Adoryphorus couloni Burmeister, 1847

Taxonomy

Sub family: Dynastinae / Tribe: Pentodontini / Genus: Adoryphorus

Distinguishing Features

Small oblong beetles, body length 10-15mm. Body colouration dark brown to black. Head strongly punctate or rugulose. Clypeus broad, semicircular, with a rounded or somewhat truncate apex. Antennae with 9 segments, and a short 3-segmented club. Frontoclypeal suture indistinct. Ocular canthus setose. Head of males with a a low tubercle, sometimes half covered by the membrane of the pronotal anterior margin. Mandibles with their outersides rounded and covered by the clypeus. Mentum with apex narrowed, rounded but not to a point. Pronotum simply convex, without tubercles, and with posterior margin broadly rounded. Elytra with distinct rows of punctures. Prosternal process broad, apex rounded and punctate setose. Mesosternum densely setose and heavily punctate. Stridulatory bands on the propygidium absent. Foretarsi not thickened in males. Metatibia bicarinate, apex broadly truncate with dense long sharp bristles. Tarsal claws simple, foreclaws slightly unequal.

Related and Similar Species

Andoryphorus is a member of the tribe Pentodontini which share the following characteristics:

Sexual dimorphism usually not well pronounced. Mentum not broad, and not covering basal joint of palpi. Legs shorter and stouter than those of Cyclocephalini. Anterior tibia of males not longer than females. Apex of metatibia truncated, straight, with bristles present. Elytra more or less convex, usually with double rows. Propygidium with or without stridulatory area.

There are three described species of *Adoryphorus*. Along with differing male genitalia, Carne (1957) separates them as such:

- A. mellori: Body Length 9-10mm, head impunctate, antennae small, 9-segmented.
- A. canei: Body Length 13-18mm, antennae 10 segmented, head strongly punctate / clypeus transversely rugulose. Pronotum very weakly convex, basal angles well defined.
- A. couloni: Body Length 10-15mm, antennae 9 segmented, head strongly punctate / clypeus transversely rugulose. Pronotum convex, basal angles rounded. Male with foretibia tridentate. Male with tubercle on vertex.

A. couloni can be separated from other Pentodontini beetles in the key through the presence of the low head tubercle in males combined with a simple convex pronotum, lacking stridulatory bands on the propygidium (present in <u>Heteronychus arator</u>, present or absent in <u>Carneodon</u>, absent in <u>Tomarus gibbosus</u>) and the shape of the clypeus and mentum.



Adoryphorus couloni dorsal view Photographer: Pia Scanlon



<u>Adoryphorus couloni lateral view</u> <u>Photographer:</u> <u>Pia Scanlon</u>



<u>Adoryphorus couloni ventral view</u> <u>Photographer:</u>





<u>Adoryphorus couloni head front</u> <u>Photographer:</u> Pia Scanlon



Adoryphorus couloni head line drawing. Des Helmore, 1976. Manaaki Whenua -Landcare Research Photographer: Des Helmore

Biological Data

Adoryphorus couloni, or the redheaded pasture cockchafer, is a pest of pastures. The larvae feed on organic matter and plant roots. Shallow rooted pasture grasses such as sub-clover, barley grass and rye grasses are usually the worst affected. Feeding can cause large dead patches, alongside green areas in pastures. They have a two year lifecycle, with the majority their life spent underground in larval form. Adult beetles emerge from August to October at dusk, and can have mass swarm emergence flights. Adult beetles do not feed.

Distribution

Adoryphorus couloni is a native Australian species. It is found across South East Australia, in NSW, ACT, Victoria, South Australia and Tasmania. It is absent from Western Australia, the Northern Territory and Queensland.

Useful Links

Agriculture Victoria information page: <u>http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-insects-and-mites/the-redheaded-pasture-cockchafer</u>

Tasmanian DPIPWE Fact Sheet: <u>https://dpipwe.tas.gov.au/Documents/redheaded.pdf</u> PaDIL image set: <u>http://www.padil.gov.au/pests-and-diseases/pest/main/135882</u>

References

Berg, G., Faithfull, I.G., Powell, K.S., Bruce, R.J., Williams, D.G., Yen, A.L. 2014. Biology and Management of the Redheaded pasture cockchafer *Adoryphorus couloni* (Burmeister) (Scarabaeidae: Dynastinae) in Australia: a review of current knowledge. Austral Entomology, 53: 144-158.

Carne, P.B. 1957. A Systematic Revision of the Australian Dynastinae: (Coleoptera: Scarabaeidae). CSIRO, Melbourne. 284pp. Endrödi, S. 1985. The Dynstinae of the World. W. Junk. London. 800pp.

Weir, T.A., Lawrence J.F., Lemann C., Gunter N.L. 2019. 33. Scarabaeidae: Dynastinae Macleay, 1919. In: Australian Beetles. Volume 2. Archostemata, Myxophaga, Adephaga, Polyphaga (part) (eds A Ślipiński & JF Lawrence) pp. 516–530. CSIRO, Clayton, Australia.

Copyright $\ensuremath{\mathbb{C}}$ 2020. All rights reserved.





Web edition hosted at https://keys.lucidcentral.org/keys/v3/exotic_scarab_pests/