

## **Native Earthworms (Oligochaeta) from Southeastern Australia, with the Description of Fifteen New Species**

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**ABSTRACT.** This paper describes 15 new and five known endemic earthworm species, and provides keys to New South Wales genera. Two new species of *Plutellus* require expansion of the generic diagnosis to allow species with short stalks to the calciferous glands (always subordinate to the plesiomorphic tubular prostates that characterise this genus and distinguish it from *Heteropodrilus*). For *Vesiculodrilus*, the nominal type species of the genus, *V. frenchi* (Spencer, 1892), is redescribed and figured on a neotype. Nephridial vesicles, essential for inclusion in *Vesiculodrilus*, are newly reported in *V. frenchi*. Two new species from Mt Kosciuszko are added to this genus.

Syntypes of *Heteropodrilus canaliculatus* (Fletcher, 1889) and *H. mediterreus* (Fletcher, 1887b) are rediscovered, lectotypes are designated, and these species are redescribed. Six new species are added to *Heteropodrilus* requiring the generic diagnosis to be amended to accept calciferous glands that are stalked, sessile, or annular. Intermittent nephropore alternation to mid-setal lines, once thought diagnostic only of *H. shephardi* (Spencer, 1900), is reported in several other species. The close affinities amongst heteropodrilids widely distributed in New South Wales, Queensland, Victoria and South Australia is accounted for by fluvial transport along the river systems such as the Murray-Darling.

New material of *Cryptodrilus fastigatus* Fletcher, 1889 is described and a congeneric species proposed, allowing explanation of the intraspecific variation in their male fields: The pore-like “genital markings” are actually modified nephropores that function for excretion, rather than copulation. One species of *Megascolides* from Bago-Maragle State Forest is newly described; variation in forms of tubular prostates is briefly considered in remarks following this species’ description. Two new species are added to *Notoscolex*, and one new species to *Digaster*.

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Australian native earthworms belong to the Acanthodrilidae, a relatively primitive family now predominantly confined to the northerly regions (Blakemore, 1997b), and the Megascolecidae which is both more derived and more widespread. This paper considers various megascolecid genera from the southeastern states, especially New South

Wales, complementing a paper (Blakemore, 2000) that dealt only with the genus *Anisochaeta*. The methodology employed in both these studies is similar as much of the material examined was from Easton’s 1983 NSW Collection at the Australian Museum, Sydney. Many unidentified specimens in this collection were found to be new species