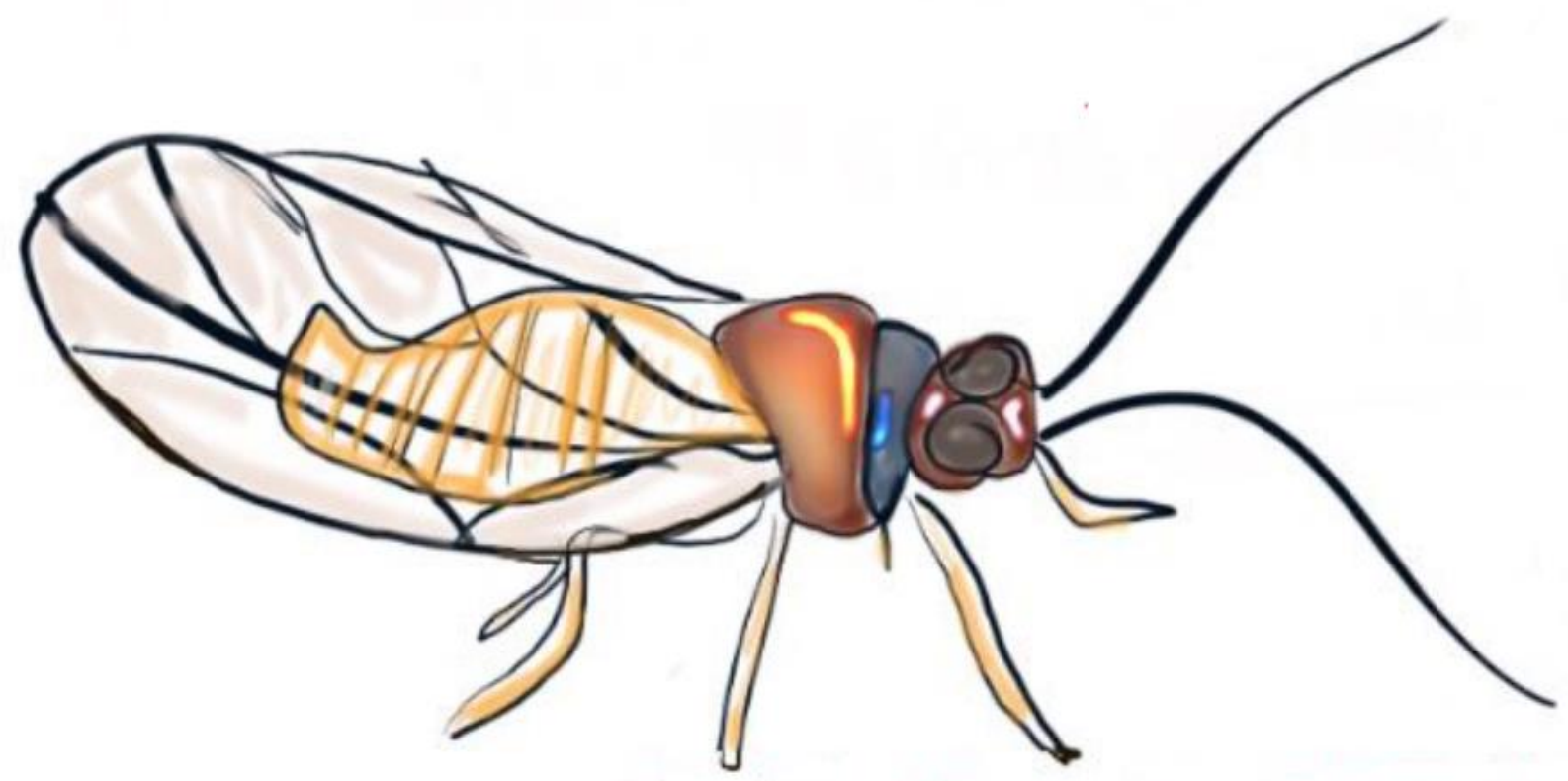


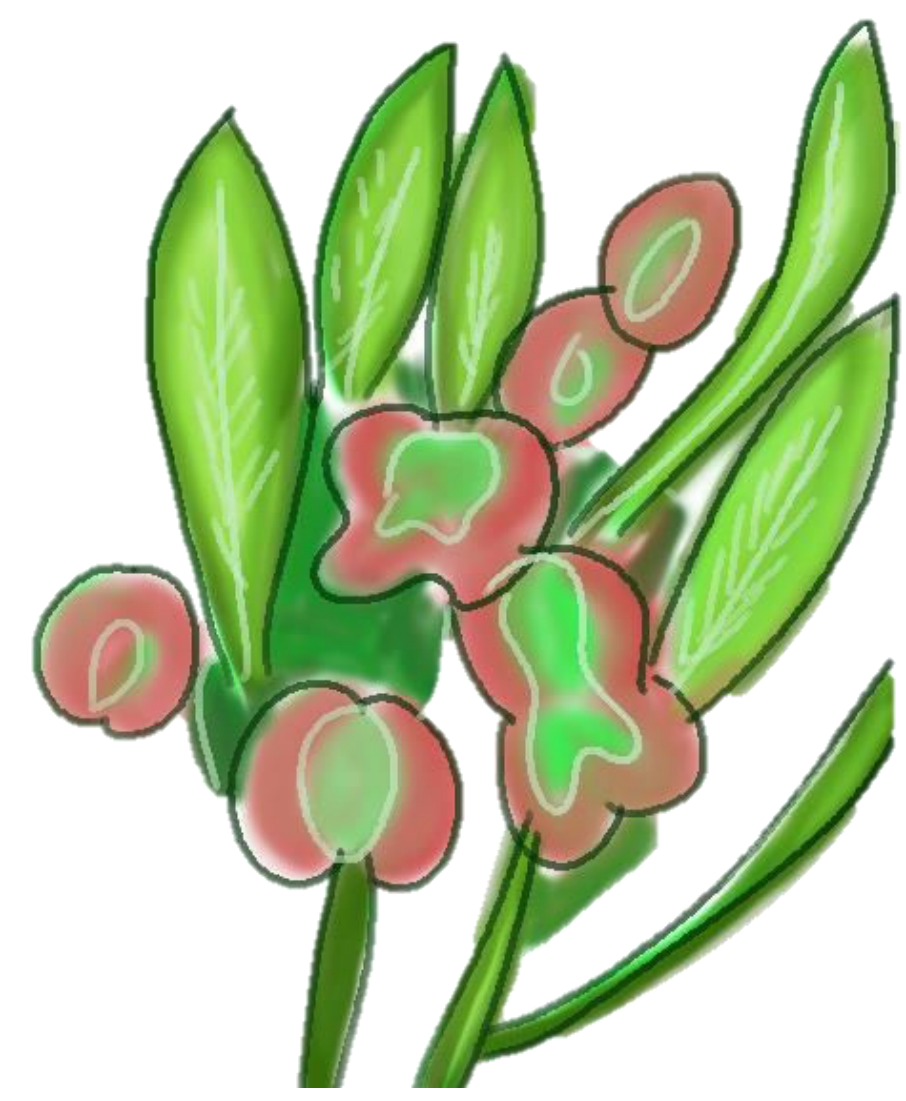
New species of *Acizzia* (Hemiptera: Psyllidae) from *Dodonaea* (Sapindaceae)

Alana McClelland, Dr. Gary Taylor, Dr. Michelle Guzik & Prof. Andy Austin. (UofA)

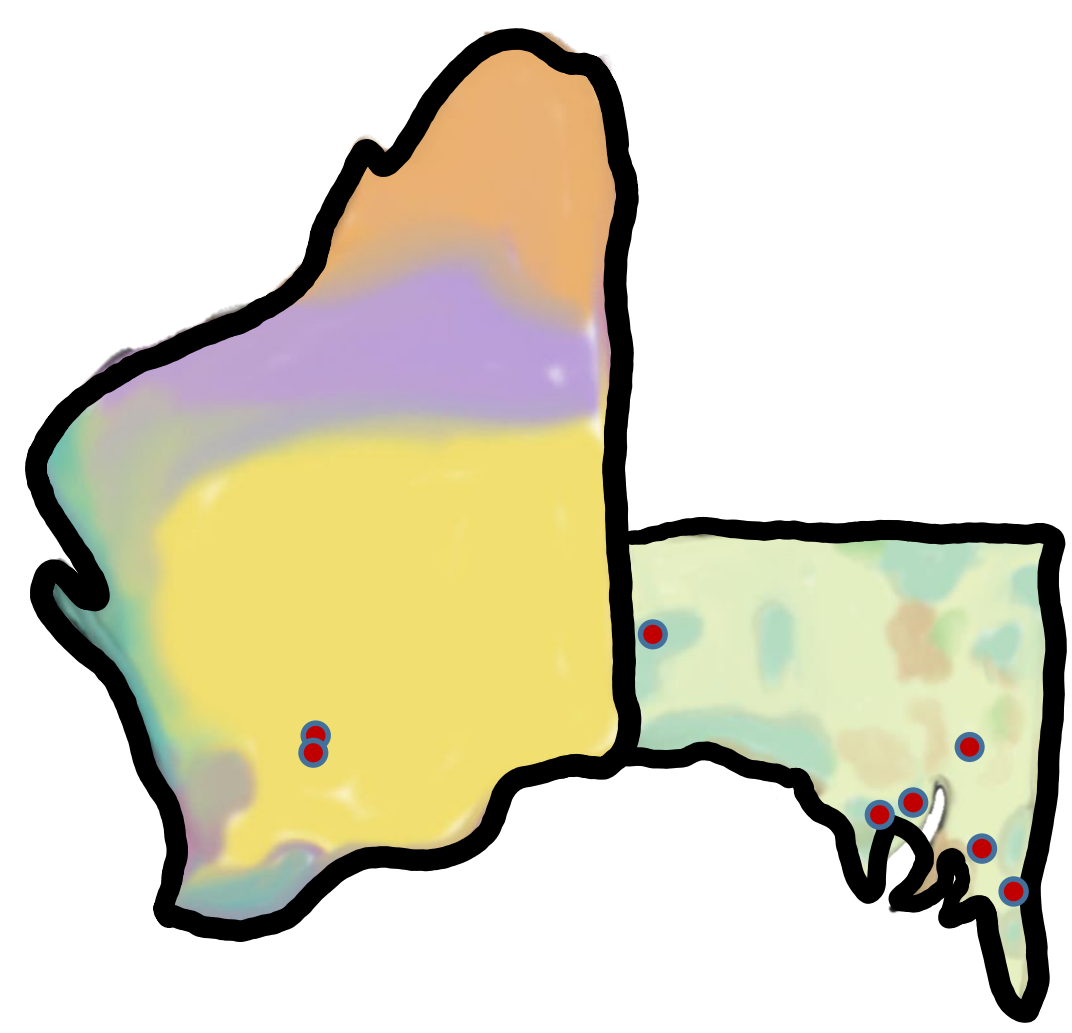
INTRODUCTION



Psyllids are small sap-sucking insects with an unresolved species richness and wide distribution across Australia. They have strong plant associations and in this study, the genus *Acizzia* associated with the plant host *Dodonaea* is revised.



Dodonaea



Collection sites

CONCLUSIONS

Although likely to be as widespread as their host plant, this study brings the number of described *Acizzia* associated with the plant genus *Dodonaea* from one to nine species, the number of Australian *Acizzia* to 47 species and the world fauna to 85. The limited host data available indicates that *Acizzia* is restricted to single or closely related *Dodonaea* spp.

AIMS & OBJECTIVES

Combine collections from field expeditions and Bush Blitz surveys to revise free-living *Acizzia* that inhabit *Dodonaea*.

Use combined morphological characters and a *COI* phylogeny for species delineation.

Provide taxonomic diagnosis, illustrations, high resolution imaging and DNA barcode data for identification.

Use all available data to document *Acizzia* - *Dodonaea* host associations.

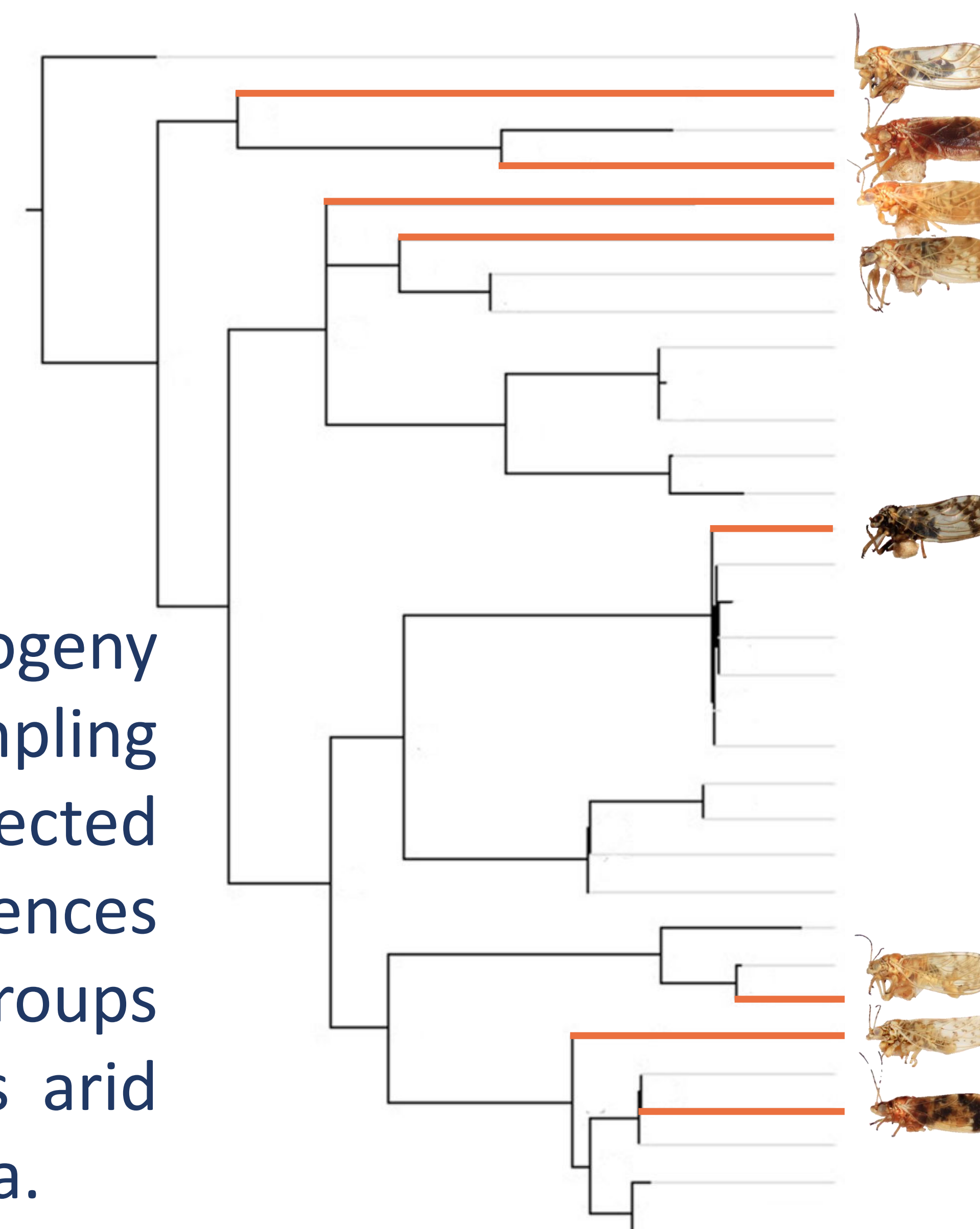
Describe new species and make publicly available the *COI* barcode and taxonomic data.

RESULTS

Described 8 new species associated with *Dodonaea*. Differences in wing pattern, venation and male genitalia supported an average 20% species divergence using *COI*.

Maximum Likelihood *COI* phylogeny (right). Ingroup taxon sampling included 34 *Acizzia* species, selected to examine intraspecific divergences from morphologically distinct groups and a range of localities across arid land South and Western Australia.

Of these 34, 8 are new species associated with *Dodonaea* (highlighted branches). *Acizzia* from *Dodonaea* do not form a monophyletic clade, indicating multiple host switching events.

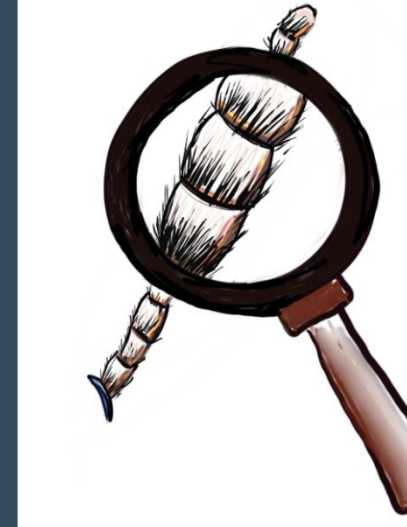


Revised *Acizzia dodonaea*

MATERIALS & METHODS



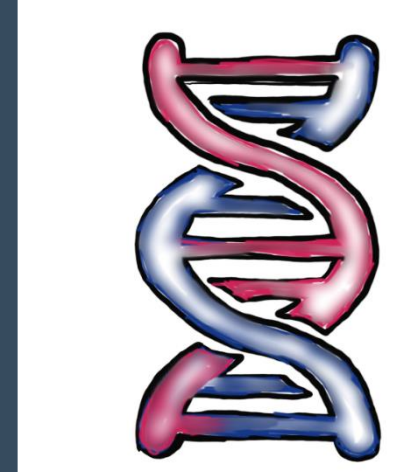
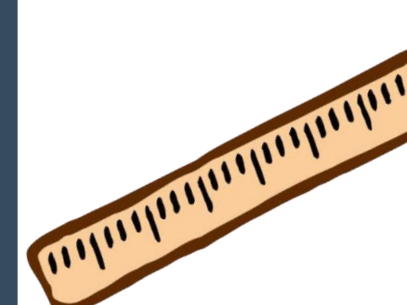
Specimens were collected by sweep-netting *Dodonaea* foliage in South and Western Australia.



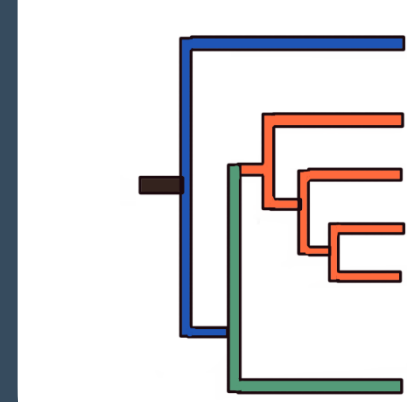
Morphological examinations, measurements and high resolution images were taken.



DNA sequencing provided *COI* barcoding and a phylogeny for species delimitation.



Preparation of specimens followed Taylor (2016). Character abbreviations from Taylor *et al.* (2011). Plant host data from Atlas of Living Australia (2018). New species are attributed to Taylor & McClelland.



REFERENCES & ACKNOWLEDGMENTS

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Taylor GS, Jennings JT, Purcell MF & Austin AD. 2011. A new genus and ten new species of jumping plant lice (Hemiptera: Triozidae) from *Allocasuarina* (Casuarinaceae) in Australia. *Zootaxa* 3009, 1–45.

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