

# On ‘*Scaphisoma tricolor* Heller’ from Japan and Errata to the Descriptions of *Scaphisoma konvickai* Löbl and *Toxidium hartmanni* Löbl (Coleoptera: Staphylinidae: Scaphidiinae)

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**Abstract** The Philippine species *Scaphisoma tricolor* Heller, 1917 was erroneously reported from the Japanese Ogasawara and Okinawa Islands. The study of voucher specimens reveals they belong to a hitherto undescribed species allied to *S. tricolor* and described below as *Scaphisoma uenoi* sp. nov. A checklist of the *Scaphisoma tricolor* group is provided. Misspellings in a recent paper on Chinese Scaphidiinae are corrected.

**Key words:** Shining fungus beetles, Ogasawara, Okinawa, new species, errata to descriptions of *Scaphisoma konvickai*, *Toxidium hartmanni*

## Introduction

Heller (1917: 46) based his *Scaphisoma tricolor* on specimens collected at Los Banos and on nearby Mt. Makiling, in the Laguna Province of the Philippine Island Luzon. According to the description, the species is comparatively large, 2 to 2.7 mm long (including the head and the exposed part of the abdomen), and has conspicuously tricolored body, with the pronotum brown-yellowish, the elytra blackish but at apices yellowish, and the abdomen brown becoming lighter at apex.

Löbl (1970: 126) designated by inference a lectotype of *S. tricolor* Heller and synonymized with it the syntopic *Scaphisoma lautum* Pic, 1920, without providing diagnostic characters. He considered the species to be related to *S. pictum* Motschulsky, 1863. In a subsequent paper, Löbl (1971: 250) reported the species from the Philippine islands Palawan and Balabac, and illustrated the crenulation of the female elytral apex. Later, Löbl (1981: 77) reported *S. tricolor* from the “Bonin Islands”, provided additional characters, including aedeagal, but failed to give illustrations of the complex aedeagal structures. He remarked that the aedeagi of the specimens from the Bonin Islands (Ogasawara) are not the same as those in specimens from the Philippines, and stated a study of more locotypical males would be needed to confirm the conspecificity of the Ogasawara and Philippine specimens. A specimen found by K. Morimoto at Yona, Okinawa, was considered as conspecific with the Ogasawara specimens and identified by Löbl (1982: 105) as “*Scaphisoma cf. tricolor*”. Nonetheless, Morimoto (1985) mentioned *S. tricolor* as occurring on the Ogasawara Islands, while Ogawa (2015: 85, Figs 4–14e, f) reported *S. tricolor* from Sulawesi and indicated its distribution on the Ryukyu Archipelago as doubtful. He gave also illustrations of the habitus and aedeagus of *S. tricolor*, and found the population of Sulawesi to be a sister-group of the population of Ogasawara. Schülke & Smetana (2016: 742) obviously overlooked the doubts and listed *S. tricolor* as a species occurring also in Japan. Löbl & Ogawa (2016) reviewed the Philippine *Scaphisoma* and provided detailed redescription of *S. tricolor*. They have also redefined the *S. tricolor* species group, and described nine new species placed the group.

The unexpected richness of the *S. tricolor* group in the Philippines became an additional source of doubts concerning the identity of the Japanese specimens considered previously to be conspecific with the Philippine *S. tricolor*. Therefore, Löbl (2018: 289) questioned the distribution of that species on Ogasawara and Okinawa. By now, the uncertainty concerning the Japanese specimens of *S. tricolor* lasts over 40 years. It gave finally an incentive to revisit and unravel the case.

## Material and methods

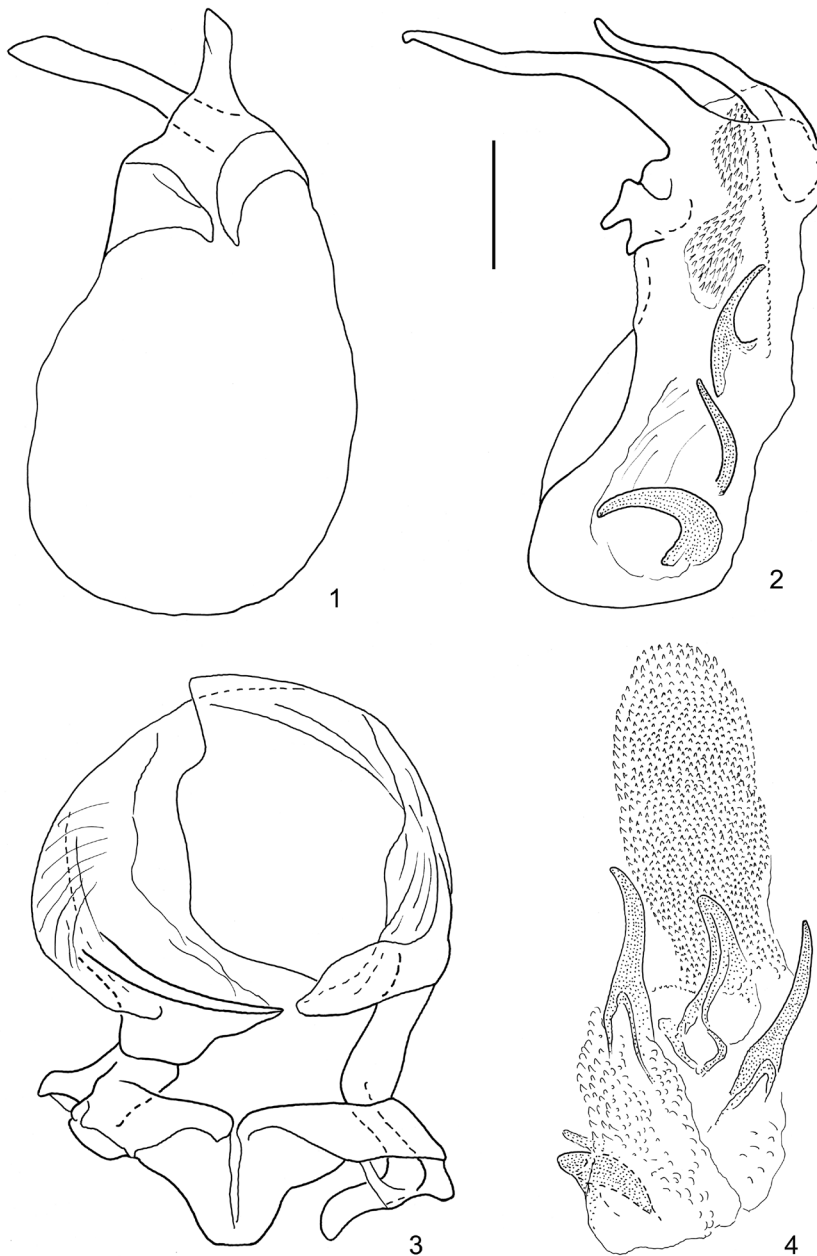
The material studied is deposited in the collections of the Entomological Laboratory, Faculty of Agriculture, Ehime University, Matsuyama, Japan (EUMJ) and the Muséum d’histoire naturelle, Genève, Switzerland (MHNG). The locality data of the type material are reproduced verbatim. All specimens are provided with appropriate identification labels.

The body-length is measured from the anterior pronotal margin to the posterior inner angles of elytra. The length/width of the mesepimera refer to their exposed part. Statements about abdominal microsculpture do not refer to the intersegmental membranes. The sides of the aedeagi refer to their morphological side with the ostium situated dorsally, while it is in resting position rotated 90°. The dissected body-parts are embedded in Euparal or Canada Balsam and fixed on a separate card on the same pin as the respective specimen.

## Taxonomy

### *Scaphisoma uenoi* sp. nov. (Figs 1–4)

*Type material.* Holotype [Ogasawara] Is. Hahajima Mt. Kuwanoki 16.vii.1991 T. Ueno leg. (EUMJ). Paratypes. 12 males, 4 females, with the same data as the holotype; 1 male, Hahajima Bonin Is. 15.VII.1969 T. Nakane; 1 male, Okimura Hahajima, Bonin 2.vi.1976 T. Nakane; 1 male, Haha-jima Ogasawara 1–8.VII.1986 H. Makihara; 2 males, Chichijima Bonin Is. 20.VIII.1968 T. Nakane; 1 male, Is. Chichijima Ogasawara Islands 3 May 1974 H. Yamada leg.; 1 female, Chichijima Bonin Is. 15.VII.1969 T. Nakane; 1 male, 1 female, Chichi Jima, Ogasawara 9. and 10.V.1974 Y. Hori leg.; 1



Figs 1–4. Aedeagus of *Scaphisoma uenoi* sp. nov.; 1. Median lobe, dorsal view; 2. Median lobe with internal sac, lateral view; 3. Parameres, ventral view; 4. Internal sac, dorsal view. Scale bars = 0.2 mm.

male, 1 female, [Okinawa: Ryukyu] Hiji – Hiji Fall Kunigami 22.X.1987 M. Sakai leg.; 1 male, 1 female, Japan: Ryukyus Is. Tokashiki Okinawa Pref. 1–3.xi.1987 T. Ueno leg.; 1 female, Japan: Ryukyus Nago Is. Okinawa 27.ix.1987 T. Ueno leg. (EUMJ, MHNG).

*Description.* Male. Length 1.90–2.10 mm, width 1.38–1.55 mm. Head, pronotum and hypomere light, reddish-brown. Pronotum along basal margin narrow darkened, sometimes slightly darkened on median or basomedian area. Antennae and mouth-parts yellowish. Exposed scutellum dark brown to blackish. Elytra brown to blackish on anterior two thirds, yellowish or ochraceous on apical fourth to third. Mesanepisterna, metaventrite, metanepisterna, metepimera and ventrites I to III brown, following ventrites lighter, usually yellowish, similar to exposed tergites and apices of elytra, or somewhat darker. Coxae, femora and tibiae about as light

as abdominal apex, tarsi still slightly lighter. Antennae long, antennomere II about 3 times as long as antennomere III. Antennomeres IV to VI narrow, similar in width, antennomere V longer than antennomeres IV or VI. Antennomeres VII and IX–XI about twice as wide as antennomere VI, similar in length.

Pronotum lacking microsculpture, with evenly arcuate lateral margins. Lateral margin carinae exposed in dorsal view. Lateral margin striae impunctate. Discal punctation irregular, very fine, with puncture intervals usually 2 to 5 times as large as puncture diameters. Exposed apex of scutellum triangular, with acute tip.

Elytra lacking microsculpture, weakly narrowed apically, with lateral margins nearly evenly arcuate. Lateral margin carinae throughout exposed. Lateral margin striae punctate except near apices, sutural margin not raised. Sutural striae

shallow, starting well posterior of level of scutellar tip, weakly converging apically, adsutural areas flat, with each with single puncture row. Apical margins truncate, inner apical angle slightly posterior level of outer apical angles, lacking obvious crenulation or denticles. Prevailing punctation on darkly coloured surface coarse and rather dense, well delimited, with puncture intervals mostly about as large to three times as large as puncture diameters; punctation along bases and lateral margins finer yet well delimited, than on light apical areas denser, much shallower and poorly delimited.

Hypomera and mesanepisterna extremely finely punctate, lacking microsculpture, with distinct pubescence. Mesepimera about 4 times as long as wide and as long as intervals to mesocoxae. Metaventrite bearing strigulate microsculpture on most of mesal areas extended onto part of lateral areas, most of lateral areas without microsculpture; middle of metaventrite convex, with narrow area anterior metacoxal process flattened or slightly impressed; prevailing punctation on metaventrite very fine and sparse; two small, dense patches of rather coarse punctures present on apicomedian area; with fine punctures forming two admesal rows converging anteriorly, forming inverted V-shaped pattern and delimiting narrow area bearing oblique to longitudinal microstriae; dense antecoxal rows of coarse punctures present. Submesocoxal areas narrow, about 0.03–0.04 mm long, about as long as sixth to fifth of shortest intervals to metacoxae; submesocoxal lines parallel to the mesocoxal margins, coarsely punctured. Metanepisterna slightly convex, impressed below margin of metaventrite, narrowed anteriorly, lacking microsculpture, with inner margin nearly straight; punctation very fine and sparse, as that on lateral parts of metaventrite. Metepimera bearing striate microsculpture.

Legs with protibiae and metatibiae straight and narrow. Mesotibiae thickened and bent. Tarsomeres I of prolegs and mesolegs strongly widened, wider than apices of respective tibiae. Tarsomeres II of prolegs moderately widened. Tarsomeres II of mesolegs nearly as wide as tarsomeres I.

Abdomen with striate microsculpture. Ventrite I with narrow basomedian patch of coarse punctures, prevailing punctures very fine and sparse, as on rest of exposed abdomen. Submetacoxal areas about 0.05 mm long, as long as fourth of interval between them and apical margin of ventrite I; submetacoxal lines convex, punctate. Apex of ventrite VI expanded to form large mesal lobe about 0.25 mm long, with rounded margin. Aedeagus as Figs 1–4, 1.26–13.8 mm long.

Female. Head and pronotum brown to blackish, not or only somewhat lighter than elytra. Elytra with apical margins rounded, finely crenulate near inner angles, inner apical angles situated distinctly posterior of level of outer apical angles. Mesotibiae straight, not thickened. Tarsomeres I and II not widened. Ventrite VI not expanded apically. Gonocoxite cylindrical, evenly narrow posterior basal section and bent outward, with distinct subapical seta. Gonostyle with one short and one very long apical seta.

Distribution. Japan: Ogasawara and Okinawa Islands.

*Etymology.* The species is named after the Mr. Teruhisa Ueno (Kyushu University), who collected the bulk of the studied specimens.

*Remarks.* The *S. tricolor* group, defined by Löbl & Ogawa (2016), comprises at present 24 species. The characters of three additional species known in females only suggest also their possible close relationship to *S. tricolor*. Among these species, the males of the following six exhibit similar, conspicuous colour pattern, with the pronotum different sexually (see Löbl & Ogawa, 20216): *S. tricolor* Heller, *S. chujoi* Löbl, *S. tarsale* Löbl, *S. tricoloratum* Löbl & Ogawa, *S. tricolorinotum* Löbl & Ogawa and *S. uenoi* sp. nov. They share also most of the external characters, while their aedeagi provide reliable diagnostic features. The new species may be distinguished from *S. tricolor* by the apical process of the median lobe with sinuate dorsal and ventral branches and the internal sac lacking tuberculate medial piece. *Scaphisoma uenoi* is distinguished from the Philippine *S. tricoloratum* by the strongly expanded parameral laminae and from *S. tricolorinotum* by the ventral branch of the apical process not gradually narrowed and not curved in dorsal view. *Scaphisoma chujoi* differs strongly from all these species by the weakly inflexed ventral branch of the apical process, and from *S. uenoi* also by the parameres less expanded. The median lobe and parameres of *S. tarsale* are quite similar to those of *S. uenoi*, however the structure of the internal sac differs significantly, notably by the transverse proximal sclerite and the absence of mesal sclerotized structure.

### Checklist of the *Scaphisoma tricolor* group

- S. affectum* Löbl, 2015: 107; Indonesia: Bali  
*S. aspectum* Löbl, 2015: 108; Indonesia: Bali  
*S. borneense* Pic, 1916: 7; Indonesia: Kalimantan  
*S. chujoi* Löbl, 1982: 6; Malaysia: Sarawak  
*S. hajeki* Löbl, 2012: 176; West Malaysia  
*S. luctuosum* Löbl, 1986: 175; India: Meghalaya  
*S. maculiger* Löbl, 1975: 289; India: Assam, Nicobar  
*S. palu* Löbl, 1983: 290; Indonesia: Sulawesi  
*S. poussereaui* Löbl, 2015: 368 La Réunion  
*S. pulchrum* Löbl & Ogawa, 2016: 1432; Philippines: Mindanao  
*S. renominatum* Löbl, 1975: 272; Malaysia: Banggi  
*S. schuelkei* Löbl, 2019: 273; China: Yunnan  
*S. signaticolle* Löbl & Ogawa, 2016: 1433; Philippines: Luzon  
*S. tarsale* Löbl, 2015: 141; Indonesia: Kalimantan  
*S. testaceomaculatum* (Pic, 1915: 31); Indonesia: Java  
*S. tricolor* Heller, 1917: 46; Philippines: wide-spread  
*S. tricoloratum* Löbl & Ogawa, 2016: 1435; Philippines: Mindanao  
*S. tricolorinotum* Löbl & Ogawa, 2016: 1436; Philippines: Luzon, Mindanao  
*S. tricoloripenne* Löbl & Ogawa, 2016: 1437; Philippines: Luzon  
*S. tridens* Löbl & Ogawa, 2016: 1438; Philippines: Luzon  
*S. trifurcatum* Löbl & Ogawa, 2016: 1439; Philippines: Negros  
*S. trilobum* Löbl & Ogawa, 2016: 1440; Philippines: Luzon  
*S. trimaculatum* Löbl & Ogawa, 2016: 1441; Philippines: Luzon  
*S. uenoi* sp. nov.; Japan: Ogasawara, Okinawa

### Possibly members of the *S. tricolor* group; males unknown

- S. dentipenne* Löbl, 1971: 250; Philippines: Palawan  
*S. philippinense* Oberthür, 1883: 14; Philippines (island unknown)  
*S. vagenotatum* Pic, 1926: 2; Philippines: Mindanao

### Errata

Löbl, in his paper on Chinese Scaphisomatini (Löbl, 2022), misspelled the species epithet of *Scaphisoma konvickai* as “*konvicka*”, in the abstract and under the illustrations. The correct spelling is *S. konvickai*. In the same paper he described *Toxidium hartmanni*, based on a male and a female from Yunnan, Dajianshan. The male was correctly designated as the holotype, while the female paratype was erroneously also given as a holotype.

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