

Sawflies of the Subgenus *Tenthredina* (Hymenoptera, Tenthredinidae) in Northeastern Asia

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Abstract Five species of the sawfly subgenus *Tenthredina* of the genus *Tenthredo* occurring in northeastern Asia are keyed. *Tenthredo horishana* Takeuchi, 1927, is newly assigned to the subgenus *Tenthredina*. Based on the examination of type material, the following synonymy has been established or reconfirmed: *Tenthredo* (*Tenthredina*) *cylindrica* (Rohwer, 1911) (= *Conospidia* [sic] *umbrosa* Matsumura, 1912); *Tenthredo* (*Tenthredina*) *fortunii* Kirby, 1882 (= *T. obscura* Cameron, 1876, not Panzer, 1805 = *T. formosana* Enslin, 1911); *Tenthredo* (*Tenthredina*) *matsumurai* Takeuchi, 1933 (= *Conospidia* [sic] *cylindrica* Matsumura, 1912, not Rohwer, 1911); *Tenthredo* (*Tenthredina*) *smithii* Kirby, 1882 (= *T. flavida* Marlatt, 1898 = *T. fortunii* of authors, not Kirby, 1882). Lectotypes are designated for *Conospidia* [sic] *cylindrica* Matsumura, 1912, *Tenthredo flavida* Marlatt, 1898, *Tenthredo formosana* Enslin, 1911, and *Conospidia* [sic] *umbrosa* Matsumura, 1912.

Key words: Taxonomy, Hymenoptera, Tenthredinidae, *Tenthredo*, *Tenthredina*, Northeastern Asia, lectotype designation.

Sawflies of the subgenus *Tenthredina* Rohwer, 1910, of the genus *Tenthredo* Linnaeus, 1758, are characterized by their narrow “waist” (second tergum narrower than propodeum in dorsal view), rather short antennae, and chiefly yellowish and brownish coloration. These features as a whole often give the *Tenthredina* species wasp-like appearance, such as the paper-wasp of the genus *Parapolybia*, hence the Japanese name “Hachi-gata-habachi” (“wasp-shaped sawfly”). Malaise (1945) recognized 11 species in the subgenus occurring mainly in Southeast Asia.

The present study deals with five species occurring in northeastern part of the distribution range of the subgenus: *T. cylindrica* (Rohwer, 1911) (= *Conospidia* [sic] *umbrosa* Matsumura, 1912) from China, Japan and the Russian Far East, *T. fortunii* Kirby, 1882 (= *T. obscura* Cameron, 1876, not Panzer, 1805 = *T. formosana* Enslin, 1911) from China and Taiwan, *T. horishana* Takeuchi, 1927, from Taiwan, which is newly assigned to the subgenus, *T. matsumurai* Takeuchi, 1933 (= *Conospidia* [sic] *cylindrica*

Matsumura, 1912, not Rohwer, 1911) from Japan, and *T. smithii* Kirby, 1882 (= *T. flavida* Marlatt, 1898 = *T. fortunii* of authors, not Kirby, 1882) from Japan and Korea. Of these, nomenclature of the two species *T. fortunii* Kirby and *T. smithii* Kirby has been in confusion, probably due to their close similarity and absence of revisionary works on the type material. Major works on this group such as Enslin (1920), Takeuchi (1933, 1938, 1952) and Malaise (1945) applied different names to the two species based on different interpretation of synonymies. The primary purpose of this paper is to establish correct synonymy for each of the five species by re-examining all the relevant type material and to designate lectotypes when necessary.

I wish to thank Mr. E. Diller, Zoologische Staatssammlung, München (ZSSM), Mr. T. Huddleston, The Natural History Museum, London (BMNH), Dr. M. Ishii and Dr. T. Hirowatari, University of Osaka Prefecture, Sakai (UOP), Mr. K. Konishi, National Institute of Agro-Environmental Sciences, Tsukuba (NIAS), Dr. B.-J.

Rho, Ewha Womans University, Seoul (EWUS), Dr. D. R. Smith, United States Department of Agriculture, Washington, D. C. (loan from the National Museum of Natural History (USNM)), and Dr. M. Suwa, Zoological Institute, Hokkaido University (HUS) for allowing study the specimens under their charge. I also thank Mr. H. Kumamoto, Hirakata, and Dr. T. Niisato, Tokyo, for the gift of valuable specimens.

Key to *Tenthredina* Species Occurring in Northeastern Asia

1. Forewing hyaline, with distinct, though not sharply demarcated, cloud covering cells 1Rs, 2Rs, 3Rs and posterior parts of cells 2R1 and 3R1. Japan, Russian Far East, China.....
.....*T. cylindrica*
— Forewing hyaline or somewhat infuscated but not with distinct cloud.....2
2. Antennal flagellum entirely black, distinctly thickened subapically; postocellar area with sharp carina along posterior margin (continuation of postogenal carina). Taiwan
.....*T. horishana*
— Antennal flagellum dark brown or dark brown and pale yellow, not thickened subapically; postocellar area with posterior margin nearly rounded, without distinct carina3
3. Antennal flagellum entirely dark brown; smaller species with length 12–13 mm in female, 11–12.5 mm in male. Japan
.....*T. matsumurai*
— Antennal flagellum dark brown, with apical 3 or 4 segments pale yellowish; larger species with length 13–17.5 mm in female, 12–14.5 mm in male.....4
4. Mesoscutellum and lateral part of mesepisternum very strongly, pyramidally convex. Japan, Korea*T. smithii*
— Mesoscutellum and lateral part of mesepisternum moderately, roundly convex. China, Taiwan*T. fortunii*

Tenthredo (*Tenthredina*) *cylindrica* (Rohwer, 1911)

[Japanese name: Huto-hachigata-habachi]
(Fig. 1)

Tenthredina cylindrica Rohwer, 1911, p. 409; Takeuchi, 1933, p. 71, 73.

Conospidia [sic] *umbrosa* Matsumura, 1912, p. 52; Takeuchi, 1933, p. 71, 73 [new syn. of *cylindrica* Rohwer].

Tenthredo umbrosa: Takeuchi, 1919, p. 184.

Tenthredo cylindrica: Enslin, 1920, p. 34, 87; Mallach, 1933, p. 272; Ishii, 1952, p. 11; Takeuchi, 1952, p. 25.

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu), Russian Far East, southern China.

Type material examined. ♀ (holotype of *Tenthredina cylindrica* Rohwer, 1911; Fig. 1) labeled “Southern China,” “♀ Type No. 14014, U.S.N.M.” [red], “*Tenthredina cylindrica* Roh. TYPE ♀” (USNM); ♀ (lectotype of *Conospidia umbrosa* Matsumura, 1912; hereby designated) labeled “Jozan, 10/7 09, Sapporo Matsumura,” “27,” “*Conospidia umbrosa* Mats. ♀ Type” [red], “Lectotype, *Conospidia umbrosa* Matsumura, 1912, Det. A. Shinohara, 2002” (HUS).

Host plant. Unknown.

Remarks. *Conospidia umbrosa* Matsumura, 1912, was described from the unknown number of females. In Matsumura’s collection, HUS, there is only one specimen which agrees with the data given in the original description and bears a type label. It is hereby designated as lectotype. The specimen is in good condition, but the left antenna is missing and the right one is detached and glued to the head.

I have examined the type material of Rohwer and Matsumura and confirmed Takeuchi’s (1933) view that the two taxa are synonymous.

Tenthredo (*Tenthredina*) *fortunii* Kirby, 1882

Tenthredo obscura Cameron, 1876, p. 469 [preoccupied in *Tenthredo* by Panzer, 1805]; Takeuchi, 1933, p. 74 [as syn. of *fortunii*]; Malaise, 1945, p. 192 [as syn. of *fortunii*].

Tenthredo fortunii Kirby, 1882, p. 307 [new name for *T. obscura* Cameron]; Konow, 1905, p. 140; Enslin, 1920,

p. 51, 73, 90 [in part]; Mallach, 1933, p. 276.

Tenthredo formosana Enslin, 1911, p. 104; Enslin, 1920, p. 90; Takeuchi, 1938, p. 62 [new syn. of *fortunii*].

Tenthredina fortunii: Takeuchi, 1933, p. 71, 74 [in part]; Takeuchi, 1938, p. 62; Wu, 1941, p. 17.

Tenthredina formosana: Takeuchi, 1933, p. 71, 75.

Tenthredo (Tenthredina) formosana: Malaise, 1945, p. 192.

Tenthredo (Tenthredina) fortunei: Malaise, 1945, p. 192 [emendation, in part].

Distribution. China; Taiwan.

Type material examined. ♀ (holotype of *Tenthredo obscura* Cameron, 1876) labeled "Type, H. T.," "B. M. TYPE HYM 1.236," "*Tenthredo obscura* Type/Cameron," "N. China, 54.8.," "*T. fortunei* type" (BMNH); ♀ (lectotype of *Tenthredo formosana* Enslin, 1911; hereby designated) labeled "Type" [red], "Tainan, Formosa," "*Tenthredo formosana* Enslin ♀," "Lectotype, *Tenthredo formosana* Enslin, 1911, Det. A. Shinohara, 1996" (ZSSM); ♂ (paralectotype of *Tenthredo formosana*) labeled "Type" [red], "Tainan, Formosa," "Cotype," "*Tenthredo formosana* Enslin ♂," "Paralectotype, *Tenthredo formosana* Enslin, 1911, Det. A. Shinohara, 1996" (ZSSM).

Other material examined. China: 1 ♀ "Qinchen-Fushan 1200–1600 m, nr. Chendu, Sichuan, China, 6–8. VII. 1992, T. Niisato" (NSMT); 1 ♀, 1 ♂ "China, Foochow, 1935–6, M. S. Yang, 1429" (NSMT). Taiwan: 1 ♂, "Nanshanchi, Nantou Hsien, 2. V. 1972, C.-C. Lo" (NSMT); 1 ♀, same data, except 6. V. 1990 (NSMT).

Host plant. Unknown.

Remarks. The above synonymy was already proposed by Takeuchi (1938), although Malaise (1945) and Okutani (1970) did not accept it. For more discussion, see remarks under *T. smithii*.

In the München collection (ZSSM), there are two specimens, a female and a male, each labeled "type" of *T. formosana* Enslin. These are regarded as syntypes, because Enslin (1911) did not designate a holotype in the original description. The female is hereby designated as lectotype and the male paralectotype. The lectotype is in perfect condition, though the apex of the left antenna is missing.

Tenthredo (Tenthredina) horishana

Takeuchi, 1927

(Fig. 2)

Tenthredo horishana Takeuchi, 1927, p. 202; Chou & Naito, 1991, p. 90.

Tenthredo khasiana: Togashi, 1976, p. 479; Chou & Naito, 1991, p. 91. [Not Cameron, 1899].

Distribution. Taiwan.

Type material examined. ♀ (holotype; Fig. 2) labeled "5. V. 1922, Horisha [=Puli, Nantou Hsien], Takeuchi," "*Tenthredo horishana* Tak., Holotype" (UOP). Covered with dead mold.

Other material examined. Taiwan: 1 ♂, "V. 14. 1971, Kukuan, Cen. Taiwan, N. Fukuhara," "*Tenthredo khasiana* Cameron, det. I. Togashi, 1976" (NIAS).

Host plant. Unknown.

Remarks. This species has not been referred to in literature since its original description except in a checklist of Taiwanese sawflies (Chou & Naito, 1991). An examination of the type material has shown that it is a valid and rather common species belonging to the subgenus *Tenthredina*. Besides the material listed above, I have seen a long series of specimens from Taoyuan, Nantou, Taichung, and Kaosiung Prefectures in Taiwan.

Togashi (1976) recorded the male of this species from Taiwan under the name of *T. khasiana* Cameron, 1899. I have examined Togashi's specimen now kept in NIAS, and identified it with *T. horishana*. There are no additional records of *T. khasiana* from Taiwan, and this species should be excluded from the Taiwanese fauna.

Tenthredo (Tenthredina) matsumurai

(Takeuchi, 1933)

[Japanese name: Hachigata-habachi]

(Fig. 3)

Tenthredo flavida Marlatt, 1898, p. 500 [in part (paralectotypes)].

Conospidia [sic] *cylindrica* Matsumura, 1912, p. 53 [preoccupied in *Tenthredo* by Rohwer, 1911]; Takeuchi, 1919, p. 183 [new syn. of *flavida*]; Takeuchi, 1933, p.

74 [as syn. of *T. matsumurai*]; Malaise, 1945, p. 193 [as syn. of *T. matsumurai*].

Tenthredo fortunii: Enslin, 1920, p. 51, 73, 90 [in part].

Tenthredina matsumurai Takeuchi, 1933, p. 74 [new name for *cylindrica* Matsumura]; Okutani, 1967, p. 98.

Tenthredo (Tenthredina) matsumurai: Malaise, 1945, p. 193.

Tenthredo matsumurai: Ishii, 1952, p. 11 [*matsumura* [sic]]; Takeuchi, 1952, p. 25; Murota & Kurokawa, 1985, p. 256 [*matsumurae* [sic]].

Distribution. Japan (Honshu, Shikoku, Kyushu).

Type material examined. ♀ (lectotype of *Conospidia cylindrica* Matsumura, 1912; hereby designated) labeled “591,” “*Conospidia cylindrica* n. sp. det. Matsumura,” “28,” “*Conospidia cylindrica* Mats. ♀ Type” [red], “Lectotype of *Conospidia cylindrica* Matsumura, 1912, Det. A. Shinohara, 2002” (HUS); ♀ (paralectotype of *Tenthredo flavida* Marlatt, 1898; Fig. 3) labeled “205/2 [?] Tajimi [?] ♀,” “Japan, Mitsukuri,” “Type No. 3831, U.S.N.M.,” “*Tenthredo flavida* Marl., ♀,” “Paralectotype *Tenthredo flavida* Marlatt, 1898, Det. A. Shinohara, 2002,” “*Tenthredo matsumurai* Takeuchi, 1933, Det. A. Shinohara, 2002” (USNM); ♂ (paralectotype of *Tenthredo flavida* Marlatt, 1898) labeled “205/3[?] Tajimi [?] ♂,” “Japan, Mitsukuri,” “Type No. 3831, U.S.N.M.,” “Paralectotype *Tenthredo flavida* Marlatt, 1898, Det. A. Shinohara, 2002,” “*Tenthredo matsumurai* Takeuchi, 1933, Det. A. Shinohara, 2002” (USNM).

Other material examined. Japan (Honshu): 1 ♀, “Haruna, Japan,” “*Tenthredina fortunii* Kirby ♀, Dr. Enslin det.” (ZSSM); 1 ♂, “Haruna, Japan,” “*Tenthredina fortunii* Kirby ♂, Dr. Enslin det.” (ZSSM).

Host plant. *Smilax china* L. (Okutani, 1967).

Remarks. Describing *Conospidia* [sic] *cylindrica*, Matsumura (1912) did not designate a holotype and did not state the number of the specimens he had examined. In Matsumura’s collection, HUS, there is only one specimen agreeing with the original description, and I herewith designate it as a lectotype of *Conospidia cylindrica* Matsumura, 1912. The specimen is in good condition, mounted on a transparent plastic

board.

In Enslin’s collection, ZSSM, there are two pairs of Japanese specimens identified with “*Tenthredina fortunii* Kirby” by Enslin himself. A female and a male of these are *T. matsumurai*, while the other pair belongs to *T. smithii*. An examination of Enslin’s (1920) description also shows that his concept of “*T. fortunii*” was actually a composite of these two species.

Tenthredo (Tenthredina) smithii

Kirby, 1882, sp. rev.

[Japanese name: Togari-hachigata-habachi]

(Fig. 4)

Tenthredo smithii Kirby, 1882, p. 320; Konow, 1905, p. 143 [*Smithi* [sic]]; Malaise, 1945, p. 192 [*smithi* [sic], as syn. of “*fortunei*”].

Tenthredo flavida Marlatt, 1898, p. 500; Enslin, 1920, p. 51, 90 [new syn. of *fortunii*]; Takeuchi, 1933, p. 74 [as syn. of *fortunii*]; Ishii, 1952, p. 11; Takeuchi, 1952, p. 25; Lee et al., 2000, p. 136.

Jermakia flavida: Konow, 1905, p. 132.

Tenthredina flavida: Rohwer, 1910, p. 116, 120; Takeuchi, 1919, p. 183; Takeuchi, 1938, p. 62; Okutani, 1967, p. 98; Okutani, 1970, p. 27 [as syn. of “*fortunei*”].

Tenthredo fortunii: Enslin, 1920, p. 51, 73, 90 [in part].

Tenthredella fortunii: Yano, 1932, p. 431.

Tenthredina fortunii: Takeuchi, 1933, p. 71, 74 [in part].

Tenthredina smithii: Takeuchi, 1933, p. 71.

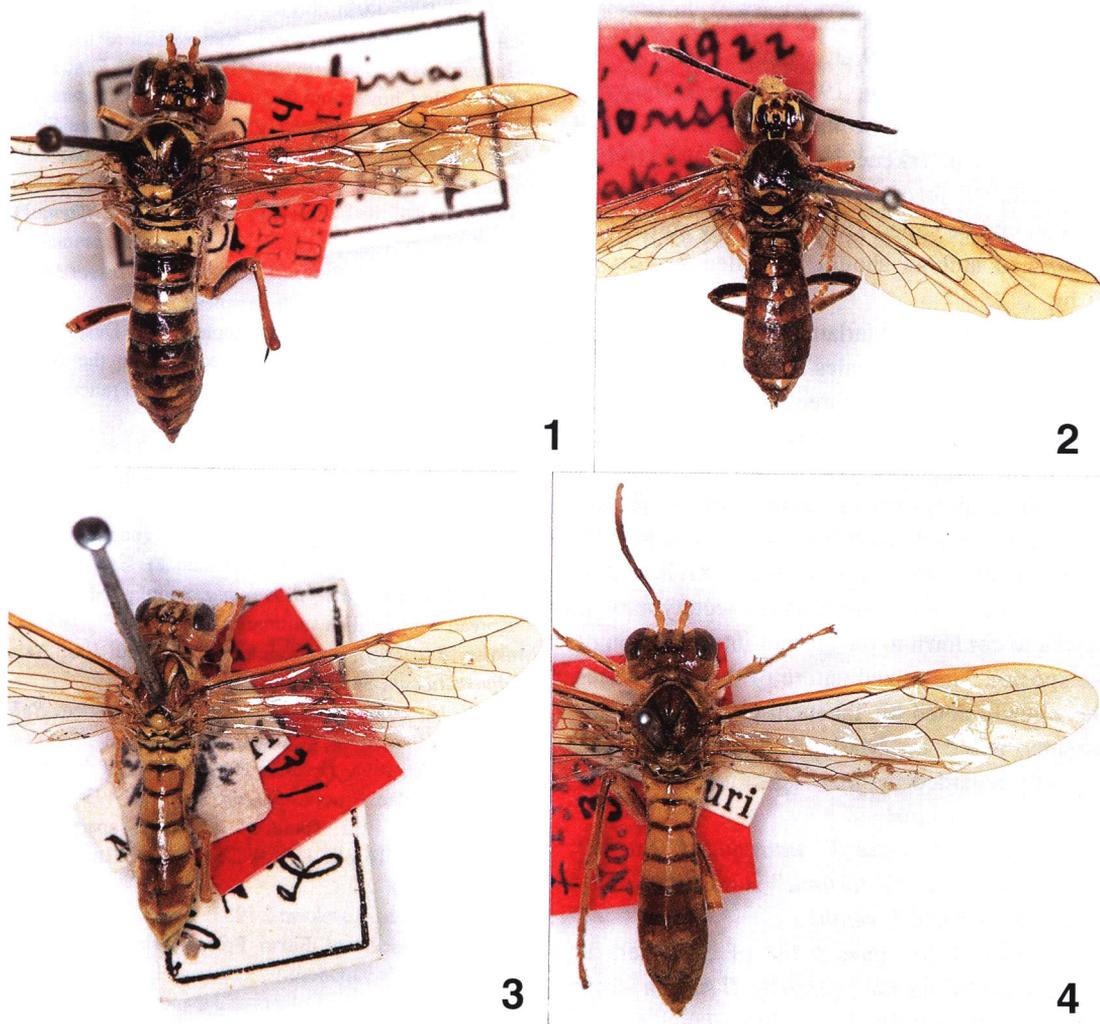
Tenthredo (Tenthredina) fortunei: Malaise, 1945, p. 192 [emendation; in part].

Tenthredina fortunei: Okutani, 1970, p. 27.

Tenthredo fortunei: Okutani, 1972, p. 19; Togashi, 1998, p. 43.

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima). Korea. India? The holotype of *smithii* is labeled “India,” but, as noted by Malaise (1945), this locality is doubtful.

Type material examined. ♀ (holotype of *Tenthredo smithii* Kirby, 1882) labeled “India,” “*T. smithii* (type),” “Type, H. T.,” “F. Sm. Coll. 79. 22.,” “*Tenthredina fortunii* Kby. (*smithi* Kby.) Malaise det. 1935” (BMNH); ♀ (lectotype of *Tenthredo flavida* Marlatt, 1898; hereby designated; Fig. 4) labeled “Japan, Mitsukuri,” “♀ Type No. 3831, U.S.N.M.,” “Lectotype *Tenthredo flavida* Marlatt, 1898, Det. A. Shinohara, 2002,”



Figs. 1–4. *Tenthredo* spp., ♀. — 1, *T. cylindrica* (Rohwer, 1911) (holotype of *Tenthredina cylindrica* Rohwer, 1911); 2, *T. horishana* Takeuchi, 1927 (holotype); 3, *T. matsumurai* (Takeuchi, 1933) (paralectotype of *T. flavida* Marlatt, 1898); 4, *T. smithii* Kirby, 1882 (lectotype of *T. flavida* Marlatt, 1898).

“*Tenthredo smithii* Kirby, 1882, Det. A. Shinohara, 2002” (USNM).

Other material examined. Korea: 1♂, “88. 5. 29, Chokok [Kyonggi-do, Namyangju-gun], Kim Hyon-suk,” “*Tenthredo smithii* Kirby, 1882, Det. A. Shinohara, 1995” (EWUS). Japan (Hokkaido): 1♀, “Japan, T. Uchida,” “Maruyama, July 1924” (HUS); 1♀, “Esashi, Hokkaido, 29. V. 1958, T. Kumata” (HUS). (Honshu): 1♂, “Haruna [Gunma Pref.], Japan,” “*Tenthredina fortunii* W. F. Kirby ♂, Dr. Enslin det.” (ZSSM);

1♀, “Hisayakimura, Sayogun [Hyogo Pref.], Japan,” “*Tenthredina fortunii* Kirby ♀, Dr. Enslin det.” (ZSSM)

Host plants. *Tricyrtis macropoda* Miq.; *Lilium Makinoi* Koidz.; *Cardiocrinum cordatum* Makino; *Smilax* spp. (Okutani, 1967).

Remarks. Malaise (1945) treated *T. smithii* Kirby, 1882, as a synonym of *T. fortunii* Kirby, 1882 (a replacement name for *T. obscura* Cameron, 1876). An examination of the types of Cameron and Kirby, both in BMNH, has revealed

that the two species are quite distinct. The type of *T. smithii* represents a species known as “*T. fortunii*” (e.g. Takeuchi, 1933; Malaise, 1945) or “*T. flavida*” (e.g. Takeuchi, 1952), whereas the type of *T. fortunii* belongs to the species known as *T. formosana* (e.g. Takeuchi, 1933; Malaise, 1945). Therefore, “*T. fortunii*” and “*T. flavida*” of authors should be called *T. smithii* Kirby and *T. formosana* of authors should be called *T. fortunii* Kirby.

Tenthredo flavida Marlatt, 1898, was described on the basis of two females and one male, all deposited in USNM. The three specimens are syntypes, as Marlatt (1898) did not designate a holotype in his original description. My examination of the three specimens has shown that one female (Fig. 4) is *T. smithii*, while the other female (Fig. 3) and the male are *T. matsumurai*. I am here designating the former female as the lectotype of *T. flavida* to conform to the current interpretation of the species. The mixed nature of this type series was already noted by Takeuchi (1933), who, apparently based on Marlatt’s description, quite correctly regarded the male specimen as belonging to *T. matsumurai*.

As discussed under *T. matsumurai*, Enslin’s (1920) concept of “*T. fortunii*” is a composite of *T. matsumurai* and *T. smithii*.

Takeuchi (1938) gave a list of characters to separate his “*T. flavida*” (actually *T. smithii*) from his correctly identified “*T. fortunii*.” Unfortunately, however, his list of characters was under incorrect headings; characters for “*T. flavida*” were given under the heading of “*T. fortunii*” and those for “*T. fortunii*” were under “*T. flavida*.” The illustrations (fig. 2 A & B) were correctly labeled.

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