



<http://dx.doi.org/10.11646/zootaxa.3900.3.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:8BF4A6EB-D3E6-4390-AA29-16B177F257A2>

The genus *Epidapus* Haliday (Diptera, Sciaridae) in New Caledonia, with the description of four new species

PEKKA VILKAMAA¹, HEIKKI HIPPA² & WERNER MOHRIG³

¹Finnish Museum of Natural History, Zoology Unit, P.O. Box 17, FI-00014 University of Helsinki, Finland.
E-mail: pekka.vilkamaa@helsinki.fi

²Gribbyslunds allé 2, SE-183 65 Täby, Sweden. E-mail: heikki.hippa@gmail.com

³Puddemin 6, D-18574 Poseritz, Germany. E-mail: wmohrig@hotmail.com

Abstract

The following species of the genus *Epidapus* Haliday, 1851 are recognized from New Caledonia: *Epidapus* (*s. str.*) *aciculatus* **sp. n.**, *E. (Pseudoaptanogyna) angulatus* **sp. n.**, *E. (s. str.) formosus* **sp. n.**, *E. (Zuhalia) primus* Mohrig, 2004 and *E. (s. str.) triquetrus* **sp. n.** The new species are described, and a key to the local species is given.

Key words: Sciaroidea, Australasian region, biodiversity, systematics

Introduction

The Diptera of New Caledonia have mainly been studied since the late 1980's, and most of the results have been presented in the seven volumes of *Zoologia Neocaledonica* (Tillier 1988, Chazeau & Tillier 1991, Matile *et al.* 1993, Najt & Matile 1997, Najt & Grandcolas 2002, Grandcolas 2008, 2009). For the Bibionomorpha, the known New Caledonian fauna includes Bibionidae (Fitzgerald 2004) and some groups of Sciaroidea: Lygistorrhinidae (Matile 1986), Keroplatidae (Matile 1988a), Ditomyiidae (Matile 1988b), and Mycetophilidae (Mycomyinae, Sciophilinae and Gnoristinae (Matile 1991), and Leiinae and Manotinae (Matile 1993). These studies show the high degree of endemism in the New Caledonian dipteran fauna, at least at the species level. However, the level of endemism in New Caledonia is known to vary among insect groups (Chazeau 1993, Cranston 2010). Current knowledge of the insect fauna, especially Diptera, its affinities, possible origin and diversity, was summarized by Couri *et al.* (2010).

Epidapus Haliday, 1851 (type-species *Epidapus venaticus* Haliday, 1856) is a large genus that is world-wide in distribution. Fourteen species are currently known from the Australasian region, one in New Caledonia, four in New Zealand (Jaschhof & Mohrig 1999), and nine in Papua New Guinea (Mohrig 2004), as well as one (undescribed) from Micronesia (Steffan 1989). The presence of *Epidapus* in Australia is unknown.

This is a continuation of an ongoing study by the present authors of the unknown sciarid fauna of New Caledonia, so far covering the genera *Keilbachia* Mohrig (Vilkamaa *et al.* 2011), *Pseudolykoriella* Menzel & Mohrig (Vilkamaa *et al.* 2012a), *Ctenosciara* Tuomikoski (Vilkamaa *et al.* 2012b), *Bradysia* Winnertz (Vilkamaa *et al.* 2012c) and *Scatopsciara* Edwards (Vilkamaa *et al.* 2012d). Köhler and Menzel (2013) also described two new species of *Bradysia*, gave new records of species of all genera of Sciaridae found in New Caledonia, including one *Epidapus*, and gave a checklist of all species known from the area. With the newly described species below, the number of New Caledonian sciarid species is now 52.

Material and methods

Our material originates from samples collected by French scientists during the late 1980's and early 1990's,

spur slightly longer than tibial width (Fig. 4 B). **Abdomen.** Pale brown. Setae dark and rather long. **Hypopygium,** Figs 4 C, D. Pale brown, as abdomen. Gonocoxa longer than gonostylus; ventral setosity sparse. Gonostylus elongated, triangular in ventral view, mesial side slightly impressed; setosity sparse; with 4 apical-subapical megasetae, megasetae slightly curved; bearing a curved apical tooth. Tegmen shorter than broad, apically truncate, with lateral shoulders. Aedeagal apodeme rather short with broad apical arms.

Discussion. *Epidapus triquetrus* differs from all of the Oceanian species of *Epidapus* in having a triangular gonostylus with an apical tooth surrounded closely by four megasetae.

Etymology. The name is Latin, *triquetrus* (triangular) referring to the form of the gonostylus of the species.

Acknowledgements

We thank Dr. S. Tillier (MNHN, Paris) for the material, and Elizabeth Binkiewicz and Jarmo Pelli (Stockholm) for the drawings.

References

- Blaschke-Berthold, U. (1994) Anatomie und Phylogenie der Bibionomorpha (Insecta, Diptera). *Bonner Zoologische Monographien*, 34, 1–206.
- Chazeau, J. (1993) Research on New Caledonian terrestrial fauna: achievements and prospects. *Biodiversity letters*, 1, 123–129.
<http://dx.doi.org/10.2307/2999756>
- Chazeau, J. & Tillier, S. (Eds.), (1991) *Zoologia Neocaledonica*, Volume 2. *Mémoires du Muséum national d'Histoire naturelle*, 149 (A), 1–358.
- Couri, M.S., Pont, A. & Daugeron, C. (2010) The Muscidae (Diptera) of New Caledonia. *Zootaxa*, 2503, 1–61.
- Cranston, P.S. (2010) Insect biodiversity and conservation in Australasia. *Annual Review of Entomology*, 55, 55–75.
<http://dx.doi.org/10.1146/annurev-ento-112408-085348>
- Fitzgerald, S.J. (2004) Bibionidae (Diptera) of New Caledonia. *Bishop Bulletins in Entomology*, 12, 79–88.
- Grandcolas, P. (Ed.), (2008) *Zoologia Neocaledonica*, Volume 6, Biodiversity studies in New Caledonia. *Mémoires du Muséum national d'Histoire naturelle*, 197 (A), 1–326.
- Grandcolas, P. (Ed.), (2009) *Zoologia Neocaledonica*, Volume 7, Biodiversity studies in New Caledonia. *Mémoires du Muséum national d'Histoire naturelle*, 198 (A), 1–440.
- Hippa, H. & Vilkamaa, P. (1991) The genus *Prosciara* Frey (Diptera, Sciaridae). *Entomologica Fennica*, 2, 113–155.
- Hippa, H. & Vilkamaa, P. (1994) The genus *Camptochaeta* gen. nov. (Diptera, Sciaridae). *Acta Zoologica Fennica*, 194, 1–85.
- Hippa, H., Vilkamaa, P. & Heinakroon, A. (1998) The genus *Pseudozygoneura* Steffan (Diptera, Sciaridae). *Acta Zoologica Fennica*, 210, 1–86.
- Köhler, A. & Menzel, F. (2013) New records of Black Fungus Gnats (Diptera: Sciaridae) from New Caledonia, with the description of two new *Bradysia* species and an updated checklist. *Zootaxa*, 3718 (1), 63–72.
<http://dx.doi.org/10.11646/zootaxa.3718.1.5>
- Matile, L. (1986) Diptères Mycetophiloidea de Nouvelle-Calédonie. 1. Lygistorrhinidae. *Annales de la Société entomologique de France*, 22, 286–288.
- Matile, L. (1988a) Diptères Mycetophiloidea de Nouvelle-Calédonie. 2. Keroplatidae. *Mémoires du Muséum national d'Histoire naturelle*, 142 (A), 89–136.
- Matile, L. (1988b) Diptères Mycetophiloidea de Nouvelle-Calédonie. 3. Ditomyiidae. *Mémoires du Muséum national d'Histoire naturelle*, 142 (A), 137–141.
- Matile, L. (1991) Diptères Mycetophiloidea de Nouvelle-Calédonie. 4. Mycetophilidae Mycomyinae, Sciophilinae et Gnoristinae. *Mémoires du Muséum national d'Histoire naturelle*, 149 (A), 233–250.
- Matile, L. (1993) Diptères Mycetophiloidea de Nouvelle-Calédonie. 5. Mycetophilidae Leiinae et Manotinae. *Mémoires du Muséum national d'Histoire naturelle*, 157 (A), 165–210.
- Matile, L., Najt, J. & Tillier, S. (Eds.), (1993) *Zoologia Neocaledonica*, Volume 3. *Mémoires du Muséum national d'Histoire naturelle*, 157 (A), 1–218.
- Menzel, F. & Mohrig, W. (2000) Revision der paläarktischen Trauermücken (Diptera: Sciaridae). *Studia dipterologica Supplement*, 6 (1999), 1–761.
- Mohrig, W. (2004) Die Trauermücken (Diptera: Sciaridae) von Papua-Neuguinea. Teil II. – Gattungen *Scythropochroa*, *Cratyna*, *Pseudozygomma*, *Epidapus*, *Hyperlasion*, *Corynoptera*, *Keilbachia*, *Scatopsciara*, *Pelliciplanta* gen. nov. und *Pseudozygomma* gen. nov. *Studia dipterologica*, 11, 129–174.
- Mohrig, W. & Jaschhof, M. (1999) Sciarid flies (Diptera, Sciaridae) of New Zealand. *Studia dipterologica*, Supplement 7,

- Najt, J. & Grandcolas, P. (Eds.), (2002) *Zoologia Neocaledonica*, Volume 5: Systématique et endémisme en Nouvelle-Calédonie. *Mémoires du Muséum national d'Histoire naturelle*, 187 (A), 1–283.
- Najt, J. & Matile, L. (Eds.), (1997) *Zoologia Neocaledonica*. Volume. 4. *Mémoires du Muséum national d'Histoire naturelle*, 171 (A), 1–399.
- Steffan, W.A. (1989) *II. Family Sciaridae*. In: Evenhuis, N.L. (Ed.), *Catalog of the Diptera of the Australasian and Oceanian regions*, Bishop Museum Press and E.J. Brill, Honolulu and Leiden, pp. 146–151.
- Tillier, S. (Ed.), (1988) *Zoologia Neocaledonica*. Volume 1. *Mémoires du Muséum national d'Histoire naturelle*, 142 (A), 1–158.
- Vilkamaa, P., Hippa, H. & Mohrig, W. (2011) The genus *Keilbachia* Mohrig (Diptera, Sciaridae) in New Caledonia, with the description of five new species. *Zootaxa*, 2771, 53–62.
- Vilkamaa, P., Hippa, H. & Mohrig, W. (2012a) The genus *Pseudolycoriella* Menzel & Mohrig (Diptera, Sciaridae) in New Caledonia, with the description of thirteen new species. *Zootaxa*, 3207, 1–21.
- Vilkamaa, P., Hippa, H. & Mohrig, W. (2012b) The genus *Ctenosciara* Tuomikoski (Diptera, Sciaridae) in New Caledonia, with the description of eight new species. *Zootaxa*, 2560, 42–50.
- Vilkamaa, P., Hippa, H. & Mohrig, W. (2012c) The genus *Bradysia* Winnertz (Diptera, Sciaridae) in New Caledonia, with the description of thirteen new species. *Zootaxa*, 3489, 25–44.
- Vilkamaa, P., Hippa, H. & Mohrig, W. (2012d) The genus *Scatopsiara* Edwards (Diptera, Sciaridae) in New Caledonia, with the description of four new species. *Zootaxa*, 3591, 67–74.