

**ANNOTATED CHECKLIST OF THE
MILLIPEDES (DIPLOPODA) AND
CENTIPEDES (CHILOPODA) OF SINGAPORE**



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Raffles Museum of Biodiversity Research
National University of Singapore
Singapore
2013

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INTRODUCTION

Singapore is well known for its unique fauna and flora. As is the case for many other soil invertebrates, the myriapod fauna of Singapore is poorly known. Records and descriptions are widely scattered in the literature. The most extensive work on the Singaporean millipede and centipede fauna was done by Verhoeff (1937), Wang & Tang (1965a, 1965b), and Wang (1967a, 1967b). So far the largest list of centipedes and millipedes of Singapore was provided by Wang & Tang (1965a, 1965b).

Most of the historical records are from Bukit Timah or unknown localities in Singapore. Subsequent to the work of Wang & Tang, Singapore was totally unnoticed by myriapodologists and additional records in the literature were incidental.

This checklist provides a functional compilation of records, references, updated species names, and annotations on distribution or taxonomical status to provide a review of myriapodology in Singapore since the late 19th century. The present checklist should be regarded as an invitation for future studies on the Singaporean millipede and centipede fauna.

MATERIAL AND METHODS

Records from Singapore compiled from the literature and additional material collected in urban areas of Singapore in 2010–2012 were examined. The material is deposited in the collection of the Senckenberg Museum of Natural and History Görlitz (SMNG) and the Zoological Reference Collection (ZRC) of the Raffles Museum of Biodiversity Research (RMBR).

Most parts of the collection of Wang were probably lost during several movements (Korsós & Lu, 2005). A small collection of myriapods determined by Wang and other unidentified material from Singapore exists in the ZRC of the RMBR. The material studied by Verhoeff is deposited in the collections of the Zoologische Staatssammlung in Munich, Germany, and the Museum für Naturkunde in Berlin, Germany. Material of these collections was not examined for this study.

The classification for Diplopoda used for this checklist follows Hoffman (1979), incorporating revisions by Shelley (2002). For Chilopoda, Minelli et al. (2012) was used. Genera within families, and species within genera, are listed alphabetically. Synonyms or combinations relevant for the literature are listed under the valid name in square brackets. Records from Singapore are given with references. New records are listed separately. The general distribution of the species is given with references. In actual cases, remarks in terms of taxonomic status or biology are given.

There are species with obviously unclear taxonomic status because of poor taxonomic descriptions or unclear diagnosis. Other records are dubious as no original publication was found. To provide a complete list so that future workers are aware of problematic species or records, doubtful species or notes for each individual problems are given in the remarks.

RESULTS AND DISCUSSION

The millipede fauna of Singapore comprises 33 species, including the order Polyxenida (one species), Glomeridesmida (one species), Sphaerotheriida (three species), Spirobolida (five species), Spirostreptida (three species), Siphonophorida (one species), and Polydesmida (19 species). Seven species are so far only known from Singapore: *Zephronia floweri* Hirst, 1907; *Sphaeropoeus malaccanus* Verhoeff, 1910; *Tigridosphaera bimaculata* (Pocock, 1895); *Tonkinbolus capucinus* (Porat, 1876); *Margaritosoma singaporense* Golovatch, 1996; *Opisthodolichopus scandens* Hoffman, 1973; and *Orthomorpha murphyi* Hoffman, 1973. Thirteen species are only known from the adjacent countries, Malaysia and Indonesia, and 13 species are widespread in Southeast Asia or known to be tropical tramps. Two species are new to the Singaporean fauna: *Anoplodesmus saussurii* (Humbert, 1865) and *Chondromorpha xanthotricha* (Attems, 1898) (see Decker & Tertilt, 2012). For 11 species, their records or taxonomic statuses are doubtful.

The chilopod fauna of Singapore comprises 22 species and subspecies, among them representatives of the order Scutigermorpha (one species), Lithobiomorpha (two species), Scolopendromorpha (16 species), and Geophilomorpha (three species).

Two chilopod species are so far only known from Singapore: *Australobius discolor* Verhoeff, 1937 and *Cryptops navis* Chamberlin, 1930. Six species are only known from the adjacent countries, and 16 species are widespread in Southeast Asia or known to be tropical tramps. One species, *Cormocephalus dentipes* Pocock, 1891, is new to the Singaporean fauna. For seven species, their records or taxonomic statuses are doubtful.

Owing to the lack of a modern taxonomic revision for most of the orders and families occurring in Singapore and adjacent countries, it is presently not possible to say how high the species richness of the millipede and centipede fauna actually is and how many endemic species occur in Singapore. The material studied and described by Wang & Tang, Pocock, and Tömösváry also need careful revision. Additional sampling, especially in the Bukit Timah Nature Reserve, will also be helpful and can extend the knowledge of the diversity in Singapore.

**ANNOTATED CHECKLIST OF
THE MILLIPEDES AND CENTIPEDES OF SINGAPORE**

**CLASS DIPLOPODA
(MILLIPEDES)**

**Order Polyxenida
Family Polyxenidae**

Monographis kraeplini Attems, 1907

Records. — Bukit Timah (Wang, 1967a; Hon, 1968)

Distribution. — Java, Indonesia (Attems, 1914; Nguyen Duy-Jacquemin & Condé, 1967)

Polyxenus lagurus (Linnaeus, 1758)

Records. — Singapore (Ng et al., 2011)

Distribution. — Native to Europe, also known from Central Sahara and the United States (Blower, 1985)

Remarks. — Records of this species in Singapore need to be verified.

**Order Glomeridesmida
Family Glomeridesmidae**

Glomeridesmus sumatranus (Pocock, 1894)

[*Zephroniodesmus sumatranus* Pocock, 1894]

Records. — Bukit Timah (Wang & Tang, 1965a; Wang, 1967a; Hon, 1968)

Distribution. — Sumatra, Indonesia (Pocock, 1894; Jeekel, 2003; Shelley, 2011)

**Order Sphaerotheriida
Family Zephroniidae**

Fig. 1

Zephronia floweri Hirst, 1907

Records. — Singapore (Hirst, 1907)

Distribution. — Only known from Singapore

Sphaeropoeus malaccanus Verhoeff, 1910

Records. — Singapore (Verhoeff, 1910, 1924)

Distribution. — Only known from Singapore

Tigridosphaera evansi (Sinclair, 1901)

[*Sphaeropoeus evansi* Sinclair, 1901]

Records. — Singapore (Wee & Ng, 1994)

Distribution. — Malaysian Peninsula (Sinclair, 1901)

Remarks. — Records of this species in Singapore need to be verified.

Tigridosphaera bimaculata (Pocock, 1895)

[*Sphaeropoeus bimaculatus* Pocock, 1895]

Records. — Singapore (Pocock, 1895)

Distribution. — Only known from Singapore



Fig. 1. A common giant pill millipede species (Sphaerotheriida). This specimen measured approximately 3 cm long and was photographed at the Bukit Timah Nature Reserve. (Photograph by: James Koh).

Order **Spirobolida**
Family **Pseudospirobolellidae**

Benoitulus flavicollis Mauriès, 1980

Records. — Ubin Island (Enghoff, 2001)

New records. — 2 males, 2 females, 10 juveniles, Singapore Botanic Gardens, National Biodiversity Center, 14 Jun.2011, coll. Tertilt; 1 male, Singapore Botanic Gardens, National Biodiversity Center, 15 Sep.2011, coll. Tertilt; 1 male, 2 females, Hort Park, 14 Jun.2011, coll. Tertilt & Decker

Distribution. — Tropical tramp species (Enghoff, 2001)

Pseudospirobolellus avernus (Butler, 1876)

Records. — Singapore (Enghoff, 2001)

Distribution. — Tropical tramp species (Enghoff, 2001)

Family **Pachybolidae**

Tonkinbolus capucinus (Porat, 1876)

[*Spirobolus capucinus* Porat, 1876]

Records. — Singapore (Porat, 1876; Wang, 1967b)

Distribution. — Only known from Singapore

Family: **Trigoniulidae**

Trigoniulus corallinus (Gervais, 1841)

Fig. 2

[*Spirobolus sanguineus* C. L. Koch, 1847, *Spirobolus goesi* Porat, 1876, *Trigoniulus goesi* (Porat, 1876), *Trigoniulus lumbricinus* (Gerstaecker, 1873), *Trigoniulus takakuwai* (Verhoeff, 1936), *Marshallbolus takakuwai* Verhoeff, 1936]

Records. — Singapore (Tömösváry, 1885; Pocock, 1892; Flower, 1901; Hon, 1968; Johnson; 1992; Ng et al., 2011); Bukit Timah (Hon, 1968; Wang, 1967a; Murphy, 1973); Upper Thomson Road (Wang & Tang, 1965a); Botanical garden (Attems, 1909)

New records. — 1 male, Singapore Botanic Gardens, 16 Nov.2010, coll. Tertilt; 3 females, Woodland Waterfront Park, 10 May 2011, coll. Rui Feng; 1 male, 2 females, 1 juvenile, Singapore Botanic Gardens, National Biodiversity Center, 14 Jun.2011, coll. Tertilt; 1 male, 1 female, 2 juveniles, Hortpark, 16 Sep.2011, coll. Chong; 2 females, Garden by the Bay, 13 Sep.2011, coll. Tertilt; 1 male, 3 females, Sarimbun Recycling Park, 24 Nov.2011, coll. Tertilt; 1 female, Punggol Waterway Park, 16 Dec.2011, coll. Tertilt; 1 male, Republic Polytechnic, 2 Dec.2011, coll. Hau Rui; 2 females, Hortpark, 20 Dec.2011, coll. Tertilt

Distribution. — Tropical tramp species (Shelley & Lehtinen, 1999)

Leptogoniulus sorornus (Butler, 1876)

Fig. 3

Records. — Singapore (Shelley & Lehtinen, 1999)

New records. — 1 male, Singapore Botanic Gardens, Raffles Building, 16 Sep.2011, coll. Tertilt; 4 females, Hortpark, 20 Dec.2011, coll. Tertilt

Distribution. — Tropical tramp species (Shelley & Lehtinen, 1999)



Fig. 2. A male, red garden millipede, *Trigoniulus corallinus*, measuring approximately 4–5 cm long and photographed at Pulau Sakijang Pelepah (Lazarus Island). (Photograph by: James Koh).



Fig. 3. Another common species in urban biotopes is *Leptogoniulus sorornus*. These two millipedes, measuring approximately 3.5–4 cm long was photographed in the Western Water Catchment Area. (Photograph by: James Koh).

Order **Spirostreptida**
Family **Cambalopsidae**

Trachyjulus cavernicola (Pocock, 1894)
[*Cambala cavernicola* Pocock, 1894]
Records. — Bukit Timah (Hon, 1958; Wang, 1967a)
Distribution. — Sumatra, Indonesia (Pocock, 1894)

Trachyiulus nordquisti Attems, 1909
[*Cambalopsis nordquisti* Attems, 1909]
Records. — Botanical garden (Attems, 1909)
Distribution. — Widespread in Southeast-Asia and tropical tramp (Jeekel, 2004)

Family **Harpagophoridae**
Figs. 4, 5

Anurostreptus vittatus Newport, 1844
Records. — Singapore (Wang & Tang, 1965a)
Distribution. — Peninsular Malaysia and Sumatra, Indonesia (Jeekel, 2006)

Julus lagurus Gervais, 1847
Records. — Singapore (Gervais, 1847)
Distribution. — So far only known from Singapore
Remarks. — The validity of this species requires verification. It was listed as species incertae sedis by Jeekel (2006). Description was based on a juvenile.



Fig. 4. A brown giant millipede of the family Harpagophoridae. This millipede measured approximately 20 cm long and was photographed at the Nee Soon Swamp Forest. (Photograph by: Kelvin Lim Kok Peng).



Fig. 5. A white-legged giant millipede of the family Harpagophoridae. This millipede measured approximately 8 cm long and was photographed at Bukit Timah Nature Reserve. (Photograph by: Kelvin Lim Kok Peng).

Remulopygus javanicus (Brandt, 1841)

[*Thyropygus javanicus* (Brandt, 1841)]

Records. — Singapore (Wee & Ng, 1994)

Distribution. — Peninsular Malaysia, Sumatra, Java, Nicobar Islands, and Moluccas (Jeekel, 2006)

Remarks. — Listed in Wee & Ng (1994) but origin of record could not be verified.

Spirostreptus dorsolineatus Sinclair, 1901

[*Anurostreptus dorsolineatus* (Sinclair, 1901), *Thyropygus dorsolineatus* (Sinclair, 1901)]

Records. — Singapore (Wee & Ng, 1994)

Distribution. — Malaysia (Sinclair, 1901)

Remarks. — The validity of this species requires verification. According to Jeekel (2006), this is a species incertae sedis.

Thyropygus alfredi (Wang & Tang, 1965)

Records. — Singapore (Wee & Ng, 1994; Ng et al., 2011)

Distribution. — Mentawai, Indonesia (Wang & Tang, 1965a)

Remarks. — The validity of this species requires verification. According to Jeekel (2006), this is a species incertae sedis.

Thyropygus harrisoni (Wang & Tang, 1965)

Records. — Singapore (Wee & Ng, 1994)

Distribution. — Peninsular Malaysia (Wang & Tang, 1965a)

Remarks. — The validity of this species requires verification. According to Jeekel (2006), this is a species incertae sedis.

Thyropygus siberutensis (Wang & Tang, 1965)

Records. — Singapore (Wee & Ng, 1994)

Distribution. — Mentawai, Indonesia (Wang & Tang, 1965a)

Remarks. — The validity of this species requires verification. According to Jeekel (2006), this is a species incertae sedis.

Order **Siphonophorida**
Family **Siphonophoridae**
Fig. 6

Siphonophora longirostris Silvestri, 1895

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Peninsular Malaysia and Maroka, New Guinea (Jeekel, 2001)

Order **Polydesmida**
Family **Platyrrhacidae**

Phractodesmus ridley Pocock, 1897

[*Platyrrhachus ridley* (Pocock, 1897)]

Records. — Singapore (Pocock, 1897)

Distribution. — So far only known from Singapore

Remarks. — The validity of this species requires verification. This species is listed as species incertae sedis by Jeekel (2007).



Fig. 6. A member of the order Siphonophorida. This millipede measured 3 cm long and was photographed at the Central Catchment Nature Research. (Photograph by: James Koh).

Platyrhacus lineatus (Pocock, 1897)

Fig. 7

[*Acanthodesmus lineatus* Pocock, 1897]

Records. — Singapore Forest Reserve (Wang & Tang, 1965a); Bukit Timah (Wang, 1967a; Hon, 1968; Murphy, 1973); Singapore (Pocock, 1897; Ng et al., 2011)

Distribution. — Peninsular Malaysia (Jeekel, 2007)

Polydesmus malaccanus Peters, 1864

[*Platyrhachus malaccanus* (Peters, 1864)]

Records. — Singapore (Pocock, 1897)

Distribution. — Peninsular Malaysia (Wang & Tang, 1965a; Jeekel, 2007)

Remarks. — The validity of this species requires verification. This species is listed as species incertae sedis by Jeekel (2007).

Family **Paradoxosomatidae**

Anoplodesmus saussurii (Humbert, 1865)

Fig. 8

New records. — Singapore Botanic Gardens, Hortpark, Gardens by the Bay, Sengkang Riverside Park, Sarimbun Recycling Park, Republic Polytechnic (see Decker & Tertilt, 2012); 14 males, 6 females, Kiat Lee recycling plant, 4 Jan.2012.

Distribution. — Widespread tropical tramp, probably native to India or Ceylon (Shelley & Lehtinen, 1998).

Remarks. — First record of *Anoplodesmus saussurii* for Singapore. Since 2009, this species has appeared in several parks and gardens in Singapore in large numbers, often in massive aggregations (Decker & Tertilt, 2012).



Fig. 7. A female white back giant flat millipede, *Platyrhacus lineatus*. This millipede measured approximately 6 cm long and was photographed at the Nee Soon Swamp Forest. (Photograph by: Kelvin Lim Kok Peng).



Fig. 8. The flat millipede, *Anoplodesmus saussurii*, is often found in large populations in parks and gardens. This millipede was approximately 2–3 cm long and was photographed at HortPark. (Photograph by: James Koh).

Chondromorpha xanthotricha (Attems, 1898)

Fig. 9

New records. — Woodlands Waterfront Park; Singapore Botanic Gardens; Gardens by the Bay; Punggol Waterway Park; Residential at Dawson Road (see Decker & Tertilt, 2012)

Distribution. — Widespread tropical tramp, probably native to India or Ceylon (Shelley & Lehtinen, 1998)

Remarks. — First record of *Chondromorpha xanthotricha* for Singapore.

Margaritosoma singaporense Golovatch, 1996

Records. — “Island Country Club”, between Peirce Reservoir and Windsor Park Estate (Golovatch, 1996)

Distribution. — Only known from Singapore

Opisthodolichopus scandens Hoffman, 1973

Fig. 10

Records. — Bukit Timah Reserve (Hoffman, 1973; Golovatch, 1996); Nee Soon Swamp (Hoffman, 1973)

Distribution. — Only known from Singapore

Orthomorpha coarctata (De Saussure, 1860)

Records. — Botanical garden (Attems, 1909); University of Singapore (Wang & Tang, 1965a); Bukit Timah (Murphy, 1973)

New Records. — 1 female, Gardens by the Bay, 18 Nov.2011, coll. Tertilt; 1 male, 2 females, Punggol Waterway Park, 16 Dec.2011, coll. Tertilt

Distribution. — Pantropical species, originally from Southeast Asia (Shelley & Lehtinen, 1998; Likhitrakarn et al., 2011)



Fig. 9. *Chondromorpha xanthotricha* is also a common species in Singapore parks. This millipede measured approximately 2–2.5 cm long and was photographed at Gardens by the Bay. (Photograph by: Yixiong Cai).



Fig. 10. Mating pair of the native arboricole flat millipede, *Opisthodolichopus scandens*, photographed at the Bukit Timah Nature Reserve. (Photograph by: Kelvin Lim Kok Peng).

***Orthomorpha murphyi* Hoffman, 1973**

Fig. 11

Records. — Mile 8, Old Upper Thomson Road (Hoffman, 1973); Near Mile 9, Old Upper Thomson Road (Hoffman, 1973); Bukit Timah (Hon, 1968); Upper Thomson Road (Wang & Tang, 1965a); Singapore (Ng et al., 2011)

Distribution. — Only known from Singapore (Likhitrakarn et al., 2011)

Remarks. — Hon (1968) showed a drawing of the gonopods of *Orthomorpha murphyi* which was misidentified as *Orthomorpha hydrobiologica* Attems, 1930. Furthermore the records of *Orthomorpha hydrobiologica* by Wang & Tang (1965a) and the resulting record in Ng et al. (2011) probably also refer to this species.

***Orthomorpha tenuipes* (Attems, 1898)**

[*Gigantomorpha tenuipes* Attems, 1898]

Records. — Thomson Road (Wang, 1967a); Bukit Timah (Wang, 1967a)

Distribution. — Java, Indonesia (Attems, 1898; Likhitrakarn et al., 2011)

***Tectoporus filum* (Silvestri, 1895)**

[*Strongylosoma filum* Silvestri, 1895]

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Sumatra, Indonesia (Silvestri, 1895)

Remarks. — The validity of this species requires verification. This species is listed by Jeekel (1968) as species incertae sedis.



Fig. 11. The native flat millipede, *Orthomorpha murphyi*, measuring approximately 3 cm long was photographed at the Rifle Range Road forest. (Photograph by: Kelvin Lim Kok Peng).

Family **Haplodesmidae**

Cylindrodesmus hirsutus Pocock 1889

Fig. 12

Records. — Seletar Reservoir (Golovatch et al., 2001)

Distribution. — Pantropical species (Golovatch et al., 2001)

Remarks. — The *Gonomastis* sp. mentioned by Hon (1968) from Bukit Timah is probably also *Cylindrodesmus hirsutus*.

Prosopodesmus jacobsoni Silvestri, 1910

Fig. 13

Records. — University of Singapore (Wang & Tang, 1965a; Wang, 1967a)

Distribution. — Pantropical species (Hoffman, 1999)

Family **Cryptodesmidae**

Trichopeltis bicolor (Pocock, 1894)

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Sumatra, Indonesia (Jeekel, 1955)

Ophrydesmus weberi (Pocock, 1894)

[*Phenacoporous weberi* (Pocock, 1894), *Cryptodesmus weberi* Pocock, 1894]

Records. — Bukit Timah (Hon, 1968, Wang, 1967a)

Distribution. — Java, Indonesia (Pocock, 1894)



Fig. 12. *Cylindrodesmus hirsutus* belongs to a group of small millipede species. This millipede measured approximately 8–14 mm long and was photographed at the Central Catchment Nature Reserve. (Photograph by: James Koh).



Fig. 13. *Prosopodesmus jacobsoni* is a tiny species of Polydesmida. This millipede measured approximately 5–6 mm long and was photographed in a house garden. (Photograph by: James Koh).

Ophrydesmus kedahensis (Wang & Tang, 1965)

[*Phenacoporus kedahensis* Wang, 1965]

Records. — Bukit Timah (Wang 1967a); Singapore (Wang & Tang, 1965a)

Distribution. — Peninsular Malaysia (Wang & Tang, 1965a)

Family **Opisotretidae**

Carlottretus setosus (Carl, 1922)

[*Opisotretus setosus* Carl, 1922, *Solaenaulus setosus* (Carl, 1922)]

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Sumatra, Indonesia, Lae, Papua-New Guinea and Christmas Islands, Australia (Carl, 1922; Golovatch et al., 2013)

Solaenaulus butteli (Carl, 1922)

[*Opisotretus butteli* Carl, 1922]

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Peninsular Malaysia, Fiji, and Sumatra, Indonesia (Wang & Tang, 1965a; Akkari & Enghoff, 2011)

Family **Pyrgodesmidae**

Fig. 14

Cryptocorypha stylopus Attems, 1907

Records. — Bukit Timah (Wang 1967a)

Distribution. — Java, Indonesia (Attems, 1907)



Fig. 14. A member of the family Pyrgodesmidae, this millipede measured 1 cm long and was photographed at the Central Catchment Nature Reserve. (Photograph by: James Koh).

Catapyrgodesmus ceylonicus Silvestri, 1920

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Ceylon (Silvestri, 1920)

***Timahia* sp.** Hon, 1968 nom. inval.

Records. — Bukit Timah (Hon, 1968)

Distribution. — Only known from Singapore

Remarks. — Hon (1968) gives a good description of this new species and genus, but owing to the fact that the honours thesis has not been published, this name is stated as invalid.

Family **Oniscodesmidae**

Doratodesmus armatus (Pocock, 1894)

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Java, Indonesia (Jeekel, 1955)

CLASS **CHILOPODA**

Order **Scutigeromorpha**

Family **Scutigeridae**

Thereuopoda longicornis (Fabricius, 1793)

Fig. 15

[*Thereuopoda singaporiensis* Verhoeff, 1937, *Thereuopoda tweedii* Verhoeff, 1937, *Thereuopoda decipiens cavernicola* Verhoeff, 1937]

Records. — Singapore (Verhoeff, 1937; Wang, 1965b; Ng et al., 2011); Bukit Timah (Verhoeff, 1937; Wang & Tang, 1965b; Wang, 1967a)

Distribution. — Widespread species in the Indo-Australian region (Würmli, 1979)

Order **Lithobiomorpha**

Family **Lithobiidae**

Australobius discolor (Verhoeff, 1937)

[*Lithobius (Alloporodontius) discolor* Verhoeff, 1937]

Records. — Bukit Timah (Verhoeff, 1937)

Distribution. — Only known from Singapore (Eason, 1978)

Lithobius forficatus (Linnaeus, 1758)

[*Lithobius hardwickei* Newport, 1844]

Records. — Singapore (Attems, 1930)

Distribution. — European species, also introduced to North and South America and North Africa (Eason, 1964)



Fig. 15. *Thereuopoda longicornis* is the only species of Scutigleromorpha in Singapore. This centipede measured approximately 4 cm long and was photographed at the Central Catchment Nature Reserve. (Photograph by: James Koh).

Order **Scolopendromorpha**
Family **Cryptopidae**

Cryptops navis Chamberlin, 1930

Records. — Honolulu, Hawaii, in soil from Singapore, Straits settlement (Chamberlin, 1930)

Distribution. — Only known from Singapore

Cryptops malaccanus Verhoeff, 1937

Records. — Bukit Timah (Verhoeff, 1937; Wang, 1967a)

Distribution. — Peninsular Malaysia (Verhoeff, 1937)

Scolopocryptops melanostomus Newport, 1845

[*Otocryptops melanostomus* (Newport, 1845)]

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Central America and tropical Asia, including New Guinea and Fiji (Chagas, 2010)

Paracryptops weberi Pocock, 1891

Records. — Honolulu, Hawaii, in soil from Singapore, Straits settlement (Chamberlin, 1930).

Distribution. — Indonesia (Attems, 1930), Malaysia (Wümlli, 1972)

Family **Scolopendridae**

Cormocephalus dentipes Pocock, 1891

New records. — 1 specimen, Hort Park, 14 Jun.2011, coll. Tertilt & Decker

Distribution. — West Bengal, India (Jangi & Dass, 1980, Pocock, 1891), and Nepal (Lewis, 2001)

Remarks. — First record of *Cormocephalus dentipes* for Singapore

Ethmostigmus albidus (Tömösváry, 1885)

[*Heterostoma albidus* Tömösváry, 1885]

Records. — Singapore (Tömösváry, 1885)

Distribution. — So far only known from Singapore

Remarks. — The validity of this species requires verification. This is an insufficiently described species (Attems, 1930).

Otostigmus astenus (Kohlrausch, 1878)

Records. — Singapore (Ng et al., 2011)

Distribution. — Widespread species in the Indo-Australian Region (Lewis, 2010a)

Otostigmus punctiventer Tömösváry, 1885

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Sarawak, Malaysia. Probably also from Indonesia, Papua New Guinea, and the Philippines (Lewis, 2010a)

Otostigmus spinosus Porat, 1876

Records. — Bukit Timah (Verhoeff, 1937)

Distribution. — India, Myanmar, Indonesia, Malaysia, and Papua New Guinea (Lewis, 2010a)

Otostigmus trisulcatus Porat, 1876

Records. — Singapore (Ng et al., 2011)

Distribution. — Peninsular Malaysia (Verhoeff, 1937)

Rhysida carinulata (Haase, 1887)

Records. — Bukit Timah (Flower, 1901)

Distribution. — Australia, Sulawesi, and Papua-New Guinea (Koch, 1985)

Remarks. — *Rhysida carinulata* was often confused with *Rhysida rugulosa* Pocock, 1894 from Sumatra, Indonesia (Koch, 1985)

Rhysida immarginata (Porat, 1876)

Records. — Officers' Mess, Tanglin (Flower, 1901); Raffles Hotel (Flower, 1901); Singapore (Wang & Tang, 1965b)

Distribution. — Indonesia and Cuba (Lewis, 2001)

Rhysida longipes malayica Verhoeff, 1937

[*Rhysida longipes* (Newport, 1845)]

Records. — Tanglin (Flower, 1901); Singapore (Ng et al., 2011)

Distribution. — Malaysia (Verhoeff, 1937)

Rhysida singaporiensis Verhoeff, 1937

Records. — Singapore (Wang & Tang, 1965b; Ng et al., 2011)

Distribution. — Lombok, Indonesia (Lewis, 2001)

Scolopendra hardwickei Newport 1844

Records. — Forest Reserve Singapore (Wang & Tang, 1965b; Ng et al., 2011)

Distribution. — India, Nicobar and Andaman Islands, Sri Lanka, and Indonesia (Java & Sumatra) (Lewis, 2010b)

Scolopendra morsitans Linnaeus, 1758

Fig. 16

Records. — Singapore (Kohlrausch, 1881; Brölemann, 1904; Sharma, 1973; Ng et al., 2011)

Distribution. — Widespread in Australia, tropical Asia, Africa, and Madagascar. Introduced to tropical America and western Pacific islands (Shelley et al., 2005)

Scolopendra nudipes Tömösváry, 1885

Records. — Singapore (Tömösváry, 1885)

Distribution. — So far only known from Singapore

Remarks. — The validity of this species requires verification. Type material is lost. This species is listed as species incertae sedis by Korsós (2003).

Scolopendra subspinipes subspinipes Leach, 1815

Fig. 17

[*Scolopendra subspinipes mutilans* L. Koch, 1878]

Records. — Singapore (Flower, 1901; Brölemann, 1904; Wang & Tang, 1965b; Ng et al., 2011)

Distribution. — Widespread in tropical Asia and introduced to tropical America and Africa (Lewis, 2010b).



Fig. 16. One of the two common large-bodied members of Scolopendromorpha in Singapore. This centipede, which was probably *Scolopendra morsitans*, measured 20 cm long and was photographed at the Bukit Timah Nature Reserve. (Photograph by: Kelvin Lim Kok Peng).



Fig. 17. The most common member of large-bodied Scolopendromorpha in Singapore, *Scolopendra subspinipes*. This centipede measured approximately 10 cm long and was photographed at the Nee Soon Swamp Forest. (Photograph by: Kelvin Lim Kok Peng).

Order **Geophilomorpha**
Family **Mecistocephalidae**
Fig. 18

Mecistocephalus castaneiceps Haase, 1887

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Java, Indonesia (Haase, 1887)

Remarks. — The validity of this species requires verification. This is an insufficiently described species (Attems, 1929).

Mecistocephalus insularis Lucas, 1863

Records. — Bukit Timah (Verhoeff, 1937; Wang, 1967a; Ng et al., 2011)

Distribution. — Type from Réunion

Remarks. — Records of this species in Singapore need to be verified like all records outside the Western part of the Indian Ocean (Lewis, 1996).

Mecistocephalus nannocornis Chamberlin, 1920

Records. — Bukit Timah (Wang, 1967a)

Distribution. — Taiwan and the Philippines (Chamberlin, 1920)



Fig. 18. A small centipede species belonging to the genus *Mecistocephalus*. This centipede was photographed at Central Catchment Nature Reserve. (Photograph by: James Koh).

Mecistocephalus pahagiensis Verhoeff, 1937

Records. — Singapore (Ng et al., 2011)

Distribution. — Peninsular Malaysia (Verhoeff, 1937)

Remarks. — Records of this species in Singapore need to be verified.

***Mecistocephalus* sp.**

New records. — 2 females, Hort Park, 14 Jun.2011, coll. Tertilt & Decker

Remarks. — The identification of the specimens found at HortPark resulted that it could be one of the inadequately described species *Mecistocephalus celebensis* Chamberlin, 1920, only known from Sulawesi, or *Mecistocephalus monticolens* Chamberlin, 1920, known from Java and Taiwan (Bonato, in litt.).

Tygarrup singaporiensis Verhoeff, 1937

Records. — Singapore (Titova, 1983; Ng et al., 2011)

Distribution. — Peninsular Malaysia (Verhoeff, 1937), Tizard Atoll, Spratly Island, and Cambodia (?) (Titova, 1983)

Remarks. — This species was described from Peninsular Malaysia by Verhoeff (1937) but Titova (1983) misleadingly mentioned it for Singapore.

Family **Oryidae**

Nycternyssa dekania singaporensis (Verhoeff, 1937)

[*Orphnaeus dekanus singaporensis* Verhoeff, 1937, *Nycternyssa singaporensis* (Verhoeff, 1937)]

Records. — Bukit Timah (Verhoeff, 1937; Ng et al., 2011)

Distribution. — Peninsular Malaysia (Wang & Tang, 1965b)

Remarks. — The nominate species is known from India (Attems, 1947).

Orphnaeus brevilabiatus (Newport, 1845)

Records. — Government house (Flower, 1901)

Distribution. — Tropical tramp species (Attems, 1929)

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<i>bimaculata</i>	2, 3	<i>dentipes</i>	2, 18
<i>bimaculatus</i>	2, 3	<i>discolor</i>	2, 16
<i>brevilabiatus</i>	22	<i>Doratodesmus</i>	16
<i>butteli</i>	15	<i>dorsolineatus</i>	8
<i>Cambala</i>	6	<i>Ethmostigmus</i>	18
<i>Cambalopsidae</i>	6	<i>evansi</i>	3
<i>Cambalopsis</i>	6	<i>filum</i>	12
<i>capucinus</i>	2, 4	<i>flavicollis</i>	4
<i>carinulata</i>	18	<i>floweri</i>	2, 3
<i>Carlotretus</i>	15	<i>forficatus</i>	16
<i>castaneiceps</i>	20	<i>Geophilomorpha</i>	20
<i>Catapyrgodesmus</i>	16	<i>Gigantomorpha</i>	12
<i>cavernicola</i>	6, 16	<i>goesi</i>	5
<i>celebensis</i>	21	<i>Gonomastis</i>	13
<i>ceylonicus</i>	16	<i>Glomeridesmida</i>	3
<i>Chondromorpha</i>	2, 11	<i>Glomeridesmidae</i>	3

<i>Glomeridesmus</i>	3	<i>Phractodesmus</i>	8
Haplodesmidae	13	Platyrahacidae	8
<i>hardwickei</i>	16, 19	<i>Platyrahachus</i>	8, 9, 10
Harpagophoridae	6, 7	Polydesmida	8
<i>harrisoni</i>	8	<i>Polydesmus</i>	9
<i>Heterostoma</i>	18	Polyxenida	3
<i>hirsutus</i>	13, 14	Polyxenidae	3
<i>hydrobiologica</i>	12	<i>Polyxenus</i>	3
<i>immarginata</i>	18	<i>Prosopodesmus</i>	13, 14
<i>insularis</i>	20	Pseudospirobolellidae	4
<i>jacobsoni</i>	13, 14	<i>Pseudospirobolellus</i>	4
<i>javanicus</i>	8	<i>punctiventer</i>	18
<i>Julus</i>	6	Pyrgodesmidae	15
<i>kedahensis</i>	15	<i>Remulopygus</i>	8
<i>kraeplini</i>	3	<i>Rhysida</i>	18
<i>lagurus</i>	3, 6	<i>ridley</i>	8
<i>Leptogoniulus</i>	5, 6	<i>rugulosa</i>	18
<i>lineatus</i>	9, 10	<i>sanguineus</i>	5
Lithobiidae	16	<i>saussurii</i>	2, 9, 10
Lithobiomorpha	16	<i>scandens</i>	2, 11, 12
<i>Lithobius</i>	16	<i>Scolopendra</i>	19, 20
<i>longicornis</i>	16, 17	Scolopendridae	18
<i>longirostris</i>	8	Scolopendromorpha	17
<i>longipes</i>	18	<i>Scolopocryptops</i>	17
<i>lumbricinus</i>	5	Scutigeridae	16
<i>malaccanus</i>	2, 3, 9, 17	Scutigeromorpha	16
<i>malayica</i>	18	<i>setosus</i>	15
<i>Margaritosoma</i>	2, 11	<i>siberutensis</i>	8
<i>Marshallbolus</i>	5	<i>singaporense</i>	2, 11
Mecistocephalidae	20	<i>singaporensis</i>	22
<i>Mecistocephalus</i>	20, 21	<i>singaporiensis</i>	16, 18, 21
<i>melanostomus</i>	17	<i>Siphonophora</i>	8
<i>Monographis</i>	3	Siphonophorida	8, 9
<i>monticolens</i>	21	Siphonophoridae	8
<i>morsitans</i>	19	<i>Solaenaulus</i>	15
<i>murphy</i>	2, 12, 13	<i>sorornus</i>	5, 6
<i>mutilans</i>	19	<i>Sphaeropoeus</i>	2, 3
<i>nannocornis</i>	20	Sphaerotheriida	3, 4
<i>navis</i>	2, 17	<i>spinus</i>	18
<i>nordquisti</i>	6	Spirobolida	4
<i>nudipes</i>	19	<i>Spirobolus</i>	5
<i>Nycternyssa</i>	22	Spirostreptida	6
Oniscodesmidae	16	<i>Spirostreptus</i>	8
<i>Ophrydesmus</i>	13, 15	<i>Strongylosoma</i>	12
Opisotretidae	15	<i>stylopus</i>	15
<i>Opisotretus</i>	15	<i>subspinipes</i>	19, 20
<i>Opisthodolochopus</i>	2, 11, 12	<i>sumatranus</i>	3
<i>Orphnaeus</i>	22	<i>takakuwai</i>	5
<i>Orthomorpha</i>	2, 11, 12, 13	<i>Tectorporus</i>	12
Oryidae	22	<i>tenuipes</i>	12
<i>Otocryptops</i>	17	<i>Thereuopoda</i>	16, 17
<i>Otostigmus</i>	18	<i>Thyropygus</i>	8
Pachybolidae	4	<i>Tigridosphaera</i>	2, 3
<i>pahagiensis</i>	21	<i>Timahia</i>	16
<i>Paracryptops</i>	17	<i>Tonkinbolus</i>	2, 4
Paradoxosomatidae	9	<i>Trachyjulus</i>	6
<i>Phenacoporous</i>	13, 15	<i>Trichopeltis</i>	13

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Trigoniulidae	5	<i>weberi</i>	13, 17
<i>Trigoniulus</i>	5	<i>xanthotricha</i>	2, 11
<i>trisulcatus</i>	18	<i>Zephronia</i>	2, 3
<i>tweedii</i>	16	Zephroniidae	3
<i>Tygarrup</i>	21	<i>Zephroniodesmus</i>	3
<i>vittatus</i>	6		