

New records for the Australian burrower bug species (Hemiptera: Heteroptera: Cydnidae)

JERZY A. LIS 

Institute of Biology, University of Opole, Oleska 22, 45-052 Opole, Poland
e-mail: cydnus@uni.opole.pl

Abstract. New records are presented for 23 Australian species of the family Cydnidae (Pentatomoidea). *Alonips papuanus* is documented for the first time in Australia. The first precise localities for *Aethus parvulus* in Australia are provided. Additionally, five species are reported as new records for Australian states and territories. These are *Byrsinus ochraceus* (new to Northern Territory, Victoria, Queensland, and Western Australia), *Byrsinus setosus* (new to Western Australia), *Fromundus pygmaeus* (new to Queensland), *Geotomus breweri* (new to New South Wales, Northern Territory, and Victoria), and *Geotomus gracilipes* (new to Victoria).

Key words: true bugs, Pentatomoidea, distribution, new records, *Alonips papuanus*, first country record, Australia, Australian Region.

Introduction

Despite some studies on the fauna of the family Cydnidae of the Australian continent, published at the end of the twentieth century (Lis 1994, 1995a, 1995b, 1996, 1997, 1999a–f) and several in the early twenty-first century (Lis 2000a, 2000b, 2001a, 2001b, 2001c, 2002; Lis & Heyna 2001; Lis & Hohol 2001; Lis & Lis 2008), research on this interesting group of bugs remains sporadic.

Since the compilation of the catalogue of Heteroptera of Australia (Cassis & Gross 2002), only five papers have been published reporting Cydnidae species from this continent (Lis & Rakowiecka 2012, 2013; Lis & Zielińska 2020; Lis & Domagała 2024; Lis et al. 2024).

To date, 85 species of burrower bugs across 21 genera of the family Cydnidae have been documented in the Australian continent (Lis 1996, 1997, 1999a–f, 2000a, 2000b, 2001a, 2001b, 2001c, 2002; Lis & Heyna 2001; Lis & Hohol 2001; Cassis & Gross 2002; Lis & Rakowiecka 2012, 2013; Lis & Zielińska 2020; Lis & Domagała 2024; Lis et al. 2024).

This paper reports new records for 23 species from Australia, including five species newly recorded in specific states and territories. Moreover, one species, *Alonips papuanus*, previously known only from Papua New Guinea, is recorded here for the first time in Australia.

Material and methods

The specimens used in this publication were obtained from the entomological collections of the Museum of

Victoria (Melbourne, Australia) and Dr. Laurie J. Cookson's collection (Museums Victoria Honorary Associate). After identification, the latter was transferred to the Museum of Victoria's collections. The map from Google Earth (www.google.com/intl/pl/earth/) was used to prepare the distribution map of *Alonips papuanus* (Fig. 3). The nomenclature for the cephalic setae follows Lis & Pluot-Sigwalt (2002).

New records

Subfamily Garsauriinae

Blaena multitricha Froeschner, 1960

South Australia: Glendambo, 5.6.2017, 1 male, LJ Cookson (LJ Cookson collection, Museum of Victoria).

Distribution (Lis & Heyna 2001; Cassis & Gross 2002): Australia (Northern Territory, South Australia, Queensland, Western Australia).

Blaena setosa Walker, 1868

Northern Territory: Yulara, NT, 9.6.2017, 1 female 1 male, LJ Cookson (LJ Cookson collection, Museum of Victoria); 1 female (JAL collection, Institute of Biology, University of Opole).

Western Australia: Broome, WA, 26.2.04, 1 female 1 male, LJ Cookson (LJ Cookson collection, Museum of Victoria).

Distribution (Lis & Heyna 2001; Cassis & Gross 2002): Australia (New South Wales, Northern Territory, Queensland, South Australia, Victoria, Western Australia).

Subfamily Cydninae

Tribe Cydnini

Chilocoris barbarae J.A. Lis, 1991

Northern Territory: Humpty Doo, NT, 15.8.18, LJ Cookson, 1 female 1 male (LJ Cookson collection, Museum of Victoria); Dundee Beach, NT, 19.8.18, LJ Cookson, 2 females 1 male (LJ Cookson collection, Museum of Victoria).

Queensland: Mission Beach, Q., 9.2.2014, LJ Cookson, 1 female 1 male (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1955a, 1955b, 1999b, 1999f; Cassis & Gross 2002): Australia (New South Wales, Northern Territory, Queensland), Indonesia (Sumatra, Java, Madura, Sulawesi, Peleng), Malaysia (Malaya), Papua New Guinea, Thailand.

Nishocoris bicolor J.A. Lis, 1997

Northern Territory: Humpty Doo, NT, 15.8.18, LJ Cookson, 2 females 1 male (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1997, 1999d, 2001a; Cassis & Gross 2002): Australia (Northern Territory, New South Wales).

Tribe Geotomini

Aethus parvulus (Signoret, 1882)

Northern Territory: Humpty Doo, NT, 15.8.18, LJ Cookson, 3 females 1 male (LJ Cookson collection, Museum of Victoria), 1 male (JAL collection, Institute of Biology, University of Opole).

Queensland: Carmoo, Q., 23.11.17, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution: Australia (Northern Territory, Queensland). Until now, the species had only been reported in Australia, with no specific location given (Signoret 1882; Lis 1994, 1995b, 1999d; Cassis & Gross 2002).

Note: The current data confirm its presence on this continent and provide the first detailed localities.

Aethus philippinensis Dallas, 1851

Northern Territory: Northern Territory, 3.12.1918, 5 exx. (Museum of Victoria); Territory, Darwin, 19.6.1969, 1 ex., J.C. Lebouf (Museum of Victoria); Crocker Island, Mission, 6.4.1961, 2 exx. (Museum of Victoria); Daly River Mission, 21.1.1972, light trap, 2 exx., J.F. Hutchinson (Museum of Victoria).

Queensland: Townsville, Fe. 1942, 1 ex., T. Ingledew (Museum of Victoria). Innisfail, Q., 22.11.17, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria); Carmoo, Q., 23.11.17, LJ Cookson, 1 male (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1994, 1999b; Cassis & Gross 2002): Australia (New South Wales, Northern Territory, Queensland), Bismarck Archipelago, India, Indonesia,

Malaysia, Nicobar Islands, Papua New Guinea, Philippines, Singapore, Solomon Islands.

Alonips papuanus J.A. Lis, 1996

Northern Territory: Humpty Doo, NT, 15.8.18, LJ Cookson, 1 male (LJ Cookson collection, Museum of Victoria); Acacia Hill, NT, 21.8.18, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Victoria: Irymple, Vic., 25.II.1964, Nebois, 8 females (6 exx. Museum of Victoria, 2 exx. in Institute of Biology, University of Opole).

Distribution (Lis 1996, 1999d): The species was described from Papua New Guinea, and, to date, no other data on this species were known.

Note: Only two species of the genus *Alonips* Signoret, 1881 are known from the Australian Region, i.e., *A. obsoletus* Signoret, 1881 and *A. papuanus* (Fig. 1).

The two species differ in several characteristics, which are discussed in detail by Lis (1996). One of the most noticeable diagnostic differences is the number of secondary hair-like setae on the margins of the paraclypei. While *A. obsoletus* has three of these setae, *A. papuanus* has only one (Fig. 2).

A. papuanus is new to Australia. Based on the two known localities of this species (Fig. 3), it is reasonable to assume that it also occurs in Queensland and New South Wales. Future analyses of specimens from these regions should confirm this.



Figure 1. Male of *Alonips papuanus* (Irymple, Victoria), general habitus, dorsal view.

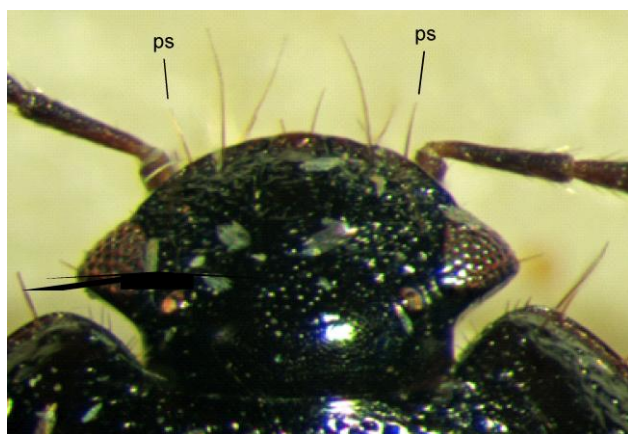


Figure 2. Male of *Alonips papuanus* (Irymple, Victoria), head, dorsal view; ps – single secondary hair-like setae on paraclypeal margins.



Figure 3. Known localities of *Alonips papuanus*, red star – literature locality, blue star – newly recorded locality.

***Byrsinus ochraceus* (Distant, 1899)**

Northern Territory: Henbury, N.T., 123 km SW Alice Springs, 26 Aug. 1972, K. Dimits, 1 female (Museum of Victoria).

Queensland: 7 km W.E. Tjabukai Stn., Simpson Desert, Qld., 2 June 1975, J.D. Blyth, 1 male (Victoria Museum).

South Australia: Reevesby Island, Dec. 1936, McCoy Soc. Exped., Sir Jos. Banks Group, South Australia, Dec. 1936 – Jan. 1937, 1 ex. (Museum of Victoria); W. of Kingoonya, 19 Aug. 1972, K. Dimits, 1 ex. (Museum of Victoria).

Tasmania: Hobart, 2 exx. (Museum of Victoria).

Victoria: Irymple, Vic., 25.II.1964, Nebois, 1 female (Museum of Victoria).

Western Australia: Between Perth & Busselton, W.A., Jan. 1958, 1 female (Museum of Victoria).

Distribution (Lis 1999d, 2001a, 2001c; Cassis & Gross 2002): To date, known from New South Wales, Northern Territory, South Australia and Tasmania.

Note: New to Queensland, Victoria, and Western Australia.

***Byrsinus setosus* J.A. Lis, 2001**

Queensland: Broadbeach, Sept. 1968, 1 ex. (Museum of Victoria).

Western Australia: Between Perth & Busselton, W.A., Jan. 1958, 1 female (Museum of Victoria).

Distribution (Lis 2001a, 2001c; Cassis & Gross 2002): In Australia, it was known only from Queensland so far. Moreover, it was also recorded in Flores, Indonesia.

Note: New to Western Australia.

***Eulonips coleopteroides* J.A. Lis, 1999**

Victoria: Langi Ghiran, V., 19.01.2022, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999c, 1999d, 2002; Cassis & Gross 2002): New South Wales, South Australia, Victoria.

***Eulonips pilitylus* (Signoret, 1881)**

South Australia: Lake Gilles, SA, 25.11.03, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1996, 1999c, 1999d; Cassis & Gross 2002): Known only from Queensland, so far.

Note: New to South Australia.

***Fromundus pygmaeus* (Dallas, 1851)**

Northern Territory: Daly River, N.T., 1-7-1969, J.S. LeSouef, 1 male (Museum of Victoria); Oenpelli, N.T., DP. Cahill, 12.18, 5 males (Museum of Victoria); Humpty Doo, NT, 15.8.18, LJ Cookson, 1 male in JAL collection, Institute of Biology, University of Opole).

Queensland: Eacham, Queensland, 19.11.17, LJ Cookson, 2 females (LJ Cookson collection, Museum of Victoria); Carmoo, Queensland, 23.11.17, LJ Cookson, 2 females 1 male (LJ Cookson collection, Museum of Victoria), 1 female 1 male in JAL collection, Institute of Biology, University of Opole); Cardwell, Queensland, 25.7.17, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria); Mission Beach, Q. 9.2.2014, LJ Cookson, 2 females 2 males (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1996, 1999d; Cassis & Gross 2002): One of the most common burrower bug species known from the Palaearctic, Oriental and Australian Regions. In Australia, it was known only from the Northern Territory to date (Cassis & Gross 2002).

Note: New to Queensland.

***Geotomus breweri* Signoret, 1883**

New South Wales: Albury, N.S.W., 3-7-27, F.E. Wilson, 1 male (in JAL collection, Institute of Biology, University of Opole).

Northern Territory: Darwin, From prof. Spencer Coll., 7-8/12, 1 female (Museum of Victoria); Humpty Doo, NT, 15.8.18, LJ Cookson, 6 females (5 females in LJ

Cookson collection, Museum of Victoria, 1 female in JAL collection, Institute of Biology, University of Opole); Acacia Hill, NT, 21.8.18, LJ Cookson, 2 females 1 male (LJ Cookson collection, Museum of Victoria).

Queensland: Normanton, Queensland, 11.10.52, Bunburg, 2 males (Museum of Victoria).

Victoria: Victoria, 1 male (Museum of Victoria).

Distribution (Lis 1996, 1999d, 2000a; Cassis & Gross 2002): Known only from Western Australia, so far.

Note: New to New South Wales, Northern Territory, and Victoria.

Geotomus garsaurioides J.A. Lis, 2001

Victoria: Lake Hattah, Vic., 9.12.1969, G. Anderson, 3 males, 3 females (Museum of Victoria); Vic., Yambuk Beach, under kelp, 7 Mar. 1978, A.A. Calder, 1 female (Museum of Victoria).

Distribution (Lis 2000a; Lis & Hohol 2001; Cassis & Gross 2002): Australia (Australian Capital Territory, New South Wales, Queensland, South Australia, Victoria, Western Australia).

Geotomus gracilipes Signoret, 1883

Victoria: Irymple, Vic., 25.II.1964, Nebois, 1 female (Museum of Victoria).

Distribution (Lis 1996, 1999d, 2000a; Cassis & Gross 2002): Australia (New South Wales, Northern Territory, Queensland, South Australia, Western Australia).

Note: New to Victoria.

Macroscytus annulipoides J.A. Lis, 1999

Queensland: Hann River, North Queensland, 70 miles S. of Coen, 23-6-1970, J.S. Le Souef, 1 female (Museum of Victoria); Mission Beach, Q., 9.2.2014, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria); Kuranda, Q., 29.11.16., LJ Cookson, 3 females (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002; Lis & Rakowiecka 2012): Known only from Queensland in Australia.

Macroscytus arnhemicus J.A. Lis, 1999

Queensland: Eacham, Q., 19.11.17, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002; Lis & Rakowiecka 2012): Known only from Australia (Northern Territory, Queensland).

Macroscytus australis (Erichson, 1842)

Queensland: Innisfail, Q., 22.11.17, LJ Cookson, 1 male (LJ Cookson collection, Museum of Victoria). **Western Australia:** Booragoon, WA, 2.1.1997, LJ Cookson, 1 male (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002; Lis & Rakowiecka 2012): Species widely distributed in the Australian Region; known also from Java.

Macroscytus bisetosus J.A. Lis, 1999

Queensland: Kuranda, Q., 14.8.16, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria); Eacham, Q., 19.11.17, LJ Cookson, 2 males (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002): Known only from Queensland in Australia.

Macroscytus glaberrimus J.A. Lis, 1999

Queensland: Pt Douglas, Q., 7.11.11, LJ Cookson, 1 male (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002; Lis & Rakowiecka 2013): Known only from Queensland and New South Wales in Australia.

Macroscytus minimus J.A. Lis, 1999

Western Australia: Kalgoorlie, WA., 10.3.15, LJ Cookson, 1 female 1 male (LJ Cookson collection, Museum of Victoria), 1 male (JAL collection, Institute of Biology, University of Opole).

Queensland: Winton, Q., 5.7.2017, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002): Widely distributed in Australia (New South Wales, Northern Territory, Queensland, South Australia, Western Australia).

Macroscytus piceus (Westwood, 1837)

Northern Territory: Tennant Ck, NT., 20.6.17, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 1999a, 1999d, 2000b; Cassis & Gross 2002): In Australia, it has been recorded from the Northern Territory, Queensland, South Australia, Western Australia, and Tasmania and also known from Sumba Island in Indonesia.

Prolactistes australis J.A. Lis, 2001

Northern Territory: Humpty Doo, NT, 15.8.18, LJ Cookson, 1 female (LJ Cookson collection, Museum of Victoria).

Distribution (Lis 2001b; Cassis & Gross 2002; Lis & Zielińska 2020): In Australia, it is recorded from the Northern Territory and Queensland; it is also known from Indonesia (Ambon Island, Timor).

Acknowledgements

I want to thank Dr. Simon Hinkley (Collection Manager, Terrestrial Invertebrate Collection, Museums Victoria, Melbourne, Australia) and Dr. Laurie J. Cookson (Warrandyte, Victoria, Australia) for providing the Cydnidae specimens for my studies.

References

- Cassis G., Gross G. F. 2002. *Hemiptera: Heteroptera (Pentatomomorpha)*. [in:] Houston W.W.K., Wells A. (eds). *Zoological Catalogue of Australia*. Vol. 27.3B. CSIRO, Melbourne, xiv + 737 pp.

- Lis J.A. 1994. Studies on Cydnidae of the Australian Region VII. On the genus *Aethus* Dallas, 1851 (Hemiptera: Pentatomoidea). *International Journal of Invertebrate Taxonomy – Genus (Wrocław)* **5**: 357–362.
- Lis J.A. 1995a. Studies on Cydnidae of the Australian Region V. The genus *Chilocoris* Mayr in Australia, Tasmania and Moluccas (Hemiptera). *Bonner zoologische Beiträge* **45**: 225–230.
- Lis J.A. 1995b. A synonymic list of burrower bugs of the Australian Region (Hemiptera: Cydnidae). *International Journal of Invertebrate Taxonomy – Genus (Wrocław)* **6**: 137–149.
- Lis J. A. 1996. A review of burrower bugs of the Australian Region, with a discussion on the distribution of the genera (Hemiptera: Heteroptera: Cydnidae). *International Journal of Invertebrate Taxonomy - Genus (Wrocław)* **7**: 177–238.
- Lis J.A. 1997. Three new Australian genera of burrower bugs with four new species (Hemiptera: Cydnidae). *Polish Journal of Entomology* **66**: 189–201.
- Lis J.A. 1999a. A revision of Australian species of the genus *Macroscytus* Fieber (Hemiptera: Heteroptera: Cydnidae). *Entomologica scandinavica* **29** [1998]: 459–479.
- Lis J.A. 1999b. *Blaena tamasi* sp. n. from Western Australia, the first species of Cydnidae (Hemiptera: Heteroptera) with staphylinoid wing modification. *European Journal of Entomology* **96**: 53–55.
- Lis J.A. 1999c. A revision of the Australian genus *Eulonips* J.A. Lis, with descriptions of three new species (Hemiptera: Cydnidae). *Polish Journal of Entomology* **68**: 29–39.
- Lis J.A. 1999d. Burrower bugs of the Old World – a catalogue (Hemiptera: Heteroptera: Cydnidae). *International Journal of Invertebrate Taxonomy – Genus* **10**: 165–249.
- Lis J.A. 1999e. Taxonomy and phylogeny of Cephalocteinae with a reference to their biogeography (Hemiptera: Heteroptera: Cydnidae). *Polish Journal of Entomology* **68**: 111–131.
- Lis J.A. 1999f. The genus *Chilocoris* (Hemiptera: Cydnidae) in Australia. *Acta Societatis Zoologicae Bohemicae* **63**: 139–155.
- Lis J.A. 2000a. A review of the Australian species of *Geotomus* Mulsant et Rey, 1866, with descriptions of three new species (Hemiptera: Heteroptera: Cydnidae). *Polish Journal of Entomology* **69**: 411–428.
- Lis, J.A. 2000b. A revision of the burrower-bug genus *Macroscytus* Fieber, 1860 (Hemiptera: Heteroptera: Cydnidae). *International Journal of Invertebrate Taxonomy – Genus* **11**: 359–509.
- Lis J.A. 2001a. *Byrsinus setosus* n. sp. from Flores and new records of some other Old World Cydnidae (Hemiptera: Heteroptera). *International Journal of Invertebrate Taxonomy – Genus* **12**: 13–22.
- Lis J.A. 2001b. *Prolactistes australis* gen. et sp. nov. from Australia, with remarks on its systematic position within the family (Hemiptera: Heteroptera: Cydnidae). *Annales Zoologici (Warszawa)* **51**: 103–107.
- Lis J.A. 2001c. A review of the genus *Byrsinus* Fieber, 1850 (Hemiptera: Heteroptera: Cydnidae) in Australia, with a key to Australo-Pacific species. *Annales Zoologici (Warszawa)* **51**: 197–203.
- Lis J.A. 2002. Burrower bugs described after the Old World catalogue of the family (Hemiptera: Heteroptera: Cydnidae). *Polish Journal of Entomology* **71**: 7–17.
- Lis, J.A., Domagała, P.J. 2024. Inconsistencies in the Classification of the Family Cydnidae (Hemiptera: Heteroptera: Pentatomoidea) Revealed by Molecular Apomorphies in the Secondary and Tertiary Structures of 18S rRNA Length -Variable Region L (LVR L). *International Journal of Molecular Sciences* **25**, 939. <https://doi.org/10.3390/ijms25020939>
- Lis J.A. Heyna J. 2001. Revision of the Australian genus *Blaena* (Hemiptera: Cydnidae). *European Journal of Entomology* **98**: 321–350.
- Lis J.A., Hohol A. 2001. *Geotomus garsaurioides*, a peculiar new species of burrower bugs from Australia (Hemiptera: Heteroptera: Cydnidae). *International Journal of Invertebrate Taxonomy – Genus* **12**: 7–12.
- Lis J.A., Lis B. 2008. *Lactistes obesipes* Signoret, 1879 (Hemiptera: Cydnidae) – the burrower bug enigma: redescription, synonymy, and remarks on its distribution and taxonomic status. *Zootaxa* **1933**: 66–68. <https://doi.org/10.11646/zootaxa.1933.1.8>
- Lis J.A., Pluot-Sigwalt D. 2002. Nymphal and adult cephalic chaetotaxy of the Cydnidae (Hemiptera: Heteroptera), and its adaptive, taxonomic and phylogenetic significance. *European Journal of Entomology* **99**: 99–109.
- Lis J.A., Rakowiecka A. 2012. New data on Australian species of the genus *Macroscytus* (Hemiptera: Heteroptera: Cydnidae). *Heteroptera Poloniae – Acta Faunistica* **5**: 1–8.
- Lis J.A., Rakowiecka A. 2013. First records for two species of the genus *Macroscytus* (Hemiptera: Heteroptera: Cydnidae) from New South Wales (Australia). *Heteroptera Poloniae – Acta Faunistica* **6**: 1–2.
- Lis J.A., Zielińska A. 2020. Review of the genus *Prolactistes* (Hemiptera: Cydnidae), with two new combinations, first Indonesian records and a key to species of the genus. *Acta Entomologica Musei Nationalis Pragae* **60**: 609–614. <https://www.aemnp.eu/acta-entomologica/60-2/>

Lis J.A., Domagała P.J., Lis B. 2024. New Molecular Phylogenetic Evidence Confirms Independent Origin of Coxal Combs in the Families of the 'Cydnoid' Complex (Hemiptera: Heteroptera: Pentatomoidea). *Insects* **15**, 792.

<https://doi.org/10.3390/insects15100792>

Signoret V. 1882. Révision du Groupe des Cydnides de la Famille des Pentatomides. 5e partie (1). *Annales de la Société entomologique de France* **(6)2**: 23–42.



This work is licensed under a Creative Commons Attribution 4.0 International License
<http://creativecommons.org/licenses/by/4.0/>

Received: 18 June 2025

Accepted: 25 August 2025