

The Millipede Families Cryptodesmidae, Haplodesmidae, Pyrgodesmidae, Opisotretidae and Xystodesmidae in Taiwan (Diplopoda, Polydesmida)

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ABSTRACT.— Faunistic records are provided, summarized and mapped for several smaller families of the millipede order Polydesmida in Taiwan. Both Pyrgodesmidae and Opisotretidae are new to the Taiwanese list. The former family is represented there by the nearly pantropical *Cryptocorypha ornata* (Attems, 1938) which is new to the island's fauna, as well as by two new species of *Ampelodesmus* Miyosi, 1956: *A. taiwanensis* n. sp. and *A. similis* n. sp.; both latter taxa are incorporated in a key to all five species of the genus. Cryptodesmidae are actually represented in Taiwan by a single, widespread, briefly redescribed and richly illustrated species, *Niponia nodulosa* Verhoeff, 1931 (= *Onomatoplanus simplex* Wang, 1957, n. syn.), while both Opisotretidae and Xystodesmidae by a closer unidentified species of ?*Corypholophus* Attems, 1937 and *Riukiaria* Attems, 1938, respectively. In addition to *Eutrichodesmus taiwanensis* Golovatch, Mikhaljova, Korsós and Chang, 2010, the family Haplodesmidae contains in Taiwan the almost pantropical *Prosopodesmus jacobsoni* Silvestri, 1910, thus confirming an earlier record.

KEY WORDS: Polydesmida, faunistics, taxonomy, new species, new synonymy, distribution, Taiwan

INTRODUCTION

Species of the order Polydesmida have long been known to dominate millipede diversity globally (e.g. Hoffman, 1980). The same holds true of the fauna of Taiwan, where over half of the species list is taken up by polydesmidans (Korsós, 2004).

The present contribution is devoted to faunistic records of several smaller families of Polydesmida, based on material housed in three larger research institutions of Taiwan. Among these families, the Haplodesmidae has been the sole one treated since Korsós' (2004) catalogue (Golovatch et al., 2010), whereas both Pyrgodesmidae and Opisotretidae appear to be new to the fauna of

Taiwan. Moreover, cryptodesmids are found to be represented on the island by only a single species, pyrgodesmids by two new and a pantropical species, and Haplodesmidae by a native and a pantropical one.

The following repositories are involved: National Museum of Natural Science, Taichung, Taiwan (NMNS), Department of Biological Sciences, National Sun Yat-Sen University, Kaohsiung, Taiwan (NSYSUB), Taiwan Forest Research Institute, Taipei, Taiwan (TFRI), Zoological Museum, State University of Moscow, Russia (ZMUM), and Institute of Biology and Soil Science, Far Eastern Branch, Russian Academy of Sciences, Vladivostok, Russia (IBSS), as indicated below.

SYSTEMATICS

Family Cryptodesmidae

Niponia nodulosa Verhoeff, 1931
(Figures 1-3)

Onomatoplanus simplexus Wang, 1957,
syn. n.

Material.— 1 ♂ (NMNS-6645-001), Taiwan, Kaohsiung County, Taoyuan Provincial Road # 20, Chinchung Bridge, under stone, 03.09.2002, leg. Y.H. Chen. 1 ♂ (NSYSUB), same county, Liugui Township, 04.12.2000, leg. C.C. Huang. 1 ♂ (NMNS-6645-010), 1 ♀ (NSYSUB), same county and township, Shanping Workstation, 05.2004, leg. M.J. Hung. 1 ♀ (NMNS-6645-009), same locality, Shanping, in rotten wood, 01.10.2006, leg. M.H. Hsu. 1 ♀, 1 juv. (19 segm.) (NMNS-6645-006), Kaohsiung City, Gushan Distr., northern Mt Shou-shan, 19.05.2005, leg. S.H. Wu. 1 ♂, 2 ♀ (NMNS-6645-007), same locality, Mt Shou-shan, 30.09.1999, leg. ? 1 ♂, 1 ♀ (TRFI), same locality, 09.07.2003, leg. I.H. Lin. 1 ♂, 1 ♀ (NSYSUB), Pingtung County, Manzhou Township, Lanjen Stream, 23.03.2002, leg. C.C. Chen. 1 juv. (19 segm.) (NSYSUB), same county and township, Nanren Road, near police station, under rock, 19.11.2003, leg. C.C. Chen. 1 ♂ (NMNS-6645-003), same county and township, Na-Jen-Shan Nature Reserve Area, 06.10.2005, leg. S.H. Wu. 1 ♀, 5 juv. (IBSS), same county, Kenting National Park, 05.10.2009, leg. E.V. Mikhajlova, S. Golovatch etc. 1 ♂, 1 ♀ (NSYSUB), same locality, Nanjenshan, 23.03.2002, leg. C.C. Chen. 1 juv. (NSYSUB), same county, Chunri Township, 22° 26' 04" N, 120° 41' 02" E, 19.08.1999,

leg. C.C. Huang. 1 ♂ (NSYSUB), same county, Laiyi Township, Laiyi, 01.12.2001, leg. C.C. Chen. 1 ♂, 1 ♀ (IBSS), Chiayi County, Alishan Township, Nansi Forest Road, 2000 m, 29.10.2010, leg. H.W. Chang. 1 ♂ (NMNS-6645-002), Taitung County, Taimali Township, Ima Forest Road, 06.12.2004, leg. S.Y. Wu. 1 ♂, 1 ♀, 1 fragm. (ZMUM), 1 ♀ (TRFI), same county, Chenggong Township, Jilin Forest Road, 380 m, 23° 07' 49" N, 121° 20' 55" E, 06.05.2009, leg. M.H. Hsu. 1 ♂, 1 juv. (19 segm.) (TRFI), same county, Yanping Township, Yanping Forest Road, ca 1070 m, 22° 52' 58" N, 120° 56' 27" E, 03.01.2008, leg. M.H. Hsu. 1 ♀ (NMNS-6645-005), same county, Guanshan Township, County Highway # 197, ca 260 m, 23° 02' 00" N, 121° 11' 07" E, 16.04.2009, leg. M.H. Hsu. 1 ♂ (NSYSUB), same county and township, Yuemei, 23° 00' 09" N, 121° 07' 29" E, 16.04.2009, leg. M.H. Hsu. 1 ♂ (NSYSUB), same county and township, Jiaping, 400 m, 23° 00' 09" N, 121° 07' 25" E, 16.04.2009, leg. M.H. Hsu. 1 ♀ (NSYSUB), Taichung County, Heping Township, Lileng, ca 630 m, 24° 09' 43" N, 120° 57' 24" E, 10.02.2007, leg. M.H. Hsu. 1 juv. (19 segm.) (NMNS-6645-004), Hua-lien County, Fengbin Township, Baliwan Forest Road, 23° 35' 15" N, 121° 30' 15" E, ca 250 m, 06.05.2009, leg. M.H. Hsu. 1 ♀ (NMNS-6645-015), Yilan County, Nanao Township, 08.08.2003, leg. S.H. Wu. 2 ♂ (NMNS-6645-011), Nantou County, Huisun timber land, 25.10.1997, leg. S.H. Wu. 1 ♂ (NMNS-6645-012), same locality, 10.1998, leg. S.H. Wu. 1 ♂ (NMNS-6645-013), same county, Lugu Township, 27.02.2000, leg. S.H. Wu. 1 ♂ (NMNS-6645-014), Taipei County, Xindian City, Ssu-Kan-Shui, 30.05.2000, leg. S.H. Wu.

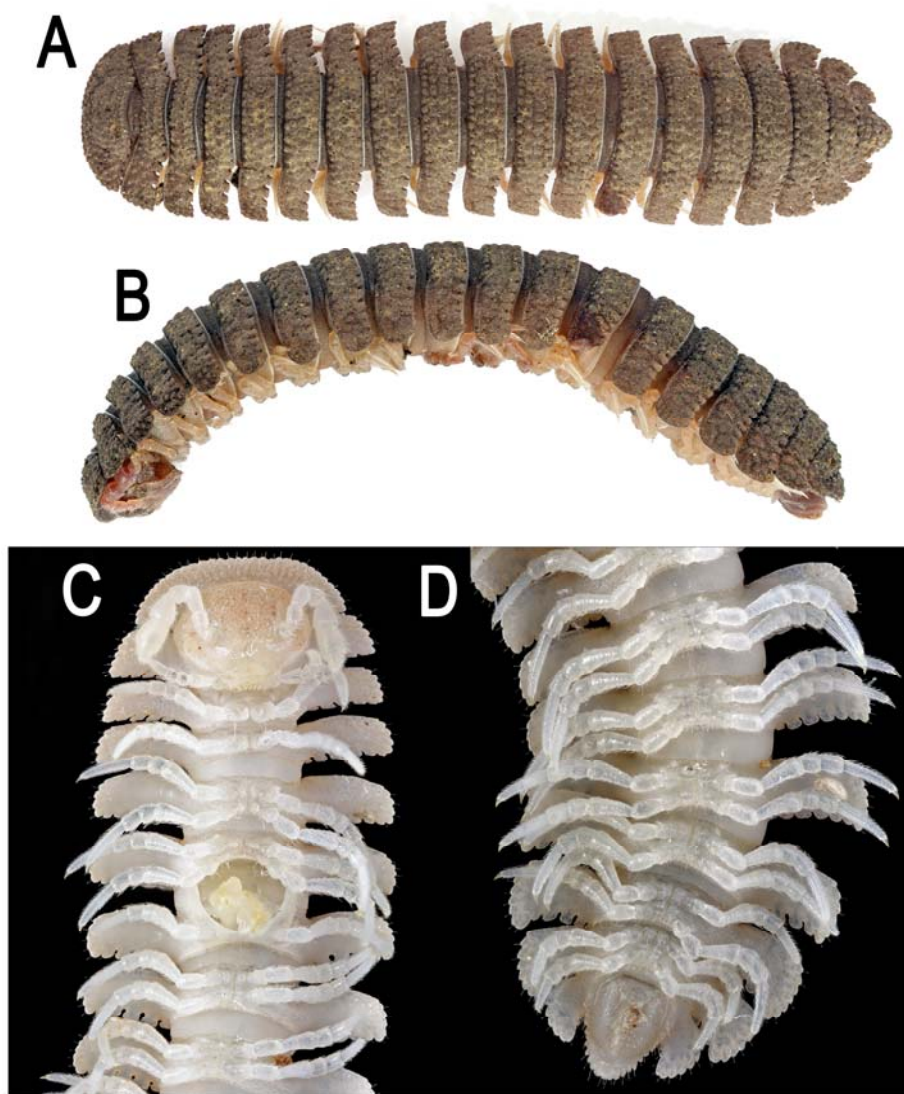


FIGURE 1. Habitus of *Niponia nodulosa* Verhoeff, 1931, ♀ from Shanping (**A, B**) and ♂ from near Chinchin Bridge (**C, D**), dorsal, lateral, ventral and ventral views, respectively. Photographed not to scale. Photos by K. Makarov.

Brief Redescription.— Length of adults of both sexes 11–17 mm, width 1.9–4.0 mm. Coloration of metaterga and vertigial region of head in alcohol from nearly pallid to dark grey-brown (Fig. 1), remaining parts usually light, pallid to brown. Juveniles uniformly pallid to light yellow. Antennae sometimes reddish.

Body with 20 segments. In width, head < collum < segment 2 \leq 3–15(16), thereafter body gradually tapering toward telson. Stretched antennae reaching end of segment 3 laterally. Collum flabellate, covering head from above; dorsal surface convex, densely setose and microtuberculate; front and lateral margins lobulate. Following

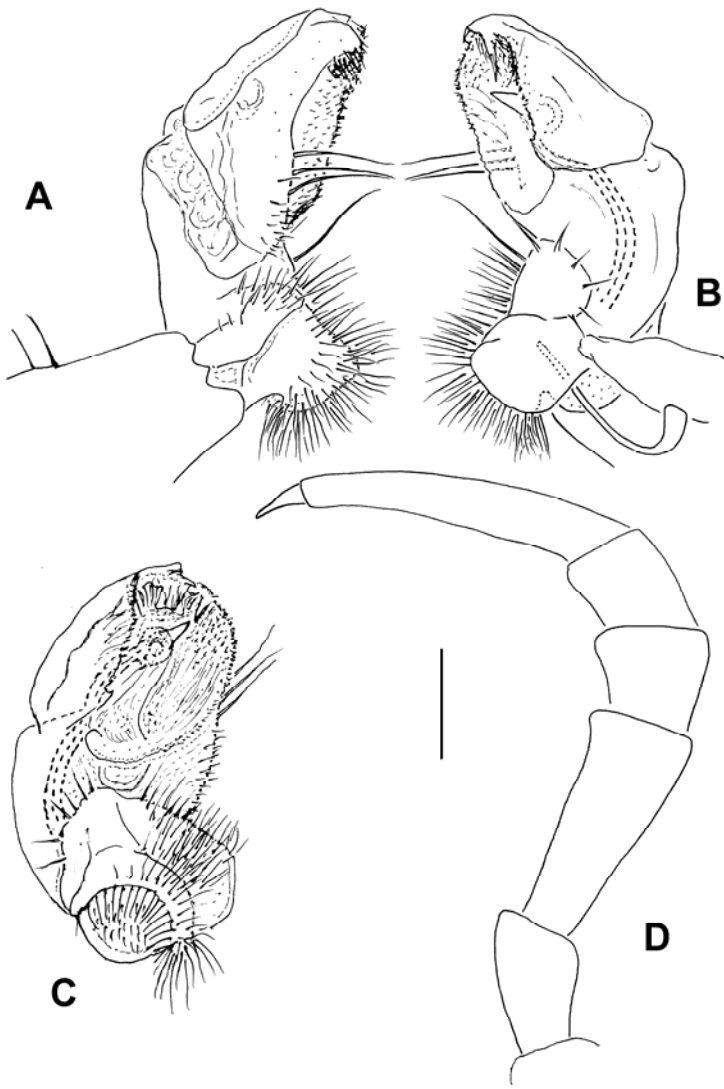


FIGURE 2. *Niponia nodulosa* Verhoeff, 1931, ♂ from near Chinchong Bridge. (A-C) gonopods, subventral, lateral and mesal views; (D) leg 9, respectively. Scale bar: 0.2 mm.

metaterga slightly to strongly convex, likewise densely setose and microtuberculate; paraterga very broad, 1/2-2/3 breadth of prozona, flat to evidently declivous, up to almost reaching level of venter; lateral margin of paraterga lobulate, caudal margin evidently lobate (Fig. 1). Ozopore formula normal; pores inconspicuous, lying antero-dorsally at base of paraterga. Epiproct

conical, microtuberculate dorsally and lobulate at lateral and caudal margins. Hypoproct subtrapeziform, with 1+1 distinct setigerous knobs at caudal corners (Fig. 1D). Limbus regularly and densely microspiculate (Fig. 1C, D).

Sterna densely setose, rather broad (Fig. 1C, D). Legs 1.1-1.2 (♀) or 1.4-1.5 (♂) times as long as midbody height, not

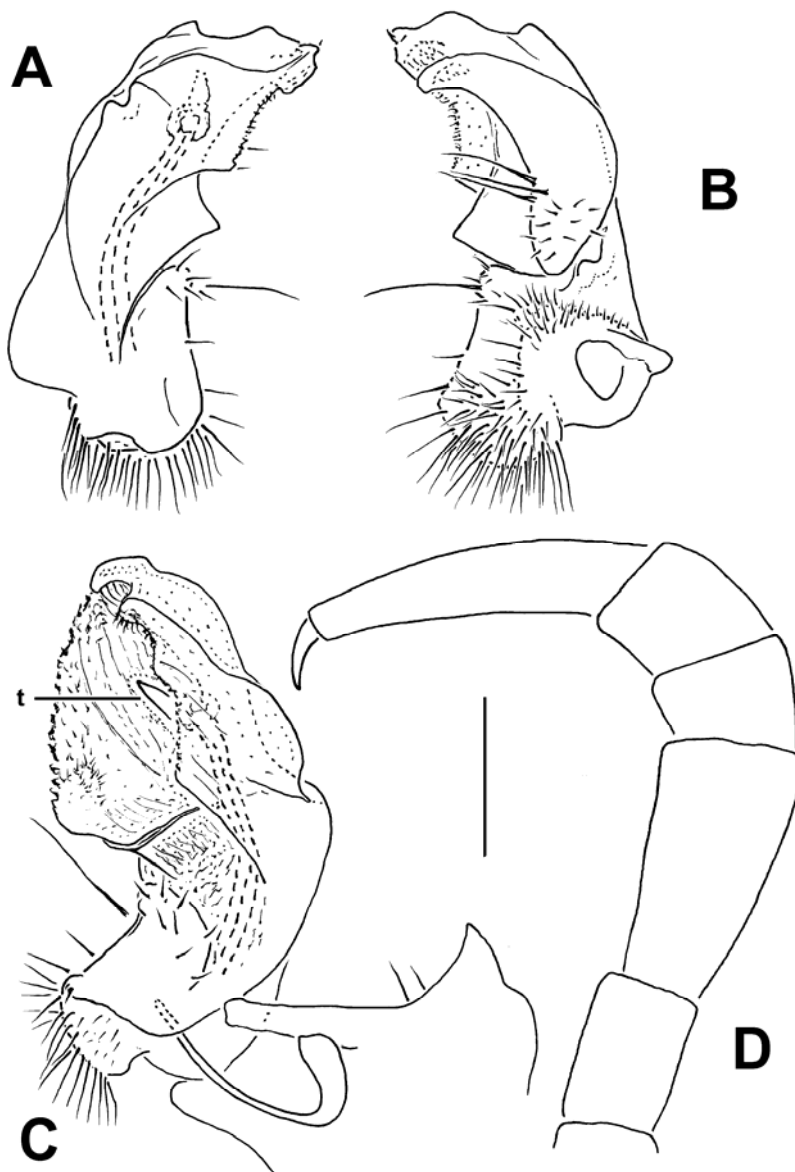


FIGURE 3. *Niponia nodulosa* Verhoeff, 1931, ♂ from Jilin. (A-C) gonopods, ventromesal, submesal and sublateral views; (D) leg 9, respectively. Scale bar: 0.2 mm.

modified, rather slender, claws short and simple (Figs 1, 2D, 3D).

Gonopods (Figs 2A-C, 3A-C) complex, only slightly varying in minor structural details. Coxite smaller than telopodite, with two strong setae ventrolaterally; cannula very long and slender. Prefemoral (= densely setose) part less than half as long as

acropodite; latter distinctly excavate, forming a mesal cavity surrounded by fringed or microspiculate lamellae and carrying both an evident tooth (**t**) at bottom and a few especially strong setae laterally at about midway. Seminal groove entirely mesal, terminating in a small accessory seminal chamber at base of **t**.

Remarks.— This species was originally described and subsequently nicely illustrated from material found at an unknown locality in Japan (=Nipon) (Verhoeff, 1931, 1936), and has since been repeatedly recorded from nearly all over the Ryukyus (see review in Nakamura and Korsós, 2010), as well as in Kyushu and southern Honshu (Nishikawa and Murakami, 1994), once also in Taiwan (“Tzu-Nan Palace, Taipei”) (Wang, 1955).

Wang (1957b) was the first to describe a second congener (referred to as *Onomatoplanus simplexus*) from Urai, Taipei, Taiwan, which he (1958) again recorded a little later from a few more topotypes. The original description was so poor, and the sketch of a gonopod so crude, that Korsós (2004) questioned if specific differences between *N. nodulosa* and *N. simplexus* existed indeed. Since type material of the latter species, like that of most of the other diplopods described by Wang, is presumably lost (Korsós, 2004), the only useful character to distinguish *N. simplexus* from *N. nodulosa* remains size: 11–13 mm long and 3 mm wide, versus 17 and 4 mm, respectively (Verhoeff, 1931; Wang, 1957b).

The above abundant material from all over Taiwan (Fig. 10), including that from near Taipei, unequivocally shows evident individual variation not only in size, but also in coloration, in the degree of inclination of the paraterga, in the degree of preservation of metatergal trichome, in leg proportions, in some minor details of gonopod structure etc. (Figs 1–3). Thus, the sample from Jilin Forest Road contains one ♂ and one ♀ that are 11 mm long and 1.9 mm wide, while the other ♀ is 16 and 3.9 mm, respectively. All this seems to be evidence of *N. simplexus* being only a new junior subjective synonym of *N. nodulosa*, n. syn. Future genetic

analyses, bar-coding in particular, might provide more useful information to confirm or refute the synonymy.

The distribution of *N. nodulosa* in Taiwan (Fig. 10) shows that it ranges from lowlands to quite high in the mountains (250 to above 2000 m a.s.l.), thus representing one of the commonest diplopods on the island.

Family Haplodesmidae

Eutrichodesmus taiwanensis Golovatch, Mikhaljova, Korsós and Chang, 2010

Material.— 1 ♂ (NSYSUB), Taiwan, Hualien County, Shoufong Township, Beikeng, ca 240 m, 23° 47' 48" N, 121° 32' 28" E, 05.05.2009, leg. M.H. Hsu. 1 ♂, 1 ♀ (NSYSUB), same county, Fongbin Township, Baliwan Forest Road, ca 270 m, 23° 35' 06" N, 121° 30' 04" E, 06.05.2009, leg. M.H. Hsu. 2 ♂, 1 ♀ (NSYSUB), Taichung County, Heping Township, Sihyuan Wind Gap, 2050 m, 11.08.2002, leg. ? 1 juv. (NMNS-6645-016), Kaohsiung County, Taoyuan Township, Tengjhih, 1550 m, 17.11.2010, leg. G.L. Guo. 2 ♀ (TRFI), Pingtung County, Chunri Township, Mt Dahan, 22° 24' 25" N, 120° 45' 21" E, 1200 m, 15.12.2009, leg. M.H. Hsu.

Remarks.— This recently described species (Golovatch et al., 2010) occurs in various parts of the country (Fig. 10), ranging from lowlands (270 m) to the midmontane subtropical forest belt above 2000 m a.s.l.

Prosopodesmus jacobsoni Silvestri, 1910

Material.— 1 ♀ (NSYSUB), Taiwan, Pingtung County, Kenting National Park, 05.10.2009, leg. S. Golovatch.

Remarks.— This nearly pantropical, definitely anthropochore species has already been reported from the city of “Kao-Yung”, Taiwan (Wang, 1957a). That locality must be a slightly misspelled Kaohsiung. Since Wang’s identifications regularly appear to have been wrong, his “Kao-Yung” record, as well as that of the Japanese species *Thelodesmus armatus* Miyosi, 1951 at Urai, Taipei, Taiwan (Wang, 1958), were simply ignored when Golovatch et al. (2010) treated *Eutrichodesmus taiwanensis* as the sole species of Haplodesmidae reliably known from Taiwan. The above sample from Kenting National Park confirms the presence of *P. jacobsoni* on the island (Fig. 10).

Family Pyrgodesmidae

Cryptocorypha ornata (Attems, 1938)

Material.— 2 ♀ (NMNS-6645-017), Hualien County, Fengbin Township, Baliwan Forest Road, 23° 35′ 06″ N, 121° 30′ 04″ E, 06.05.2009, ca 270 m, leg. M.H. Hsu. 4 ♀ (TRFI), same locality, 23° 35′ 15″ N, 121° 30′ 15″ E, ca 250 m, 06.05.2009, leg. M.H. Hsu. 2 ♀ (NSYSUB), same locality, 23° 37′ 39″ N, 121° 29′ 38″ E, ca 140 m, 06.05.2009, leg. M.H. Hsu. 1 ♀, 1 ♀ juv. (19 segm.) (NSYSUB), same county, Shoufong Township, 23° 47′ 38″ N, 121° 32′ 19″ E, ca 230 m, 05.05.2009, leg. M.H. Hsu. 2 ♂, 6 ♀ (NSYSUB), same locality, Beikeng, 240 m, 23° 47′ 48″ N, 121° 32′ 28″ E, 05.05.2009, leg. M.H. Hsu. 4 ♀ (NSYSUB), Kaohsiung County, Liugui Township, Shanping Workstation, 05.2004, leg. M.J. Hung.

Remarks.— This nearly pantropical, possibly ornithochore species has already

been reported not far away, from Hong Kong, being largely characteristic of numerous remote archipelagos in the Pacific and Atlantic oceans (Adis et al., 1998). The above samples from Taiwan are formally new to the fauna of the island, also questioning the identity of both congeners currently known from Japan: *C. japonica* (Miyosi, 1957) and *C. kumamotoensis* (Murakami, 1966) (see review in Golovatch et al., 2011).

Ampelodesmus taiwanensis n. sp. (Figures 4, 5)

Holotype.— ♂ (NMNS-6645-019), Nantou County, Huisun timber land, 31.01.1998, leg. S.H. Wu.

Paratypes.— 1 ♂ juv. (ZMUM), 2 ♀, 2 juv. (NMNS-6645-018), same locality, 20.01.1998, leg. S.H. Wu. 2 ♀ (NSYSUB), 1 ♀ (TRFI), Kaohsiung County, Liugui Township, Shanping Workstation, 05.2004, leg. M.J. Hung.

Etymology.— To emphasize presumably the first endemic pyrgodesmid formally to be reported from Taiwan.

Diagnosis.— Differs from congeners by the strongly differentiated metatergal tuberculations, coupled with certain details of gonopod structure (see also Key below).

Description.— Length ca 6.0–7.0 mm, width of midbody segments 1.3 mm (♂, ♀). Vertigial region of head, as well as collum, metaterga and epiproct dark olive, remaining parts pallid to light grey-brown.

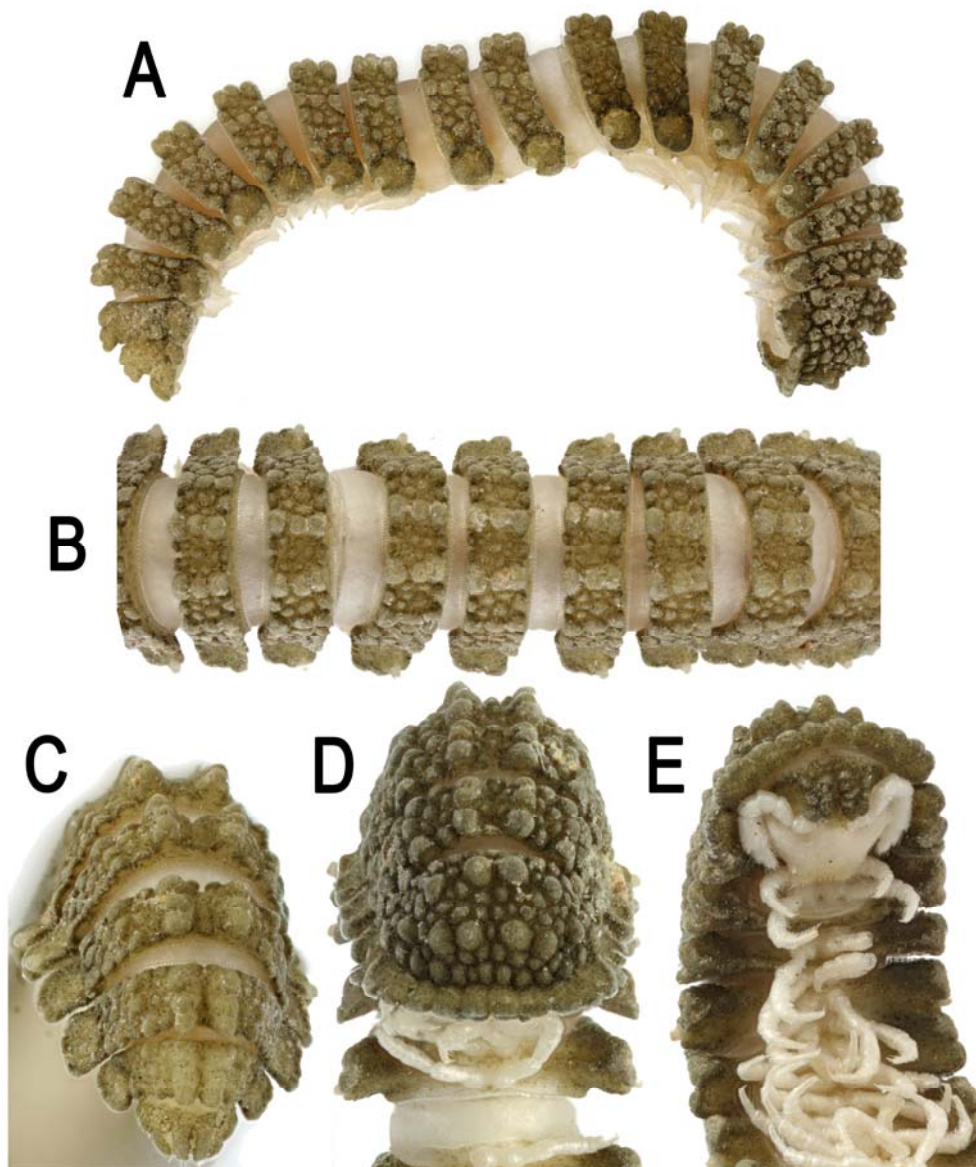


FIGURE 4. *Ampelodesmus taiwanensis* n. sp., ♀ from Shanping. (A) habitus, lateral view; (B) midbody segments, dorsal view; (C) posterior body portion, dorsal view; (D, E) anterior body portion, dorsal and ventral views, respectively. Photographed not to scale. Photos by K. Makarov.

Body rather robust, with 20 segments (♂, ♀). Body width: head << collum < segment 2 < 3 < 4=16, thereafter body rapidly tapering towards telson. Head ovoid (Fig. 4E), slightly transverse (=broader than long), rather sparsely setose in clypeolabral region, markedly granulate above antennal

sockets laterally of an evident epicranial suture. Interantennal isthmus slightly larger than length of antennomere 1. Antennomere 5 by far largest (Fig. 4E). Conspicuous groups of distodorsal sensilla on antennomeres 5 and 6 present.

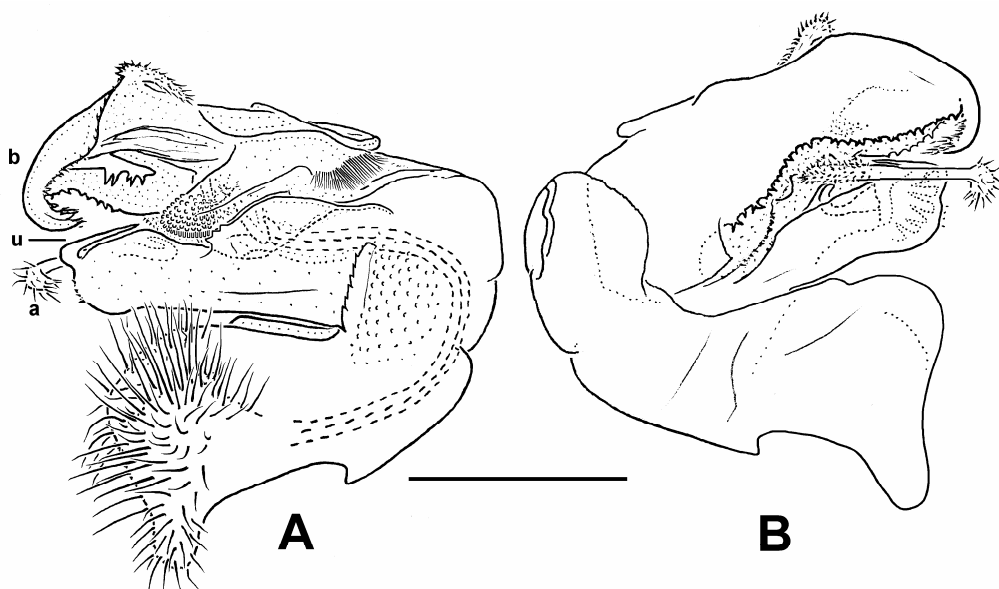


FIGURE 5. Right gonopod telopodite of *Ampelodesmus taiwanensis* n. sp., holotype, mesal (A) and lateral (B) views, respectively. Scale bar: 0.2 mm.

Collum (Fig. 4A, D, E) completely covering head from above, fore margin with 5+5 distinct, equal, moderately deeply incised lobulations; middle part strongly convex, supporting 2+2 and 2+2 distinctly larger tubercles arranged in two transverse rows. Paraterga set low, reaching level of venter, angled ventrolaterally at about 45°, evidently concave when continuing outline of a very strongly convex dorsum (Fig. 4). Tegument encrusted with a microspiculate cerotegument, dull, beset with microvilli. Prozona very delicately alveolate and shagreened. Metaterga with very clearly differentiated tuberculations: mid-dorsal paramedians and dorsolaterals invariably 3+3, subequal, markedly enlarged, fused, rounded, arranged in three regular transverse rows; dorsomedians and intercalaries much smaller, usually grain-shaped, usually arranged in 3-4 transverse irregular rows, normally with 6+6 caudal lobulations from axial line down to base of paraterga (Figs 4A-D). Paraterga thick, enlarged, rounded

both anteriorly and posteriorly, rather indistinctly lobulated laterally (Fig. 4), with three vague lobulations on segment 2 and 2-3 ones on all following segments until 19th; both caudal and front margins of paraterga being devoid of lobulations. Ozopore formula normal: 5, 7, 9, 10, 12, 13, 15-19, pores being borne on evident, conical, pallid porosteles located in front of last lateral lobulation until segment 16 (Fig. 4A, B), pores being inconspicuous and lying on dorsal surface near lateral edge of last lobulation on segments 17-19 (Fig. 4C). Limbus microcrenulate, each crenulation being extremely finely denticulate/fringed. Epiproct exposed from above, evidently flattened dorsoventrally (Fig. 4A, C). Hypoproct roundly subtriangular, caudal edge with two strong and well-separated setae on minute knobs. Sterna very narrow, coxae nearly contiguous (Fig. 4E). Legs equally short and slightly enlarged in both sexes, tarsi longest. Epigynal ridge behind ♀ legs 2 low and inconspicuous.

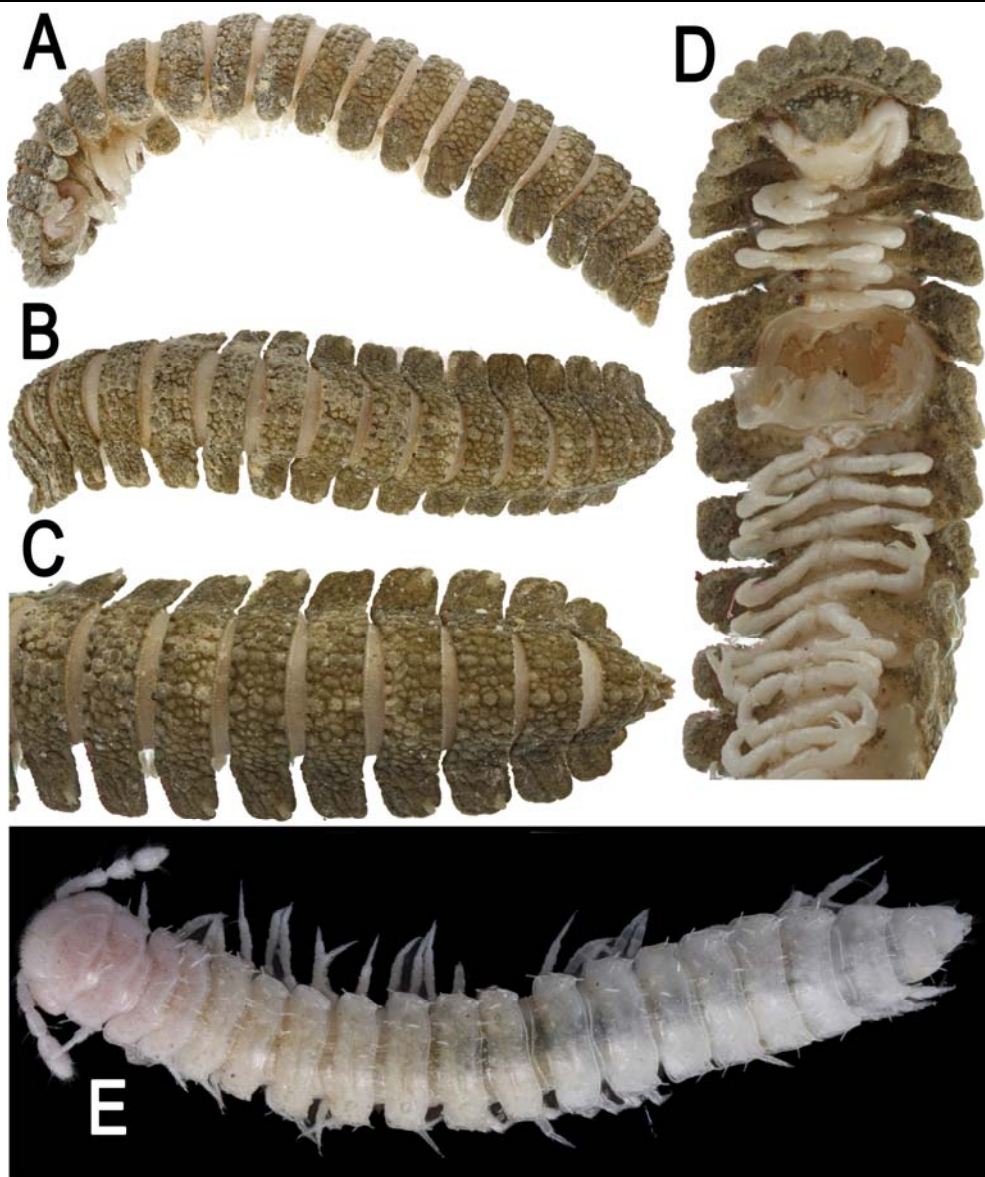


FIGURE 6. *Ampelodesmus similis* n. sp., holotype (**A-D**), and ?*Corypholophus* sp., ♀ from Changbin Township (**E**). (**A, E**) habitus, lateral and dorsal views, respectively; (**B**) midbody segments, dorsal view; (**C**) posterior body portion, dorsal view; (**D**) anterior body portion, ventral view. Photographed not to scale. Photos by K. Makarov.

Gonopods (Fig. 5) taking up nearly entire ventral surface of metazonum 7, almost reaching bases of paraterga. Coxae voluminous, transverse, microsetose and microgranulate on lateral face, gonocoel very distinct. Telopodites stout, nearly fully

concealed inside gonocoel, highly complex, biramous, each carrying distally a long, slender, subunciform spine (**u**) between strongly fringed lobes **a** and **b**. Solenomere branch missing, seminal groove terminating near base of distal arm of telopodite.

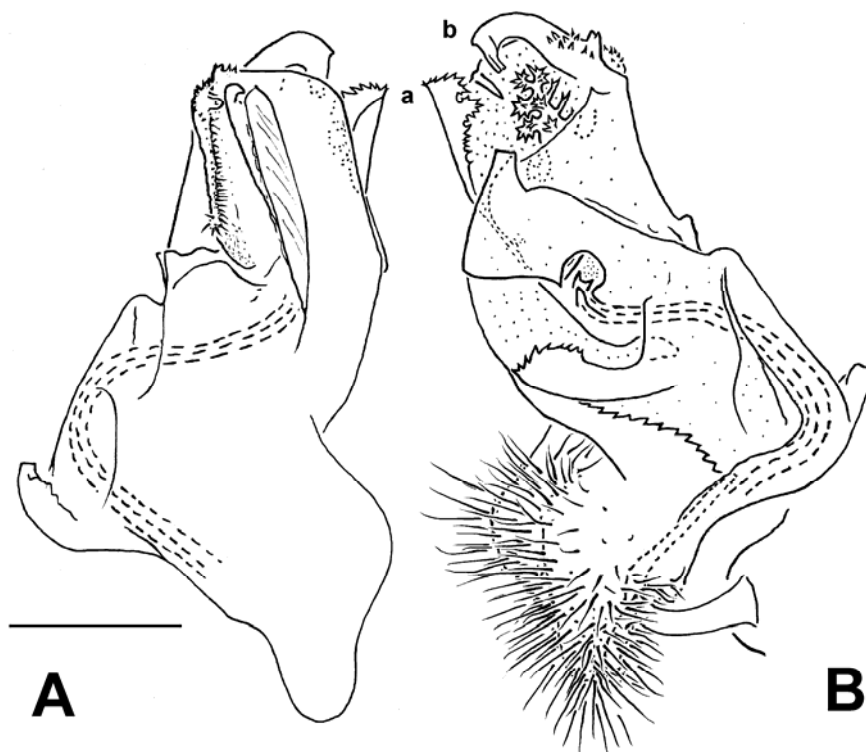


FIGURE 7. Right gonopod telopodite of *Ampelodesmus similis* n. sp., holotype, mesal (A) and lateral (B) views, respectively. Scale bar: 0.2 mm.

Remarks.— This is presumably the first endemic species of Pyrgodesmidae to be described from Taiwan, where it appears to occur both in the central and southern parts of the island (Fig. 10).

Ampelodesmus similis n. sp.
(Figures 6A-D, 7)

Holotype.— ♂ (TRFI), Taiwan, Ilan County, Fushan, 20.02.2001, leg. J.T. Chao.

Etymology.— To emphasize the similarities to the previous species.

Diagnosis.— Superficially, differs from congeners by the strongly obliterated and poorly differentiated tuberculations on the metaterga, coupled with a missing

solenomere branch of the gonopod (see also Key below).

Description.— Length ca 8.0, width of midbody segments 1.5 mm.

Coloration and most of other characters as in *A. taiwanensis* sp. n., except as follows.

Tuberculations of vertigial region, collum, metaterga and epiproct considerably less strongly differentiated (Fig. 6A-D); mid-dorsal paramedians and dorsolaterals smaller and lower, dorsomedians and intercalaries much smaller and more numerous, arranged in 5-6 irregular transverse rows, normally with 10+10 caudal lobulations from axial line down to base of paraterga.

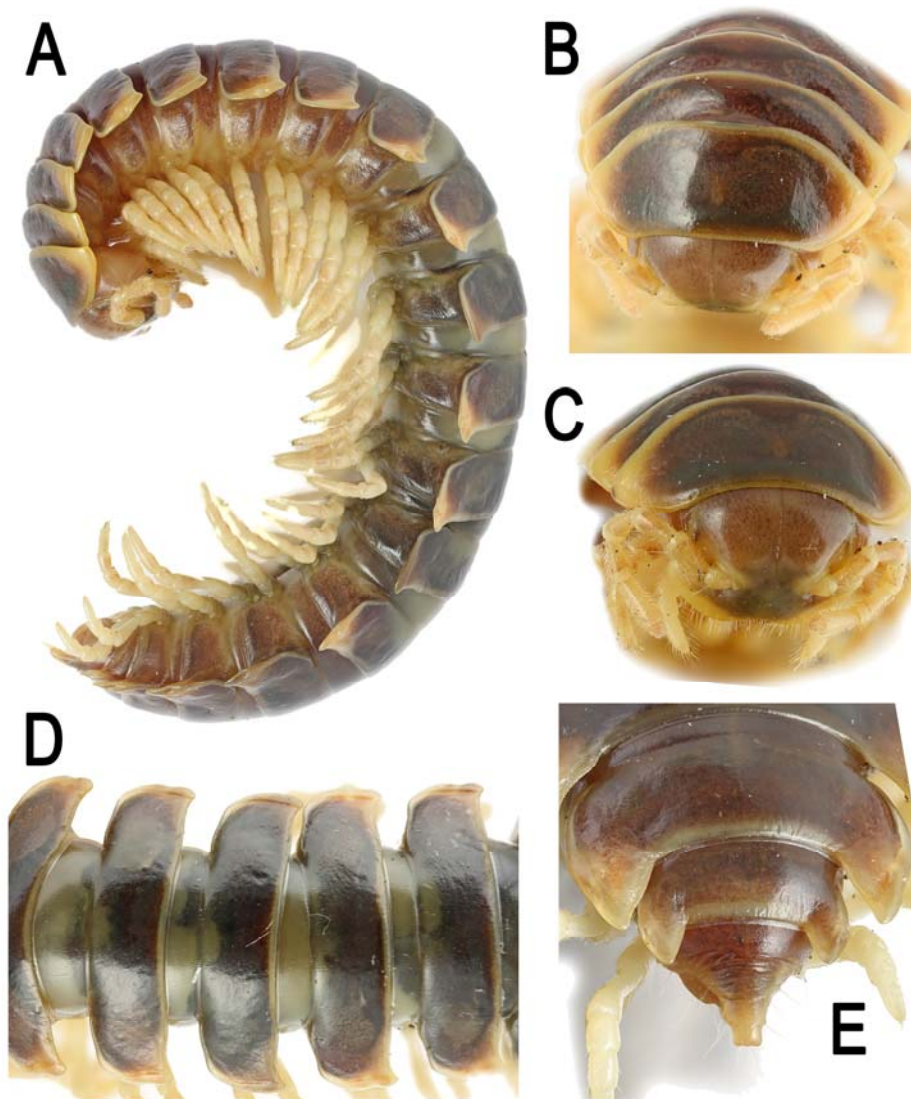


FIGURE 8. *Ruikiaria* sp., ♂ from Mt Dahan. (A) habitus, lateral view; (B, C) anterior body portion, frontodorsal and front views, respectively; (D) midbody segments, dorsal view; (E) posterior body portion, dorsal view. Photographed not to scale. Photos by K. Makarov.

Gonopods (Fig. 7) with only a small spine located between differently fringed and shaped lobes **a** and **b**.

Remarks.— Geographically, *A. similis* n. sp. seems to be even more local than is *A. taiwanensis* n. sp. (Fig. 10), probably being restricted to the northern part of the island.

The genus *Ampelodesmus* Miyosi, 1956 has hitherto been known to comprise only three species, all from Japan: *A. granulosus* Miyosi, 1956 (the type species) from near Tokyo, Honshu Island; *A. corniger* Murakami, 1964 from Mt Irazu, Umagun, Ehime Prefecture, Shikoku Island, and *A. iyonis* Murakami, 1964 from Oshima, Niihama Prefecture, Shikoku Island

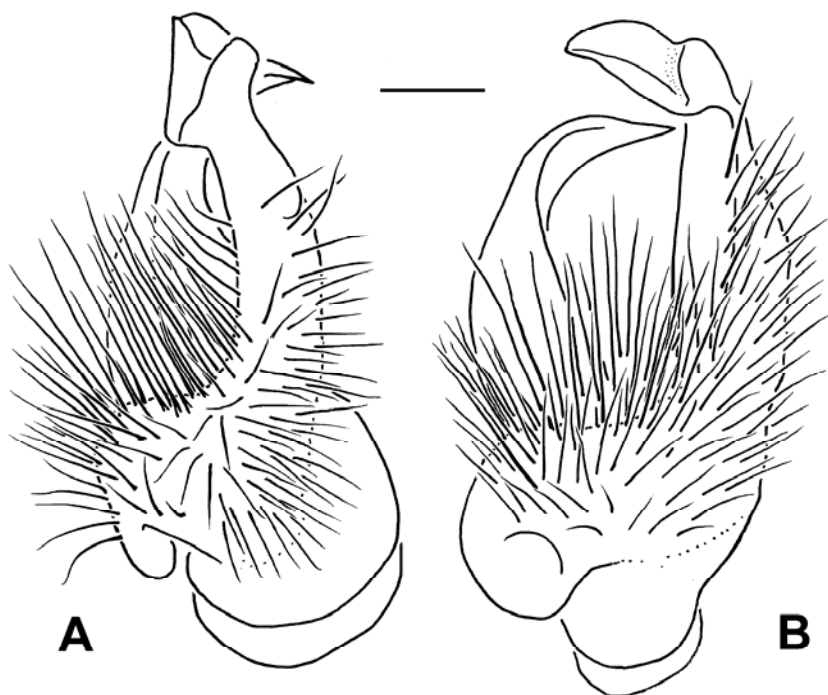


FIGURE 9. Left gonopod of *Ruikiaria* sp., ♂ from Mt Dahan, subventral (**A**) and ventral (**B**) views, respectively. Scale bar: 0.2 mm.

(Miyosi, 1956; Murakami, 1964). In addition, a closer unidentified *Ampelodesmus* has been recorded on Okinawa Island, Ryukyus (see review by Nakamura and Korsós, 2010). The following key can serve for the separation of all five species thus far described in this genus.

Key to *Ampelodesmus* species

1. Metatergal tuberculations strongly differentiated (Fig. 4). **2**
- Metatergal tuberculations relatively poorly differentiated (Figs 6A-D). **4**
2. Gonopod telopodite with a prominent solenomere branch. Shikoku Island, Japan. *A. corniger*
- Gonopod telopodite without free solenomere branch. **3**

3. A large unciform spine (**u**) present between fringed apical lobes **a** and **b** of gonopod telopodite (Fig. 5). Taiwan. *A. taiwanensis* n. sp.
- No spine between fringed apical lobes of gonopod telopodite. Southern Honshu. *A. granulatus*
4. Only a single, vague row of smaller dorsomedians between somewhat enlarged mid-dorsal paramedians. Gonopod telopodite with a prominent solenomere branch. Shikoku Island, Japan. *A. iyonis*
- 2-3 longitudinal rows of smaller dorsomedians. Gonopod telopodite without free solenomere branch (Fig. 7). Taiwan. *A. similis* n. sp.

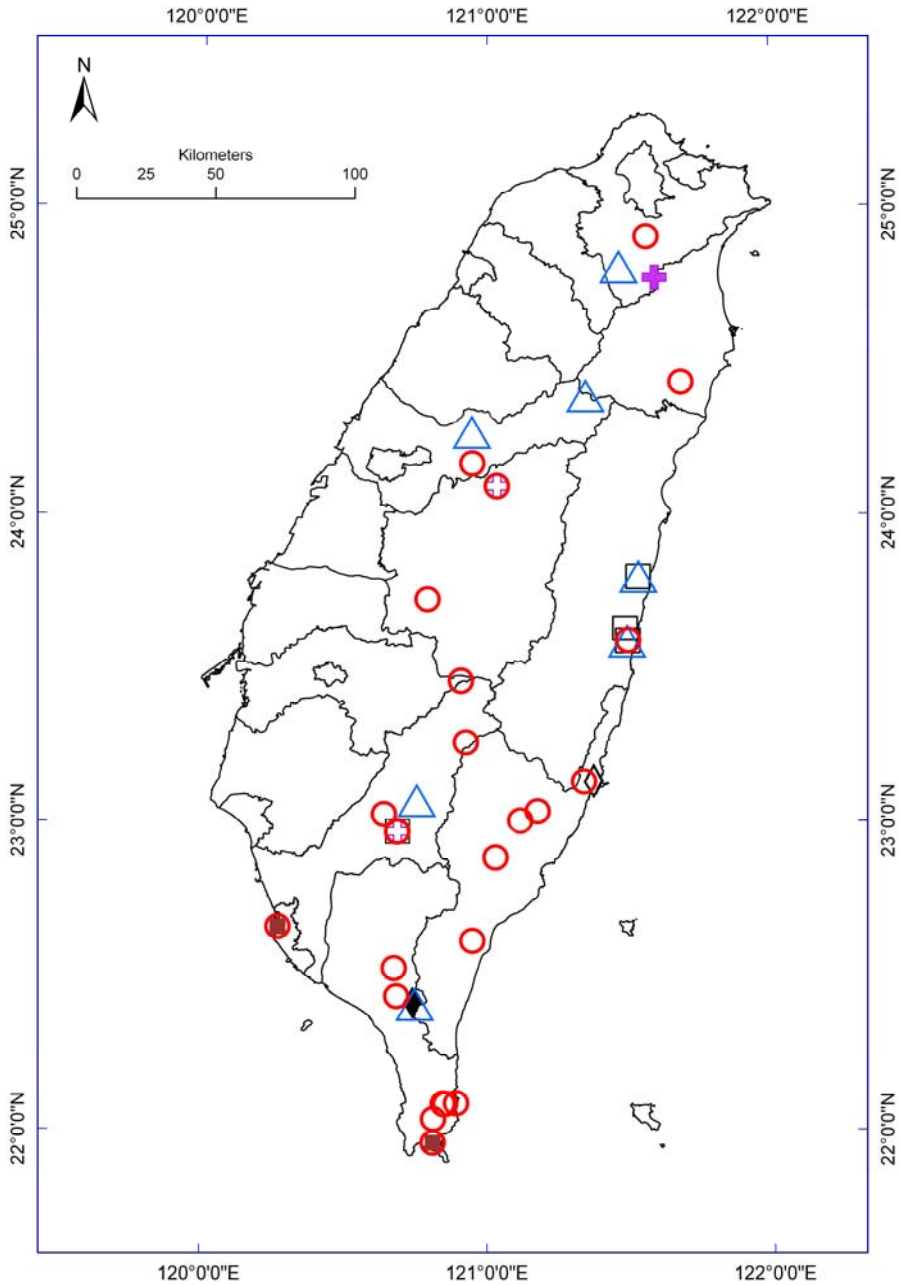


FIGURE 10. Distributions of *Niponia nodulosa* Verhoeff, 1931 (Cryptodesmidae) (open red circles), *Eutrichodesmus taiwanensis* Golovatch, Mikhajlova, Korsós and Chang, 2010 (Haplodesmidae) (open blue triangles), *Prosopodesmus jacobsoni* Silvestri, 1904 (Haplodesmidae) (filled dark red squares), *Cryptocorypha ornata* (Attems, 1938) (Pyrgodesmidae) (open black squares), *Ampelodesmus taiwanensis* n. sp. (Pyrgodesmidae) (open lilac crosses), *Ampelodesmus similis* n. sp. (Pyrgodesmidae) (filled lilac cross), *?Corypholophus* sp. (Opisotretidae) (open black diamond), and *Riukiaria* sp. (Xystodesmidae) (filled black diamond). Borderlines show borders between the counties.

Family Opisotretidae**?*Corypholophus* sp.
(Figure 6E)**

Material.— 3 ♀ (NMNS-6645-020), Taiwan, Taitung County, Changbin Township, 23° 07' 56" N, 121° 22' 54" E, ca. 60 m, 05.06.2009, leg. M.H. Hsu.

Remarks.— Since no ♂ material was available for study, a closer identification proved to be impossible. Based on the small size (length 4.2 mm) and rather long, bacilliform tergal setae (Fig. 6E), we are inclined to consider the sample as belonging to a species of Opisotretidae rather than of the pantropical family Fuhrmannodesmidae. Since the geographically closest opisotretids, which are known from northern Vietnam (Golovatch, 1987) and the Ryukyus (Murakami, 1975; Nakamura and Korsós, 2010), are species of the genus *Corypholophus* Attems, 1937, we venture to provisionally assign our sample to this genus, though with the necessary qualifications. This family is new to the Taiwanese list. The relevant locality is shown on Figure 10.

Family Xystodesmidae***Riukiaria* sp.
(Figures 8, 9)**

Material.— 1 ♂ (NSYSUB), Taiwan, Pingtung County, Chunri Township, Mt Dahan, 22° 24' 42" N, 120° 44' 52" E, ca 1530 m, 15.12.2009, leg. M.H. Hsu. 1 ♀ (NSYSUB), Kaohsiung County, Liugui Township, Shanping Workstation, 05.2004, leg. M.J. Hung.

Remarks.— Xystodesmidae in Taiwan are currently known to be represented by at least seven nominate species in 2-3 genera (Korsós, 2004). The above sample (ca 42 mm long, 9.0 mm wide) is a species of *Riukiaria* Attems, 1938, a rather large genus from Korea, mainland China, Japan (including the Ryukyus) and Taiwan (Hoffman, 1980). Among all four congeners hitherto recorded in Taiwan (Korsós, 2004), none seems to match our sample (Figs 8, 9). However, because some have been too poorly described, while our material is certainly too scant, we refrain from naming this possibly new species. Instead we illustrate its basic characters, both peripheral and gonopod ones (Fig. 8, 9), pending a thorough revision of this genus and family at least in the fauna of Taiwan. According to Korsós (personal communication), adequate material of *Riukiaria* (including some presumably new species) and other xystodesmids from Taiwan and the Ryukyus has been amassed at the Budapest Museum to perform such a study.

Figure 10 shows the relevant locality only as regards the ♂, because the conspecificity of the ♀ is still to be confirmed.

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