

Myrmarachne MacLeay, 1839

Taxonomy

Myrmarachne is an ant-mimicking genus with several hundred species in a world-wide distribution. There are seventeen Australian species; *Myrmarachne aurea*, *M. bicolor*, *M. cuprea*, *M. erythrocephala*, *M. gurgulla*, *M. helensmithae*, *M. jugularis*, *M. luctosa*, *M. lupata*, *M. macaulayi*, *M. macleayana*, *M. maxillosa*, *M. milledgei*, *M. simoni*, *M. smaragdina*, *M. striapes* and *M. zabkai*. In Australia the genus is closely related to other ant-mimicking genera, *Damoetas*, *Judalana*, *Ligonipes* and *Rhombonotus* and elsewhere to *Belippo* (Africa) and *Bocus* (Borneo and the Philippines) (Maddison, 2015). Further information on the genus and described species can be found in Richardson and Žabka (2017), Whyte and Anderson (2017) and the references below.

Description

Myrmarachne spp. are small to medium-sized spiders, body length 3 to 9 mm. The head, viewed from above, is parallel-sided, with the posterior eyes overlapping the lateral edges of the cephalothorax. The cephalothorax appears subdivided to a greater or lesser extent into anterior and posterior parts. From the side the carapace can be either high or low. The abdomen is elongate with a peak of varying height in the anterior part. The overall effect is quite antlike, some species extremely so. The chelicerae in some males are significantly elongate and project forward. Some females have enlarged paddle-shaped ends to the pedipalps. The chelicerae have a line of retromarginal teeth (plurident). Females have three promarginal teeth, males have none. The legs are extremely slender with the fourth pair of legs longest.

The male's palp has a long slender embolus arising from the proximal or lateral edge of the tegulum, wrapping completely around the tegulum in a clockwise direction. The retro-lateral tibial apophysis is short and slender.

The female has two epigynal atria with clear guides and medially-located copulatory openings leading to insemination ducts which travel anteriorly between the atria ending in rounded spermathecae anterior to the atria.

Biology

Myrmarachne spp. have been collected from foliage, including grass, from under bark and in litter in savannah woodland, open forest and rainforest. Each species is a highly effective mimic of an ant taxon; sometimes more than one ant taxon at different spider instars. They often run on three pairs of legs while holding and waving the first pair of legs in a manner similar to the antennae of ants and run in a jerky, stop-start, ant-like style, rarely using their safety line of silk.

Distribution

Myrmarachne is found throughout Australia including Tasmania in higher rainfall areas.

References

- Ceccarelli, F. S. 2008. Behavioural mimicry in *Myrmarachne* species (Araneae, Salticidae) from north Queensland, Australia. *Journal of Arachnology* 36, 344-351.
- Ceccarelli, F.S. 2009. Ant-mimicking spider, *Myrmarachne* species (Araneae : Salticidae), distinguishes its model, the green ant, *Oecophylla smaragdina*, from a sympatric Batesian *O. smaragdina* mimic, *Riptortus serripes* (Hemiptera : Alydidae). *Australian Journal of Zoology* 57, 305-309.
- Davies, V.T. & Žabka, M. 1989. Illustrated keys to the genera of jumping spiders (Araneae: Salticidae) in Australia. *Memoirs of the Queensland Museum* 27, 189-266.
- Edwards, E.B. 2013. A review of the synonyms of *Myrmarachne* (Araneae: Salticidae), with comments on the availability of each genus name. *Peckhamia* 110.1, 1-9.
- Maddison, W.P. 2015. A phylogenetic classification of jumping spiders (Araneae: Salticidae). *Journal of Arachnology* 43, 231-292.
- Maddison, W.P., Bodner, M.R. & Needham, K.M. 2008. Salticid spider phylogeny revisited, with the discovery of a large Australian clade (Araneae: Salticidae). *Zootaxa* 1893, 49-64.



Examples of live *Myrmarachne*

Illustrators (and ©) I.R. Macaulay & R. Whyte (BM)



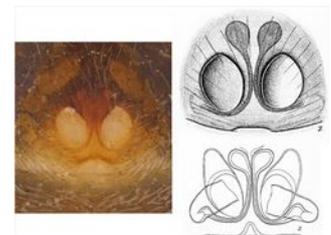
Aspects of the general morphology of *Myrmarachne*

Illustrators (and ©) B.J. Richardson (CSIRO), R. Whyte (BL), M. Zabka (diag.) (QMB)



Palp morphology of *Myrmarachne*

Illustrators (and ©) B.J. Richardson (CSIRO), M. Zabka (diag.) (QMB)



Epigyne morphology of *Myrmarachne*

Illustrators (and ©) B.J. Richardson (CSIRO), M. Zabka (diag.) (QMB)

Pekar, S. & Jiros, P. 2011. Do ant mimics imitate cuticular hydrocarbons of their models? *Animal Behaviour* 82, 1193-1199.

Pekar, S., Petrakova, L. Corcobado, G. & Whyte, R. 2017. Revision of eastern Australian ant-mimicking spiders of the genus *Myrmarachne* (Araneae, Salticidae) reveals a complex of species and forms. *Zoological Journal of the Linnean Society* 179, 642-676.

Richardson, B.J. & Žabka, M. 2016. Salticidae. Arachnida: Araneomorphae. Canberra, Australian Faunal Directory. Australian Biological Resources Study, at <https://biodiversity.org.au/afd/taxa/SALTICIDAE>.

Whyte, R. & Anderson, G. 2017. *A Field Guide to Spiders of Australia*. CSIRO Publishing: Clayton.

* The information sheet should be interpreted in the context of the associated diagrams and photographs. Diagrams explaining anatomical terms can be found in the 'Salticidae' pictures at the beginning of the list of genera.