**Euryhapsis fuscipropes** sp. n. from China and
**Tokyobrillia anderseni** sp.n. from Tanzania, with a review of genera near **Irisobrillia** Oliver (Diptera : Chironomidae)

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Keywords: Diptera, Chironomidae, systematics, Brilia group, Euryhapsis, Tokyobrillia, Irisobrillia, Pseudobrillia, China, Tanzania.

The generic diagnosis of *Euryhapsis* Oliver and the description of *E. cilium* Oliver are augmented. *E. fuscipropes* sp.n. is described as male imago and shown to be close to *E. cilium*. The systematic position of the genera related to *Brilia* Kieffer and *Eurycnemus* van der Wulp is discussed. A review and a key to male and female imagines of genera of the *Brilia* group with single gonostyli are given. The generic diagnoses of the genera *Irisobrillia* Oliver, *Tokyobrillia* Kobayashi & Sasa, and *Pseudobrillia* Niitsuma are augmented or emended. The description of the female imago of *T. longicosta* Oliver is augmented. *T. anderseni* sp. n. from Tanzania is described as male and female imago, the description of the male imago of *I. Tamamegaseta* augmented and the female described. The description of the male imago of *P. komorii* Niitsuma is augmented.

**Euryhapsis fuscipropes** n. sp. de Chine et **Tokyobrillia anderseni** n. sp. de Tanzanie, avec une révision des genres proches d'**Irisobrillia** Oliver (Diptera, Chironomidae)


La diagnose générique d'*Euryhapsis* Oliver et la description de *E. cilium* Oliver sont complétées. L'imago mâle de *E. fuscipropes* n.sp. est décrit ; il est proche de *E. cilium*. La position systématique des genres proches de *Brilia* Kieffer et *Eurycnemus* van der Wulp est discutée. Une révision et une clé des imagos mâle et femelle des genres du groupe *Brilia* avec un gonostyle simple sont données. Les diagnose des genres *Irisobrillia* Oliver, *Tokyobrillia* Kobayashi & Sasa et *Pseudobrillia* Niitsuma sont complétées ou émendées. La description de l'imago femelle de *T. longicosta* Oliver est précisée. Les imagos mâle et femelle de *T. anderseni* n.sp. de Tanzanie sont décrits, la description de l'imago mâle de *I. Tamamegaseta* est complétée et l'imago femelle est décrit. La description de l'imago mâle de *P. komorii* Niitsuma est complétée.

1. **Introduction**

In recent years a number of new genera have been described within the primitive Orthocladiinae ; i.e. *Tokunagayusurika* Sasa (1978), *Euryhapsis* Oliver (1981), *Xylotopus* Oliver (1982), *Phladsonia* Sæther (1982), *Irisobrillia* Oliver (1985), *Tokyobrillia* Kobayashi & Sasa (1991) and *Pseudobrillia* Niitsuma (1991). *Tokunagayusurika* is closely related to *Propsilocerus* Kieffer and these genera will be treated in a forthcoming paper. *Phldadsonia* is related to *Diplocladius* Kieffer as confirmed in a recent paper (Sæther 1992). The remaining genera are related to *Brilia* Kieffer and *Eurycnemus* van der Wulp. (Sæther 1977, 1989).

The generic diagnosis of *Euryhapsis* is augmented here and a new species *E. fuscipropes* described.

The genera *Irisobrillia*, *Tokyobrillia* and *Pseudobrillia* differ from other members of the *Brilia* group, i.e. *Brilia*, *Xylotopus*, *Astrobrella* Freeman, *Xylotopus*, *Eurycnemus* and *Euryhapsis*, in having single gonostyli. They apparently form a group.

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of closely related genera and the two latter genera should perhaps be regarded merely as a subgenera of the former. A new species from Tanzania, *Tokyo-
brillia anderseni* sp.n., is described here, and a review of the genera of the *Brillia* group with simple gonostyli given.

2. Methods and terminology

The material measured was mounted on slides in Canada-balsam following the procedure outlined in Sæther (1969: 1).

The general terminology follows Sæther (1980, 1990). The counts of setae on the wing veins include both dorsal and ventral setae, setae which stands at the margin of a vein are regarded as belonging to the vein.

In the figures of the male genitalia the dorsal view is shown to the left, the ventral aspect and the apo-
deme to the right. The measurements are given as ranges followed by a mean when four or more mea-
surements are made, followed by the number mea-
sured in parentheses (n).

The types are placed in the collection of the Museum of Zoology, Bergen, Norway (ZMB), in the collection of Xinhua Wang, Nankai University, Tianjin, China (ZW) or in the collection of Tadashi Kobayashi, Kawasaki, Japan (TK). Additional paratypes have been deposited in the Canadian National Collection, Ottawa, Canada (CNC) and at Zoologisches Staatssammlung, Munich, Germany (ZSM).

3. The genus *Euryhapsis* Oliver

*Euryhapsis* Oliver 1981: 711. Type species *Eury-
hapsis cilium* Oliver, 1981 (original designation).

*Diagnosis*

As in Oliver (1981) with the following additions: Male antenna with groove beginning on flagellomere 3, sensilla chaetica on flagellomeres 2-4 and ultimate. Third segment of maxillary palp with 2 very long lanceolate sensilla clavata at apex.

Tergite IX of female genitalia without posterior emargination, but with two setigerous protrusions. All three seminal capsules with common opening, the median one thin-walled.

*Systematics*

The genus *Euryhapsis* apparently form the sister-
group of *Eurycnemus* (Oliver 1981, Sæther 1989) and belongs in the same group as *Brillia, Xylot-
pus, Austrobrillia, Irisobrillia, Tokyobrillia and Pseudobrillia* i.e. the *Brillia* group. The similarities between these genera may to a large extent consist in sympleiomorphies. As mentioned by Oliver (1985: 1106), a likely sympleiomorphy is the superior volsella which is unique within Orthocladiinae, except for *P Hudsonia, Tokunayusurika* and perhaps *Chasmatonotus* Loew, having a similar volsella. The absence of a similar volsella would, however, constitute a synapomorphy for the remaining orthoclads. The very long and oblique RM crossveins, however, appear to be a unique synapomorphy for the *Brillia* group.

Sæther (1992) suggested that the reduced third seminal capsule with separate duct and opening and the common opening of the ducts of the two normal capsules was a unique synapomorphy between *P Hudsonia* and *Diplocladius*. However, as shown below also *Tokyo brillia* shows the same configuration of the spermathecal system. In *Euryhapsis* the three ducts open together, but with the one leading from the thin-walled median capsule quite similar to *P Hudsonia* and *Tokyo brillia*. Also in *Xylotopus* the median capsule is slightly reduced. The shape of the spermathecal system thus may be a synapomorphy for the *Brillia* group plus *Diplocladius* and *P Hudsonia*, with secondary loss of a seminal capsule in *Brillia* and *Pseudobrillia*, Saether (1979, Fig. 7) illustrated a South American female described as *Spaniotoma* (*Orthocladius*) *eury nemoides* Edwards and placed it in *Psectrocladius* because of the large pulvilli, lack of acrostichals and genitalia very similar to *Psectrocladius*, except for the spermathecal system. The similarities of the genitalia of *Euryhapsis* and *Tokyo brillia* to those of *Psectrocladius* now makes it likely that also this species belongs in the *Brillia* group, and not in *Psectrocladius*. The species has a conspicuous black ornamentation on thorax, abdomen and legs common in the *Brillia* group, but not found in *Psectrocladius*. It probably belong to *Eurycnemus*, which possesses well developed pulvilli.

*Euryhapsis cilium* Oliver

*Euryhapsis cilium* Oliver 1981: 714.

Description

Male imago

As in Oliver (1981: 714) with the following additions: Wing without setae on Sc, RM, M and Pcu; R with 3 setae, R1 with 32, R4.5 with 38, M1+2 with 57, M3+4 with 38, Cu with 2, Cu1 with 20, and An with 15 setae. Wing membrane without setae in cell m basally of RM.

Female imago

As in Oliver (1981: 75) with the following additions: Antennal ratio 0.40. Flagellomeres length (in \( \mu m \)): 105, 60, 60, 64, 113.

Wing with 2 setae on brachiolum, Sc with 13 setae, costal extension with 8 non-marginal setae, RM with 3, R with 38, R3 with 78, R4.5 with 98, M with 6, M1+2 with 93, M3+4 with 96, Cu with 45, Cu1 with 36, Pcu with 55, and An with 60 setae. Wing membrane with 20 setae in cell m basally of RM.

Hind metatarsus with 6 sensilla chaetica at 0.19-0.26.

Abdomen with 36 setae on tergite VIII, 51 on sternite VIII.

Genitalia as in Fig. 1. Gonocoxite IX with 23 setae. Tergite IX divided into two segetous protrusions with altogether 25 setae. Cercus 158 \( \mu m \) long. Seminal capsule 68 \( \mu m \) long 60 \( \mu m \) wide. Notum 101 \( \mu m \) long.

Euryhopsis fuscipropes sp. n.

(Fig. 2).

Type material: Holotype \( \sigma \) China, Ningxia, Mt. Liupan, 7 VIII. 1987, X. Wang (XW No. 1245). Paratypes 2 \( \sigma \), as holotype (XW, ZMB).

Diagnostic characters

The species is distinguished by having all of front tibia and tarsi blackish brown. It is separable from the similar E. cillum by having setae on wing veins Sc, M and Pcu and in cell m, but fewer setae on squama; and transverse sternapodeme with longitudinal median ridge and slightly convex sides.

Etymology

From the Latin fuscus, brown; \( pro \)-, in front, first etc., and pes, foot, referring to the dark front leg.

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Description

Male imago (n = 3, except when otherwise stated). Total length 3.95-4.30 mm. Wing length 2.48-2.61 mm. Total length/wing length 1.60-1.68. Wing length/length of profemur 2.34-2.50. Coloration pale brown. Legs stramineous with apices of femora, bases of middle and hind tibia, and all of front tibia and front tarsis blackish brown. Abdomen with anterior dark band on tergites II-VII widest laterally, and tergites VIII-IX dark medially. Wing with third axillary sclerite dark apically.

Head (Fig. 2A). AR 1.51-1.67. Ultimate flagellomere 699-747 \( \mu m \) long. Temporal setae 18-20(2), including 6-7(2) inner verticals, 6-7 outer verticals, and 6(2) postorbitals. Clypeus with 15-22 setae. Tentorium 154-184 \( \mu m \) long, 34-38 \( \mu m \) wide. Stipes 146-184 \( \mu m \) long, 60 \( \mu m \) wide. Palp segments lengths (in \( \mu m \) ): 41-49, 60-64, 158-164, 173-184, 191-210. Third palpal segment with 2 very long slender sensilla clavata at apex.

Thorax (Fig. 2B). Antepronotum with 2 median and 9-10 lateral antepronotal. Dorsoventrals 38-47, in 1-3 row, prealars 9-10, and supraalar 1. Scutellum with 18-22 setae.

Wing (Fig. 2C). VR 1.25-1.29. C extension 71-90 \( \mu m \) long. Brachiolum with 5-8 setae, Ce extension with 12-22 non marginal setae, Sc with 15-21, R with 55-66, R1 with 64-84, R4.5 with 127-133, RM with 0-1, M with 3-11, M1+2 with about 90-125, M3+4 with about 95-120, Cu with 56-63, Cu1 with 45-60, Pcu with 25-33 apically, and An with 57-62 setae. Wing membrane with 2-10 setae in cell m basally of RM, other cells extensively setose. Squama with 8-12 setae.

Legs. Spur of front tibia 56 \( \mu m \)(1) long, spurs of middle tibia 56-64 \( \mu m \) and 53-60 \( \mu m \) long, of hind tibia 71 \( \mu m \)(2) and 53-60 \( \mu m \) long. Width at apex of front tibia 53-56 \( \mu m \)(2), of middle tibia 49-60 \( \mu m \), of hind tibia 56-66 \( \mu m \). Comb of 6-8 setae, shortest setae 34-49 \( \mu m \) long, longest setae 53-68 \( \mu m \) long. Sensilla chaetica not observed. Lengths (in \( \mu m \)) and proportions of legs:
Hypopygium (Fig. 2D). Tergite IX with 21-28 setae in two groups, laterosternite IX with 12-16 setae. Phallapodeme 98-105 μm long; transverse sternapodeme rectangular with weakly convex sides, concave apex and longitudinal 30-45 μm long median ridge. Gonocoxite 225-270 μm long; superior volsella 131-150 μm long, 32-36 μm wide, with 10-13 setae, about 10 apical microtrichia, and a few basolateral microtrichia; inferior volsella 56-60 μm long, digitiform, not tapering, with microtrichia and 12-14 setae. Gonostylus 98-113 μm long from base to apex of apical lobe, 116-135 μm long from base to apex of subapical lobe, distance from base to furcation 38-41 μm; with 2 terminal, 2 subterminal lamellate setae, 5-6 additional lateral setae, and microtrichia in basal half of apical lobe. HR 2.31-2.40, HV 3.81-4.05.

Remarks
The species will key to E. cilium in Oliver (1981). It differs in having dark front leg, more numerous setae on the wing but fewer on the squama, transverse sternapodeme with median ridge, and apical lobe of gonostylus with microtrichia.
Fig. 2. *Euryhapsis fuscipropes* sp.n., male imago: A. Head; B. Thorax; C. Wing; D. Hypopygium with ventral view of superior volsella.

Fig. 2. *Euryhapsis fuscipropes* n.sp., imago mâle: A. Tête; B. Thorax; C. Aile; D. Hypopyge avec vue ventrale de la volsella supérieure.
4. A review of genera near Irisobrillia Oliver

Oliver (1985) gave a key to genera of the Brillia group. At that time the only known genus of the group with simple gonostyly was Irisobrillia Oliver. Two more genera with simple gonostyly, Tokyo-brillia Kobayshi & Sasa (1991) and Pseudobrillia Niitsuma (1991), have since been described. The three genera are quite similar and it is conceivable that they all should be regarded as subgenera of Irisobrillia. However, there are several significant differences and the immatures are known of Pseudobrillia only. As indicated by Oliver (1985:1106) either Euryhapsis Oliver or Eurycnemus v.d. Wulp appear to be the most closely related genus to these genera. However, while the presence of a third thin-walled seminal capsule in Tokyobrillia suggests a relationship with Euryhapsis, the absence of a third capsule in Irisobrillia and Pseudobrillia suggests that these genera are closer to Brillia.

The simple gonostyly of Irisobrillia, Tokyobrillia and Pseudobrillia appears to be secondarily developed for instance from the fusion of the subapical and apical lobes of Euryhapsis with the subapical lobe forming the main element. The megaseta present in Irisobrillia and Tokyobrillia thus probably is not homologous with the megaseta of the gonostyli of the other orthoclads, but a secondarily thickened seta.

Key to male imagines of genera near Irisobrillia

1. Gonostylus without macroseta or other strong setae, subcosta bare; Japan and China .................. Pseudobrillia komorii Niitsuma
   Gonostylus with long apical macroseta and 2-3 strong preapical setae, subcosta with setae .............. 2

2. Hind tibial comb absent, front tibia with spur, wing cuneiform, megaseta about one fourth as long as gonostylus; Venezuela, West Indies .......................... Irisobrillia longicosta Oliver
   Hind tibial comb present, front tibia without spur, wing not cuneiform, megaseta about half as long as gonostylus ........ Tokyo-brillia Kobayshi & Sasa 3

3. Gonostylus with 3 preapical setae; thorax, abdomen and legs completely pale yellow; Japan and China .................. T. tamamegasetaphora Kobayshi & Sasa
   Gonostylus with 2 preapical setae, dark markings on thorax, abdomen banded, legs slightly ringed; Tanzania .................. T. anderseni sp.n.

Key to female imagines of genera near Irisobrillia

1. Third thin-walled seminal capsule present, front tibia without spur, hind tibial comb present .................. Tokyo-brillia Kobayshi & Sasa 2
   Two seminal capsules present, front tibia with spur, hind tibial comb present or absent .................. 3

2. Thorax with markings, abdomen banded, legs slightly ringed; Tanzania .................. T. anderseni sp.n.
   Thorax, abdomen and legs unmarked, Japan and China .................. T. tamamegasetaphora Kobayshi & Sasa

3. Hind tibial comb absent, wing cuneiform, subcosta with numerous setae; Venezuela and West Indies ........ Irisobrillia longicosta Oliver
   Hind tibial comb present, wing not cuneiform, subcosta at most with a few setae; Japan and China .................. Pseudobrillia komorii Niitsuma

4.1. Irisobrillia Oliver, 1985:1105

Type species Irisobrillia longicosta Oliver, 1985:1109 (original designation)

Diagnosis of imagines

As in Oliver (1985) with the following additions: Medium sized species, wing length 1.0-2.8 mm. Coronal suture of female complete. Tentorium with sieve pore barely indicated. Stipes with median plate barely sclerotized. Cibarial pump with slightly convex side and evenly concave apex. Female with 5 flagellomeres, lst subequal in length to 5th and about 1/3 longer than each of 2-4, all flagellomeres with long sensilla chaeta. All veins except R2+3 and sometimes M with setae. Postcubitus ending far distal to FCu. An not reaching FCu. Female genitalia with tergite IX undivided, but with setae arranged into 2 groups. Notum with rami continuing in parallel. Two well sclerotized bare seminal capsules. Spermathecal ducts nearly straight, widened for a long distance before common opening.

Irisobrillia longicosta Oliver

Irisobrillia longicosta Oliver 1985:1109
Eurycnemus sp., Seether 1981:2

Material studied: St. Vincent, Majorca Estate, Yambou River, 442 m a.s.l., Malaise trap, A.D. Harrison, 1 ♀ (ZMB).

The following augments the description of female I. longicosta given by Oliver (1985) and Seether (1981).

Female imago (n = 1)

Total length 1.47 mm. Wing length 1.01 mm. Wing length/length of profemur 2.28.
Head (Sæther 1981 fig. 1A). Temporal setae 12, including 6 inner verticals, 3 outer verticals and 3 postorbitals. Clypeus with 14 setae. Tentorium 90 μm long, 11 μm wide. Stipes 94 μm long, 15 μm wide. Palp segments length (in μm): 19, 23, 64, 64, 75.


Wing (Sæther 1981 fig. 1C). VR 1.75. C extension 101 μm long. Brachiolium with 2 setae, C extension with 33 non-marginal setae, Sc with 21, R with 26, R₁ with 20, R₄₅ with 35, RM with 2, M with 1, M₁₂ with 27, Cu with 37, Cu₁ with 14, Pcu with 30, and An with 14 setae. Wing membrane with 17 setae in cell m basally of RM, other cells extensively setose. Squamal setae not observed.

Legs. Spur of front tibia 23 μm long, spurs of hind tibia 34 μm and 30 μm long. Width at apex of front tibia 26 μm, of hind tibia 30 μm long. Comb of hind tibia absent. Front femur 444 μm long, hind femur 477 μm long, front tibia 482 μm long, hind tibia 539 μm long. Tarsi lost.

Abdomen. Tergite VIII with 16 setae. Sternite VIII with 42 setae.

Genitalia (Sæther 1981 fig. 1D). Gonocoxite with 7 setae. Tergite IX with 16 setae. Cercus 56 μm long. Seminal capsules 53 μm long, 39 μm wide; no third transparent seminal capsule observed on this well cleared specimen. Notum 71 μm long.

Remarks

Oliver (1985 : 1109) regarded the female from St. Vincent as conspecific with the males from Venezuela. Although this seems highly likely it should be mentioned that the female is considerably smaller and that setae on the squama not were observed in the female. However, since the squama is not complete, the thorax broken, and the tarsi lost, a final decision about conspecficity can only be made on additional material.

4.2. The genus Tokyobrillia Kobayashi & Sasa

*Tokyobrillia* Kobayashi & Sasa, 1991 : 73
*Orthocladiini* gen. sp., Kobayashi 1991 : 80

Type species *Tokyobrillia tamamegaseta* Kobayashi & Sasa, 1991 : 74 (original designation).

**Diagnosis of imagines**

Medium sized species, wing length 1.4-2.0 mm. Coloration pale to yellowish brown, with or without dark markings or bands on thorax, abdomen and legs.

Eyes with long and rectangular dorsomedial extension, bare but with microtrichia present medial to ommatidia on inner margin and on apex of dorsomedial extension. Coronal suture of female complete, reduced or absent. Tentorium with sieve pore barely indicated, usually with a few basal microtrichia, widest near base in female. Stipes with median plate barely sclerotized. Cibarial pump with slightly convex side and evenly concave apex. Temporal setae extending from behind and above eyes to near coronal suture, with inner verticals relatively numerous. Clypeus with setae on raised area. Maxillary palp 5-segmented, 3rd segment longer than 4th and subequal in length to 5th; sensilla clavata present on lateral and median apex of 3rd, on lateral apex of 4th.

Antennal ratio of male higher than 1; groove starts on flagellomeres 3 or 4; very long sensilla chaetica present at least on flagellomeres 2 and 3 and possibly always on 2-5 and ultimate, no strong apical seta. Female with 5 flagellomeres, 1st subequal in length to 5th and about 1/3 longer than each of 2-4, all flagellomeres with long sensilla chaetica.

Antepnotonal lobes, widely separated medially, with dorsal and ventral setae and additional dorso-lateral setae in female. Scutal projection rectangular, rising above antepnotonotum. Dorsocentrals uni- to multiserial extending to near antepnotonotum, acrostichals absent, prealars uni- biserial, supraalars absent, anepisternals and preepisternals absent. Scutellum with setae in uni- biserial transverse row.

Wing with weakly developed, not projecting anal lobe. Wing membrane with setae in most cells, with coarse punctuation. All veins except R₂₃ with setae. Costa strongly extended beyond R₄₅ and ending near wing tip; R short; R₂₃ running and ending close to R₁; R₄₅ ending distal to end of M₃₄; RM long, oblique, and running nearly in direction of R; Cu₁ slightly curved; postcubitus ending far distal to FCu, An not reaching FCu. Squama with few setae.

Front tibia without spur, mid tibia with 2 spurs of equal length; hind tibia with 2 spurs of subequal
length, with oblique comb of few setae (5-10). Tarsi long bearded (but setae usually fallen off), some straight setae of 2 lengths, some curved and apparently narrowly scale-like. Pseudospurs absent, sensilla chaetica not observed. Pulvilli vestigial, claws small, normal.

Abdomen long and narrow with at least segment VII longer than wide. Tergites with multiple row of lateral setae and scattered, few to numerous setae over anterior 2/3 of tergites. Sternites with lateral row of setae and with anti-terminedian concentration of median setae.

Male hypopygium with segment IX narrow, tergite IX with a group of setae on each side of midline on a more or less pronounced protrusion, anal point absent. Sternapodeme with straight or slightly concave sides, transverse sternapodeme nearly straight with oral projections directed mostly laterally. Phallopodeme well developed, with aedeagal lobe small. Virga absent. Gonocoxite parallel-sided and elongate; superior volsella elongate and narrow, with weak setae and a strong microtrichia in basal third or less.

Female genitalia with tergite IX divided in 2 setigerous protrusions. Gonocoxite IX well-developed, setiferous. Gonocoxapodeme VIII evenly curved. Gonapophysis VIII divided into large ventrolateral lobe with long apical microtrichia and well-developed dorsomesal lobe. Notum relatively long with rami continuing in parallel. Apodeme lobe well developed. Postgenital plate large, triangular with rounded apex. Cerci well developed. Two well sclerotized and one thin-walled seminal capsule void of microtrichia. Spermathecal ducts of sclerotized capsules nearly straight, widened before partly common opening.

Pupa and larva. Unknown.

_Tokyoobrillia andersenii_ sp.n.
(Figs. 3, 4).


Diagnosis characters : See keys.

**Etymology**

Named in honour of Mr. Trond Andersen, Museum of Zoology, Bergen, the leader of the expedition to Tanzania where these specimen were collected.

**Description**

Male imago (n = 10-12, except when otherwise stated).

Total length 2.69-3.63,3.19 mm. Wing length 1.45-1.93,1.71 mm. Total length/wing length 1.78-1.89,1.85. Wing length/length of profemur 1.76-1.87,1.82. Coloration pale brownish yellow with dark brown vitrea, anterior and median anepisternum II, part of episternum and postnotum. Legs stramineous with front and usually mid trochanter dark, profemur darker in basal half, mid femur slightly darkened in basal half. Wing with brownish black spot apically in third axillary scle- rite. Abdomen (Fig. 3E) with dark band in oral half of tergites II-VI, band often indicated also on I and VIII.

Head (Fig. 3A). AR 1.39-1.76,1.55. Ultimate flagellomere 539-709,631 μm long. Temporal setae 10-20,15  ; including 5-12,9 inner verticale; 2-4,3 outer verticals; and 2-4,3 postorbitals. Clypeus with 10-14,12 setae. Tentorium 131-169,150 μm long; 21-30,25 μm wide. Stipes 118-173,161 μm long; 19-38,25 μm wide. Palp segments lengths (in μm) : 34-39,36 ; 60-79,70 ; 150-214,191(6) ; 135-146, 41(4) ; 131-199,171(4). Third palpal segment with 2 lateral and 1 median sensilla clavata, fourth with 1 lateral sensilla clavatum.

Thorax (Fig. 3B). Antepronotum with 4-7,5 dorsomedical and 2-5,4 ventrolateral setae. Dorso-central 24-53,38 starting close to antepronotum; pterals 4-9,7 ; suprapterals absent. Scutellum with 12-19,15.

Wing (Fig. 3c). VR 1.54-1.75,1.63. C extension 71-113,95 μm long. Brachiolum with 2-4,3 setae ; C extension with 18-40,31 non-marginal setae ; Sc with 28-53,39 ; R with 45-78,64 ; R 4 with 40-78,58 ; R 4+5 with 44-118,88 ; RM with 4-15,9 ; M with 1-6,3 ; M 1+2 with about 80-120,95 ; M 3+4 with 44-70,56 ; Cu with 32-60,51 ; Cu 1 with 24-40,33 ; Pcu with 47-95,72 ; and An with 26-56,38 setae. Wing membrane with 18-48,35 setae in cell in basally of RM, other cells extensively setose. Squama with 3-6,4 setae.
Fig. 3. *Tokyobrillia anderseni* sp.n., male imago: A. Head; B. Thorax; C. Wing; D. Hypopygium with ventral view of superior volsella; E. Abdomen.

Fig. 3. *Tokyobrillia anderseni* n.sp., imago mâle: A. Tête; B. Thorax; C. Aile; D. Hopopyge avec vue ventrale de la volsella supérieure; E. Abdomen.
Legs. Front tibia without spur; spurs of middle tibia 53-71.62 \( \mu m \) and 49-64.58 \( \mu m \) long; of hind tibia 71-90.81 \( \mu m \) and 53-79.67 \( \mu m \) long. Width at apex of front tibia 30-43.38 \( \mu m \); of middle tibia 38-49.43 \( \mu m \); of hind tibia 41-54.48 \( \mu m \). Comb of 7-10.8 setae; shortest setae 41-53.44 \( \mu m \) long; longest setae 60-98.77 \( \mu m \) long. Lengths (in \( \mu m \)) and proportions of legs (\( n = 3 = 5 \) on \( t_a_1 - 5 \), LR, BV, SV):

<table>
<thead>
<tr>
<th></th>
<th>( f_e )</th>
<th>( t_i )</th>
<th>( t_{a_1} )</th>
<th>( t_{a_2} )</th>
<th>( t_{a_3} )</th>
<th>( t_{a_4} )</th>
<th>( t_{a_5} )</th>
<th>LR</th>
<th>BV</th>
<th>SV</th>
<th>BR(( n = 0 - 2 ))</th>
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<tr>
<td>( p_1 )</td>
<td>775-1068.944</td>
<td>926-1304.1139</td>
<td>945-1044</td>
<td>473-548</td>
<td>312-383</td>
<td>208-246</td>
<td>85-89</td>
<td>0.85-0.86</td>
<td>2.55-2.72</td>
<td>2.10-2.15</td>
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<tr>
<td>( p_2 )</td>
<td>737-1025.899</td>
<td>671-917</td>
<td>895</td>
<td>520-662.613</td>
<td>260-331.309</td>
<td>165-213.199</td>
<td>104-128.120</td>
<td>57-76.69</td>
<td>0.69-0.73</td>
<td>0.71</td>
<td>3.36-3.61</td>
</tr>
<tr>
<td>( p_3 )</td>
<td>765-1049.938</td>
<td>832-1139.1004</td>
<td>633-898.796</td>
<td>350-491.437</td>
<td>241-350.304</td>
<td>132-194.169</td>
<td>66-85.79</td>
<td>0.76-0.81</td>
<td>0.79</td>
<td>2.75-2.83</td>
<td>2.78</td>
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Hypopygium (Fig. 3D). Tergite IX with 22-40, 29 setae in two groups laterosternite IX. with 2-5, 3 setae. Phallapode 75-94, 81 \( \mu \) m long; transverse sternapode 34-64, 51 \( \mu \) m long. Gonocoxite 218-278, 256 \( \mu \) m long; superior volsella 73-113, 100 \( \mu \) m long; 23-34, 28 \( \mu \) m wide; with 11-19, 13 weak setae or some microtrichia ventrally; inferior volsella 53-90, 68 \( \mu \) m long; with 8-16, 13 setae. Gonostylus 131-169, 153 \( \mu \) m long, megaseta 60-79, 71 \( \mu \) m long; basal preapical seta 56-71, 62 \( \mu \) m long; apical preapical seta 38-60, 47 \( \mu \) m long. HR 1.63-1.72, 1.67; HV 1.94-2.26, 2.10.

Female image (n = 10, except when otherwise stated)

Total length 2.12-3.59, 2.66 mm. Wing length 1.58-2.09, 1.81 mm. Total length/wing length. Wing length/length of proferm 1.82-1.93, 1.86. Coloration as in male.

Head. AR 0.29-0.35, 0.32(6). Lengths (in \( \mu \) m) of flagellomere (n = 6): 98-135, 113; 68-101, 85; 75-101, 90; 45-77, 66; 94-120, 109. Temporal setae 13-23, 17; including 8-18, inner verticals; 2-4, outer verticals; and 2-3, postorbitals. Tentorium 120-146, 130 \( \mu \) m long; 19-32, 22 \( \mu \) m wide. Stipes 146-199, 164 \( \mu \) m long; 19-34, 26 \( \mu \) m wide. Palp segments lengths (in \( \mu \) m): 30-45, 36; 56-90, 69; 169-199, 183(6); 124-139, 131(6); 184-225, 212(6).

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<th>ta1</th>
<th>ta2</th>
<th>ta3</th>
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<th>LR</th>
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<th>SV</th>
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</thead>
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<td>832-1153,972</td>
<td>964-1242,1163</td>
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<td>—</td>
<td>216-184</td>
<td>146-158</td>
<td>52-113</td>
<td>57-66</td>
<td>0.7-0.71</td>
<td>2.3-3.15</td>
</tr>
<tr>
<td>p2</td>
<td>780-1058,909</td>
<td>799-964,829</td>
<td>520-619</td>
<td>236-288</td>
<td>216-184</td>
<td>146-158</td>
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<tr>
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<td>803-1077,935</td>
<td>756-1134,978</td>
<td>671-794</td>
<td>350-444</td>
<td>246-302</td>
<td>137-170</td>
<td>57-76</td>
<td>0.75-0.77</td>
<td>2.44-2.85</td>
<td>2.56-2.58</td>
</tr>
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</table>

Abdomen. Number of setae on tergites I-VIII as: 36-56, 47; 47-78, 64; 55-110, 70; 65-120, 81; 60-117, 82; 49-97, 67; 40-85, 50; 20-39, 27. Number of setae on sternites I-VIII as: 0.2, 0.8; 13-66, 28; 26-75, 54; 45-103, 79; 60-135, 93; 63-128, 97; 56-110, 82; 72-132, 105.

Genitalia (Fig. 4). Gonocoxite with 10-22, 16 setae. Tergite IX barely to strongly divided into two setigerous protrusions with altogether 34-60, 47 setae. Cercus 71-114, 96 \( \mu \) m long. Well sclerotized seminal capsules 60-83, 79 \( \mu \) m long; 41-53, 47 \( \mu \) m wide; thin-walled capsule 38-75, 56 \( \mu \) m long; 36-41, 36 \( \mu \) m wide. Notum 98-120, 104 \( \mu \) m long.

Sensilla clavata in male. Coronal suture incomplete 0.49-31, 31 \( \mu \) m long; when not sclerotized indicated by shadow.

Thorax. Antennomeres with 8-13, 10 dorsomedian and dorsolateral setae, and 2-6, 4 ventral setae. Dorsoventrals 38-60, 49; prealars 10-14, 11; supraalar absent. Scutellum with 19-24, 22 setae.

Wing. VR1.63-1.77, 1.68. C extension 94-135, 116 \( \mu \) m long. Brachionum with 3-6, 4 setae; C extension with 39-56, 47 non-marginal setae; Sc with 43-84, 62; R with 59-95, 75; R1, with 61-96, 75; R4+5 with 105-185, 135; RM with 10-26, 18; M with 5-17, 12; M1+2 with about 90-165, 125; M3+4 with 49-100, 74; Cu with 49-80, 65; Cu1 with 28-60, 42; Pcu with about 60-160, 100; and An with 30-53, 45 setae. Wing membrane with 48-117, 78 setae in cell m basally of RM; other cells extensively setose. Squama with 4-9, 6 setae.

Legs. Front tibia without spur; spurs of middle tibia 56-69, 61 \( \mu \) m and 53-64, 56 \( \mu \) m long; of hind tibia 68-86, 76 \( \mu \) m and 53-71, 63 \( \mu \) m long. Width at apex of front tibia 36-45, 40 \( \mu \) m; of middle tibia 39-53, 45 \( \mu \) m; of hind tibia 41-51 \( \mu \) m. Comb of 5-9, 8 setae; shortest seta 34-53, 43 \( \mu \) m long; longest seta 53-83, 75 \( \mu \) m long. Lengths (in \( \mu \) m) and proportions of legs (n = 2-3 on tarsi and ratios of mid and hind legs):

Remarks

The fragile nature of *Tokyobrillia* adults is exemplified by this collection from Malaise traps and sweep nets along a stream in the West Usumbura Mts in Tanzania. None of the 52 females collected had retained their front tarsi and only 2 specimens had middle and hind tarsi. The bristle ratio probably is high on all legs, but the longer setae are few in number and fall off. The bristle ratio of the middle and hind leg was measurable in one male only out of 37.

*T. anderseni* is very similar to *T. tanamegaseta* from Japan and China, but easily distinguishable by the color pattern.
Tokyobrillia tamagemaseta (Kobayashi & Sasa)
(Fig. 5)


Fig. 5. *Tokyobrillia tamagemaseta* Kobayashi & Sasa: A. Male Hypopygium with ventral view of superior volsella; B-E. Female genitalia; ventrolateral view (B, cerci lost, with cercus of different specimen in lateral view); dorsomesal lobe (C); ventrolateral lobe (D); and apodeme lobe (E).

Fig. 5. *Tokyobrillia tamagemaseta* Kobayashi & Sasa: A. Hypopyge mâle avec vue ventrale de la volsella supérieure; B-E. Genitalia femelle; vue ventrolatérale (B, cercues perdus, avec cercue d'un spécimen différent en vue latérale); lobe dorsomésal (C); lobe ventrolatéral (D); et lobe apodème (E).

Male imago (n = 2 – 3 except when otherwise stated).

Third axillary sclerite with apical black spot. All measurements and counts within the variation of *T. anderseni* sp.n. with the following exceptions:

- Wing length 1.34-1.66 mm. Wing length/length of profemur 1.68-1.88.

- Head. AR 1.18-1.48. Ultimate flagellomere 473-567 μm long. Sensilla chaetica present on flagellomeres 2-3 and ultimate.


- Wing. Subcosta with 52-56 setae, R with 40-54, R₁ 40-54, R₂ with 31-55, and M with 7-9 setae. Squama with 4-10 setae.

- Legs. Comb of 5-6 setae. Bristle ration of middle leg 7.4(1), of hind leg 8.0(1).

- Hypopygium (Fig. 5A). Gonocoxite 206-251 μm long, superior volsella with 15-21 weak setae ventrally. Gonostylus 113-124 μm long, basal preapical seta 56-60 μm long, median 45 μm long, apical preapical seta 34-38 μm long.

Female imago (n = 1 – 2)

All measurements and counts within the variation of *T. anderseni* with the following exceptions:

- Wing length 1.46-1.57 mm. Wing length/length of profemur 1.58-1.70.


- Abdomen. Sternite VIII with 58 setae and probably fewer setae than in *T. anderseni* also on other sternites.

- Genitalia (Fig. 5B-E). Notum 75 μm long.

**Remarks**

The smaller measurements belong to the specimen from China, which also has lost the megaseta. The antennal ratio is lower (1.18), there are only few (4) setae on the squama, and the bristle ratios are very high. However, the bristle ratios could not be measured on the Japanese specimens. None of the observed dissimilarities, however, are significant enough to warrant separate specific status.

Both this species and the following species are found only from the southern Oriental parts of China in addition to Japan, and suggest that the whole group of genera near *Irisosobrillia* is a Gondwanian element.

### 4.3. The genus *Pseudobrillia* Niituma

*Pseudobrillia* Niituma, 1991 : 707

Type species *Pseudobrillia komorii* Niituma, 1991 : 709 (original designation).

**Diagnosis**

As in Niituma (1991) and essentially as in *Tokyo-brillia* with the following exceptions and additions:

- Antepronotum with dorsal and ventral setae and additional dorsolateral setae both in male and female. One or two supraalars present. Subcosta bare in male. Squama with about 13-27 setae. Inferior volsella fused with gonocoxite, vestigial.

*Pseudobrillia komorii* Niituma

(Fig. 6)

*Pseudobrillia komorii* Niituma 1991 : 709


The following augments the description of *P. komorii* by Niituma (1991).

Male imago (n = 1)

- Wing length about 1.6 mm (2.1-3.2. in Niituma). Wing length/length of profemur about 1.7 in Chinese specimen, about 2.5-2.7 in Niituma. Thorax apparently without markings in Chinese specimen.


- Wing. Subcosta bare, R with 70 setae, R₁ with about 50, R₄₊₅ with about 80, RM with 4, M with 21, and Cu with about 50 setae; setae on other veins not countable on damaged wing.

**Remarks**

The Chinese specimen may show up not to be conspecific with the Japanese. It apparently is more pale, has shorter wing, and 2 supraalars. However, the specimen is damaged and several details obscured. Most measurements fall at the lower end of the variation within *P. komorii*. 
Fig. 6. *Pseudobrillia komorii* Niitsuma, male imago from China: A. Thorax; B. Hypopygium.

Fig. 6. *Pseudobrillia komorii* Niitsuma, imago mâle de Chine: A. Thorax; B. Hypopyge.

Acknowledgements

We are grateful to Dr. T. Kobayashi, Kawasaki, Japan for the loan of material of *T. tanamegaseta*. Financial support for the junior author was provided by a visiting senior research fellowship from the Council for International Cooperation and Developmental studies at the University of Bergen, and by a stipend from the Norwegian Research Council. The manuscript was typed by Annelise Bjørnás.

References

