

King Island Bush Blitz
Heteroptera (True Bugs)

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Zoe McCarthy and Gerry Cassis

Nomenclature and taxonomy used in this report is consistent with:

[The Australian National Species List](#)

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List of contributors

List of contributors to this report.			
Name	Institution/affiliation	Qualifications/area of expertise	Level/form of contribution
Zoe McCarthy	UNSW		Survey participant, principal author
Gerry Cassis	UNSW		Principal author

Abstract

On this Bush Blitz trip 114 specimens were collected, comprising 15 morphospecies from seven families. The majority of species were from the family Miridae (seven species), with three and two species found of the Acanthosomatidae and Pentatomidae respectively. No putative new species were collected. Multiple specimens require research to be identified.

1. Introduction

Heteroptera, a suborder of the Hemiptera family, is one of the target taxa of the Bush Blitz program (Cassis and Symonds 2016). Over 2500 Australian species have been described (Australian Faunal Directory), a significant portion of these have been described in the last 20 years alone (e.g., Symonds and Cassis 2018). Some phytophagous taxa are particularly under-described, e.g. Miridae and Tingidae (Symonds and Cassis 2018), these taxa feed on a large number of host plants, particularly angiosperms.

Fewer specimens than expected were collected on this survey. This was due in part to a shorter surveying time (other groups were surveyed over ten days, whereas heteropterans specifically were only surveyed over 6 days), and in part due to weather conditions. Weather was cold for the season and this may have delayed hatching.

2. Methods

2.1 Site selection

Heteroptera are phytophagous and in general prefer flowering host plants. They range from generalists to host-specific associations. Sites were selected to encompass a variety of habitats, especially sites where potential host plants had been observed to be in flower. Sites where there were Atlas of Living Australia records of *Drosera auriculata* and *Drosera binata* were also selected, as these are host plants for *Setocoris* mspBBKI_001.

2.2 Survey techniques

Sites were surveyed by beating on vegetation, especially known host species and any flowering vegetation. Grasses and low vegetation was surveyed with a sweep net, and *S. binataphilus* was collected from *Drosera* sp. plants by hand. Specimens were euthanised with ethyl acetate and mounted. Duplicate specimens were also stored in 100% ethanol for future DNA sequencing.

2.2.1 Methods used at standard survey sites

All insects, including Heteroptera, were surveyed at the standard survey sites by the Tasmania Museum and Art Gallery staff.

2.3 Identifying the collections

Specimens were classified to family and sorted into morphospecies in the field. In the lab Gerry Cassis and Zoe McCarthy processed and identified specimens with reference to the entomological collection housed at UNSW and consultation with the literature on heteropterans. Nomenclature aligns with the Heteroptera sections of the Australian Faunal Directory.

3. Results and Discussion

Appendix 1 lists all Heteroptera recorded during the Bush Blitz. Collections made during this Bush Blitz will result in 114 specimens being added to the UNSW insect collection.

3.1 Un-named or not formalised taxa

Taxon	Comment
Acanthosomatidae_Gn001 mspBBKI_001	Further work is required to determine the genus
<i>Austromiris</i> mspBBKI_001	Jasmine Lau is revising this genus
<i>Campylomma</i> mspBBKI_001	Genitalic examination is required to determine
<i>Diomocoris</i> mspBBKI_001	This species is likely to be <i>Diomocoris nebulosus</i>
<i>Eupolemus</i> mspBBKI_001	<i>Eupolemus</i> is being revised in the Cassis lab
<i>Setocoris</i> mspBBKI_001	Manuscript by Gerry Cassis in preparation
<i>Stauralia</i> mspBBKI_001	This genus is being revised

3.2 Putative new species (new to science)

In this report, 'putative new species' means 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 putatively new species were collected on this trip.

Species	Comment
None	

3.3 Exotic and pest species

No exotic or pest species were collected on this trip.

Exotic/pest species	Location sighted/observed	Indication of abundance	Comments
None			

3.4 Threatened species

Species	Listing status and level (EBPC, State/Territory)	Location sighted/observed	Indication of abundance
None			

3.5 Range extensions

Species	Location sighted/observed	Distance from nearest known record (km)	Comments
None			

3.6 Genetic information

Duplicate specimens for most species collected were stored in 100% ethanol for future DNA sequencing.

4. Information on species lists

The heteropteran material collected was not significant. No new species or new distributional records were found.

5. Information for land managers

At present there is no heteropteran information that would require the attention of land managers.

6. Other significant findings

The collection of *Setocoris* mspBBKI_001 is the first record of this sundew bug from King Island.

7. Conclusions

Fifteen species were collected from King Island, nested within six families. Seven species of Miridae were found, followed by three species of Acanthosomatidae and two Pentatomidae. The heteropteran list of species was minimal and likely a result of the climatic conditions and limited sampling period. In addition, the depauperate heteropteran collection may reflect the extent of historical land clearance on King Island.

Acknowledgements

Simon Grove assisted in collections and generously provided specimens from additional sites. The Bush Blitz team is thanked for logistics.

References

Cassis G. and Symonds C. 2016. Plant bugs, plant interactions and the radiation of a species rich clade in southwest Australia: *Naranjakotta* nov. gen. and eighteen new species (Insecta: Heteroptera: Miridae: Orthotylinae). *Invertebrate Systematics*. 30(2): 95-186.

Symonds CL, Cassis G. 2018. Systematics and Analysis of the Radiation of Orthotylini Plant Bugs Associated with Callitroid Conifers in Australia: Description of Five New Genera and 32 New Species (Heteroptera: Miridae: Orthotylini, *Bulletin of the American Museum of Natural History*, 2018: 1-228.

Appendices

Appendix 1. List of Heteroptera recorded during the King Island Bush Blitz

Family	Species	Common name	Putative new species	Threatened (EPBC Act)	Threatened (State/Territory Act)	Exotic/pest
Acanthosomatidae	<i>Acanthosomatidae_Gn001 mspBBKI_001</i>		No	No	No	No
Acanthosomatidae	<i>Eupolemus mspBBKI_001</i>		No	No	No	No
Acanthosomatidae	<i>Stauralia mspBBKI_001</i>		No	No	No	No
Artheneidae	<i>Dilompus robustus</i>		No	No	No	No
Cryptorhamphidae	<i>Cryptorhampus orbus</i>		No	No	No	No
Lygaeidae	<i>Nysius vinitor</i>		No	No	No	No
Miridae	<i>Ausejanus albisignatus</i>		No	No	No	No
Miridae	<i>Austromiris mspBBKI_001</i>		No	No	No	No
Miridae	<i>Campylomma mspBBKI_001</i>		No	No	No	No
Miridae	<i>Coridromius monotocopsis</i>		No	No	No	No
Miridae	<i>Diomocoris mspBBKI_001</i>		No	No	No	No
Miridae	<i>Pseudopantilius australis</i>		No	No	No	No
Miridae	<i>Setocoris mspBBKI_001</i>		No	No	No	No
Pentatomidae	<i>Cuspicona strenuella</i>		No	No	No	No
Pentatomidae	<i>Ocirrhoe lutescens</i>		No	No	No	No