## NOTE

# THE GENUS *TEREDOLAEMUS* SHARP (COLEOPTERA: BOTHRIDERIDAE) IN AUSTRALIA

JOHN F. LAWRENCE

*Division of Entomology, CSIRO, G.P.O. Box 1700, Canberra, A.C.T. 2601.*

## Abstract

*Oxylaemus leae* Grouvelle is transferred to *Teredolaemus* and comments are made on its distribution and biology. A key is given to distinguish *Teredus* Shuckardt, *Teredolaemus*, *Teredomorphus* Heinze, and *Oxylaemus* Erichson.

*Teredolaemus* Sharp, 1885 includes 23 species, 12 from Africa and the remainder occurring in Madagascar, India, Sri Lanka, New Britain, the Philippines, and Japan. Although Heinze (1943) included the genus in the tribe Deretaphrini, Pope (1961) placed it in a separate tribe Teredini (originally proposed by Seidlitz 1888), which also includes *Teredus* Shuckardt, *Teredomorphus* Heinze, and *Oxylaemus* Erichson. Both Heinze and Pope included these genera in the family Colydiidae (Tenebrionoidea = Heteromera), but recent studies have shown them to belong to the superfamily Cucujoidea (= Clavicornia), where they constitute part of the family Bothrideridae (Lawrence 1980; Lawrence in press; Pal and Lawrence unpubl.; R. A. Crowson and S. A. Slipinski pers. comm.). Species of *Teredolaemus* may be distinguished from those of other teredine genera by the characters given in the following key.

1. Procoxal cavities closed posteriorly; last antennal segment distinctly separated from the one preceding, so that the antennal club is clearly 2-segmented; prosternum flat or only slightly tumid, without anterior process, meso- and metasternum simple; outer edges of all tibiae without spines; pronotum without basal impressions. Palaearctic **Teredus**
   Procoxal cavities open posteriorly; last 2 antennal segments usually closely united, so that antennal club appears 1-segmented; without other characters in combination .. .. 2
2. Outer edges of all tibiae with several spines distributed along their entire lengths; prosternum with a distinct, forward projecting, median process at its anterior edge; mesosternum simple; metasternum with pair of diverging carinae extending posteriorly from base of metasternal process; pronotum usually with paired cavities and paired longitudinal impressions at base. Holarctic .. .. .. .. .. **Oxylaemus**
   Outer edges of all tibiae simple, without spines except at outer apical angles; prosternum without distinct anterior process (sometimes slightly produced at midline); mesosternum with median carina; metasternum simple; pronotum simple .. .. .. .. 3
3. Prosternum strongly tumid or carinate, especially anteriorly. Africa .. .. **Teredomorphus**
   Prosternum flat or only slightly tumid. Africa, Asia, Australia .. .. .. **Teredolaemus**

*Oxylaemus leae* Grouvelle, 1908 was described from specimens collected by Lea in Tasmania (Frankford, Hobart, Mt Wellington, Zeehan). No reasons were given for its inclusion in this genus. Several larvae, a pupa, and a number of adults of an unknown teredine emerged from cuts of *Nothofagus cunninghamii* (Hooker) Oersted (myrtle beech) infested with ambrosia beetles (*Platypus subgranosus* Schedl, Platypodidae), collected in the Arve Valley, Tasmania (7.xii.1982, H. Elliot), and kept in cages in Canberra. Although types of *Oxylaemus leae* were not examined, 3 adults collected by Lea at Frankford, Tasmania, and identified by him as *O. leae*, were found to be conspecific with specimens from the Arve Valley, but to possess the diagnostic features (given above) of *Teredolaemus*, rather than *Oxylaemus*. *Teredolaemus leae* (Grouvelle) comb. n. is the first species of the genus to be recorded from Australia. From the keys and descriptions given by Hinton (1941), Heinze (1943), and Pope (1961), *T. leae* appears to belong to a group of species including *T. boettcheri* Heinze (Philippines), *T. impressipennis* Heinze (Africa), *T. heinzei* Slipinski (Africa), and *T. pilosus* Hinton (New Britain) and characterised by the elongate, cylindrical form, distinct impression at the elytral apex, and vestiture including long, erect hairs. It may be distinguished from these species by the following combination of characters: (1) antennal segment 11 distinctly larger than 10; (2) pronotum elongate and slightly narrowed posteriorly; (3) elytra about 2.5 times as long as combined width; and (4) colour black with parts of the elytra red to dark reddish-brown, especially along midline.

The species has been collected at several localities in Tasmania and specimens have also been seen from Victoria (Tanjil Bren, Trentham) and New South Wales (near Yeola, Upper Kangaroo River; Beaury State Forest). The larvae, which are described and figured elsewhere (Lawrence in press; Pal and Lawrence in prep.) are not of the ectoparasitic type characteristic of the deretaphrine genera *Sosylus* Erichson, *Asosylus* Grouvelle, and *Deretaphrus* Newman (Craighead 1920, Roberts 1980), but have a well sclerotised, tuberculate upper surface and mouthparts usually associated with mycophagous feeding habits. Although no recognisable gut contents were observed in the larvae from Arve Valley, Hinton (1941) observed both hyphae and spores in the gut of *Teredolaemus pilosus* collected in scolytid-infested cocoa wood from Rabaul, New Britain. It is likely that the larvae of *Teredolaemus* species feed on the ambrosia fungi lining the tunnels of Platypodidae and some Scolytidae. The pupa of *T. leai*, unlike those of Deretaphrini and Bothriderini, is not enclosed in a cocoon. These larval and pupal characters support Pope's inclusion of *Teredolaemus* and related genera in a distinct tribe.

## Acknowledgments

I am grateful to Dr H. Elliot, Forestry Commission, Hobart, for sending the *Nothofagus* cuts; to Dr E. C. Zimmerman for identifying the Platypodidae; and to Drs E. G. Matthews, South Australian Museum, and A. Neboiss, Museum of Victoria, for the loan of specimens.

## References

CRAIGHEAD, F. C. (1920)—Biology of some Coleoptera of the families Colydiidae and Bothrideridae. *Proc. ent. Soc. Wash.* **22:** 1-13.

GROUVELLE, A. (1908)—Description d'une nouvelle espèce d' *Oxylaemus* (Coleoptera: Colydiidae). *Proc. Linn. Soc. N.S.W.* **32:** 835-836.

HEINZE, E. (1943)—Studien zur Kenntnis der Tribus Deretaphrini und deren Stellung im System (Colydiidae). *Ent. Bl. Biol. Syst. Käfer* **39:** 85-93, 97-124.

HINTON, H. E. (1941)—A new *Teredolaemus* from New Britain (Coleoptera, Colydiidae). *Entomologist* **1941:** 136-137.

LAWRENCE, J. F. (1980)—A new genus of Indo-Australian Gempylodini with notes on the constitution of the Colydiidae (Coleoptera). *J. Aust. ent. Soc.* **19:** 293-310.

LAWRENCE, J. F. (in press)—Family Bothrideridae. *In* Stehr, F. (Ed.). *Immature insects* **2.** Kendall-Hunt: Dubuque.

POPE, R. D. (1961)—Colydiidae (Coleoptera: Clavicornia). *Explor. Parc natn. Garamba Miss. H. de Saeger* **25:** 1-115.

ROBERTS, H. (1980)—Description of the developmental stages of *Sosylus* spp. (Coleoptera: Colydiidae) from New Guinea, parasites and predators of ambrosia beetles (Coleoptera: Platypodidae). *Bull. ent. Res.* **70:** 245-252.

SEIDLITZ, G. (1888)—*Fauna baltica. Die Käfer (Coleoptera) der deutschen Ostseeprovinzen Russlands* Second edn (part), pp. 17-80, xli-xlvii, 97-336. Hartung: Königsberg.

SHARP, D. (1885)—On the Colydiidae collected by Mr. G. Lewis in Japan. *J. Linn. Soc.* (Zool.) **19:** 58-84.

[*Manuscript received* 20 *August* 1984. *Revised* 10 *December* 1984.]