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# Taxonomic notes on Australian species of *Sciacharis* (*Magellanoconnus*) (Coleoptera: Staphylinidae: Scydmaeninae)

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## Abstract

Two species of Australian Cyrtoscydmini were placed in the subgenus *Magellanoconnus* Franz of *Sciacharis* Broun: *S. carinifrons* (Franz) and *S. kangarouana* (Franz) (both originally described in *Neuraphoconnus*, a junior synonym of *Magellanoconnus* Franz). Examination of type specimens revealed that these species names, published in the same paper, are synonymous and *S. carinifrons* is here selected as a valid name. This species is redescribed and its morphological details are illustrated. Possible relationships of Australian *Magellanoconnus* with *Sciacharis* s. str. and *Euconnus* s. str. are discussed.

**Key words:** Coleoptera, Staphylinidae, Scydmaeninae, Cyrtoscydmini, *Sciacharis*, *Magellanoconnus*, *Neuraphoconnus*, Australia, Kangaroo Island

## Introduction

Only two species of *Sciacharis* Broun, 1893 belonging to the subgenus *Magellanoconnus* Franz, 1967 were described from Australia. Both were originally placed in *Neuraphoconnus* Franz, 1971, a genus later synonymized with *Magellanoconnus* (Franz 1986). These are *S. carinifrons* (Franz, 1975) from Port Lincoln and an unknown locality in Victoria, and *S. kangarouana* (Franz, 1975) from Kangaroo Island. These species, according to the original description, seem to differ from all other Australian Cyrtoscydmini in the presence of a long median longitudinal pronotal carina. Franz (1975) listed several distinct differences between *S. carinifrons* and *S. kangarouana*, including not only external characters but also structures of the aedeagus. However, I was not able to find any of these differences while studying the holotypes of both species. This paper is focused on providing evidence for conspecificity of *S. carinifrons* and *S. kangarouana* and presents conclusions that justify synonymization of these names. Moreover, a detailed description of morphological structures is presented, to facilitate further study on south-hemisphere *Sciacharis*- and *Euconnus*-like taxa.

## Material and methods

Dry-mounted specimens were relaxed in warm water. Morphological structures were studied in permanent Canada balsam preparations (aedeagi remounted from previous euparal slides) and whole-body temporary glycerol mounts (remaining structures) and observed under a compound light microscope. Habitus images were taken by a Nikon Coolpix 4500 camera mounted on a Nikon Eclipse 1500 stereoscopic microscope; image stacks were processed using COMBINE ZP (Hadley 2010). Translucent structures in transparent mounts were photographed by a KY-F75U (JVC) camera mounted on a Leica M205 C microscope. Morphological structures were figured by a freehand drawing, with exact proportions and general shapes sketched from photographs. The terminology follows that of Jałoszyński (2012, 2014). The measurements and abbreviations are as follows:

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*Sciacharis carinifrons* shares the following characters with *Sciacharis* s. str., but not with *Euconnus* s. str.:

- absence of frontoclypeal groove;
- bristles on vertex and tempora;
- the pronotum broadest in anterior half;
- a similar shape of the mesoventral process, at least in its intercoxal portion.
- the head capsule 'anthiciform', i.e., nearly pentagonal in dorsal view, with long tempora rapidly bent mesally in posterior portion;

*Sciacharis carinifrons* shares the following characters with *Euconnus* s. str., but not with *Sciacharis* s. str.:

- presence of dorsolateral mesothoracic foveae;
- broadly separated metacoxae, and consequently the metendosternite with broad and short stalk.

Without a formal phylogenetic analysis it is difficult to draw any conclusions about a closer relationship of *Sciacharis carinifrons* (and possibly all its congeners originally placed in *Neuraphoconnus*) with *Sciacharis* s. str. or *Euconnus* s. str., and therefore its generic status must remain unchanged until a robust evolutionary hypothesis has been formulated.

Within Australian Cyrtoscydmini, *Sciacharis* (*Magellanoconnus*) can be easily identified on the basis of the longitudinal median pronotal carina extending along major part of the pronotal disc; no other described taxon has such a structure. However, I have seen several undescribed species from Tasmania and South Australia superficially resembling *Euconnus*, with more oval pronotum, less 'anthiciform' head and antennae with indistinct club, which also have the long median pronotal carina, the sublateral carinae and sharply marked lateral pronotal edges in posterior half. A detailed study revealed that not only all important ventral structures, but also male secondary sexual characters (i.e., the protrochanters and protibiae) justify the placement of these species in *Sciacharis* (*Magellanoconnus*) (or at least in the same genus and subgenus as *S. carinifrons*, if *Neuraphoconnus* in future is found distinct from *Magellanoconnus*). Interestingly, these species have aedeagi strikingly different from that of *S. carinifrons*, elongate and with deeply bifurcate apical parts, resembling those illustrated by Franz (1975) for *Sciacharis* (s. str.) *depressa* (Lea, 1914) and *Sciacharis* (s. str.) *colobopsis* (Lea, 1910) (both originally placed in *Scydmaenus* Latreille, and transferred to *Euconnus* (*Allomaoria*) by Franz (1975)). These two species lack the longitudinal pronotal carina (studied on photographs of the holotypes kindly made available to me by Peter Hudson). For these reason I refrain here from describing any new species of *Magellanoconnus* from Australia, as some species previously placed in *Sciacharis* s. str. or even in *Euconnus* may turn out to belong in this taxon. The highly chaotic placement of various *Sciacharis*-like and *Euconnus*-like Australian species in combination with these two genus names requires further study.

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## References

Broun, T. (1893) *Manual of the New Zealand Coleoptera. Parts V, VI, VII*. New Zealand Institute, Wellington, 1504 pp. [pp. 975–1504]

Franz, H. (1967) Zur Kenntnis der Scydmaenidenfauna von Lateinamerika. I Teil: Scydmaeniden aus Chile und dem südlichen Argentinien. II Teil: Scydmaeniden aus dem subtropischen und tropischen Amerika. *Biologie de l'Amerique Australe*, 3, 611–724.

Franz, H. (1971) Untersuchengun uber die Scydmaenidenfauna Neukaledoniens (Col., Scydm.). *Koleopterologische Rundschau*, 49, 43–157.

Franz, H. (1975) Revision der Scydmaeniden von Australien, Neuseeland und den benachbarten Inseln. *Österreichische Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse*, 118, 1–312.

Franz, H. (1980) Weiterer Beitrag zur Kenntnis der Scydmaenidenfauna Neuseelands. *Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Mathematisch-Naturwissenschaftliche Klasse, Abteilung I*, 189, 249–313.

Franz, H. (1986) 4. Beitrag zur Kenntnis der Scydmaenidenfauna Neuseelands. *Sitzungsberichte der Österreichischen Akademie der Wisseschaften, Mathematisch-Naturwissenschaftliche Klasse, Abteilung I*, 194, 197–246.

Franz, H. (1993) Nachträge zur Kenntnis der Scydmaenidenfauna des magellanisch-valdivianischen Faunengebietes in Chile (Coleoptera, Scydmaenidae). *Zeitschrift der Arbeitsgemeinchaft Österreichischer Entomologen*, 44, 99–108.

Franz, H. (1997) Weitere von T. Cekalovic in Chile gesammelte Scydmaeniden (Coleoptera: Scydmaenidae). *Koleopterologische Rundschau*, 67, 159–168.

Hadley, A. (2010) Combine ZP software, new version, [WWW document]. Available from: http://www.hadleyweb.pwp.blueyonder.co.uk/CZP/News.htm (accessed 6 Nov. 2014)

Jałoszyński, P. (2012) Taxonomy of '*Euconnus* complex'. Part I. Morphology of *Euconnus* s. str. and revision of *Euconnomorphus* Franz and *Venezolanoconnus* Franz (Coleoptera, Staphylinidae, Scydmaeninae). *Zootaxa*, 3555, 55–82.

Jałoszyński, P. (2014) Comparative morphology and taxonomy of *Sciacharis* s. str., *Chathamaenus* Franz and *Maorinus* Franz (Coleoptera: Staphylinidae: Scydmaeninae). *Zootaxa*, 3794 (2), 222–236. http://dx.doi.org/10.11646/zootaxa.3794.2.2

Kuschel, G. (1990) Beetles in a suburban environment: a New Zealand case study. The identity and status of Coleoptera in the natural and modified habitats of Lynfield, Auckland 1974–1989. *New Zealand Department of Scientific and Industrial Research. DSIR Plant Protection Report,* 3, 1–118.

Lea, A.M. (1910) Australian and Tasmanian Coleoptera inhabiting or resorting to the nests of ants, bees, and termites. *Proceedings of the Royal Society of Victoria, Melbourne (N.S.)*, 23, 116–230.

Lea, A.M. (1914) Notes on Australian and Tasmanian Scydmaenidae, with descriptions of new species. *Proceedings of the Royal Society of Victoria, Melbourne (N.S.)*, 27, 198–231.

Newton, A.F. & Franz, H. (1998) World catalog of the genera of Scydmaenidae (Coleoptera). *Koleopterologische Rundschau*, 68, 137–165.