Jawoyn Country Bush Blitz

Hymenoptera

(excluding Formicidae)

31 March to 11 April 2025

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Nomenclature and taxonomy used in this report is consistent with:

The Australian Faunal Directory (AFD)

(except for some recent updates to Chalcidoidea which follow Burks et al. 2022: https://doi.org/10.3897/jhr.94.94263)

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Ben Parslow	South Australian Museum	Evanioidea, Hymenoptera	Assistance with identifications
Tiahni Bament	The University of Adelaide	DNA barcoding	DNA barcoding of Ichneumonoidea, Chalcidoidea and Platygastroidea
Mollie-Rosae Slater-Baker	The University of Adelaide	Rogadinae	Identification of Rogadinae specimens
Maddi Giannotta	Australian National University	Mutilidae	Identification of a mutilid specimen
Olivia Portmann	The University of Adelaide	Paraphylax	Identification of a Paraphylax specimen

Abstract

Jawoyn Country was an incredibly special place to survey Hymenoptera, particularly at the end of the wet season. A variety of collection methods, including sweep-netting, light trapping, and Malaise traps, were used over the five days for which Hymenoptera was a focus. More than 300 specimens of non-ant Hymenoptera were collected during the survey, representing >100 unique taxa. Eleven taxa were identified to species level, two of which are new records for the Northern Territory. DNA barcoding of the superfamilies Chalcidoidea, Platygastroidea and Ichneumonoidea suggests there are >80 molecular operational taxonomic units across those superfamilies. Three species are confirmed as undescribed and new to science, with many others likely present within the collections; this will require further taxonomic research to confirm.

1. Introduction

The order Hymenoptera contains ants, bees, wasps and sawflies. Despite being essential for ecosystem functioning as pollinators, parasitoids, and predators, many groups are vastly understudied in Australia. It is estimated that less than 30% of Australia's estimated 44,000 species of Hymenoptera are described.

The Formicidae (ants) collected on Jawoyn Country Bush Blitz are covered in a separate report. Anthophila (bees) are generally not identified here past 'Anthophila' as they are outside the expertise of the report author. The remaining ~68 families of wasp and sawfly are covered in this report, with particular emphasis on the groups for which with report author had adequate knowledge to identify accurately. The survey methods mostly focussed on parasitoids or general hymenopteran collection. It should be noted that the survey-participant focussing on wasp collection (Erinn Fagan-Jeffries) was only present for the first five days of the survey; whilst Malaise traps were run into the second week, the volume and coverage of Hymenoptera vouchered from this survey was impacted by the short time-frame of active collection.

As of 14 July 2025, the Atlas of Living Australia holds 214 spatially-valid records of Hymenoptera (excluding Formicidae) (Fig. 1; purple points), encompassing 98 taxa from 21

different families; 52 taxa (mostly from the families Apidae, Colletidae, Sphecidae and Vespidae) are identified to species level. The vast majority of these records are clustered close to the township of Katherine.

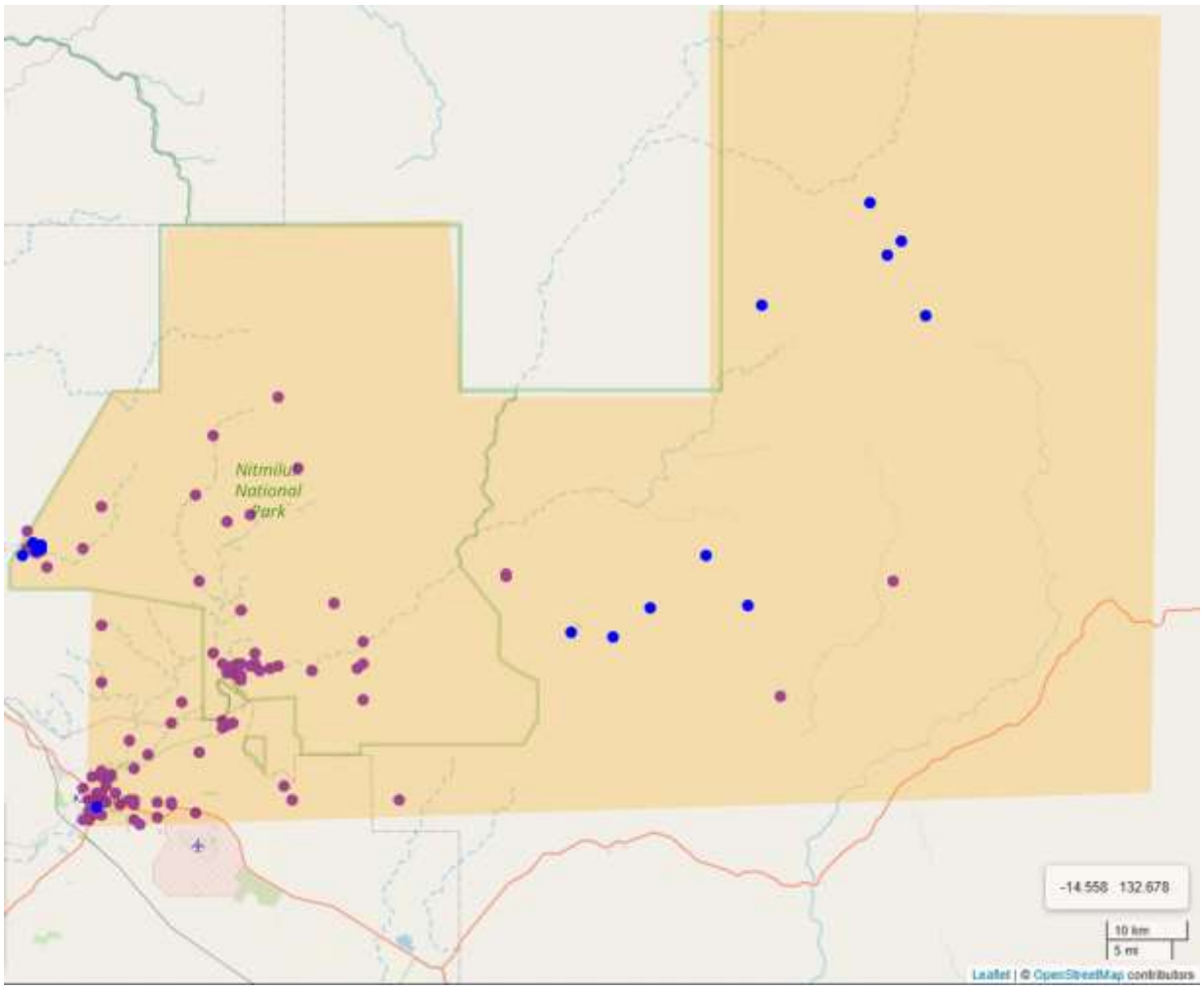


Fig. 1: Current distribution of hymenopteran (excluding Formicidae) records on the Atlas of Living Australia (downloaded 14 July 2025), represented by purple points. Blue points represent new hymenopteran records collected during this Bush Blitz survey. The approximate survey area is represented by the orange polygon.

2. Methods

2.1 Site selection

Sites were selected to try to cover a broad range of habitats and geographic spread, although sites with flowering plants were prioritised due to the likelihood of increasing the amount collected if sweep netting is done at floral resources vs non-flowering vegetation. Both standard survey sites were visited in the four and a half days of collecting, along with several sites visited by helicopter (Fig. 1; blue points show the sites surveyed for Hymenoptera).

2.2 Survey techniques

Various survey techniques were used to sample as much diversity as possible, and included:

- Contact sweep netting of vegetation (Fig. 2A).
- Active collection of wasps on the ground or trunk/branches of trees.
- Active collecting at a Lepi-LED light at base camp (Fig. 2B).

- Two standard Townes style Malaise traps, and one SLAM trap (Fig. 3).

Samples were collected into 70-100% ethanol and kept cold in a fridge or freezer for the duration of the expedition.



Fig. 2: **A)** Survey participants retrieving a wasp from a sweep net; **B)** The Lepi-LED light at base camp.



Fig. 3: Malaise traps at: **A)** SSS1 near Manyallaluk, **B)** SSS2 in Nitmiluk National Park, near the river in Nitmiluk NP, **B)** SLAM trap near the border for Nitmiluk National Park.

2.2.1 Methods used at standard survey sites

Both standard survey sites were visited by the survey author and other expedition members with a team of people (either Jawoyn rangers, National Park rangers, or teachers). A Townes-style Malaise trap was placed at each site for as long as possible (~6 days) during the expedition. At each site, sweep-netting of vegetation and direct searching was conducted for at least half an hour.

2.3 Identifying the collections

Bulk samples were firstly sorted to order level, and then to superfamily or family level.

Most specimens of the superfamilies Chalcidoidea, Platygastroidea and Ichneumonoidea (n= 222) underwent rapid-DNA barcoding of the COI gene using the pipeline developed in the SARFMEE labs at The University of Adelaide. Sequences were sorted into Molecular Operational Taxonomic Units (MOTUs) using a 2.5% divergence level. Sequences were compared against references databases (Gebank or BOLD) using BLAST (Genbank) or the

BOLD identification portal. Identifications and MOTU delimitation were confirmed using coarse morphology.

For all other superfamilies, specimens were identified as far as reasonably possible in the timeframe (e.g. subfamily, genus, or species level) using a variety of resources including comparison of specimens to observations on iNaturalist and The Atlas of Living Australia.

Heraty & Woolley (2025) was used to identify Chalcidoidea; online fact sheets hosted by the Western Australian Museum was used to identify *Stilbum cyanurum* and *Sceliphron laetum* to species level (Western Australian Museum, n.d.). Kittel & Austin (2014) was used to identify Cheloninae to genus level, Kittel et al. (2014) was used for the genus *Phanerotomella* whilst Belokobylskij & Zaldívar-Riverón (2021) was used to key Rhaconotini specimens to genus level. Belokobylskij (1992) was used to key the pamboline to genus level. Gauld (1994) was referred to for Ichneumonidae.

Several specimens of Sphecidae, Crabronidae, and Evaniidae were identified to genus level by Ben Parslow. A specimen of Mutillidae was identified past family level by Madalene Giannotta. Rogadinae (Braconidae) were identified by Mollie-Rosae Slater-Baker. The *Paraphylax* species was identified by Olivia Portmann.

3. Results and Discussion

Appendix 1 lists all Hymenoptera recorded during the Bush Blitz that were identified to species level, morphospecies or MOTU. Collections of Hymenoptera made during this Bush Blitz will result in 309 specimens being added to public collections and an equivalent number of records being added to publicly accessible databases. Of the 309 specimens included in this report, 51 specimens are not identified beyond order level (generally microhymenopterans). At least 118 different taxa from 28 different families were collected; eleven were able to be identified as a described species, whilst 107 taxa were identified as either unique morphospecies or MOTUs.

There were very few flowering plants located and sampled during the survey; the low number of floral resources (likely due to the season and site selection) made surveying a high species diversity in a short time period difficult.

3.1 Un-named or not formalised taxa

As the Hymenoptera are a highly diverse group with limited taxonomic expertise in Australia, most specimens were not identified to species level, however DNA barcoding data assisted with determining the number of different molecular operational taxonomic units (MOTUs – a proxy for species) collected for many of the Chalcidoidea, Platygastroidea and Ichneumonoidea families. Details of the number of MOTUs and morphospecies for each taxon are included in Table 1; species able to be identified as a described species are listed in Appendix 1.

Table 1. Putatively un-named or not formalised taxa

Taxon	Comment
Apoidea: Apidae: Apinae	At least one species of *Tetragonula* is present in the collections.
Apoidea: Anthophila	Fourteen other specimens of Anthophila (bees) were collected, but not identified further.
Apoidea: Crabronidae	One species in each of the genera *Pison*, *Tachytes*, and *Trypoxylon* were collected, but not identified to morphospecies or MOTU. Four other specimens were not identified past family level.

Apoidea: Philanthidae: Cercerinae: *Cerceris*	At least one species (three specimens), not identified to morphospecies or MOTU.
Chalcidoidea	Four unique MOTUs that were not identified to family level.
Chalcidoidea: Encyrtidae	Three unique MOTUs that were not identified to genus level.
Chalcidoidea: Eucharitidae	One morphospecies that was not identified to genus level.
Chalcidoidea: Eulophidae	Ten unique MOTUs that were not identified to genus level.
Chalcidoidea: Eulophidae: Eulophinae	Two unique MOTUs that were not identified to genus level.
Chalcidoidea: Eupelmidae	Eight unique MOTUs that were not identified to genus level.
Chalcidoidea: Eurytomidae	Five unique MOTUs that were not identified to genus level.
Chalcidoidea: Megastigmidae	One MOTU that was not identified to genus level.
Chalcidoidea: Myrmaridae	Two unique MOTUs that were not identified to genus level.
Chalcidoidea: Pirenidae	One MOTU that was not identified to genus level.
Chalcidoidea: Pteromalidae	One MOTU that was not identified to genus level.
Chalcidoidea: Systasidae	One MOTU that was not identified to genus level.
Chalcidoidea: Torymidae	One MOTU that was not identified to genus level.
Chalcidoidea: Trichogrammatidae	One MOTU that was not identified to genus level.
Chrysidoidea: Bethylidae	One morphospecies that was not identified to genus level
Chrysidoidea: Dryinidae	One morphospecies that was not identified to genus level
Cynipoidea: Figitidae	One morphospecies that was not identified to genus level
Evanoidea: Evaniidae	At least three morphospecies, one which was identified as the genus *Szepligetiella*
Ichneumonoidea: Braconidae: Braconinae	Three MOTUs, one which was identified as the genus *Bracon*
Ichneumonoidea: Braconidae: Cheloninae	Seven MOTUs within the genus *Phanerotoma*, one within *Phanerotomella*.
Ichneumonoidea: Braconidae: Doryctinae	Six MOTUs; one identified as the genus *Ipodorytes,* two as *Rhaconotus*, two as *Spathius*
Ichneumonoidea: Braconidae: Microgastrinae	Two MOTUs, one each of *Dolichogenidea* and *Microplitis*. The *Dolichogenidea* species is not any of the species described in the last decade, but has not yet been compared to historical descriptions/types.
Ichneumonoidea: Braconidae: Pambolinae	One MOTU not identified to genus level.
Ichneumonoidea: Braconidae: Rogadinae: *Aleoides*	Two MOTUs and two additional specimens (not sequenced).

Ichneumonoidea: Braconidae: Telengaiinae	One MOTU, not identified to genus level.
Ichneumonoidea: Ichneumonidae: Cremastinae: *Temelucha*	One MOTU, not identified to species level.
Ichneumonoidea: Ichneumonidae: Ophioninae	One morphospecies in the genus *Dicamptus.*
Ichneumonoidea: Ichneumonidae: Phygadeuontinae	*Paraphylax* BBJA_sp1 is an undescribed species currently being described as part of an ABRS funded project, this is the first record from the NT (known from other states).
Platygastroidea: Platygastridae	One MOTU, not identified to genus level.
Platygastroidea: Scelionidae	Thirteen MOTUs, not identified to genus level.
Tenthredinoidea: Pergidae	Two morphospecies, not identified to genus level.
Vespoidea: Mutilidae	At least three morphospecies, one identified as: Australotilla sensu lato, the others not identified past family level.
Vespoidea: Pompilidae	Three morphospecies, not identified to subfamily or genus level.
Vespoidea: Scoliidae	Two morphospecies, not identified to subfamily or genus level.
Vespoidea: Thynnidae	Four morphospecies, not identified to subfamily or genus level.
Vespoidea: Vespidae: Eumeninae	Four morphospecies: two not identified to subfamily, one within subfamily Eumeninae, one within Polistinae, genus *Ropalidia*.

3.2 Species new to science

In this report, 'species new to science' means species that were not recognised by Western science before this Bush Blitz. It is highly likely that many of the taxa in section 3.1 are undescribed species (new to science), however it will require dedicated taxonomic projects in each subfamily to key and compare each specimen to historical resources and type material. The species below were able to be determined as highly likely to be new species within the timeframe of this report, but we emphasise that many of the other species collected are also likely to be new.

Table 2. Species new to science

Species	Comment
Phanerotomella sp. BBJA_sp1 (Braconidae: Cheloninae)	This species does not resemble any of the described species of *Phanerotomella* from Australia. The species seems closely related to *P. nivistigma* per Kittel et al. (2015) but has the interocelli area black rather than yellow.
Spathius sp. BBJA_sp1 and sp. BBJA_sp2 (Braconidae: Doryctinae)	There is only one winged species of this genus described from Australia. The type is in the BMNH, and no images are available online. However, even if one of these species is conspecific to *Spathius kurandaensis* Nixon, 1943, the other will be undescribed.

3.3 Introduced species

The only known pest species observed was *Apis mellifera*, the European honey bee. This species is commercially used in agriculture in Australia but may compete with native insect species in native environments. Care should be taken to ensure feral colonies are eradicated.

Table 3. Introduced species recorded			
Introduced species	**Location sighted/observed**	**Indication of abundance**	**Comments**
Apis mellifera	Nitmiluk NP along the Jatbula trail	Two individuals	Two individuals were caught at the standard survey site whilst sweep netting.

3.4 Threatened species

None of the Hymenoptera species collected during the survey are currently listed as critically endangered, endangered, vulnerable or conservation dependent under the Australian Environment Protection and Biodiversity Conservation Act 1999 or the Territory Parks and Wildlife Conservation Act 1976. It should be noted that this is more to do with so few invertebrates being listed as threatened, rather than none of the species actually being of conservation concern.

3.5 Range extensions

Many of the genera (and even some of the families) recorded on the survey will be the first records of these taxa within the survey area on public databases. However, this is partially due to the small number of identified hymenopteran records on The Atlas of Living Australia, rather than these taxa being rare in the area; an identification blitz within the MAGNT collection may better reveal which taxa are actually novel records due to the Bush Blitz. Of the taxa identified to species level, two are not yet known from the Northern Territory according to current records on The Atlas of Living Australia (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**
Ceratomansa spinifrons	Nitmiluk NP, SSS2, Jatbula Trail	1,300 km	If the identification of this species is correct, this seems like the first record in the NT for the species. Despite being a common species on the east coast, there is not a reference DNA sequence available to compare this specimen to, however the morphology appears con-specific.
Phanerotomella naumanni	Bush Blitz site 19; -13.9010058, 133.0475815	750 km	If the identification of this species is correct, this is the first record for NT (previously known from WA). DNA and/or comparison of the specimen to the type series should be completed to confirm the identification.

3.6 Genetic information

The 658 bp COI DNA barcodes generated during the completion of this report (n=160) will be uploaded to BOLD and Genbank if permission is given by the Traditional Owners and land managers.

4. Information on species lists

There are very limited wasp records from the Northern Territory within public collections, and the specimens collected on this expedition are an incredibly valuable resource for future

taxonomic studies. The Australian Faunal Directory lists 74 families and over 12,000 described species of Hymenoptera, and very large proportions of the diversity are undescribed. This, in combination with a lack of suitable identification resources for many families, makes identifying specimens beyond family or generic level time-consuming. Therefore, the main focus of this report was on taxa for which the survey author had expertise and where suitable resources were readily available. It should also be highlighted that the nominated collector for Hymenoptera on this expedition was only present for four full field days, which has limited the number of taxa included compared to other recent expeditions. There were many taxa on iNaturalist and the Atlas of Living Australia for the survey area that were not recollected during this expedition, most likely due to the short time frame.

5. Information for land managers

Jawoyn Country, including Nitmiluk National Park, is a very special place for biodiversity, including for the hymenopteran fauna. In the short field survey conducted during this Bush Blitz expedition, there appeared to be a diverse insect fauna in each of the different habitats visited.

6. Conclusions

Jawoyn Country is home to a diverse hymenopteran fauna. Whilst only a small number of specimens were able to be identified to species level for this report, the specimens and DNA barcode data are now available for future research in targeted taxonomy projects. We expect there are many undescribed species within the material collected.

Acknowledgements

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Appendices

Appendix 1. List of Hymenoptera (excluding Formicidae) recorded during the Jawoyn Bush Blitz that were identified to species or MOTU

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Apidae	*Apis mellifera*	European honey bee	No	No	No	Yes
Crabronidae	*Tachytes* sp. BBJA_sp1		Unknown	No	No	No
Philanthidae	*Cerceris* sp. BBJA_sp1		Unknown	No	No	No
Philanthidae	*Cerceris* sp. BBJA_sp2		Unknown	No	No	No
Crabronidae	*Pison* sp. BBJA_sp1		Unknown	No	No	No
Crabronidae	*Trypoxylon* BBJA_sp1		Unknown	No	No	No
Sphecidae	*Sceliphron laetum*	Common mud daubler	No	No	No	No
Sphecidae	*Sphex cognatus*	Black digger wasp	No	No	No	No
Chalcididae	Chalcididae sp. BBJA_sp1		Unknown	No	No	No
Chalcididae	Chalcididae sp. BBJA_sp2		Unknown	No	No	No
Encyrtidae	Encyrtidae sp. BBJA_sp1		Unknown	No	No	No
Encyrtidae	Encyrtidae sp. BBJA_sp2		Unknown	No	No	No
Encyrtidae	Encyrtidae sp. BBJA_sp3		Unknown	No	No	No
Eulophidae	Eulophinae sp. BBJA_sp1		Unknown	No	No	No
Eulophidae	Eulophinae sp. BBJA_sp2		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp1		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp10		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp2		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp3		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp4		Unknown	No	No	No

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Eulophidae	Eulophidae sp. BBJA_sp5		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp6		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp7		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp8		Unknown	No	No	No
Eulophidae	Eulophidae sp. BBJA_sp9		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp1		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp2		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp3		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp4		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp5		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp6		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp7		Unknown	No	No	No
Eupelmidae	Eupelmidae sp. BBJA_sp8		Unknown	No	No	No
Eurytomidae	Eurytomidae sp. BBJA_sp1		Unknown	No	No	No
Eurytomidae	Eurytomidae sp. BBJA_sp2		Unknown	No	No	No
Eurytomidae	Eurytomidae sp. BBJA_sp3		Unknown	No	No	No
Eurytomidae	Eurytomidae sp. BBJA_sp4		Unknown	No	No	No
Eurytomidae	Eurytomidae sp. BBJA_sp5		Unknown	No	No	No
Megastigmatidae	Megastigmatidae sp. BBJA_sp1		Unknown	No	No	No
Myrmaridae	Myrmaridae sp. BBJA_sp1		Unknown	No	No	No
Myrmaridae	Myrmaridae sp. BBJA_sp2		Unknown	No	No	No
Pteromalidae	Pteromalidae sp. BBJA_sp1		Unknown	No	No	No
Systasidae	Systasidae sp. BBJA_sp1		Unknown	No	No	No
Torymidae	Torymidae sp. BBJA_sp1		Unknown	No	No	No

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Trichogrammatidae	Trichogrammatidae sp. BBJA_sp1		Unknown	No	No	No
	Chalcidoidea sp. BBJA_sp1		Unknown	No	No	No
	Chalcidoidea sp. BBJA_sp2		Unknown	No	No	No
	Chalcidoidea sp. BBJA_sp3		Unknown	No	No	No
	Chalcidoidea sp. BBJA_sp4		Unknown	No	No	No
Chrysididae	*Stilbum cyanurum*	Emerald cuckoo wasp	No	No	No	No
Chrysididae	Chrysididae sp. BBJA_sp1					
Dryinidae	Dryinidae sp. BBJA_sp1		Unknown	No	No	No
Bethylidae	Bethylidae sp. BBJA_sp1		Unknown	No	No	No
Figitidae	Figitidae sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Coccygidium necatrix*	fall armyworm slayer	No	No	No	No
Braconidae	*Bracon* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	Braconidae sp. BBJA_sp1		Unknown	No	No	No
Braconidae	Braconidae sp. BBJA_sp2		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp2		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp3		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp4		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp5		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp6		Unknown	No	No	No
Braconidae	*Phanerotoma* sp. BBJA_sp7		Unknown	No	No	No
Braconidae	*Phanerotomella* sp. BBJA_sp1		Yes	No	No	No
Braconidae	*Phanerotomella naumanni*		No	No	No	No

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Braconidae	*Ipodoryctes* sp. BBJA_sp2		Unknown	No	No	No
Braconidae	*Rhaconotus* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Rhaconotus* sp. BBJA_sp2		Unknown	No	No	No
Braconidae	*Spathius* sp. BBJA_sp1		Yes	No	No	No
Braconidae	*Spathius* sp. BBJA_sp2		Yes	No	No	No
Braconidae	Doryctinae sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Dolichogenidea* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Microplitis* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Pambolus* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Aleoides* sp. BBJA_sp1		Unknown	No	No	No
Braconidae	*Aleoides* sp. BBJA_sp2		Unknown	No	No	No
Braconidae	Telengaiinae sp. BBJA_sp1		Unknown	No	No	No
Ichneumonidae	*Temelucha* sp. BBJA_sp1		Unknown	No	No	No
Ichneumonidae	*Dicamptus* sp. BBJA_sp1		Unknown	No	No	No
Ichneumonidae	*Ceratomansa spinifrons*		No	No	No	No
Ichneumonidae	*Paraphylax* sp. BBJA_sp1		No (known unknown)	No	No	No
Platygastridae	Platygastridae sp. BBJA_sp1		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp1		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp10		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp11		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp12		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp13		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp2		Unknown	No	No	No

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Scelionidae	Scelionidae sp. BBJA_sp3		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp4		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp5		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp6		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp7		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp8		Unknown	No	No	No
Scelionidae	Scelionidae sp. BBJA_sp9		Unknown	No	No	No
Scoliidae	Scoliidae sp. BBJA_sp1		Unknown	No	No	No
Scoliidae	Scoliidae sp. BBJA_sp2		Unknown	No	No	No
Scoliidae	*Radumeris radula*	Yellow hairy flower wasp	No	No	No	No
Pergidae	Pergidae sp. BBJA_sp1		Unknown	No	No	No
Pergidae	Pergidae sp. BBJA_sp2		Unknown	No	No	No
Mutillidae	Australotilla s. l. sp. BBJA_sp1		Unknown	No	No	No
Mutillidae	Mutillidae sp. BBJA_sp1		Unknown	No	No	No
Mutillidae	Mutillidae sp. BBJA_sp1		Unknown	No	No	No
Thynnidae	Thynnidae sp. BBJA_sp1		Unknown	No	No	No
Thynnidae	Thynnidae sp. BBJA_sp2		Unknown	No	No	No
Thynnidae	Thynnidae sp. BBJA_sp3		Unknown	No	No	No
Thynnidae	Thynnidae sp. BBJA_sp4		Unknown	No	No	No
Vespidae	*Delta latreillei*	Orange-tailed potter wasp	No	No	No	No
Vespidae	*Polistes schach*		No	No	No	No
Vespidae	*Pseudabispa bicolor*		No	No	No	No
Vespidae	Eumeninae sp. BBJA_sp1		Unknown	No	No	No

Family	Species	Common name	Species new to science	Threatened (EPBC Act)	Threatened (State/Territory Act)	Introduced species
Vespidae	Ropalidia sp. BBJA_sp1		Unknown	No	No	No
Vespidae	Vespidae sp. BBJA_sp1		Unknown	No	No	No
Vespidae	Vespidae sp. BBJA_sp2		Unknown	No	No	No