect in an area, and observation by Bush Blitz teams visiting locations during the expedition. Descriptions of each site are provided in Appendix 2. Given that it was the dry season, priority was given to mesic sites where flowering and fertile plants were most likely to be still encountered.

Date	Location	Description	Survey type
19th July 2022	Site B30, Donkey Springs/ Donkey Yard Hole pools, Charnley River-Artesian Range Wildlife Sanctuary. -16.655248°S 125.488450°E	Riparian woodland and sandstone woodland adjacent to permanent pools along Donkey Creek.	Hand collection/observation
20th July 2022	Site B22, Lake Gilbert, Charnley River-Artesian Range Wildlife Sanctuary. -16.561556°S 125.276618°E	Perched semi-permanent lake / floodplain swamp on sandstone plateau.	Hand collection/observation
21st July 2022	Site B23, Donkey Creek on Packhorse Range, Wilinggin Indigenous Protected Area. -16.652325°S 125.667582°E	Permanent pools, riparian forest and alluvial woodland along intermittently flowing river (Donkey Creek).	Hand collection/observation
22nd July 2022	Charnley Woodland Standard Survey Site 2 (SSS2), Charnley River-Artesian Range Wildlife Sanctuary. -16.502885°S 125.359749°E	Upper slope *Eucalyptus tetrodonta* woodland on sandstone hill in undulating landscape.	Standard Survey methods
23rd July 2022	Grevillea Creek Standard Survey Site 1 (SSS1) and surrounds, Charnley River-Artesian Range Wildlife Sanctuary. -16.489210°S 125.352471°E	Riparian forest of *Eucalyptus tetrodonta* and *Corymbia polycarpa* on margins of Grevillea Creek.	Standard Survey methods
23rd July 2022	Grevillea Creek, Charnley River-Artesian Range Wildlife Sanctuary. -16.489210°S 125.352471°E	Permanent pool in Grevillea Creek, with floating, submerged and emergent aquatics.	Hand collection/observation
23rd July 2022	Black soil plain, near Potts Camp 2km north of Plot Standard Survey Site 1 (SSS1), Charnley River-Artesian Range Wildlife Sanctuary. -16.46746°S 125.354365°E	Black soil plain of dense to moderately dense *Themeda* and *Dichanthium* grassland, with scattered trees of *Corymbia bella* and *Eucalyptus tectifica.*	Hand collection/observation
24th July 2022	Wunaamin Conservation Park Open Woodland. Standard Survey Site 3 (SSS3). -17.048998°S 125.236115°E	Open woodland of *Corymbia polycarpa* over dense grasslands/herbfield or *Xyris* sp. and *Eriachne glauca* on lower slopes of a sandstone range.	Standard Survey methods
24th July 2022	Silent Grove spring, Wunaamin Conservation Park. -17.068112°S 125.247716°E	A small spring-fed pool in a creek flowing through a sandstone range supporting tall monsoon vine thicket/riparian forest.	Hand collection/observation
25th July 2022	Site A8. Riparian woodland, Diegul Creek area, Charnley River-Artesian Range Wildlife Sanctuary. -16.403088°S 125.440579°E	A transect into a deep gorge south of Diegul Creek and valley, sampling with open savanna woodland and riparian forest.	Hand collection/observation

25th & 27th July 2022	Site B17, Sundew Spring, near Bore 22, Charnley River-Artesian Range Wildlife Sanctuary. -16.45304741°S 125.389124°E	Freshwater spring/seep on shallow organic soils over a sandstone platform.	Hand collection/observation
26th July 2022	Site A25, Monsoon Vine Thicket patch, Wunaamin Conservation Park. -16.764950°S 125.075236°E	Transect into a deep gorge sampling open savanna woodland, patches of monsoon vine thicket and riparian forest along the creek.	Hand collection/observation
27th July 2022	Site F18 Isdell River and valley, near junction with Deep Valley, Wilinggin Indigenous Protected Area. -16.567977°S 124.927340°E	A small patch of monsoon vine thicket in a deep ravine bordering the Isdell River.	Hand collection/observation
28th July 2022	Site B24. Permanent Pool in Oonbiet Creek on the Synnot Range, Charnley River-Artesian Range Wildlife Sanctuary. -16.635977°S 125.182105°E	Intermittently flowing creek with permanent pools fringed by riparian forest and surrounded by savanna woodlands on cracking clays and a low sandstone outcrop.	Hand collection/observation

2.2 Survey techniques

All fertile taxa at each site were collected as a voucher specimen using standard herbarium collecting techniques (see https://www.dpaw.wa.gov.au/images/documents/plants-animals/herbarium/How_to_collect_herbarium_specimens.pdf) and lodged in the Western Australian Herbarium (PERTH). Along with a research-grade herbarium specimen, collection metadata and images of each collection and habitat were captured, and tissue for molecular analysis was gathered where possible (see Section 3.6).

2.2.1 Methods used at standard survey sites

A 20 m x 20 m quadrat was established at each site in a representative area not impacted by other survey activities. All recorded taxa were collected as vouchers and lodged with the Western Australian Herbarium. Being the dry season, ephemeral taxa may not have been recorded.

2.3 Identifying the collections

Many identifications were supported by or based on comparisons with existing specimens in the research collection at the Western Australian Herbarium (PERTH) and guided by species distribution data available through The Australasian Virtual Herbarium.

In addition, the following references were used:

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3. Results and Discussion

Appendix 1 lists all flora taxa recorded, consisting of 285 unique taxa from 76 plant families. Collections made during this Bush Blitz will result in more than 520 specimens being added to public collections and an equivalent number of records added to publicly accessible databases.

3.1 Un-named or not formalised taxa

Eight (8) collections were made of un-named or currently undescribed and published taxa (Table 1). These taxa have likely been collected before, but further taxonomic research is needed.

Table 1. Putatively un-named or not formalised taxa

Taxon	Comment
Goodenia aff. *heppleana*	Allied to, but differs from, *Goodenia heppleana* in number of characters, notably the overall reduced dimensions of leaves and flowers and semi-prostrate, weak habit. *Goodenia heppleana* is a species of savanna woodlands on sandy soils. It is possible that there is a new entity from black soil gilgai plains Requires more collections and investigation.
Limnophila sp.	Unable to match to any taxon within Plantaginaceae.
Spermacoce aff. *lignosa*/*breviflora*	*Spermacoce* in the Kimberley are currently being studied, and there are likely numerous taxa that remain to be described and named. Recorded from site Wilinggin IPA, B23.
Stylidium sp.	An undescribed taxon, possibly referable to *Stylidium* sp. Kings Cascade (K.F. Kenneally 11173). Recorded from Charnley River, Sundew Spring, B17.
Stylidium sp.	Matches H.I. Aston 2553 (PERTH 08270074) from the Northern Territory. A new record for Western Australia; an old name may apply; nomenclature to be resolved. Recorded from Charnley River, B22.
Tephrosia sp. E Kimberley Flora (C.A. Gardner 9937)	Recorded from site Charnley River, B30.
Tricoryne sp. Kimberley (K.F.Kenneally 4857)	Recorded from Charnley River, SSS2.
Triodia aff. *bynoei*	This taxon is morphologically odd for *Triodia bynoei*, and similar collections have been made

	from the region. This is part of a species complex and taxonomic work is ongoing/needed to resolve it. Recorded from Wilinggin IPA, F18.

3.2 Putative new species (new to science)

In this report, 'putative new species' is defined as an unnamed species that, as far as can be ascertained, was identified as a new species as a direct result of this Bush Blitz. No such collections were made.

Table 2. Putative new species (new to science)

Species	Comment
n/a	

3.3 Exotic and pest species

In general, all sites surveyed were free from exotic and pest species. However, the majority of areas surveyed were impacted either by human activity or non-native grazing animal activity and are at risk of degradation and species invasion. Five (5) exotic species were recorded (Table 3).

Table 3. Exotic and pest species recorded

Exotic/pest species	Location sighted/observed	Indication of abundance	Comments
Albizia lebbeck	Charnley homestead	Scattered few, would need survey to determine extent of spread into surrounding riparian vegetation.	The cultivated biotype has been planted at homestead, and the native biotype was collected at field sites (see Keighery 2022).
Emilia sonchifolia var. *sonchifolia*	Charnley River, A8 & Wilinggin IPA, B23	Only one individual noted at the time (A8); two plants (B23).	Previously only recorded from outside managed areas. Range extension (200 km).
Citrullus amarus	Wilinggin IPA, B23	One plant found.	Common weed
Passiflora foetida	Wunaamin, Silent Grove spring (observed, image captured)	Common in riparian vegetation.	A common and significant invasive weed in the Kimberley. Dispersed by birds. Will require ongoing management from the region.
Stylosanthes scabra	Charnley River, SSS2		Already known from Charnley.

3.4 Threatened species

While no threatened species were recorded, five (5) Western Australian Conservation-Listed taxa were reported during the Wilinggin-West Kimberley Bush Blitz (Table 4).

***Hibiscus marenitensis*. Priority 3.** This species was previously known from two disjunct areas, one from Walcott Inlet to Koolan Island in the West Kimberley, and the second area in the far Northern Kimberley in coastal areas between Faraway Bay and King George River inlet (Figure 1). A new population of this species was found in the steep sides of a sandstone gorge on the side branch of the Isdell River (F18). This new population is c. 10km south of a known population at Walcott Inlet, and is the most inland occurrence of this species yet recorded. *H. marenitensis* is identified as belonging to the section *Furcaria* based on the epicalyx forming a cup which then separates into lobes (Craven *et al*. 2003). Both *Hibiscus stewartii* and *H. marenitensis* have +/- glabrous outer calyces (not stellate hairy as found in the other members of this group), but *H. stewartii* has densely stellate hairy leaves and petioles, while *H. marenitensis* is mostly glabrous (with only stellate hairs on branchlets and (mainly) on petioles) and has only aculei (stout unbranched hairs inserted on tubercules) on the branchlets, epicalyx and calyx. Craven *et al*. (2003) make note of this species being the "most glabrous" which distinguishes it in the group. This character was clearly evident in the Isdell gorge collection, which fits within the broad description of *H. marenitensis*. However, this collection even lacks stellate hairs on the branchlets and petioles, unlike the other herbarium collections of this species. With more collections in the area, it is possible to assess variation within this species and the possibility that there could be further taxa recognized within this group.

***Solanum cataphractum.* Priority 3.** A small population of this uncommon and distinctive bush tomato was located on steep, rocky sandstone walls of the gorge through which the Isdell River runs, at Bush Blitz Site F18 (Figure 2). This material requires further detailed investigation since most of the collections are from the Kimberley Islands and have more deeply lobed, thinly lobed, and long-lobed leaves than this mainland collection. It is similar to another collection tentatively identified as *Solanum* ? *cataphractum*, which was made in the Artesian Range by Mathew Barrett and Kingsley Dixon (MDB 4682 – PERTH 09303804 & 09303812) some 90 km east of the current Bush Blitz collection site.

***Tephrosia* aff. sp. Mistake Creek (A.C. Beauglehole 54424). Priority 3.** Part of the *Tephrosia rosea* group, this taxon occurs on alluvial flats and in rocky stream beds. This specimen is one of nine records of this taxon, from the NE Kimberley and to the south of Wunaamin Conservation Park. Morphologically, the pods with upturned ends and the short-petiolate leaves match *T*. sp. Mistake Creek, but the leaves of the specimen differ in their glabrous upper surfaces, which in typical *T*. sp. Mistake Creek are hairy. It is possible the specimen represents a morphological variant or that it is a distinct undescribed species. The *T*. *rosea* group to which this specimen belongs contains undescribed diversity and is the subject of ongoing taxonomic work.

***Utricularia muelleri*. Priority 3**. This diminutive bladderwort was found growing both as a floating plant and on damp peaty substrates around Lake Gilbert (a floodplain swamp on a sandstone plateau) (Figure 3). This is a new record for the wetland, and this species is known from seven other locations in Western Australia (AVH 2022), with the closest site at Brolga Swamp near Charnley River homestead. This species is distinguished from *Utricularia stellata* by its whorl of floats with capillary foliar segments fringing the margins from the apex to base (as opposed to being restricted to the apex in the latter species).

Figure 1: *Hibiscus marenitensis* collected from a rocky sandstone gorge bordering the Isdell River, within the Wilinggin IPA. Detail of the distinctive epicalyx and pink corolla (top), the habit (bottom left) and habitat (bottom right) of this species, with tangled, cane-like stems growing up the steep sides of the gorge.

Figure 2: The solitary female flower (top), and the habit and habitat (bottom) of *Solanum cataphractum*, which was collected from steep sides of a rocky sandstone gorge bordering the Isdell River within the Wilinggin IPA.

Figure 3: *Utricularia muelleri*: the entire plant collected as a semi-submerged aquatic in Lake Gilbert (left), and the wetland habitat dominated by *Eriocaulon* reedbeds with floating *Nymphoides aurantiaca* and stands of *Melaleuca viridiflora* (right).

Figure 4: The distinctive white flowers of *Utricularia nivea* which was collected from a sandstone seep along the Isdell River within the Wilinggin IPA.

Table 4. Conservation-listed species

Species	Listing status and level (EBPC, State/Territory)	Location sighted/observed	Indication of abundance
Hibiscus marenitensis	P3, WA	Wilinggin IPA, F18	Abundant in localised area, extent of population unknown. Area difficult to access.
Solanum cataphractum	P3, WA	Wilinggin IPA, F18	Several plants observed in localised area, extent of population unknown. Area difficult to access.

Tephrosia aff. sp. Mistake Creek (A.C. Beauglehole 54424)	P3, WA	Charnley River, A8	Adds to two other collections that are far west (>275 km) of the main distribution of this taxon.
Utricularia muelleri	P3, WA	Charnley River, B22	Observed to be common at the collection point on the eastern margin of Lake Gilbert.

3.5 Range extensions

Thirty taxa were recorded during the Bush Blitz as significant range extensions (>20km) or new records for the region (Table 5).

Table 5. Range extensions or significant infill in distribution records for species			
Species	**Location sighted/observed**	**Distance from nearest known record (km)**	**Comments**
Abrus precatorius subsp. *precatorius*	Wilinggin IPA, B23	50	Not previously collected from IPA.
Acacia stellaticeps	Charnley River, SSS1	50	Not previously collected in Sanctuary.
Aristida holathera	Charnley River, SSS1	80	Fills between collections.
Blyxa aubertii	Charnley River, B22	40	Fills between collections.
Blyxa octandra	Wunaamin Conservation Park, Silent Grove spring	70	Southern range extension.
Centipeda borealis	Charnley River, B22	30	Not previously collected from Sanctuary.
Clerodendrum floribundum var. *coriaceum*	Charnley River, SSS1	60	Fills between collections.
Cyperus cunninghamii subsp. *uniflorus*	Wilinggin IPA, F18	60	Adds to three other collections that are far west (>350 km) of the main distribution of this taxon.
Daviesia reclinata	Wunaamin Conservation Park, A25	80	New record for Park; southern range extension.
Decaschistia occidentalis	Charnley River, SSS2	40	Southern range extension.
Dichanthium sericeum subsp. *polystachyum*	Charnley River, Black soil plain near Potts Camp	60	Fills between collections (north of southern Kimberley distribution).
Drosera cf. *dilatopetiolaris*	Wunaamin Conservation Park, SSS3	40	Not previously collected in Park.
Drosera hartmeyerorum	Charnley River, Sundew Spring, B17	70	Not previously collected in Sanctuary.
Eriocaulon concretum	Charnley River, Sundew Spring, B17	70	Not previously collected in Sanctuary.
Eriocaulon spectabile	Charnley River, B22	200	Southern range extension within the Kimberley.
Euphorbia armstrongiana var. *distans*	Wilinggin IPA, B23	20	Not previously collected from IPA.

Fimbristylis pauciflora	Wilinggin IPA, F18	60	Fills between collections.
Fimbristylis rhyticarya	Wilinggin IPA, F18	70	Fills between collections.
Gonocarpus chinensis subsp. *chinensis*	Charnley River, near SSS2	40	Not previously collected in Sanctuary.
Goodenia heppleana	Charnley River, B30	20	Not previously collected in Sanctuary.
Hakea arborescens	Wilinggin IPA, B23	30	Not previously collected from IPA.
Mimulus gracilis	Charnley River, B24	150	Western range extension.
Panicum trachyrhachis	Charnley River, B22	40	Southern range extension within the Kimberley.
Persicaria attenuata subsp. *attenuata*	Wilinggin IPA, F18	30	Western range extension.
Pseudopogonatherum irritans	Charnley River, SSS2	130	Southern range extension.
Rotala occultiflora	Charnley River, B22	30	Not previously collected from Sanctuary.
Sacciolepis indica	Charnley River, adjacent to SSS1	60	Fills between collections.
Utricularia nivea	Wilinggin IPA, F18	500	New record for WA.
Vallisneria triptera	Charnley River, B22	150	Southern range extension.
Whiteochloa airoides	Charnley River, SSS1	110	Fills between collections.

3.6 Genetic information

Samples of leaf tissues were taken from all vouchered collections made by S. James and B. Anderson, with occasional tissues collected for A. Markey and A. Spiridis vouchers. Fresh tissue (30–100 mg) was placed in an acid-free tea bag within silica gel for dehydration. Tissues have been lodged with the Western Australian Herbarium, linked to voucher specimens, and available for analysis upon request.

4. Information on species lists

A complete flora species list, consisting of the 285 taxa, comprising 76 families, recorded during the Wilinggin-West Kimberley Bush Blitz is provided in Appendix 1. Due to the timing of the survey (dry season), many taxa were not present, in poor condition, and/or were lacking good reproductive material, making some of the identifications tentative, and were not provided. The focus on mesic and wetter areas limited the species documentation and discovery to those vegetation types.

5. Information for land managers

We highly recommend the removal of non-native animals or implement the fencing of wetland areas (e.g., Lake Gilbert), which were observed to be significantly impacted by trampling and grazing.

Some valuable records for the Kimberley region and for AWC to aim to re-collect during the appropriate time of year include ephemeral grasses and herbs (March–May). These include SSS1: *Alloteropsis semialata*, *Eragrostis leporina*, *Setaria apiculata*, *Sorghum stipoideum*; SSS2: *Eriocaulon cinereum*, *Heteropogon contortus*; SSS3: *Alloteropsis semialata*.

6. Other significant findings

Utricularia nivea, a small terrestrial bladderwort which was collected at the base of a spring flowing out of the sandstone walls of a gorge through which the Isdell River passes (Figure 4). Previously known from Charnley River Station by one record from the Allen Lowrie private herbarium (*Herbarium Lowrieanum*; in the process of being incorporated into the Western Australia Herbarium). This is only the second collection made in the survey area and will be incorporated directly into the Western Australian Herbarium.

7. Conclusions

The Wilinggin-West Kimberley Bush Blitz expedition has significantly added to botanical collections from the region and resulted in multiple range extensions, as well as new records for conservation listed taxa and weeds. Identification efforts were largely successful, but it also highlighted the taxonomic challenges apparent in multiple groups found in the region. There is substantial taxonomic work still needed to clarify species boundaries and to describe and name new species from this region of Western Australia. While the collections have improved our understanding of the flora in the region, more survey and collecting is needed in the area during different seasons and from more inaccessible locations. Fungi and other cryptogam surveys at wetter times of year would also be informative.

Acknowledgements

The DBCA Flora team wish to acknowledge the help provided by the teachers, Wilinggin Aboriginal Corporation Wunggurr Rangers, Traditional Owners, Australian Wildlife Conservancy, the scientific team, and Bush Blitz team in the field. Helicopter support was invaluable for reaching remote areas to sample from a wide variety of habitats.

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Appendix 1. List of flora recorded during the Wilinggin-West Kimberley Bush Blitz						
Family	**Species**	**Common name**	**Putative new species**	**Threatened (EPBC Act)**	**Threatened (State/ Territory)**	**Exotic/ pest**
Acanthaceae	Dicliptera armata F.Muell.	-	No	No	No	No
Acanthaceae	Nelsonia campestris R.Br.	-	No	No	No	No
Alismataceae	Albidella oligococca (F.Muell.) Lehtonen	-	No	No	No	No
Amaranthaceae	Ptilotus corymbosus R.Br.	-	No	No	No	No
Anacardiaceae	Buchanania oblongifolia W.Fitzg.	-	No	No	No	No
Anacardiaceae	Buchanania obovata Engl.	Wild Mango	No	No	No	No
Apocynaceae	Gymnanthera oblonga (Burm.f.) P.S.Green	-	No	No	No	No
Apocynaceae	Tabernaemontana orientalis R.Br.	-	No	No	No	No
Araliaceae	Trachymene dendrothrix Maconochie	-	No	No	No	No
Asparagaceae	Lomandra tropica A.T.Lee	-	No	No	No	No
Asparagaceae	Thysanotus chinensis Benth.	-	No	No	No	No
Asteraceae	Blumea diffusa R.Br. ex Benth.	-	No	No	No	No
Asteraceae	Blumea integrifolia DC.	-	No	No	No	No
Asteraceae	Blumea psammophila Dunlop	-	No	No	No	No
Asteraceae	Blumea tenella DC.	-	No	No	No	No
Asteraceae	Centipeda borealis N.G.Walsh	-	No	No	No	No
Asteraceae	Emilia sonchifolia var. sonchifolia (L.) DC.	Emilia	No	No	No	**YES**
Asteraceae	Olearia arguta Benth.	-	No	No	No	No
Asteraceae	Pluchea rubelliflora (F.Muell.) B.L.Rob.	-	No	No	No	No
Asteraceae	Pterocaulon paradoxum A.R.Bean	-	No	No	No	No
Asteraceae	Pterocaulon sphacelatum (Labill.) F.Muell.	Apple Bush	No	No	No	No
Asteraceae	Pterocaulon tricholobum A.R.Bean	-	No	No	No	No
Asteraceae	Pterocaulon verbascifolium (Benth.) F.Muell.	-	No	No	No	No
Bixaceae	Cochlospermum fraseri Planch.	Kapok Bush	No	No	No	No
Boraginaceae	Euploca aff. leptaleum	-	No	No	No	No
Boraginaceae	Trichodesma zeylanicum var. zeylanicum (Burm.f.) R.Br.	Camel Bush	No	No	No	No
Burseraceae	Canarium australianum var. velutinum Hewson	Jalkay	No	No	No	No
Campanulaceae	Lobelia douglasiana F.M.Bailey	-	No	No	No	No
Campanulaceae	Wahlenbergia queenslandica Carolin ex P.J.Sm.	-	No	No	No	No
Cannabaceae	Celtis strychnoides Planch.	-	No	No	No	No
Cannabaceae	Trema tomentosa var. aspera (Brongn.) Hewson	Peach Leaf Poison Bush	No	No	No	No
Capparaceae	Capparis jacobsii Hewson	-	No	No	No	No
Celastraceae	Stackhousia intermedia F.M.Bailey	-	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Centrolepidaceae	Centrolepis exserta (R.Br.) Roem. & Schult.	-	No	No	No	No
Charophyceae	Nitella sp.	-	Uncertain	Uncertain	Uncertain	Uncertain
Cleomaceae	Arivela viscosa (L.) Raf.	-	No	No	No	No
Combretaceae	Terminalia bursarina F.Muell.	Bendee	No	No	No	No
Combretaceae	Terminalia hadleyana W.Fitzg.	-	No	No	No	No
Convolvulaceae	Ipomoea eriocarpa R.Br.	-	No	No	No	No
Convolvulaceae	Xenostegia tridentata (L.) D.F.Austin & Staples	-	No	No	No	No
Cucurbitaceae	Citrullus amarus Schrad.	-	No	No	No	**YES**
Cupressaceae	Callitris columellaris F.Muell.	White Cypress Pine	No	No	No	No
Cyperaceae	Cyperus aff. sexflorus	-	No	No	No	No
Cyperaceae	Cyperus cunninghamii subsp. Uniflorus K.L.Wilson	-	No	No	No	No
Cyperaceae	Cyperus microcephalus subsp. saxicola K.L.Wilson	-	No	No	No	No
Cyperaceae	Eleocharis sundaica J.Kern	-	No	No	No	No
Cyperaceae	Eleocharis rivalis K.L.Wilson	-	No	No	No	No
Cyperaceae	Fimbristylis cephalophora F.Muell.	-	No	No	No	No
Cyperaceae	Fimbristylis cinnamometorum (Vahl) Kunth	-	No	No	No	No
Cyperaceae	Fimbristylis microcarya F.Muell.	-	No	No	No	No
Cyperaceae	Fimbristylis pauciflora R.Br.	-	No	No	No	No
Cyperaceae	Fimbristylis rhyticarya F.Muell.	-	No	No	No	No
Cyperaceae	Fimbristylis tetragona R.Br.	-	No	No	No	No
Cyperaceae	Fuirena ciliaris (L.) Roxb.	-	No	No	No	No
Cyperaceae	Fuirena sp.	-	No	Uncertain	Uncertain	No
Cyperaceae	Fuirena umbellata Rottb.	-	No	No	No	No
Dilleniaceae	Hibbertia oblongata subsp. brevifolia (Benth.) Toelken	-	No	No	No	No
Droseraceae	Drosera aurantiaca Lowrie	-	No	No	No	No
Droseraceae	Drosera burmanni Vahl	Tropical Sundew	No	No	No	No
Droseraceae	Drosera cf. dilatopetiolaris K.Kondo	-	No	No	No	No
Droseraceae	Drosera fragrans Lowrie	-	No	No	No	No
Droseraceae	Drosera hartmeyerorum Schlauer	-	No	No	No	No
Droseraceae	Drosera serpens Planch.	-	No	No	No	No
Elatinaceae	Bergia pedicellaris (F.Muell.) Benth.	-	No	No	No	No
Eriocaulaceae	Eriocaulon cinereum R.Br.	-	No	No	No	No
Eriocaulaceae	Eriocaulon concretum F.Muell.	-	No	No	No	No
Eriocaulaceae	Eriocaulon setaceum L.	-	No	No	No	No
Eriocaulaceae	Eriocaulon spectabile F.Muell.	-	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Eriocaulaceae	Eriocaulon tortuosum F.Muell.	-	No	No	No	No
Euphorbiaceae	Euphorbia armstrongiana var. distans (W.Fitzg.) Halford & W.K.Harris	-	No	No	No	No
Euphorbiaceae	Homalanthus novo-guineensis (Warb.) Lauterb. & K.Schum.	-	No	No	No	No
Euphorbiaceae	Microstachys chamaelea (L.) Hook.f.	-	No	No	No	No
Fabaceae	Abrus precatorius subsp. precatorius L.	-	No	No	No	No
Fabaceae	Acacia delibrata A.Cunn. ex Benth.	-	No	No	No	No
Fabaceae	Acacia holosericea A.Cunn. ex G.Don	Candelabra Wattle	No	No	No	No
Fabaceae	Acacia neurocarpa A.Cunn. ex Hook.	-	No	No	No	No
Fabaceae	Acacia nuperrima Baker f.	-	No	No	No	No
Fabaceae	Acacia platycarpa F.Muell.	Pindan Wattle	No	No	No	No
Fabaceae	Acacia plectocarpa subsp. plectocarpa A.Cunn. ex Benth.	-	No	No	No	No
Fabaceae	Acacia sericata A.Cunn. ex Benth.	-	No	No	No	No
Fabaceae	Acacia stellaticeps Kodela, Tindale & D.Keith	-	No	No	No	No
Fabaceae	Acacia translucens Hook.	Poverty Bush	No	No	No	No
Fabaceae	Acacia tumida Benth.	-	No	No	No	No
Fabaceae	Acacia tumida var. tumida Benth.	Pindan Wattle	No	No	No	No
Fabaceae	Acacia gardneri Maiden & Blakely	-	No	No	No	No
Fabaceae	Aeschynomene indica L.	Budda Pea	No	No	No	No
Fabaceae	Albizia lebbeck (L.) Benth.	-	No	No	No	Yes/No
Fabaceae	Albizia procera (Roxb.) Benth.	-	No	No	No	No
Fabaceae	Bossiaea bossiaeoides (A.Cunn. ex Benth.) Court	Bossiaea	No	No	No	No
Fabaceae	Crotalaria alata Buch.-Ham. ex D.Don	-	No	No	No	No
Fabaceae	Crotalaria montana Roxb. ex Roth	-	No	No	No	No
Fabaceae	Crotalaria novae-hollandiae subsp. crassipes (Hook.) A.E.Holland	New Holland Rattlepod	No	No	No	No
Fabaceae	Crotalaria ramosissima Roxb.	-	No	No	No	No
Fabaceae	Cullen badocanum (Blanco) Verdc.	-	No	No	No	No
Fabaceae	Daviesia reclinata A.Cunn. ex Benth.	-	No	No	No	No
Fabaceae	Erythrophleum chlorostachys (F.Muell.) Baill.	Ironwood	No	No	No	No
Fabaceae	Jacksonia forrestii F.Muell.	-	No	No	No	No
Fabaceae	Lysiphyllum cunninghamii (Benth.) de Wit	Bauhinia	No	No	No	No
Fabaceae	Sesbania formosa (F.Muell.) N.T.Burb.	White Dragon Tree	No	No	No	No
Fabaceae	Stylosanthes scabra Vogel	-	No	No	No	**YES**
Fabaceae	Tephrosia aff. sp. Mistake Creek (A.C. Beauglehole 54424)	-	No	No	**P3**	No
Fabaceae	Tephrosia oblongata R.Br. ex Benth.	-	No	No	No	No
Fabaceae	Tephrosia rosea Benth.	Flinders River Poison	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Fabaceae	Tephrosia sp. E Kimberley Flora (C.A. Gardner 9937)	-	No	No	No	No
Fabaceae	Vachellia pachyphloia subsp. pachyphloia (W.Fitzg.) Kodela	-	No	No	No	No
Fabaceae	Vachellia suberosa (Benth.) Kodela	Corkybark Wattle	No	No	No	No
Gentianaceae	Canscora diffusa (Vahl) R.Br. ex Roem. & Schult.	-	No	No	No	No
Goodeniaceae	Antigone rubicunda Benth.	Red Anthotium	No	No	No	No
Goodeniaceae	Goodenia aff. heppleana	-	No	No	No	No
Goodeniaceae	Goodenia bicolor F.Muell. ex Benth.	-	No	No	No	No
Goodeniaceae	Goodenia heppleana (W.Fitzg.) Carolin	-	No	No	No	No
Goodeniaceae	Goodenia lamprosperma F.Muell.	-	No	No	No	No
Goodeniaceae	Goodenia sepalosa var. sepalosa Benth.	-	No	No	No	No
Haloragaceae	Gonocarpus chinensis subsp. chinensis (Lour.) Orchard	-	No	No	No	No
Hemerocallidaceae	Dianella longifolia var. longifolia R.Br.	Blue Flax-lily	No	No	No	No
Hemerocallidaceae	Tricoryne sp. Kimberley (K.F.Kenneally 4857)	-	No	No	No	No
Hydrocharitaceae	Blyxa aubertii Rich.	-	No	No	No	No
Hydrocharitaceae	Blyxa octandra (Roxb.) Thwaites	-	No	No	No	No
Hydrocharitaceae	Vallisneria triptera S.W.L.Jacobs & K.A.Frank	-	No	No	No	No
Lamiaceae	Anisomeles farinacea A.R.Bean	-	No	No	No	No
Lamiaceae	Clerodendrum floribundum var. coriaceum (R.Br.) Moldenke	-	No	No	No	No
Lamiaceae	Clerodendrum floribundum var. ovatum (R.Br.) Domin	-	No	No	No	No
Lamiaceae	Clerodendrum tomentosum var. tomentosum (Vent.) R.Br.	-	No	No	No	No
Lamiaceae	Coleus scutellarioides (L.) Benth.	-	No	No	No	No
Lamiaceae	Pogostemon stellatus (Lour.) Kuntze	-	No	No	No	No
Lamiaceae	Premna acuminata R.Br.	Ngalinginkal	No	No	No	No
Lauraceae	Cassytha capillaris Meisn.	-	No	No	No	No
Lauraceae	Cassytha filiformis L.	Love Vine	No	No	No	No
Lecythidaceae	Planchonia careya (F.Muell.) R.Knuth	Mangaloo	No	No	No	No
Lentibulariaceae	Utricularia chrysantha R.Br.	Sun Bladderwort	No	No	No	No
Lentibulariaceae	Utricularia muelleri Kamienski	-	No	No	**P3**	No
Lentibulariaceae	Utricularia nivea Vahl	-	No	No	No	No
Lentibulariaceae	Utricularia lasiocaulis F.Muell.	-	No	No	No	No
Linderniaceae	Lindernia tectanthera W.R.Barker	-	No	No	No	No
Loganiaceae	Mitrasacme galbina Dunlop	-	No	No	No	No
Loganiaceae	Mitrasacme nummularia S.Moore	-	No	No	No	No
Loganiaceae	Strychnos lucida R.Br.	Strychnine Bush	No	No	No	No
Loranthaceae	Lysiana spathulata subsp. spathulata (Blakely) Barlow	-	No	No	No	No
Lygodiaceae	Lygodium microphyllum (Cav.) R.Br.	Climbing Maidenhair	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Lythraceae	Rotala occultiflora Koehne	-	No	No	No	No
Malvaceae	Adansonia gregorii F.Muell.	Boab	No	No	No	No
Malvaceae	Brachychiton diversifolius subsp. diversifolius R.Br.	Northern Kurrajong	No	No	No	No
Malvaceae	Brachychiton viscidulus (W.Fitzg.) Guymer	-	No	No	No	No
Malvaceae	Decaschistia occidentalis Craven & Fryxell	-	No	No	No	No
Malvaceae	Grewia breviflora Benth.	-	No	No	No	No
Malvaceae	Grewia savannicola R.L.Barrett	-	No	No	No	No
Malvaceae	Helicteres cf. rhynchocarpa	-	No	No	No	No
Malvaceae	Helicteres rhynchocarpa W.Fitzg.	-	No	No	No	No
Malvaceae	Hibiscus austrinus var. austrinus Juswara & Craven	-	No	No	No	No
Malvaceae	Hibiscus geranioides A.Cunn. ex Benth.	-	No	No	No	No
Malvaceae	Hibiscus marenitensis Craven, F.D.Wilson & Fryxell	-	No	No	**P3**	No
Malvaceae	Hibiscus meraukensis Hochr.	Merauke Hibiscus	No	No	No	No
Malvaceae	Sida rohlenae subsp. Rohlenae Domin	-	No	No	No	No
Malvaceae	Triumfetta albida (F.Muell. ex Domin) Halford	-	No	No	No	No
Malvaceae	Triumfetta aquila Halford	-	No	No	No	No
Malvaceae	Triumfetta reflexa W.Fitzg.	-	No	No	No	No
Malvaceae	Triumfetta ryeae Halford	-	No	No	No	No
Malvaceae	Triumfetta sp.	-	Uncertain	Uncertain	Uncertain	No
Malvaceae	Triumfetta triandra Sprague & Hutch.	-	No	No	No	No
Malvaceae	Waltheria indica L.	-	No	No	No	No
Melastomataceae	Melastoma affine D.Don	-	No	No	No	No
Melastomataceae	Osbeckia australiana Naudin	-	No	No	No	No
Meliaceae	Owenia vernicosa F.Muell.	Emu Apple	No	No	No	No
Menyanthaceae	Nymphoides aurantiaca (Dalzell) Kuntze	Marshwort	No	No	No	No
Menyanthaceae	Nymphoides indica (L.) Kuntze	-	No	No	No	No
Menyanthaceae	Nymphoides minima (F.Muell.) Kuntze	-	No	No	No	No
Menyanthaceae	Nymphoides quadriloba Aston	-	No	No	No	No
Montiaceae	Calandrinia uniflora F.Muell.	-	No	No	No	No
Moraceae	Ficus aculeata var. indecora (A.Cunn. ex Miq.) D.J.Dixon	Ranji	No	No	No	No
Moraceae	Ficus atricha D.J.Dixon	-	No	No	No	No
Moraceae	Ficus congesta var. congesta Roxb.	-	No	No	No	No
Moraceae	Ficus hispida var. hispida L.f.	-	No	No	No	No
Moraceae	Ficus platypoda or Ficus cervasicarpa	Native Fig/-	No	No	No	No
Moraceae	Ficus virens var. virens Aiton	Albayi	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Myrtaceae	Calytrix achaeta (F.Muell.) Benth.	-	No	No	No	No
Myrtaceae	Calytrix brownii (Schauer) Craven	-	No	No	No	No
Myrtaceae	Calytrix exstipulata DC.	Kimberley Heather	No	No	No	No
Myrtaceae	Corymbia polycarpa (F.Muell.) K.D.Hill & L.A.S.Johnson	-	No	No	No	No
Myrtaceae	Eucalyptus camaldulensis subsp. obtusa (Blakely) Brooker & M.W.McDonald	Blunt-budded River Red Gum	No	No	No	No
Myrtaceae	Eucalyptus houseana W.Fitzg. ex Maiden	Kimberley White Gum	No	No	No	No
Myrtaceae	Eucalyptus tetrodonta F.Muell.	Darwin Stringybark	No	No	No	No
Myrtaceae	Lophostemon grandiflorus subsp. riparius (Domin) Peter G.Wilson & J.T.Waterh.	-	No	No	No	No
Myrtaceae	Melaleuca argentea W.Fitzg.	Silver Cadjeput	No	No	No	No
Myrtaceae	Melaleuca leucadendra (L.) L.	-	No	No	No	No
Myrtaceae	Melaleuca minutifolia F.Muell.	Tea Tree	No	No	No	No
Myrtaceae	Melaleuca viridiflora Sol. ex Gaertn.	Broadleaf Paperbark	No	No	No	No
Myrtaceae	Verticordia cunninghamii Schauer	Tree Featherflower	No	No	No	No
Myrtaceae	Verticordia verticillata Byrnes	Featherflower	No	No	No	No
Nephrolepidaceae	Nephrolepis biserrata (Sw.) Schott	-	No	No	No	No
Nymphaeaceae	Nymphaea lukei S.W.L.Jacobs & Hellq.	-	No	No	No	No
Nymphaeaceae	Nymphaea violacea Lehm.	-	No	No	No	No
Oleaceae	Jasminum didymum subsp. didymum G.Forst.	-	No	No	No	No
Onagraceae	Ludwigia octovalvis (Jacq.) P.H.Raven	Willow Primrose	No	No	No	No
Orchidaceae	Cymbidium canaliculatum R.Br.	Channel-leaf Cymbidium	No	No	No	No
Orobanchaceae	Buchnera asperata R.Br.	-	No	No	No	No
Orobanchaceae	Buchnera urticifolia R.Br.	-	No	No	No	No
Pandanaceae	Pandanus spiralis R.Br.	Screwpine	No	No	No	No
Pandanaceae	Pandanus spiralis var. spiralis R.Br.	Screwpine	No	No	No	No
Passifloraceae	Passiflora foetida L.	Stinking Passion Flower	No	No	No	**YES**
Philydraceae	Philydrum lanuginosum Banks ex Gaertn.	Frogsmouth	No	No	No	No
Phrymaceae	Mimulus gracilis R.Br.	-	No	No	No	No
Phrymaceae	Uvedalia linearis var. linearis R.Br.	-	No	No	No	No
Phyllanthaceae	Breynia cernua (Poir.) Müll.Arg.	-	No	No	No	No
Phyllanthaceae	Cathetus virgatus (G.Forst.) R.W.Bouman	-	No	No	No	No
Phyllanthaceae	Flueggea virosa subsp. melanthesoides (F.Muell.) G.L.Webster	Dogwood	No	No	No	No
Phyllanthaceae	Glochidion disparipes Airy Shaw	-	No	No	No	No
Phyllanthaceae	Lysiandra arida (Benth.) R.W.Bouman	-	No	No	No	No
Picrodendraceae	Petalostigma pubescens Domin	-	No	No	No	No
Plantaginaceae	Limnophila australis Wannan & J.T.Waterh.	-	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Plantaginaceae	Limnophila fragrans (G.Forst.) Seem.	-	No	No	No	No
Plantaginaceae	Limnophila sp.	-	Uncertain	Uncertain	Uncertain	Uncertain
Plantaginaceae	Stemodia lythrifolia F.Muell. ex Benth.	Bunu Bunu	No	No	No	No
Plumbaginaceae	Plumbago zeylanica L.	Native Plumbago	No	No	No	No
Poaceae	Alloteropsis semialata (R.Br.) Hitchc.	Cockatoo Grass	No	No	No	No
Poaceae	Aristida holathera Domin	-	No	No	No	No
Poaceae	Arundinella nepalensis Trin.	Reedgrass	No	No	No	No
Poaceae	Cenchrus elymoides F.Muell.	-	No	No	No	No
Poaceae	Dichanthium sericeum subsp. polystachyum (Benth.) B.K.Simon	-	No	No	No	No
Poaceae	Dimeria ornithopoda Trin.	-	No	No	No	No
Poaceae	Elytrophorus spicatus (Willd.) A.Camus	Spikegrass	No	No	No	No
Poaceae	Eragrostis ? leporina (R.Br.) R.L.Barrett & P.M.Peterson	Hare's-foot Grass	No	No	No	No
Poaceae	Eragrostis fallax Lazarides	-	No	No	No	No
Poaceae	Eragrostis leporina (R.Br.) R.L.Barrett & P.M.Peterson	Hare's-foot Grass	No	No	No	No
Poaceae	Eragrostis potamophila Lazarides	-	No	No	No	No
Poaceae	Eriachne festucacea F.Muell.	Plains Wandarrie Grass	No	No	No	No
Poaceae	Eriachne nodosa Lazarides	-	No	No	No	No
Poaceae	Eriachne obtusa R.Br.	Northern Wandarrie Grass	No	No	No	No
Poaceae	Eriachne pauciflora W.Fitzg.	-	No	No	No	No
Poaceae	Eriachne sulcata W.Hartley	-	No	No	No	No
Poaceae	Eulalia aurea (Bory) Kunth	-	No	No	No	No
Poaceae	Germainia truncatiglumis (F.Muell. ex Benth.) Chai-Anan	-	No	No	No	No
Poaceae	Heteropogon contortus (L.) P.Beauv. ex Roem. & Schult.	Bunch Speargrass	No	No	No	No
Poaceae	Ischaemum australe var. arundinaceum (F.Muell. ex Benth.) B.K.Simon	Large Bluegrass	No	No	No	No
Poaceae	Mnesithea rottboellioides (R.Br.) de Koning & Sosef	-	No	No	No	No
Poaceae	Oryza rufipogon Griff.	Red Rice	No	No	No	No
Poaceae	Panicum decompositum R.Br.	Native Millet	No	No	No	No
Poaceae	Panicum trachyrhachis Benth.	-	No	No	No	No
Poaceae	Paspalum scrobiculatum L.	Scrobic	No	No	No	No
Poaceae	Pseudopogonatherum contortum (Brongn.) A.Camus	-	No	No	No	No
Poaceae	Pseudopogonatherum irritans (R.Br.) A.Camus	-	No	No	No	No
Poaceae	Pseudoraphis spinescens (R.Br.) Vickery	Spiny Mudgrass	No	No	No	No
Poaceae	Sacciolepis indica (L.) Chase	Indian Cupscale Grass	No	No	No	No
Poaceae	Sorghum plumosum (R.Br.) P.Beauv.	Plume Canegrass	No	No	No	No
Poaceae	Sorghum stipoideum (Ewart & Jean White) C.A.Gardner & C.E.Hubb.	Annual Sorghum	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Poaceae	Themeda cf. triandra	-	No	No	No	No
Poaceae	Themeda triandra Forssk.	-	No	No	No	No
Poaceae	Triodia aff. bynoei	-	No	No	No	No
Poaceae	Triodia bitextura Lazarides	-	No	No	No	No
Poaceae	Triodia caelestialis G.Armstrong	-	No	No	No	No
Poaceae	Triodia epactia S.W.L.Jacobs	-	No	No	No	No
Poaceae	Triodia longiloba Lazarides	-	No	No	No	No
Poaceae	Whiteochloa airoides (R.Br.) Lazarides	-	No	No	No	No
Polygonaceae	Persicaria attenuata subsp. attenuata (R.Br.) Sojak	-	No	No	No	No
Proteaceae	Banksia dentata L.f.	Tropical Banksia	No	No	No	No
Proteaceae	Grevillea agrifolia subsp. agrifolia R.Br.	Blue Grevillea	No	No	No	No
Proteaceae	Grevillea parallela Knight	-	No	No	No	No
Proteaceae	Grevillea pteridifolia Knight	Silky Grevillea	No	No	No	No
Proteaceae	Grevillea refracta R.Br.	Silver-leaf Grevillea	No	No	No	No
Proteaceae	Hakea arborescens R.Br.	Common Hakea	No	No	No	No
Pteridaceae	Pteris platyzomopsis Christenh. & H.Schneid.	-	No	No	No	No
Rhamnaceae	Alphitonia oblata A.R.Bean	-	No	No	No	No
Rubiaceae	Aidia racemosa (Cav.) Tirveng.	-	No	No	No	No
Rubiaceae	Gardenia ewartii subsp. fitzgeraldii Puttock	-	No	No	No	No
Rubiaceae	Nauclea orientalis (L.) L.	Leichhardt Tree	No	No	No	No
Rubiaceae	Psydrax pendulina S.T.Reynolds & R.J.F.Hend.	-	No	No	No	No
Rubiaceae	Scleromitrion galioides (F.Muell.) K.L.Gibbons	-	No	No	No	No
Rubiaceae	Scleromitrion scleranthoides (F.Muell.) K.L.Gibbons	-	No	No	No	No
Rubiaceae	Spermacoce aff. lignosa/breviflora	-	No	No	No	No
Rubiaceae	Timonius timon (Spreng.) Merr.	-	No	No	No	No
Santalaceae	Exocarpos latifolius R.Br.	Broad-leaved Cherry	No	No	No	No
Santalaceae	Santalum lanceolatum R.Br.	Northern Sandalwood	No	No	No	No
Sapindaceae	Atalaya variifolia (F.Muell.) Benth.	Wingleaf Whitewood	No	No	No	No
Sapindaceae	Dodonaea hispidula subsp. phylloptera (F.Muell.) M.G.Harr.	-	No	No	No	No
Sapotaceae	Sersalisia sericea (Aiton) R.Br.	Nangi	No	No	No	No
Solanaceae	Solanum cataphractum A.Cunn. ex Benth.	-	No	No	**P3**	No
Stylidiaceae	Stylidium adenophorum Lowrie & Kenneally	-	No	No	No	No
Stylidiaceae	Stylidium cordifolium W.Fitz.	-	No	No	No	No
Stylidiaceae	Stylidium floribundum R.Br.	-	No	No	No	No
Stylidiaceae	Stylidium irriguum W.Fitzg.	-	No	No	No	No

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/ Territory)	Exotic/ pest
Stylidiaceae	Stylidium mucronatum Lowrie & Kenneally	-	No	No	No	No
Stylidiaceae	Stylidium rotundifolium R.Br.	-	No	No	No	No
Stylidiaceae	Stylidium aff. sp. Kings Cascade (K.F. Kenneally 11173)	-	No	Uncertain	Uncertain	No
Stylidiaceae	Stylidium sp. (aff. H.I. Aston 2553)	-	No	Uncertain	Uncertain	No
Xyridaceae	Xyris complanata R.Br.	-	No	No	No	No
Xyridaceae	Xyris indica L.	-	No	No	No	No

Appendix 2. Flora survey sites during the Wilinggin-West Kimberley Bush Blitz

Site B30: Donkey Springs/Donkey Yard Hole pools, Charnley River-Artesian Range Wildlife Sanctuary

-16.655248°S 125.488450°E (GDA94)

19th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Nicole Godfrey

Site Description: Riparian woodland and sandstone woodland adjacent to permanent pools along Donkey Creek, with low sandstone rises and some boulder fields. *Eucalyptus miniata* and *Eucalyptus houseana* woodland, over tall shrubs – low trees of *Gardenia ewartii* subsp. *fitzgeraldii*, *Buchanania oblongifolia*, *Terminalia hadleyana*, *Petalostigma pubescens*, *Terminalia canescens*, *Acacia tumida* var. *tumida, Dodonaea hispidula*, *Sorghum stipoideum* and *Eriachne pauciflora*.

Figure A1: Site B30 on the low sandstone outcrop, where Ben Anderson photographs a *Brachychiton* flower.

Site B22: Lake Gilbert, Charnley River-Artesian Range Wildlife Sanctuary

-16.561556°S 125.276618°E (GDA94)

20th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Sherwon Nulgit, Lee Nulgit

Site Description: Perched semi-permanent lake / floodplain swamp on sandstone plateau with *Eleocharis sundaica* dominated sedgeland and fringed by *Melaleuca viridiflora* swamp shrubland and grasslands. Full at the time of survey, herbs, sedges and aquatic plants were collected on the margins of, and within, the lake

Figure A2: Aerial view of Lake Gilbert on the approach to Site B22, showing the floodplain wetland on the sandstone plateau which was still inundated well into the dry season.

Figure A3: An example of the aquatic flora found at Lake Gilbert, the stunning waterlily *Nymphaea violacea.*

Site B23: Donkey Creek, Packhorse Range, Wilinggin IPA

-16.652325°S 125.667582°E (GDA94)

21st July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Nigel Nulgit

Site Description: Permanent pools along ephemeral river (Donkey Creek) which is reduced to dry creek beds and pools in the dry season. Riparian woodland of tall (30-35m) *Melaleuca leucadendra* trees over 15-20m *Grevillea pteridifolia* trees, adjacent to open savanna woodland of *Eucalyptus miniata, Corymbia grandifolia*/*latifolia*, *Eucalyptus tectifica* and *Corymbia polycarpa*, over *Terminalia hadleyana and Buchanania oblongifolia.* River banks

with tussocks of *Arundinella nepalensis*, *Mnesithea rottboellioides* and low trees of *Pandanus spiralis* scattered along the creek.

Figure A4: Site B23 along Donkey Creek, an intermittently flowering creek with dry sections of deep sandy creek beds and steep, sandy banks (top), and sections of flowing, permanent pools on rocky creek beds (bottom).

Standard Survey Site 2: Charnley Woodland, Charnley River-Artesian Range Wildlife Sanctuary

-16.502885°S 125.359749°E (GDA94)

22nd July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey

Site Description: Upper slope of hill in undulating sandstone landscape of open *Eucalyptus tetrodonta* woodland (15% cover) over low trees of *Buchanania obovata* (8-10m) and *Planchonia careya*, over very sparse shrubs of *Petalostigma pubescens* (1-3m), over a mid-dense ground stratum of *Triodia bitextura*, *Pseudopogonatherum irritans*, *Xyris complanata* and *Sorghum stipoideum* grassland.

Figure A5: Site SSS2, Charnley upper slope woodland, Charnley River-Artesian Range Wildlife Sanctuary.

Standard Survey Site 1: Grevillea Creek riparian woodland and surrounds

-16.489210°S 125.352471°E (GDA94)

23rd July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Annika Spiridis

Site Description: Riparian woodland-forest along margins of Grevillea Creek of *Eucalyptus tetrodonta*, *Corymbia polycarpa*, over *Banksia dentata, Petalostigma pubescens, Jacksonia forresti* and *Pandanus spiralis var. spiralis*, over mid-dense mixed shrubland and grassland of *Bossiaea bossiaeoides*, *Acacia nuperrima*, *Eriachne obtusa*, *Alloteropsis semialata*? and *Triodia bitextura*.

Permanent pool in Grevillea Creek, with floating, submerged and emergent aquatics, including *Nymphaea lukei, Nymphoides aurantiaca, Nymphoides indica* and *Eriocaulon setaceum*.

Figure A6: Site SSS1, riparian forest on the banks of Grevillea Creek, Charnley River-Artesian Range Wildlife Sanctuary.

Figure A7: Standard Survey Site 1, riparian forest on the banks of Grevillea Creek, Charnley River-Artesian Range Wildlife Sanctuary.

Black soil plain: near Potts Camp 2km north of Plot SSS1, Charnley River-Artesian Range Wildlife Sanctuary

-16.46746°S 125.354365°E (GDA94)

23rd July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Annika Spiridis

Site Description: Margin of black soil plain with scattered individual trees of *Corymbia bella* and *Eucalyptus tectifica,* over tall shrubs of *Vachellia suberosa* and *Hakea arborescens*, over a dense grassland of *Themeda triandra*, *Dichanthium sericeum* subsp. *polystachyum, Heteropogon contortus* and scattered tussocks of *Panicum decompositum*. Deep, black cracking clay soil with extensive gilgai.

Figure A8: Open woodland and dense grassland on the black soil plain near Potts Camp, Charnley River-Artesian Range Wildlife Sanctuary.

Figure A9: *Hibiscus austrinus* var. *austrinus* on the black soil plain, a taxon of interest in the *Hibiscus panduriformis* complex.

Standard Survey Site 3: Wunaamin Conservation Park Open Woodland

-17.048998°S 125.236115°E (GDA94)

24th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Annika Spiridis, Kerry Mazzotti

Site Description: An open woodland of *Corymbia polycarpa*, over mid-dense shrubland of *Grevillea pteridifolia* and *Melaleuca viridiflora* saplings, over dense grasslands/herb-field or *Xyris complanata*. and *Eriachne sulcata*. Woodland on the flanks of a sandstone range, on a gentle slope of colluvial deep clay sands.

Figure A10: Site SSS1 in Wunaamin Conservation Park

Silent Grove Spring: Wunaamin Conservation Park

-17.068112°S 125.247716°E (GDA94)

24th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Annika Spiridis, Kerry Mazzotti

Site Description: A small freshwater spring-fed pool adjacent to the Silent Grove campsites, in a creek flowing through a sandstone range. Supporting tall monsoon vine thicket/riparian forest of *Eucalyptus houseana*, *Melaleuca leucadendra, Livistona eastonii* and *Ficus virens;* over *Ficus hispida* var. *hispida*, *Timonius timon, Acacia holosericea, Albizia lebbeck, Alphitonia oblata* and *Pandanus spiralis*, over a dense lower layer of *Lygodium microphyllum*, *Ludwigia octandra*, *Schoenus* sp. and dense patches of *Heteropogon contorta.* The pool was dominated by the aquatics *Blyxa octandra* and *Nymphaea lukei.*

Figure A11: Annika Spiridis collects aquatic plants from the spring at Silent Grove camping and recreation area, in Wunaamin Conservation Park

Site A8: Riparian woodland, Diegul Creek area, Charnley River-Artesian Range Wildlife Sanctuary

-16.403088°S 125.440579°E (GDA94)

25th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Malcom Jungine, Lynette Hillier

Site Description: Collections were made along a transect into a deep gorge located south of Diegul Creek and feeding into the Diegul Creek Valley, with open savanna woodland and riparian forest. Top of gorge with *Eucalyptus* woodland (*E. houseana/E. tectifica*?), over *Terminalia canescens, Xanthostemon paradoxus* and *Buchanania oblongifolia*, over grassland of *Triodia* sp. and *Sorghum* sp. Stands of *Callitris columellaris* on margins of gorge, and gorge slopes with *Eucalyptus miniata* and *Terminalia hadleyana* woodland over *Sorghum* sp. grassland. Gorge valley floor/creekline vegetation lined with *Melaleuca leucadendra* and *Eucalyptus houseana* riparian forest, over shrubland of *Sersalisia sericea, Timonius timon, Grevillea pteridifolia* and *Osbeckia australiana*, over dense *Germainia truncatiglumis* tussock grassland. Drier river terraces dominated by *Erythrophleum chlorostachys* and *Terminalia hadleyana* woodland over tall shrubs of *Atalaya varifolia*, *Acacia tumida* var. *tumida, Hakea arborescens, Grevillea agrifolia*, and dense *Cenchrus elymoides* (and *Sorghum*? sp.) grassland.

Figure A12: The team repacking gear at the landing site before walking into the gorge at Site A8.

Figure A13: Walking along the creek's permanent pools under a riparian forest of *Melaleuca leucadendra* in the gorge at Site A8.

Figure A14: Shelley James and Lynette Hillier discuss the finer points of collecting botanical specimens at Site A8.

Site B17: Sundew Spring, near Bore 22, Charnley River-Artesian Range Wildlife Sanctuary

-16.45304741°S 125.389124°E (GDA94)

25th & 27th July 2022

Participants: Annika Spiridis, Helen Cross

Site Description: Freshwater spring/seep on shallow organic soils over sandstone platform. An unusual and uncommon site with seepage flowing well into the dry season. Herb-field of *Drosera* spp., *Utricularia* spp., *Mitrasacme subvolubilis*, *Dichanthium sericeum, Eriocaulon* sp., *Lindernia* sp. and other various sedges and grasses. Surrounded by woodland of *Eucalyptus houseana* over *Dichanthium sericeum* grassland.

Figure A15: Site B17, known as Sundew Spring for its abundance of *Drosera* species, is a freshwater seep on sandstone pavement that was still supporting pools of water in the dry season.

Site A25: Monsoon Vine Thicket patch, Wunaamin Conservation Park

-16.764950°S, 125.075236°E (GDA94)

26th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Annika Spiridis

Site Description: Transect into deep sandstone gorge with open savanna woodland, patches of monsoon vine thicket and riparian forest along the creek. Drier slopes of *Corymbia dendromerinx* woodland over *Sorghum* sp. Monsoon vine thicket patch of mixed woodland of *Corymbia latifolia/Corymbia cadophora*, *Adansonia gregorii*, *Lysiphyllum cunninghamii, Erythrophleum chlorostachys, Owenia vernicosa, Acacia tumida* var. *tumida, Lophostemon grandifolia*, *Sersalisia sericea*, *Canarium australianum* var. *velutinum*, *Buchanania oblongifolia*, *Pandanus spiralis*, *Xanthostemon paradoxus*, *Terminalia hadleyana*, *Timonius timon, Trema tomentosa* var. *aspera* and *Grevillea refracta* over patches of *Cenchrus elymoides.* Riparian forest canopy dominated by *Melaleuca leucadendra,* over *Ficus virens, Sersalisia sericea, Timonius timon* and *Lophostemon grandiflorus* subsp. *riparius*. On dry slopes, *s*avanna grassland of *Heteropogon contortus*, *Themeda triandra*, *Sorghum* sp., *Eriachne sulcata*, with *Triodia caelestialis* on rocks, all under a woodland of *Eucalyptus sp.*, with tall shrubs-low trees of *Hakea arborescens*, *Petalostigma pubescens*, and scattered but common *Cochlospermum fraseri.*

Figure A16: Aerial view on approach of the gorge and associated creek at Site A25.

Figure A17: Participants pack up their collections to head back to the helicopter at the landing site after collecting in the savanna woodland, monsoon vine thicket and riparian forest habitats of the gorge at Site A25.

Figure A18: The fruit of *Sersalisia sericea,* a distinctive and culturally significant species characteristic of riparian forests and monsoon vine thickets.

Site F18: Isdell River Waterfall, near junction with Deep Valley, Wilinggin IPA

-16.567977°S 124.927340°E (GDA94)

27th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Sarah Lacey, Jake Charters

Site Description: A small patch of monsoon vine thicket in a deep ravine bordering the Isdell River. Riparian vegetation consists of stands of *Melaleuca argentea* along sandy banks, with small patches of *Eucalyptus houseana* scattered over patches of *Alphitonia oblata*, *Nauclea orientalis, Lophostemon grandifolia*, *Pandanus spiralis*, *Acacia platycarpa*, *Sersalisia sericea*, *Timonius timon, Ficus* sp. and *Melastoma affine* on/around boulders on the banks and along the base of sandstone gorge walls. Further up the steep, boulder walls are patches of *Triodia* grassland, with scattered shrubs of *Hibbertia oblongata* subsp. *brevifolia, Stemodia lythrifolia* and *Solanum cataphractum,* and *Ficus atricha* is growing directly out of the rock walls. The main patch of the monsoon vine thicket consists of a thick, impenetrable stand of *Ficus virens* var. *virens*, *Ficus hispida* var. *hispida*, *Canarium australianum*, *Timonium timon*, *Alphitonia oblata*, *Homalanthus novo-guineensis*, over tangled *Capparis jacobsii* and dense growth of the ferns *Lygodium microphyllum* and *Stenochlaena palustris.*

Figure A19: The patch of monsoon vine thicket located on the steep sides of the sandstone gorge at Site F18, as viewed from below.

Figure A20: The team at the landing site for F18, working out a safe strategy for collection.

Figure A21: *Melastoma affine*, a common shrub in the monsoon vine thicket at F18 and notable for its vibrant pink, bee-pollinated flowers and being characteristic of northern tropical rainforests.

Site B24: Permanent Pool in Oonbiet Creek on the Synnot Range, Charnley River-Artesian Range Wildlife Sanctuary

-16.635977°S 125.182105°E (GDA94)

28th July 2022

Participants: Ben Anderson, Shelley James, Adrienne Markey, Lee Nulgit, Karen Young

Site Description: Intermittently flowing creek with permanent pools in the dry season flowing through an upland plateau of sandstone. Surrounding savanna woodland. Seasonally wet cracking clays. Soils grey. Cattle-pugged soils. *Eucalyptus tectifica/Corymbia bella* woodland with scattered *Terminalia hadleyana*, *Hakea arborescens, Melaleuca minutifolia*, *Lysiphyllum* (*Bauhinia*) *cunninghamii*, *Melaleuca viridiflora*, over grassland of *Themeda triandra*, *Eriachne sulcata*, *Heteropogon contorta*, and scattered low shrubs of *Grewia savannicola*. Herbs of *Nelsonia campestris* and *Blumea integrifolia*, *Cyperus* sp. and other sedges are scattered under grasses on the cracking grey soils.

The pools are fringed with a riparian forest of *Melaleuca viridiflora, Melaleuca leucadendra, Pandanus spiralis, Ficus aculeata, Timonius timon, Glochidion disparipes, Lophostemon grandifolia, Acacia tumida* var. *tumida* and *Acacia neurocarpa* over tussocks of *Heteropogon contortus*. The pool supports a thick growth of the aquatics *Nymphaea lukei, Nymphoides indica, Nymphoides aurantiaca, Pogostemon stellatus, Eriocaulon setaceum and Limnophila australis*. Where the creek becomes shallow and remains as damp patches, there are small patches of herbs (*Uvedalia linearis*), the grass *Dimeria ornithopoda* and the sedge, *Rhynchospora* sp.

Low sandstone pavements near the creek support a low open woodland of *Corymbia cadophora* and *Acacia* sp. over dense *Sorghum* sp., with tall shrubs of *Calytrix exstipulata,*

Verticordia cunninghamii, Grevillea refracta, Tephrosia spp., and low shrubs of *Corchorus* sp., over *Triodia* spp. and *Eriachne nodosa.*

Figure A22: Aerial view of Site B24: a permanent pool in Oonbiet Creek that was identified from satellite imagery.

Figure A23: The permanent pool at Site B24, fringed by riparian forest and with floating aquatic plants along the margins.

Figure A24: A narrow, shallow section of Oonbiet Creek near the permanent pool, fringed by *Themeda triandra* grassland and with damp margins supporting annual herbs and sedges (Cyperaceae).

Figure A25: Ben Anderson and Karen Young collect in the open *Corymbia cadophora* and *Acacia* sp. woodland on a low sandstone pavement and outcrop near the creek.