

Three new *Trachyphloeosoma* species from Vietnam (Coleoptera: Curculionidae: Entiminae: Trachyphloeini)

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Abstract. *Trachyphloeosoma lirenae* sp. nov., *T. microphthalma* sp. nov. and *T. szeli* sp. nov. from Vietnam are described, illustrated and compared with similar species. Key to all known species of the genus is provided.

INTRODUCTION

The genus *Trachyphloeosoma* Wollastoon, 1869 contains nine species; known from Japan, South Korea, China (Hainan, Taiwan, Yunnan, Zhejiang), Vietnam, Moluccas (Buru island), two species were introduced to Afrotropical, Australian and Nearctic Regions and not long ago even to France in Europe (Alonso-Zarazaga et al. 2017). The genus was already completely redescribed and compared to all other Palaearctic Trachyphloeini by Borovec (2009), and the genus was subsequently revised (Borovec 2014). Japanese species were revised by Morimoto (2015) and Chinese species by Ren et al. (2020).

The genus includes only small species, less than 3 mm, and among other Trachyphloeini genera they are characteristic by antennal scrobes in lateral view triangular, separated from eyes, apex of protibiae at apical quarter curved inside, metaventral process wide, abdominal ventrites shiny, punctured, tarsal claws free, long, divaricate, sternite VIII in females with long and slender apodeme and small, usually rhombic plates, in some species with fenestra. Material of majority of species were collected in forest litter by different methods, sifting or Berlese funnel.

MATERIAL AND METHODS

Body length of all specimens was measured in dorsal view from the anterior border of the eyes to the apex of the elytra, excluding the rostrum. Width/length ratio of the rostrum was measured as maximum width at base versus maximum length to the base of the mandibles in dorsal view. Width/length ratios of pronotum, elytra, antennal and tarsal segments were taken at the maximum width and length of the respective parts in dorsal view. Female genitalia were embedded in Solakryl BMX (Medika, Prague); male genitalia were mounted dry on the same card as the respective specimen. The terminology of the rostrum and the genitalia follows Oberprieler et al. (2014).

Acronyms for depositories of the material are as follows:
HNHM Természettudományi Múzeum, Budapest, Hungary;
NMPC Národní Museum, Praha, Czech Republic;
RBSC Roman Borovec, private collection, Sloupno, Czech Republic.

TAXONOMIC PART

Trachyphloeosoma microphthalma sp. nov.

(Figs. 1, 5-7)

Type material. Holotype (♂): 'Vietnam, Northern, Lao Cai province, Sa Pa town, in the town, slope below bamboo forest, N22.354473° E103.859445°, 1325m, 20.IX.2018, leg. R. Bekchiev, N. Simov, I. Dedov, P. Beron' [printed], (NMPC). Paratype: (1 ♂): the same label as holotype, (RBSC).

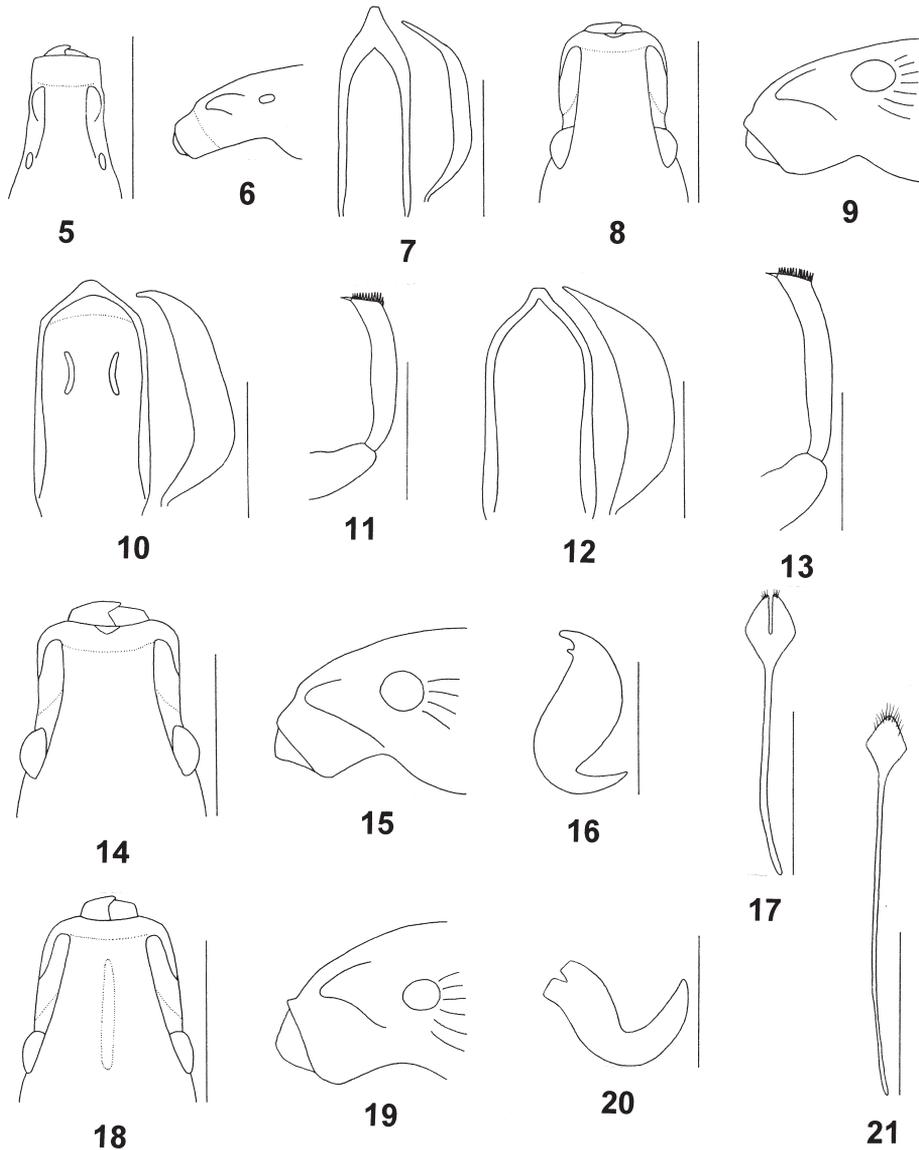
Description. Body length of holotype 1.51 mm, paratype 1.33 mm. Body unicolorly piceous brown. The entire body except for frons, antennal funicles with clubs and tarsi covered with a brown, earth-like incrustation which conceals most of the surface; appressed scales, covering the whole body, very hardly visible through this incrustation. Elytra with one moderately conspicuous, dense row of semi-appressed, somewhat wide, subspatulate setae on each interval; setae slightly longer than half width of one interval, distance between two setae about twice longer than length of one seta. Pronotum and head with rostrum with similar but distinctly shorter setae, on pronotum arising from the top of pronotal granules, densely irregularly scattered. Antennal scapes, femora and tibiae with inconspicuous, semi-appressed, piliform setae, not prominent beyond outline of scapes and legs.

Rostrum (Figs. 5, 6) long and slender, $1.13-1.19 \times$ longer than wide, at base $1.34-1.43 \times$ wider than at apex, evenly tapered anteriorly with concave sides and slightly laterally prominent pterygia in short apical part. Epifrons in basal third distinctly tapered anteriorly, in apical two thirds sub parallel-sided and narrow, with ill-defined, hardly visible, slender longitudinal furrow. Frons conspicuous, long, protruding anteriorly, smooth and shiny, occupying space before antennal sockets. Epistome not developed. Antennal sockets in dorsal view visible as narrow furrows, in lateral view distinctly subtriangular but crooked, with dorsal margin directed at first towards dorsal margin of eye and then shortly curved downwards and ventral margin directed to ventral border of head but not reaching it. Eyes represented only by several ocelli, in dorsal view hardly visible among appressed scales, in lateral view placed in dorsal third, with equal size as funicle segment 2, or with diameter as antennal scape at its base. Head evenly enlarged posteriorly.

Antennae moderately long, scapes exceeding anterior margin of pronotum, $1.4-1.5 \times$ longer than funicle, at midlength regularly curved, gradually thickened to apex; apex $0.5-0.6 \times$ as wide as club. Funicles 7-segmented with segments 2-7 transverse. Segment 1 bead-shaped, $1.1 \times$ longer than wide and $2.1-2.3 \times$ longer than short segment 2, this is $1.4-1.5 \times$ wider than long; segment 3-7 successively wider, segment 3-4 $1.5-1.6 \times$; segment 5 $1.7 \times$, segment 6 $1.8-1.9 \times$ and segment 7 $2.0-2.2 \times$ wider than long. Clubs short oval, large, $1.3-1.4 \times$ longer than wide, segment 1 the largest, comprises two thirds of club; the both sutures distinctly oblique.



Figs. 1-4. Habitus: 1- *Trachyphloeosoma microphthalmum* sp. nov.; 2- *T. lirenae* sp. nov.; 3- *T. jirka* Ren, Borovec & Zhang; 4- *T. szeli* sp. nov. Scale = 1.00 mm.



Figs. 5-21. *Trachyphloeosoma microphthalma* sp. nov.: 5- head with rostrum in dorsal view. Scale = 0.50 mm; 6- head with rostrum in lateral view; 7- penis in dorsal and lateral view. Scale = 0.25 mm. *T. lirenae* sp. nov.: 8- head with rostrum in dorsal view. Scale = 0.50 mm; 9- head with rostrum in lateral view; 10- penis in dorsal and lateral view. Scale = 0.25 mm; 11- right protibia. Scale = 0.50 mm. *T. jirka* Ren, Borovec & Zhang: 12- penis in dorsal and lateral view. Scale = 0.25 mm; 13- right protibia. Scale = 0.50 mm. *T. szeli* sp. nov.: 14- head with rostrum in dorsal view. Scale = 0.50 mm; 15- head with rostrum in lateral view; 16- spermatheca. Scale = 0.25 mm; 17- sternite VIII in female. Scale = 0.50 mm. *T. honza* Ren, Borovec & Zhang: 18- head with rostrum in dorsal view. Scale = 0.50 mm; 19- head with rostrum in lateral view; 20- spermatheca. Scale = 0.25 mm; 21- sternite VIII in female. Scale = 0.50 mm.

Pronotum (Fig. 1) 1.03-1.11 × longer than wide, widest in anterior third, with distinctly rounded sides; anterior border slightly narrower than posterior one. Pronotum flatly and irregularly granulated and among granules irregularly punctured by inequally large punctures. In lateral view pronotum almost flat, anterior margin strongly obliquely directed back beneath towards coxae.

Scutellum invisible.

Elytra (Fig. 1) long oval, 1.43-1.48 × longer than wide, widest at midlength, with moderately rounded sides. Striae coarsely punctured, not impressed between the punctures, about twice wider than interstriae; separations of punctures much shorter than their diameters. Interstriae very narrow, flat weakly chagriniert. Elytra in profile almost flat.

All femora edentate; tibiae short and robust. Anterior tibiae 3.52-3.86 × longer than wide at midlength; with lateral edge distinctly regularly rounded and mesal edge distinctly bisinuate and with apical portion obliquely subtruncated, with a fringe of dense, fine and short yellowish setae and short yellowish mucro. Tarsi short and robust, segment 2 1.6-1.8 × wider than long; segment 3 1.2-1.3 × wider than long and 1.1 × wider than segment 2; onychium short, 0.5-0.6 × as long as segment 3, strikingly widened apicad with very long, strongly forked claws, longer than exceeding part of onychium.

Abdominal ventrites 1.19-1.21 × longer than wide, roughly densely punctate; ventrite 2 distinctly longer than ventrites 3 and 4 combined; suture between ventrites 1 and 2 sinuose, the others straight. Metaventral process only slightly wider than transverse diameter of metacoxa.

Male genitalia. Penis (Fig. 7) short, subparallel-sided, in apical part subtriangular, with slightly concave sides before tip; in lateral view very slender, distinctly curved at apical third. Genital armature with long flagellar sclerite.

Female genitalia unknown.

Differential diagnosis. *Trachyphloeosoma microphthalma* sp. nov. is easily distinguishable from all other species of the genus by having eyes strongly reduced to only several ocelli, hardly visible in dorsal view and in profile visible as a small circular spot of the same size as antennal funicle segment 2. Extremely small eyes form also rostrum longer than wide and head behind eyes several times longer than diameter of eye, while the other *Trachyphloeosoma* species have rostrum wider than long and head at most as long as diameter of eye. Also long, anteriorly protruding frons, pronotum longer than wide and elytra with semi-appressed setae makes this species different from all others with short frons, pronotum wider than long and elytra having semi-erect to erect setae.

Bionomics. Unknown. Amphigonic species. The type material was sifted under bamboo.

Etymology. Strongly reduced eyes suggested the Latin name of this new species.

Distribution. Vietnam.

Trachyphloeosoma lirenae sp. nov.

(Figs. 2, 8-11)

Type material. Holotype (♂): 'Vietnam, Cuc phuong, Ninh binh, 5-18.V.1966, Nr. 385, from trap in soil, Exp. Gy. Topál', (HNHM). Paratype: (1 ♂): the same data as holotype, (HNHM).

Description. Body length: holotype 2.16 mm, paratype 2.38 mm. Body unicolorly piceous brown, antennae and legs paler, reddish brown. The entire body except for frons, antennal funicles with clubs and tarsi covered with a light brown, earth-like incrustation which conceals surface; appressed scales, covering the whole body, very hardly visible through this incrustation. Elytra with one conspicuous row of erect, slender setae on each interval; setae almost as long as width of one interval, almost parallel-sided, only indistinctly enlarged apically, in profile slightly bent backwards, distance between two setae longer than length of one seta. Pronotum with similar setae, only slightly shorter than elytral ones, on pronotum arising from the top of pronotal granules, irregularly scattered, directed anteriorly; head with rostrum with setae about half as long as elytral ones. Antennal scapes, femora and tibiae with long, erect, slender setae, distinctly prominent from outline of scapes and legs.

Rostrum (Figs. 8, 9) moderately long and slender, as long as wide, at base $1.04-1.06 \times$ wider than at apex, in short basal part constricted with concave sides, then evenly enlarged and tapered again, with slightly rounded sides; in profile regularly vaulted, with very short frontal part declined. Epifrons tapered anteriorly with weakly concave sides. Frons short, smooth and shiny, depressed. Epistome extremely short, visible as short posterior narrow carina. Antennal sockets in dorsal view visible as almost parallel-sided furrows, in lateral view short, distinctly subtriangular, strikingly enlarged posteriorly with dorsal margin directed towards dorsal margin of eye and ventral margin deeply below ventral border of eye. Eyes small, distinctly vaulted, in dorsal view protruding beyond outline of head, in lateral view placed dorsally, distance between dorsal margin of head and eye shorter than diameter of eye. Head in profile behind eyes finely longitudinally striate.

Antennae moderately long, scapes exceeding anterior margin of pronotum and $1.5-1.6 \times$ longer than funicle, in basal third visible curved, in apical part about parallel-sided, at apex $0.7 \times$ as wide as club. Funicles 7-segmented; segment 1 $1.5 \times$ longer than wide and $1.3-1.4$ longer than segment 2, which is $1.4-1.5 \times$ longer than wide; segments 3-5 $1.2 \times$, segment 6 $1.4-1.5 \times$ and 7 $1.5 \times$ wider than long; clubs ovoid, large, $1.6-1.7 \times$ longer than wide.

Pronotum (Fig. 2) $1.02-1.06 \times$ wider than long, widest in anterior third, with distinctly rounded sides, anteriorly distinctly more narrower than posteriorly, with anterior margin distinctly narrower than posterior one. Pronotum roughly and irregularly granulated, flattened behind anterior margin. In lateral view pronotum somewhat vaulted, flat behind anterior margin, anterior margin strongly obliquely directed back beneath towards coxae.

Scutellum invisible.

Elytra (Fig. 2) oval, $1.36-1.39 \times$ longer than wide, widest at midlength, with regularly rounded sides. Striae coarsely punctured, not impressed between the punctures, about as wide as interstriae, separations of punctures shorter than their diameters. Interstriae almost flat, smooth.

All femora edentate. Anterior tibiae (Fig. 11) short and robust, $4.87\text{-}5.25 \times$ longer than wide at midlength, at apical quarter distinctly curved inside with mesal edge distinctly double sinuated and apical portion obliquely subtruncated, with a fringe of dense, fine but long yellowish setae, shorter in mesal than in lateral part and with long and slender yellowish mucro. Tarsi short, segment 2 $1.4 \times$ wider than long; segment 3 $1.3 \times$ wider than long and $1.3 \times$ wider than tarsomere 2; onychium as long as segment 3, strikingly widened apicad with very long, strongly forked claws, almost as long as exceeding part of onychium.

Abdominal ventrites $1.16\text{-}1.19 \times$ longer than wide, sparsely roughly punctate; ventrite 2 distinctly longer than ventrites 3 and 4 combined; suture between ventrites 1 and 2 sinuose, the others straight. Metaventral process slightly narrower than transverse diameter of metacoxa.

Male genitalia. Penis (Fig. 10) short, dorsally about subparallel-sided with indistinctly convex sides, in apical part subtriangular, with narrowly rounded tip; in lateral view straight in middle part, curved only in short basal and apical part, tapered and curved at apex (Fig. 10).

Female genitalia unknown.

Differential diagnosis. *Trachyphloeosoma lirenae* sp. nov. is similar particularly to *T. jirka* by erect setae on all elytral interstriae, setae on pronotum and elytra almost equally long, rostrum long and slender and constricted at base. From this species it is possible to distinguish it by protibiae robust, funicle segment 2 long and penis without lengthened tip.

Bionomics. Unknown. The type material was collected by ground trap.

Etymology. The species takes its name from my friend and colleague Li Ren from Institute of Zoology of Chinese Academy of Sciences as my thanks for her fruitful co-operation regarding research of Chinese terricolous entomines.

Distribution. Vietnam.

***Trachyphloeosoma jirka* Ren, Borovec & Zhang, 2020**
(Figs. 3, 12, 13)

Not long ago described species from China Jiangxi, based on three females. There is another material including a male and four females from Vietnam, Northern, Lao Cai province, Sa Pa town, in the town, slope below bamboo forest, $N22.354473^\circ E103.859445^\circ$, 1325 m, 20.ix.2018, leg. R. Bekchiev, N. Simov, I. Dedov, P. Beron (RBSC). Material is clearly conspecific with type material of *T. jirka* from China. Description of this species can be thus completed by description of male genitalia: penis (Fig. 12) short, in dorsal view about subparallel-sided, in apical part subtriangular with shortly elongate, narrowly rounded tip with slightly concave sides; in lateral view moderately wide, weakly irregularly curved, evenly tapered to tip.

Trachyphloeosoma szeli sp. nov.

(Figs. 4, 14-17)

Type material. Holotype (♀): 'Vietnam, Co xan, No. 145, 27.XI.1971, Gy. Topál', (HNHM).

Description. Body length: holotype 2.44 mm. Body unicolored dark piceous brown, funicles with clubs and tarsi slightly paler, reddish brown. The entire body except for frons, antennal funicles with clubs and tarsi covered with a brownish earth-like incrustation which conceals most of the surface; structure of appressed scales, covering the whole body, very hardly visible through this incrustation. Elytra with one conspicuous, dense row of semi-erect, subspatulate setae on each interval; setae about as long as half width of one interval, slightly enlarged apicad, distance between two setae twice longer than length of one seta. Pronotum and head with rostrum with similar setae, about half as long as elytral ones, densely irregularly scattered, anteriorly directed. Antennal scapes with long, femora and tibiae with short, erect, narrowly subspatulate setae, distinctly prominent from outline of scapes and legs.

Rostrum (Figs. 14, 15) $1.35 \times$ wider than long, at base $1.08 \times$ wider than at apex, with almost parallel sides; in profile short and wide, convex. Epifrons distinctly tapered anteriorly with concave sides. Frons conspicuous, glabrous, smooth and shiny, posteriorly continuous with epifrons. Epistome indistinct, with short posterior carina visible. Antennal scrobes in dorsal view fully visible as furrows, reaching eyes; in lateral view with dorsal margin directed above middle of eye and ventral margin deeply below ventral margin of eye. Eyes small, in dorsal view protruding beyond outline of head; in lateral view placed near dorsal margin of head, distance from dorsal margin of head equal to diameter of eye.

Antennae moderately long, scapes slightly exceeding anterior margin of pronotum and $1.8 \times$ longer than funicle, weakly curved at basal third, in apical two thirds slightly gradually thickened to apex, at apex $0.7-0.8 \times$ as wide as club. Funicle segment 1 twice as long as wide and twice longer than short segment 2, which is $1.2 \times$ longer than wide; segments 3-5 $1.3 \times$, segment 6 $1.5 \times$, segment 7 $1.6 \times$ wider than long. Clubs ovoid, large, $1.4 \times$ longer than wide.

Pronotum (Fig. 4) $1.09 \times$ wider than long, widest at midlength, with distinctly rounded sides; anterior margin distinctly narrower than posterior one; disc flatly and irregularly granulate; in lateral view pronotum slightly convex, anterior margin strongly obliquely directed back beneath towards coxae.

Elytra (Fig. 4) oval, $1.26 \times$ longer than wide, widest at midlength, with regularly rounded sides. Striae coarsely punctate, twice wider than intervals, striae not impressed between punctures; separation of punctures much shorter than their diameters. Intervals very narrow, somewhat convex, smooth.

Protibiae short and robust, $5.33 \times$ longer than wide at midlength, at short apical part indistinctly curved inwards with mesal edge slightly bisinuate, apically bluntly truncate, with dense fringe of fine but long yellowish setae, shorter in mesal than in lateral part and with long and slender yellowish mucro. Tarsi short, tarsomere 2 $1.3 \times$ wider than long; tarsomere 3 $1.3 \times$ wider than long and $1.4 \times$ wider than tarsomere 2; onychium as long as tarsomere 3, widened apicad with very long, strongly divaricate claws, almost as long as exceeding part of onychium.

Abdominal ventrites $1.12 \times$ longer than wide, sparsely roughly punctate; ventrite 2 in middle slightly shorter than ventrite 1 and distinctly longer than ventrites 3 and 4 combined; suture between ventrites 1 and 2 sinuate, the others straight. Metaventral process narrower than transverse diameter of metacoxa.

Male genitalia unknown.

Female genitalia. Spermatheca (Fig. 16) very unusual in the whole genus, with very short and slender, regularly curved cornu; corpus extremely large, elongated, long oval, twice longer than cornu; ramus very small, hump-shaped; collum short, tubular-shaped, twice longer than ramus. Sternite VIII (Fig. 17) with plate $1.5 \times$ longer than wide, rhombic, with fenestra reaching half the length of plate. Gonocoxites of ovipositor very slender and long, basally slightly enlarged, in apical part rod-shaped, bearing slender and long, cylindrical stylus with apical setae.

Differential diagnosis. *Trachyphloeosoma szeli* sp. nov. is similar only to *T. honza* by all elytral interstriae with erect setae, elytral setae longer than those on pronotum and dorsal margin of antennal sockets directed towards middle of eye. From this species, *T. szeli* sp. nov. is possible to distinguish by rostrum parallel-sided, eyes in lateral view placed near dorsal margin of head, scapes curved at basal third, female sternite VIII with fenestra and unusual spermatheca with conspicuously long corpus.

Bionomics. Unknown.

Etymology. The newly described species is dedicated to my friend Győző Szél, well known specialist in Carabidae from Természettudományi Múzeum in Budapest, who very willingly and helpfully attended me during my staying in the museum.

Distribution. Vietnam.

KEY TO THE SPECIES OF *TRACHYPHLOEOSOMA*

1. Antennal funicles 5-segmented. Rostrum shorter, $1.9 \times$ as wide as long. Antennomere 2 very slender, more than twice as long as wide. Body size 2.7-2.9 mm. Moluccas. *T. buruana* (Heller, 1929)
- Antennal funicles 7-segmented. Rostrum longer, at most $1.7 \times$ as wide as long. Antennomere 2 shorter, at most $1.5 \times$ as long as wide. 2
2. Eyes represented only by several ocelli, in dorsal view almost invisible, with equal size as funicle segment 2 (Fig. 5). Head behind eyes several times longer than diameter of eye (Fig. 6). Rostrum $1.1-1.2 \times$ longer than wide (Fig. 5). Pronotum $1.1 \times$ longer than wide (Fig. 1). Elytra with semi-appressed setae (Fig. 1). Body size 1.3-1.5 mm. Vietnam. *T. microphthalma* sp. nov.
- Eyes composed (superposition eyes), in dorsal view well visible, much bigger than funicle segment 2 (Figs. 8, 14). Head behind eyes at most as long as diameter of eye (Figs. 9, 15, 19). Rostrum $1.1-1.9 \times$ wider than long (Figs. 9, 15). Pronotum $1.1-1.3 \times$ wider than long (Figs. 2-4). Elytra with semi-erect to erect setae (Figs. 2-4). 3
3. The whole body glabrous, naked, shiny. Onychium longer than tarsal segment 3. Smaller species, body size 1.5-1.7 mm. Vietnam. *T. nudum* Borovec, 2014
- The whole body with appressed scales and earth-like incrustation. Onychium at most as long as tarsal segment 3. Bigger species, at least 2.0 mm long. 4

4. Only odd elytral intervals with row of long, erect setae, even intervals with very short setae. 5
- All elytral intervals with row of long, erect setae. 7
5. Rostrum more slender, 1.38-1.42 × wider than long. Eyes smaller, in profile in longer distance from dorsal border of head. Elytra oval, 1.44-1.48 × longer than wide. Spermatheca with ramus distinctly longer than wide. Female sternite VIII with plate 1.5-1.7 × longer than wide and fenestra reaching half the length of plate. Body size 1.6-2.3 mm. China (Hainan). *T. martin* Ren, Borovec & Zhang, 2020
- Rostrum wider, 1.56-1.73 × wider than long. Eyes bigger, in profile nearer to dorsal border of rostrum. Elytra short oval, 1.19-1.27 × longer than wide. Spermatheca with ramus isodiametric. Female sternite VIII with plate twice longer than wide and fenestra reaching basal part of plate. 6
6. Spermatheca with nodulus shorter, less than 1.5 × as long as ramus, scarcely curved from the middle of ramus to the middle of nodulus, and rather strongly curved thence to apex. Rostrum with a dorsolateral sulcus on each side. Elytra with a row of large punctures in striae, which being wider than interstriae in entire length. Body size 2.1-2.3 mm. St. Helena. *T. setosum* Wollaston, 1869
- Spermatheca with nodulus longer, about twice longer than ramus, continuously curved from the middle of ramus. Rostrum without dorsolateral sulci. Elytra with striae scarcely wider than interstriae on declivity. Body size 2.0-2.3 mm. China (Taiwan); Japan. *T. roelofsi* Sharp, 1896
7. Elytral setae about twice longer than setae on pronotum. Dorsal margin of antennal sockets directed towards middle of eye. Pronotum wider. 8
- Elytral setae piliform, as long as setae on pronotum. Dorsal margin of antennal sockets directed above eye. Pronotum more slender. 9
8. Rostrum tapering anteriorly (Fig. 18). Eyes in profile in dorsal third of head, distance from dorsal margin of head distinctly longer than diameter of eye (Fig. 19). Scapes regularly curved. Female sternite VIII lacking fenestra (Fig. 21). Spermatheca with corpus half as wide as length of cornu, ramus and collum equally long (Fig. 20). Body size 1.9-2.4 mm. China (Yunnan). *T. honza* Ren, Borovec & Zhang, 2020
- Rostrum parallel-sided (Fig. 14). Eyes in profile near dorsal margin of head, distance from dorsal margin of head equal to diameter of eye (Fig. 15). Scapes curved at basal third. Female sternite VIII with fenestra (Fig. 17). Spermatheca with corpus as wide as length of cornu, ramus twice longer than collum (Fig. 16). Body size 2.4 mm. Vietnam. *T. szeli* sp. nov.
9. Rostrum short and wide, widest at base, evenly tapered anteriorly with straight sides. Frons continuous with epifrons, not declined. Pronotum widest at midlength. 10
- Rostrum long and slender, at base constricted with concave sides. Frons declined. Pronotum widest at anterior third. 11
10. Rostrum with median sulcus definite, continuing up to head. Plate of female sternite VIII with arms leaving slender, apically opened fenestra. Spermatheca with ramus and nodulus undeveloped and contiguous. Parthenogenetic species. Body size 2.0-2.3 mm. Japan, South Korea, introduced to U.S.A. incl. Hawaii. *T. advena* Zimmerman, 1956
- Rostrum with median sulcus obsolete. Plate of female sternite VIII without arms. Spermatheca with ramus subspherical and nodulus very small, hump-shaped. Amphigonic species. Body size 2.0-2.3 mm. Japan. *T. ryukyensis* Morimoto, 2015
11. Protibiae long and slender, 6.1-6.3 × longer than wide at midlength. Funicle segment 2 short, 1.1-1.2 × longer than wide. Penis with shortly elongate tip, in profile irregularly curved. Body size 2.1-2.4 mm. China (Jiangxi), Vietnam. *T. jirka* Ren, Borovec & Zhang, 2020
- Protibiae robust, 4.9-5.3 × longer than wide at midlength. Funicle segment 2 long, 1.4-1.5 × longer than wide. Penis with narrowly rounded tip, in profile straight in middle part. Body size 2.2-2.4 mm. Vietnam. *T. lirenae* sp. nov.

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