

Cryptodrilus rubens Fletcher, 1887a. *Sp. inquirendum* *Geofdyneia rubens*.
New genus & combination.

REMARKS

The two new *Plutellus* species of Blakemore (2000b) differ from the generic definition in this monograph in that the stalks of the calciferous glands are short (as is typical of *Heteroporodilus*). I concur with Blakemore that its tubular prostates nevertheless distinguish it from *Heteroporodrilus*, defined by racemose prostates. However, the *Plutellus-Heteroporodrilus* assemblage requires further analysis, preferably using molecular techniques, as it is possible that the racemose condition has occurred homoplastically within the *Plutellus-Heteroporodrilus* monophylum.

Cryptodrilus rubens is included by Blakemore as a *species inquirendum*. In the monograph this species has been made the type-species of the new genus *Geofdyneia*.

Vesiculodrilus Jamieson 1973

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| | Status recognized here, if different |
| <i>V. frenchi</i> (Spencer, 1892) | <i>Diporochoeta (Vesiculodrilus) frenchii</i> .
New combination. |
| <i>V. nivalis</i> Blakemore, 2000b | <i>Diporochoeta (Vesiculodrilus) nivalis</i> .
New combination. |
| <i>V. vallis</i> Blakemore, 2000b | <i>Diporochoeta (Vesiculodrilus) vallis</i> .
New combination. |

REMARKS

In this monograph the I have independently restored *Vesiculodrilus* Jamieson (1973), for species with the lumbricin arrangement of setae. However, I have placed it in *Diporochaeta* as a subgenus pending demonstration of convincing generic differences (which may be anticipated) between Australian *Diporochaeta*s and the New Zealand type-species of *Diporochaeta*. If generic distinction from the New Zealand species were demonstrated, lumbricin and perichaetin Australian species, at least of my *frenchii* and *bakeri* groups, would be placeable in an enlarged genus *Vesiculodrilus*. Both authors now recognize a restricted genus *Perionychella*. Blakemore's contention that *Terriswalkerius* should probably be reallocated to *Diporochaeta* and *Perionychella* is not supported by molecular evidence cited in this monograph, at least for *Diporochaeta*, and inclusion in the restricted *Perionychella* cannot be sustained.

Pinguidrilus has been synonymized with the prior *Vesiculodrilus* by Blakemore (2000b) on the grounds that he has been able to recognize spermathecal diverticula. It is not stated whether these are not visible in the coelom, the distinction made here, but the arrangement of nephropores appears distinctive in *Pinguidrilus*. It is certainly reasonable to consider relationship with *Vesiculodrilus* to be close. Molecular analysis should, again, be informative.

Megascolides McCoy, 1878

<i>M. bagomaraglensis</i> Blakemore, 2000b	Status recognized here, if different ? <i>Cryptodrilus bagomaraglensis</i> . New combination
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REMARKS

In this monograph I have given detailed arguments for restriction of the genus *Megascolides* to the type-species, *M. australis*. *M. bagomaraglensis* appears to be placeable in *Cryptodrilus*, as defined in this monograph (and, indeed, as defined by Blakemore, 2000b) and is closest to *C. mediocris*. It seems inescapable that, as no central lumen was found in the prostates, they must contain multiple ductules and cannot be considered truly tubular, a condition which would have debarred placement in *Cryptodrilus*. The three nephridial vesicles on each side are shared with *C. mediocris*.

M. bagomaraglensis is also a candidate for inclusion in *Austrohoplochaetella* though inclusion in that Western Australian genus would be uncertain as its detailed nephridial anatomy, particularly presence of longitudinal ureters, has not been described. Blakemore's synonymy of *Austrohoplochaetella* in *Megascolides* is not here accepted. *Austrohoplochaetella* is geographically disjunct from the latter genus and, so far as is known, differs from *Megascolides australis* in having only stomate 'holonephridia' in the caudalmost segments (together with the ureters seen in both genera). To the other differences between the two genera noted under my accounts above it may be added that no other species in the *Megascolides-Austrohoplochaetella* complex has the extreme elongation and coiling of the tubular

prostate glands seen in *M. australis*. If restriction of *Megascolides* to *M. australis* be accepted, it may be necessary to erect a new genus for other *Megascolides*-like eastern species if they are not referable to other genera such as *Cryptodrilus*. It is once more clear that additional molecular analyses are required in an attempt to resolve the relationships of native earthworms so often allocated to genera, themselves of varied rank, on ill-defined and homoplastic characters.

Heteropodrilus Jamieson, 1970a

H. bitenax Blakemore, 2000b

H. canaliculatus (Fletcher, 1889)

H. editus Blakemore, 2000b

H. hirthi Blakemore, 2000b

H. kaputar Blakemore, 2000b

H. mediterreus (Fletcher, 1887b)

H. namoi Blakemore, 2000b

H. narrabri Blakemore, 2000b

H. shephardi (Spencer, 1900)

Syn. *H. shephardi armatus* Jamieson. Subspecific status here retained

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Blakemore (2000b) gives a useful key to *Heteropodrilus* which may be used in conjunction with that given in the monograph, the two having different complements

of species. That *armatus* is a synonym rather than a subspecies of *shephardi* remains debatable.

Cryptodrilus Fletcher, 1886a

Status recognized here, if different

C. fastigatus Fletcher 1889

Trinephrus fastigatus Fletcher, 1889

C. naroomai Blakemore, 2000b

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REMARKS

Blakemore (2000b) distinguishes *Cryptodrilus* from *Notoscolex* on the grounds that *Cryptodrilus* has nephridial vesicles. This ignores the fact that morphs within one and the same species (*C. polynephricus*), and closely related species, may be vesiculate or avesiculate. Satisfactory resolution of this genus remains a problem.

Blakemore's elaborate hypothesis for regarding the variable genital markings (which he admits 'may yet have some secondary role in copulation') observed in *C. fastigatus* by Jamieson (1972c) are in fact nephropores would have been better supported if he had demonstrated their connection with nephridia (as Sims and Easton, 1972, did for nephridia and spermathecae in some pheretimoids). Why the complex and varied configurations of the supposed nephropores are restricted to the genital region is not explained. Nor is it clear why arguments advanced by Jamieson (1972c) for the biogeographic vicariation of the various arrangements of tubercles are not required if they subservise an excretory function.

The isolated position of *Cryptodrilus fastigatus* relative to other species referred to *Cryptodrilus* was demonstrated on the basis of a numerical analysis of setal ratios by Jamieson (1972c) and in this monograph it is reinstated in the monotypic genus *Trinephrus* Beddard, 1895. Blakemore (2000b) does not give setal ratios in his accounts, though these have been shown by the author to have a high information content.

Notoscolex Fletcher, 1886a

Status recognized here, if different

N. harenapascuus Blakemore, 2000b *Anisochaeta harenapascuus* (Blakemore, 2000b)

N. meekae Blakemore, 2000b -

REMARKS

N. harenapascuus Blakemore (2000b) conforms well to the definition of *Anisochaeta* in this monograph. Features consistent with the definition of that genus which it shows are: setae 8 per segment; dorsal pores from 9/10; spermathecal pores 2 pairs, in 7/8 and 8/9; most important, calciferous glands six pairs, in VIII-XIII; intestine commencing in XVI; prostates racemose (described and illustrated as deeply lobulated tubuloracemose); meronephric. Demonstration of multiple preseptal nephrostomes caudally would confirm placement in *Anisochaeta* but the only suggestion that this may be the case is the observation that the nephridia are attached to anterior septa. Comparison with the description of the type-species of *Notoscolex*

given in this monograph would give little reason for placement of *harenapascuus* in that genus. Geographically it lies within the *Anisochaeta* domain.

Synonymy of *Oreoscolex* in *Notoscolex* is not here accepted as there is no good reason to place the respective type-species in the same genus. Molecular analyses are needed to aid resolution of the complex formed by these two genera and other genera such as *Cryptodrilus*.

Digaster Perrier, 1872. emend Jamieson 1975c

D. eastoni Blakemore, 2000b