



# Revision of the genus *Trichophya* from Taiwan, with description of three new species (Staphylinidae: Trichophyinae)

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**ABSTRACT:** The genus *Trichophya* Mannerheim, 1830 is a Holarctic genus of rove beetles representing the small subfamily Trichophyinae. We redescribe the previously known Taiwanese species, *Trichophya kurosawai* Shibata, 2001, based on the type material. In addition, we describe three new species from Taiwan: *T. keris* sp. nov., *T. maui* sp. nov., and *T. thor* sp. nov. A key to all species in Taiwan is provided. The habitus and aedeagus of each Taiwanese species are illustrated. The current systematics of the genus *Trichophya* is also briefly discussed.

**KEY WORDS:** Leaf litter fauna, Oriental region, Palaearctic-Oriental transition zone, rove beetle, taxonomy.

## INTRODUCTION

Trichophyinae is a monotypic subfamily that is presumably sister to the subfamily Habrocerinae (Ashe and Newton, 1993; Ashe, 2005; Yamamoto and Maruyama, 2018; Orlov *et al.*, 2021; Yamamoto, 2021). Trichophyinae is Holarctic in distribution and currently comprises 18 described extant species (Ashe and Newton, 1993; Naomi, 1995, 1996; Zheng and Wang, 2011; Assing, 2003, 2006), but several undescribed species have been reported as far south as Mexico and Guatemala (Ashe and Newton, 1993). Described species are known from Europe (2 species), Asia (13 species) and North America (3 species) (Newton, 2022). Two extinct species have been reported from Cretaceous amber from Kachin in Myanmar and Taimyr in Siberia, Russia (Yamamoto and Newton, 2021; Jenkins Shaw *et al.*, 2024), indicating that in the past the lineage may also have been widespread in the tropics.

The adult synapomorphies of the subfamily include a distinct neck constriction of the head, maxillary palps with a spindle-shaped fourth palpomere, membranous fifth palpomere, and slender, filiform, verticillate antennae (Newton *et al.*, 2000; Yamamoto and Newton, 2021). However, the latter antennal synapomorphy is absent in the *T. antennalis* group, which includes one extant species from India and one extinct species from mid-Cretaceous Kachin amber (Yamamoto and Newton, 2021).

In Taiwan, the genus is represented by a single species, *T. kurosawai* Shibata, 2001, originally described from the Alishan Mountains in the central-southern part of the island (Shibata, 2001). The type series was collected from accumulated leaf litter in broad-leaved forest which is a typical habitat for *Trichophya*. In 2021–2026, we have collected a series of leaf litter samples across Taiwan as a part of the ongoing Taiwanese Leaf Litter Beetles Project

(Hu *et al.*, 2024). Our sampling resulted in a surprising discovery of the unexpected diversity of *Trichophya* in Taiwan. The aim of this study is to describe the newly discovered species and redescribe the previously known Taiwanese *T. kurosawai* based on the type series.

## MATERIALS AND METHODS

### Photographing and preparing

Specimens were examined and dissected under a Leica M205 C dissecting microscope. The genital segments, including the aedeagus, of dissected specimens were preserved either in Euparal or in a small vial with glycerin. Habitus photos were taken using a Canon EOS R5 camera with a Laowa Aurogon FF 10–50×NA0.5 supermicro APO macro lens with 10× terminal. The aedeagus was photographed in a temporary glycerine slide using a Canon EOS850D camera attached to the Olympus BX43F compound microscope. Since the median lobe of the *Trichophya* is strongly asymmetrical, we photographed various views to better illustrate the critical diagnostic characters of the tip of the median lobe. Photos were stacked in Helicon Focus 8. We used Photoshop CS5 to edit the habitus and aedeagus photos. The Chinese names of the localities are provided in the square brackets, if they were not in the original labels. The specimen data strictly follow the original labels, with different labels separated by slashes.

### Barcoding data

The barcoding DNA fragment for the holotype and a paratype of *T. thor* sp. nov. and for a paratype of *T. keris* sp. nov. were sequenced based on methods described in Fikáček *et al.* (2023) and Hu *et al.* (2024). The sequences were uploaded to GenBank under the accession numbers



PZ498414 (*T. keris* sp. nov.), PZ498413, and PZ498415 (both *T. thor* sp. nov.).

### Depositories

**NHMD:** Natural History Museum of Denmark, University of Copenhagen, Copenhagen, Denmark.

**NMPC:** National Museum, Prague, Czech Republic.

**NSMT:** National Museum of Nature and Science, Tsukuba, Japan.

**NMNS:** National Museum of Natural Science, Taichung, Taiwan.

**ZMH:** Zoological Museum Hamburg, Hamburg, Germany.

### Morphological terms and measurements

The morphological terms mainly follow Shibata (2001) and Yamamoto and Newton (2021). The following measurements were taken:

**Forebody length:** from the anterior margin of clypeus to the posterior margin of elytra (FL); **Head width:** distance between the outer margins of both eyes (HW); **Pronotum length:** length of the pronotum along the midline (PL); **Pronotum width:** maximum width of the pronotum (PW); **Elytral length:** length from the humeral area to the posterior margin of the elytra (EL); **Elytral width:** maximum width of the elytra (EW).

### Archiving

For the purpose of zoological nomenclature, the paper has been registered in ZooBank under <http://zoobank.org/urn:lsid:zoobank.org:pub:8874AE41-8971-42CC-85B7-83C33DC70CF2>. High-resolution versions of the plates are available in Zenodo Research Depository: <https://doi.org/10.5281/zenodo.22040801>

## TAXONOMIC TREATMENT

### Key to the species of *Trichophya* in Taiwan

1. Head and pronotum shiny, lacking of microsculpture, elytra shorter (EL / PL less than 1.4) (Fig. 1D). Apex of the median lobe hammer-like (Figs 3F–I). ..... *T. thor* sp. nov.
- Head and pronotum with distinct grid-like microsculpture, elytra longer (EL / PL more than 1.5) (Figs 1A–C). Apex of median lobe simple or hook-like. .... 2
2. Aedeagus with the basal bulbus sclerotized in the dorsal portion; tips of the median lobe hook-like (Figs 3A–E). ..... *T. maui* sp. nov.
- Aedeagus with the basal bulbus membranous in the dorsal portion; tips of the median lobe rounded or pointed (Fig. 2). .... 3
3. Aedeagus with median lobe broad, distinctly curved in the lateral view, sharp apically (Figs 2A–C). ..... *T. kurosawai*
- Aedeagus with median lobe narrow, not curved in the lateral view, rounded apically (Figs 2D–G). ..... *T. keris* sp. nov.

*Trichophya kurosawai* Shibata, 2001

黑澤毛角隱翅蟲 (Figs 1A, 2A–C)

**Type material examined.** *Holotype:* male, TAIWAN: (ALISHAN [阿里山]) Chiai – Hsien, TAIWAN Aug. 7<sup>th</sup>, 1971 Coll. Y. Shibata / ♂ Y. Shibata, 2001 (NSMT). *Paratypes:* 5 males, 2 females, TAIWAN: same data as the

holotype, but Y. Shibata, 2001 (NSMT); 1 female, same data as previous ones but different date, Aug. 8<sup>th</sup>, 1971 (NSMT); 1 male, 1 female, (FENCHIHU [奮起湖]) Chiai – Hsien TAIWAN Aug. 8<sup>th</sup>, 1971 Coll. Y. Shibata / Y. Shibata, 2001 (NSMT).

**Diagnosis:** *Trichophya kurosawai* is similar to *T. japonica* Watanabe & Shibata, 1962 from Japan and South Korea. It can be distinguished from *T. japonica* by the larger and more robust body and the median lobe that is strongly asymmetrical in ventral view (Fig. 2B) (less asymmetrical in *T. japonica*: Park and Ahn, 2024, fig. 3E), robust and strongly curved in lateral view (Fig. 2A, C) (thin and only slightly curved at the tip in *T. japonica*).

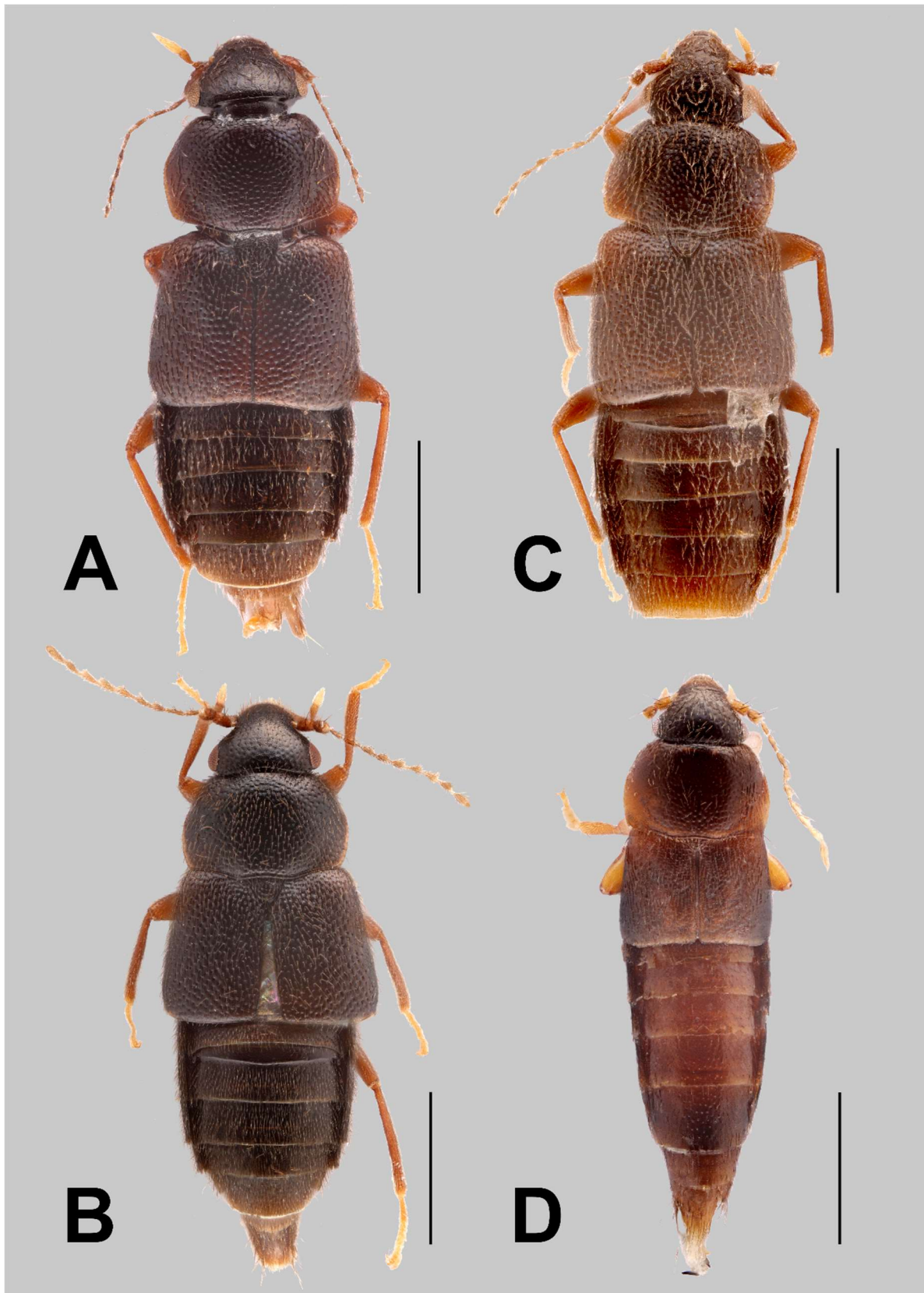
In the original description, Shibata (2001) diagnosed *T. kurosawai* and *T. japonica* based on difference in density, depth, and shape of the punctures on the pronotum and elytra. After examining the holotype of *T. kurosawai* and the photo of the holotype of *T. japonica* (Park and Ahn, 2024), we concluded that both species do not clearly differ in these characters.

**Redescription:** Measurements (n = 3, given in mm, average provided in brackets): FL: 1.6–1.6 (1.6); HL: 0.4–0.4 (0.4); HW: 0.5–0.55 (0.53); PL: 0.5–0.5 (0.5); PW: 0.7–0.75 (0.73); EL: 0.75–0.8 (0.77); EW: 0.85–0.9 (0.88).

**Habitus** (Fig. 1A). Body broad. Head black, remaining body parts dark brown, with antennae and legs slightly paler. Head, pronotum and elytra covered with dense and small punctures with long setae.

Head slightly wider than long; subtriangular, narrowed anteriorly, anterior margin weakly convex, almost truncated; surface covered with moderately large and dense punctures with long setae, interspaces between punctures with grid-shaped microsculpture, making surface dull. Eyes moderately large, semicircular in dorsal aspect, convex and distinctly protruding on outer margin. Antennae with 11 antennomeres, slender and filiform to moniliform, longer than head and pronotum combined; each antennomere with sparse long setae; antennomere 1 and 2 robust, antennomere 1 distinctly longer than antennomere 2; antennomere 2 globular; antennomere 3 to 11 much narrower; antennomere 3 and 4 elongated, slender and parallel laterally; antennomere 5 to 10 small, spherical, gradually becoming more spherical toward the apex; antennomere 11 elongated elliptical, dorsoventrally flattened. Maxillary palpi five-segmented, including pseudosegment of the last palpomere, each palpomere densely covered with long setae, palpomere 1 small; palpomere 2 narrowly elongated; palpomere 3 robust, shorter than palpomere 2, dilated apically; palpomere 4 spindle-shaped, much longer than other palpomeres; palpomere 5 minute and hyaline. Labial palps three-segmented, tiny.

Pronotum transverse, widest at midlength; sides rounded, slightly narrowed anteriorly; anterior margin with distinct emargination; posterior margin arcuate, both sides slightly oblique with shallow emargination medially;



**Fig. 1.** Habitus. **A.** *Trichophya kurosawai* Shibata, 2001; **B.** *T. keris* sp. nov.; **C.** *T. maui* sp. nov.; **D.** *T. thor* sp. nov. Scale bars: 1 mm. (see <https://doi.org/10.5281/zenodo.22040801>)



anterolateral angles and posterolateral angles rounded; surface with moderately large and dense punctures bearing long setae, interspaces between punctures with grid-shaped microsculpture, making surface dull. Prosternum short and transverse. Scutellum triangular, about as long as wide. Elytra subparallel, distinctly longer than pronotum, gradually wider posteriorly; densely setose, with grid-shaped microsculpture. Hind wings fully developed. Mesoventrite and metaventrite with grid-shaped microsculpture; mesoventrite with a few short setae; metaventrite cover with long and dense setae. Legs slender, moderately long.

Abdomen moderately broad, widest at segment IV, sides evenly tapering from segment IV to apex. Abdominal segments IV–VII of almost same length; abdominal segment VIII distinctly transverse, slightly narrowing apically. Abdominal segment III–VII each with paratergites.

Male. Front tarsomeres 1–4 moderately dilated. Sternite VIII short and distinctly transverse, posterior margin with distinct emargination. Sternite IX elongated, basal portion moderately long and triangular. Aedeagus moderately long and robust, basal bulbous large and globular, membranous in dorsal portion (Fig. 2A); from ventral aspect (Fig. 2B), median lobe strongly asymmetrical, tips twist to left; from lateral aspect (Figs 2A, C), median lobe robust and distinctly curved, tips narrow. Parameres slightly extended over median lobe in ventral view (Figs 2A–C).

Females similar to males, but without dilated front tarsomeres 1–4. Sternite VIII elongated, slightly longer than sternite VII, posterior margin rounded.

**Distribution:** The species is known from elevations between 1500 and 2200 m in the Alishan Mt. in southern Taiwan. It is so far only known from two localities: Alishan and Fenchihu (Fig. 4).

**Bionomics:** Type specimens were collected from the leaf litter in the broad-leaf forest in the mountainous area (Shibata, 2001).

**Remarks:** Shibata (2001) listed specimens from Alishan as part of the type series; those from “near Tsuifeng” were listed as additional material. However, in the collection of NSMT, the specimens from “near Tsuifeng”, as well as those labelled “Fenchihu” and not listed in the original publication are also labeled as paratypes, despite not belonging to the type series. The genus name on the type labels is misspelled as *Trichophya*. The specimens collected from “Tsuifeng” likely represent *T. keris* sp. nov., see under that species.

*Trichophya keris* Hu, Ho & Fikáček, *sp. nov.*

克里斯毛角隱翅蟲 (Figs 1B, 2D–G)

urn:lsid:zoobank.org:act:752866A4-3618-4813-AFBF-7AC2E386425D

**Type material examined:** *Holotype*: male, TAIWAN: Nantou Meifeng [梅峰]; 2044 m, 24.09164 121.17733, 09 Nov 2025; GJ Phang, YH Fang, YC Hsiao TW2025-

049 / primary forest with frequent disturbance, dead logs, dense understorey plants, leaf litter with roots + *Laetiporus* bodies / Taiwan Leaf Litter Beetles Project MF3-001 (NMNS). **Paratypes**: 1 female, same data (NHMD); 1 female, same data except Taiwan Leaf Litter Beetles Project MF3-001 DNA voucher (NMNS). 1 male, Nantou, Yushan NP, beginning of trail to Pushashan [埔沙山]; 2130 m, 23.5341893 120.8957937, 14 May 2026; A. Damaska, TW2026-025, low montane forest, Taiwan Leaf Litter Beetles Project YU5-001 DNA voucher (NMPC); 9 exs., same data except YU5-001 additional specimen (NMPC, NHMD, NMNS). 2 males, 2 females, TAIWAN: (Near TSIFENG [翠峰]) Nantou – Hsien TAIWAN (2200 m) July 27<sup>th</sup>, 1974 Coll. Y. Shibata / Label: *Trichophya kurosawai*, Y. Shibata, 2001 (NSMT).

**Diagnosis:** *Trichophya keris* sp. nov. is very similar to *T. kurosawai* and *T. maui* sp. nov. Although the body size of *T. keris* sp. nov. is slightly smaller than that of the other two species, all other external characters are identical. Reliable identification requires examination of the aedeagus. In *T. keris* sp. nov., the median lobe is slender, elongate, and rounded apically (Figs 2D–G).

**Description:** Measurements (n = 3, given in mm, average provided in brackets): FL: 1.4–1.55 (1.45); HL: 0.4–0.4 (0.4); HW: 0.45–0.5 (0.47); PL: 0.4–0.4 (0.4); PW: 0.75–0.75 (0.75); EL: 0.65–0.7 (0.68); EW: 0.9–0.95 (0.92).

The species is very similar to *T. kurosawai* externally, it only differs from it by the morphology of the aedeagus. Aedeagus moderately long and slender, basal bulbous large and globular, membranous in dorsal portion (Figs 2D, G); from ventral aspect (Fig. 2F), median lobe elongated and slender, asymmetrical, wavy blade-like, tips almost straight, rounded apically; from lateral aspect (Figs 2D, E, G), median lobe slender, almost not curved, rounded apically. Parameres not reaching tip of median lobe in dorsal view (Fig. 2F).

**Distribution:** The species is known from elevations between 2000 and 2200 m in the Central Mountain Range. At the moment it is known from two areas c. 70 km apart: the surroundings of Meifeng (Meifeng and Tsuifeng) and northern part of Yushan National Park (Fig. 4).

**Bionomics:** The type series was collected in a primary forest with frequent natural disturbances (Fig. 5A), including typhoon damage that occurred prior to the collecting date. The forest floor was characterized by abundant coarse woody debris, including fallen logs, branches, tree trunks, and dense understory vegetation. The leaf litter was deep, with a dry surface layer overlying moist lower layers interwoven with numerous fine roots. Decaying fruiting bodies of *Laetiporus* were present among the litter and woody debris.

**Etymology:** The species name is derived from the *keris*, a traditional Javanese asymmetrical dagger, whose shape resembles that of the median lobe of this species.

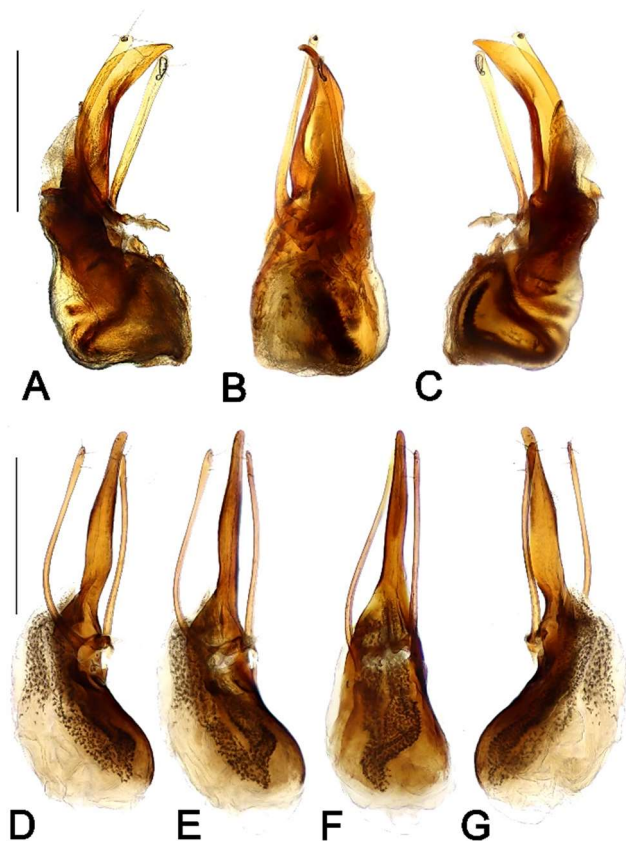


Fig. 2. Aedeagus of *Trichophya kurosawai* Shibata, 2001 and *T. keris* sp. nov. A–C. *T. kurosawai*, A. C. lateral views; B. ventral view. D–G. *T. keris* sp. nov., D. E. G. lateral views; F. ventral view. Scale bars: 0.25 mm. (see <https://doi.org/10.5281/zenodo.22040801>)

**Remarks:** The additional specimens from Tsuifeng (= c. 2.6 km from Meifeng) listed in the original description of *T. kurosawai* (Shibata, 2001) most likely belong to *T. keris* sp. nov. We did not include these specimens as paratypes because we had no chance to dissect these specimens.

***Trichophya maui* Hu, Ho & Fikáček, sp. nov.**

毛伊毛角隱翅蟲 (Figs 1C, 3A–E)

urn:lsid:zoobank.org:act: A0A06CE6-0667-4D85-AB05-47E0B505BB50

**Type material examined:** Holotype: male, TAIWAN: Yilan Co., 100<sup>rd</sup> Forest Trail 15k (100 線林道 15k) [24.59, 121.41], Datong To., 05-VII-2018, leg. F. S. Hu By FIT (NMNS).

**Diagnosis:** *Trichophya maui* sp. nov. is very similar to *T. kurosawai* and *T. keris* sp. nov. Although the body size of *T. maui* sp. nov. is slightly larger than that of the other two species, all other external characters are identical. Reliable identification requires examination of the aedeagus. In *T. maui* sp. nov., the basal bulbus is sclerotized in the dorsal portion (Figs 3A, E), and the tips of the median lobe have a distinct hook (Fig. 3B).

**Description:** Measurements (n = 1, given in mm): FL: 1.7; HL: 0.45; HW: 0.55; PL: 0.5; PW: 0.8; EL: 0.85; EW: 0.95.

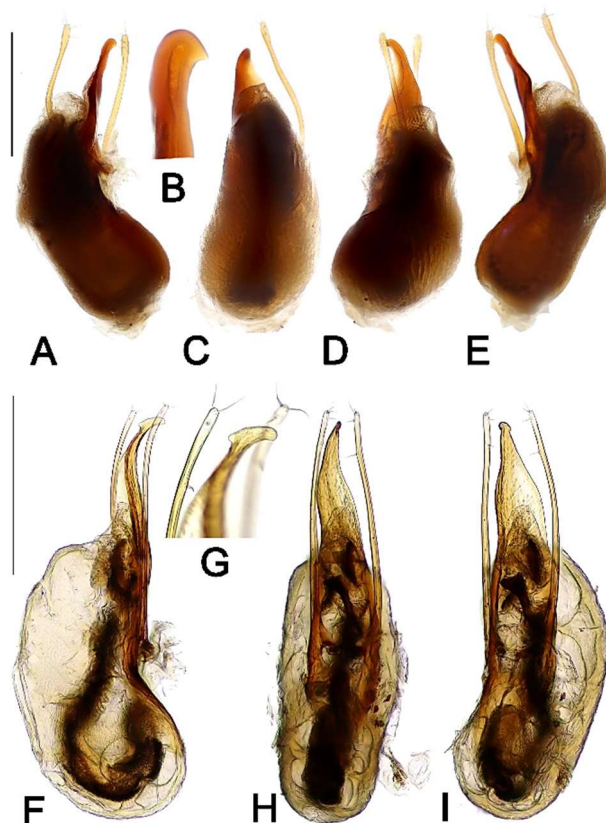


Fig. 3. Aedeagus of *Trichophya maui* sp. nov. and *T. thor* sp. nov. A–E. *T. maui*, A. E. lateral views; B. tips of the paramere, in lateral view; C. dorsal view; D. ventral view. F–I. *T. thor* sp. nov., F. I. lateral views; G. tips of the paramere, in lateral view; H. ventral view. Scale bars: B, G not to scale, all others 0.25 mm. High resolution photos: <https://doi.org/10.5281/zenodo.22040801>

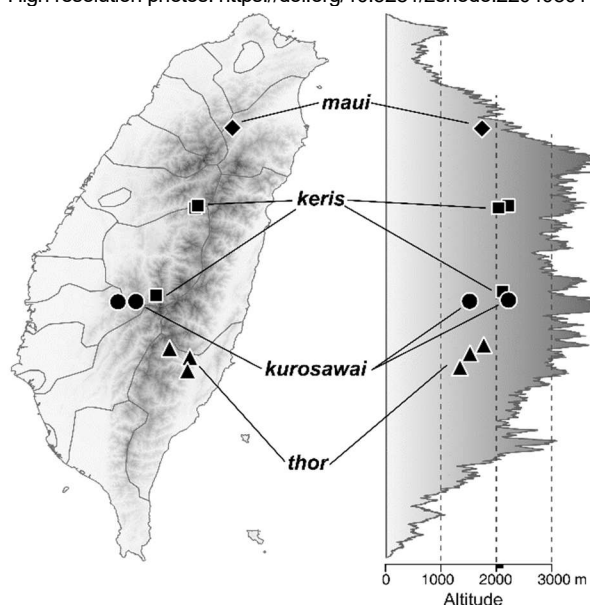


Fig. 4. Distribution map and elevational distribution of *Trichophya* species in Taiwan. Symbols represent: diamond, *T. maui* sp. nov.; square, *T. keris* sp. nov.; circle, *T. kurosawai*; triangle, *T. thor* sp. nov.



**Fig. 5.** Photos of the type localities of the species described in this paper. **A.** Meifeng (梅峰), *Trichophya keris* sp. nov.; **B.** 100<sup>th</sup> Forest Trail 15k (100 線林道), *T. maui* sp. nov.; **C.** Jinping Logging Rd (錦屏林道), *T. thor* sp. nov.

The species is very similar to *T. kurosawai* externally, it only differs from it by the morphology of the aedeagus. Aedeagus moderately short and robust, basal bulbus large and globular, sclerotized in dorsal portion (Fig 3A, C, E); from ventral aspect (Fig. 3D), median lobe asymmetrical, tips curved to left, rounded apically; from lateral aspect (Figs 3A, E), median lobe slender, tips distinctly hook-like. Parameres slightly extended over the median lobe in ventral view (Fig. 3D).

**Distribution:** The species is known from elevations c. 1700 m in Datong Township, Yilan in northeastern Taiwan (Fig. 4).

**Bionomics:** The holotype was collected using a FIT in a primary cloud forest bordering plantation forest (Fig. 5B). The FIT was set on a slope along a seepage stream.

**Etymology:** The species is dedicated to Māui, a demigod in Polynesian mythology, in reference to the tip of the median lobe of the aedeagus, which resembles Māui's magical hook. The name is treated as a noun in apposition.

*Trichophya thor* Hu, Ho & Fikáček, *sp. nov.*

索爾毛角隱翅蟲 (Figs 1D, 3F–I)

urn:lsid:zoobank.org:act:8F02B787-C0FF-47A3-8D3E-AC1C249C2B68

**Type material examined.** **Holotype:** male, TAIWAN: Taitung Nanheng Rd. [南橫公路], Haiduan twshp, 23.217958 121.0179917, 1775 m; 5 Nov 2022, Fikáček, Damaška, Hu, Ho TW2022-021 / stony montane broad-leaf forest with sparse understory of ferns, small accumulations of leaves with lots of mycelia / Taiwan Leaf Litter Beetles Project NH1-035 DNA voucher (NMNS). **Paratypes:** TAIWAN: 1 male, Taitung Haiduan, Jinping Logging Trail, km 15 (錦屏林道) 23.163342 121.144153, 1520 m; 19 Apr 2024 BH Ho TW2024-004 / Taiwan Leaf Litter Beetles Project HD1-055 DNA voucher (NMNS); 2 males, 4 females, same data as previous one except HD1-055 Additional specimen (NHMD, NMNS, NMPC); 8 males and 2 females, same data as the previous ones except 3.iii.2024 (NHMD, NMNS, NMPC, ZMH). 1 male, Taitung, Hongshi Forest Trail [紅石林道], 23.0796861 121.1294149, 1341 m; 23 Mar 2026, M. Fikacek, TW2026-007, cloud



forest along the ridge, with small to moderately large accumulations of leaf litter on the slope, Taiwan Leaf Litter Beetles Project, HG1-016 DNA voucher (NMPC); 39 exs., same data except HG1-016 additional specimen (NMNS, NMPC, NHMD).

**Diagnosis.** A very distinct species that can be distinguished from all other Taiwanese *Trichophya* by the combination of shiny head and pronotum due to the lack of microsculpture (Fig. 1D), smaller eyes, slender body shape, elytra about as long as pronotum, and the tip of the median lobe hammer-shaped (Fig. 3G).

**Description.** Measurements ( $n = 3$ , given in mm, average provided in brackets): FL: 1.2–1.25 (1.23); HL: 0.35–0.4 (0.37); HW: 0.4–0.45 (0.43); PL: 0.4–0.45 (0.43); PW: 0.65–0.7 (0.68); EL: 0.55–0.6 (0.57); EW: 0.7–0.7 (0.7).

Habitus (Fig. 1D). Body slender. Head black. Pronotum and elytra dark brown. Abdomen and legs pale brown. Head, pronotum and elytra cover sparse and small punctures with long setae.

Head slightly wider than long; subtriangular, narrowed anteriorly, anterior margin weakly convex, almost truncated; surface covered with fine and sparse punctures bearing long setae, interspaces between punctures lacking microsculpture, making surface shining. Eyes small, subtriangular in dorsal aspect, convex and slightly protruding on outer margin. Antennae with 11 antennomeres, slender and filiform-moniliform, longer than head and pronotum combined; each antennomere with sparse long setae; antennomere 1 and 2 robust, but antennomere 1 distinctly longer than antennomere 2; antennomere 2 globular; antennomeres 3 to 11 much narrower; antennomere 3 and 4 elongated, slender and parallel-sided; antennomeres 5 to 10 small, spherical, gradually becoming more spherical; antennomere 11 elongated elliptical, with more setae than previous antennomere. Maxillary palpi with five palpomeres including the pseudosegment, each palpomere densely covered with long setae, palpomere 1 small; palpomere 2 narrowly elongated; palpomere 3 robust, shorter than palpomere 2, dilated apically; palpomere 4 spindle-shaped, much longer than other palpomeres; palpomere 5 minute and hyaline. Labial palps with three palpomeres, tiny.

Pronotum transverse, widest slightly before base; sides rounded, slightly narrowed anteriorly; anterior margin nearly truncate; posterior margin arcuate, almost parallel with anterior margin but with shallow emargination medially; anterolateral angles and posterolateral angles rounded; surface covered with fine and sparse punctures bearing long setae, interspaces between punctures lacking microsculpture, making surface shining. Prosternum short and transverse. Scutellum triangular, about as long as wide. Elytra subparallel, slightly longer than pronotum, gradually widening posteriorly; densely setose, with point-like microsculpture. Hind wings fully developed. Mesoventrite shiny, covered with long-stripe-like microsculpture. Metaventrite shiny, covered with very fine and sparse setae.

Legs slender, moderately long.

Abdomen slender, segments III–VI subparallel, sides evenly tapering from segment VI to apex. Abdominal segments IV–VI of almost same length; segments VII and VIII elongated, narrowing apically. Segments III–VII with paratergites.

Male. Front tarsomeres 1–4 moderately dilated. Sternite VIII elongated, posterior margin with very shallow emargination. Sternite IX elongated, basal portion long, with torsion to the right side. Aedeagus elongated and slender, asymmetrical, basal bulbous small and globular, membranous in dorsal portion (Fig. 3F). In ventral aspect (Fig. 3H), median lobe gourd-shape, tips of median lobe narrow. In lateral aspect (Figs 3F, G, I), median lobe slightly curved with a hammer-shaped tip (Fig. 3G). Parameres slightly extended over the median lobe in ventral view (Fig. 3H).

Females similar to males, but without dilated front tarsomeres 1–4. Sternite VIII elongated, slightly longer than sternite VII, posterior margin rounded.

**Distribution.** The species is known from cloud forests at altitudes 1300–1800 m west of Taitung city in southeastern Taiwan (Fig. 4).

**Bionomics.** The type series was collected from cloud primary forest mixed with Lauraceae and Fagaceae. The forest floor had dense understory vegetation with small to moderately large accumulations of leaf litter on the slope (Fig. 5C).

**Etymology.** The species is dedicated to Thor, the Norse god of thunder, storms, and strength, renowned for wielding the hammer of Mjölnir. It reflects the fact that the holotype of this species was collected during a heavy thunderstorm. In addition, the tip of the median lobe of the aedeagus resembles Thor's hammer. The name is a noun in apposition.

## DISCUSSION

Presently, two species groups of the genus *Trichophya* have been recognized, namely the *T. antennalis* group and *T. pilicornis* group (Yamamoto and Newton, 2021; Jenkins Shaw *et al.*, 2024). The *T. antennalis* group is represented by *T. antennalis* Cameron, 1932 from India and the extinct *T. minor* Yamamoto & Newton, 2021 from Kachin amber, and is recognized by a smaller body size, shorter antennae, all antennomeres of similar width, and a more transverse pronotum. All other members of the genus belong to the *T. pilicornis* group and can be identified by antennomeres 3–11 being distinctly narrower than antennomeres 1 and 2 (Yamamoto and Newton, 2021; Jenkins Shaw *et al.*, 2024).

The morphologically distinct *T. thor* sp. nov. discovered in this study may represent a separate species group, as it has several characters not observed in other members of the *T. pilicornis* group, including a slender body, shorter elytra, and the absence of microsculpture on the head and pronotum. The *cox1* genetic distance between *T. thor* and *T. keris* (14.7%) also indicates that the species



may not be closely related. These morphologically distinct lineages within *Trichophya* may represent natural species groups. Nevertheless, recognition and delimitation of such groups should await a comprehensive phylogenetic analysis including most species of the genus. A taxonomic revision of *Trichophya* is needed for further species diversity investigation and phylogenetic reconstruction within the genus. We therefore refrain from assigning species to additional species groups at present.

Our study highlights the unexpected diversity of *Trichophya* in Taiwan. Despite the small size of the island, four species of this species-poor genus are now known, suggesting that its diversity remains underexplored. The Taiwanese species appear to be restricted to middle and high elevations (Fig. 4) in broadleaf forests, reflecting the Palaearctic affinities of part of the island's fauna, as observed in other staphylinid genera (e.g., *Eusphalerum* (Zanetti, 1998), *Othius* (Assing, 1999), *Quedius* (Smetana, 1995)), or some Carabidae (e.g., *Reicheiodes* (Bulirsch *et al.*, 2025)).

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