

Two New Species of the Genus *Eusphalerum* (Coleoptera, Staphylinidae) from Mt. Tsurugi-san, Shikoku, Japan

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Abstract Two new staphylinid species belonging to the genus *Eusphalerum* of the subfamily Omaliinae are described under the names of *E. tsurugisanum* and *E. tokushimanum*. They were found on the flowers of Japanese woodland peony at Mt. Tsurugi-san in Tokushima Prefecture of Shikoku, Japan.

Members of the genus *Eusphalerum* are generally known as the anthophilous species, and widely distributed in the Palearctic and Oriental Regions (SCHÜLKE & SMETANA, 2015). Until now, fifty-three species of the genus have been known from Japan (WATANABE, 2013, 2015). The second author had an opportunity to investigate the insect-fauna of Mt. Tsurugi-san in Tokushima Prefecture of Shikoku, Japan. Through the investigation, a number of specimens of the genus *Eusphalerum* were obtained on the flowers of Japanese woodland peony. As a result of careful examination, we found two interest species which are belonging to the *E. pollens*-group. They are new to science for reason of difference in external features and configuration of the male genital organ from the previously known species of the genus. They will be described in the present paper.

Before going further, we wish to express our hearty thanks to Dr. Tadashi ISHIKAWA, and Mr. Naoki KANEKO, Laboratory of Entomology, Tokyo University of Agriculture, for taking the photographs in this paper.

Eusphalerum (*Eusphalerum*) *tsurugisanum* sp. nov.

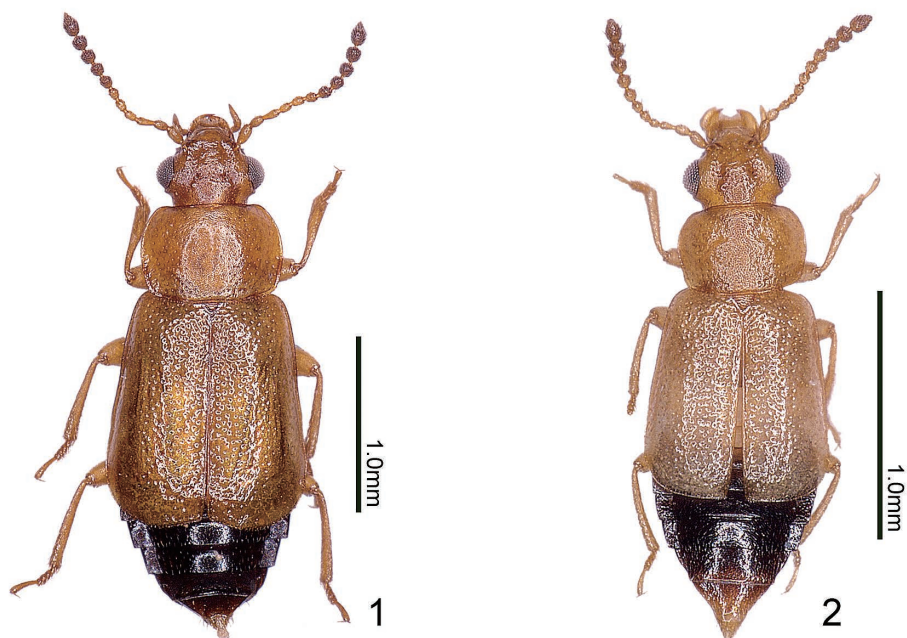
[Japanese name: Tsurugisan-hanamuguri-yotsumehanakakushi]

(Figs. 1, 3–5)

Body length: 2.9–3.2 mm (from front margin of head to anal end); 2.1–2.3 mm (from front margin of head to elytral apices).

Body elliptical and moderately elevated medially. Colour brownish yellow and moderately shining, mouth parts, proximal five antennal segments and legs yellow, apical five or six antennal segments blackish brown, abdomen black in both sexes with the exception of yellowish apical segment.

Male. Head subtrapezoidal, narrowed anteriorly and nearly flattened above, clearly wider across compound eyes than long (width/length = 1.70); postocular part well constricted at neck and remarkably short, about one-fourth as long as longitudinal diameter of compound eye which is expanded laterally; surface sparsely, distinctly punctured and covered with somewhat strong microscopic ground sculpture, provided with a vague depression before each ocellus; ocelli distinct, the distance between them being almost equal to that from the outside of ocellus to the inner margin of each eye. Antennae moderately long, hardly extending to the posterior margin of pronotum, somewhat thickened from 8th to the apical segment, with proximal five segments polished, 6th subopaque and the remainings opaque, 1st distinctly longer than wide (length/width = 1.33), 2nd somewhat longer than wide (length/width = 1.20), a little shorter (2nd/1st = 0.83) and narrower (2nd/1st = 0.83) than 1st, 3rd di-

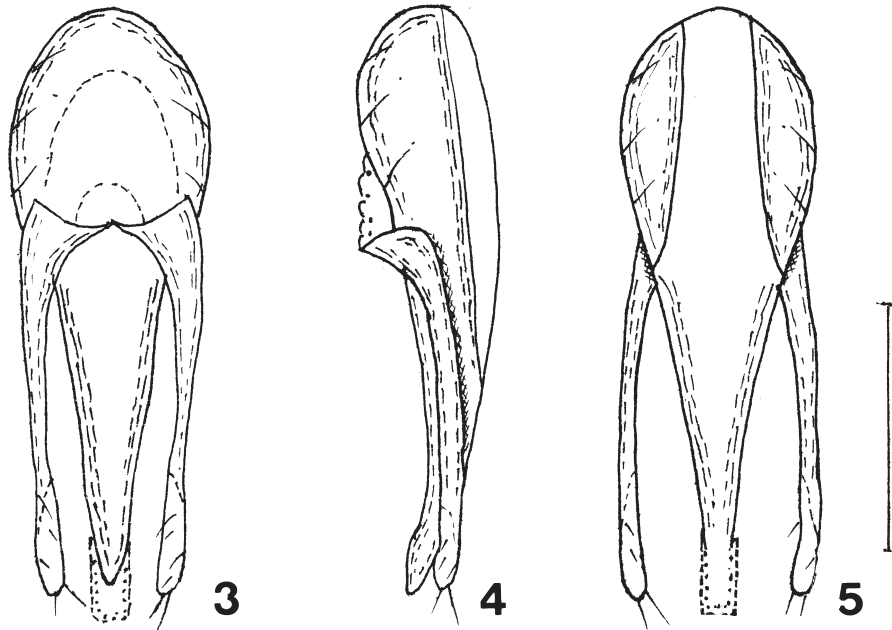


Figs. 1–2. *Eusphalerum* (*Eusphalerum*) spp. from Mt. Tsurugi-san, Tokushima Pref., Shikoku. — 1, *E. (E.) tsurugisanum* sp. nov.; 2, *E. (E.) tokushimanum* sp. nov.

lated apicad, more than 1.5 times as long as wide, distinctly narrower than 2nd ($3\text{rd}/2\text{nd} = 0.80$), 4th as long as wide, and apparently shorter ($4\text{th}/3\text{rd} = 0.57$) than though as wide as 3rd, 5th and 6th equal in both length and width, each distinctly longer than 4th (length of 5th and 6th/ $4\text{th} = 1.25$), 7th to 9th equal in length to one another, 7th a little longer than wide (length/width = 1.20) and as wide as 6th, 8th as long as wide, almost as long as though somewhat wider than 7th ($8\text{th}/7\text{th} = 1.20$), 9th transverse (width/length = 1.07), as long as though slightly wider ($9\text{th}/8\text{th} = 1.07$) than 8th, 10th somewhat longer ($10\text{th}/9\text{th} = 1.17$) and slightly wider than 9th ($10\text{th}/9\text{th} = 1.09$), apicalmost semioval, 1.5 times as long as wide and apparently longer than 10th ($11\text{th}/10\text{th} = 1.86$), bluntly pointed at the apex.

Pronotum elevated medially and subquadrate, apparently transverse (width/length = 1.43), distinctly wider than head (pronotum/head = 1.29), widest at the middle and more strongly narrowed posteriorly than anteriorly; lateral sides finely bordered; gently arcuate in anterior half and almost straight in posterior half, anterior margin almost straight at the middle, posterior margin slightly arcuate, anterior angles angulate, posterior angles obtuse; surface sparingly and finely punctate, and covered with somewhat fine coriaceous ground sculpture, provided with a longitudinal shallow depression just inside in posterior half of each lateral margin. Scutellum subtriangular, surface impunctate and covered with fine ground sculpture. Elytra subtrapezoidal, dilated posteriorly, clearly longer than wide (length/width = 1.30), and distinctly wider (elytra/pronotum = 1.30) and obviously longer than pronotum (elytra/pronotum = 2.43); lateral margin straight, posterior margin emarginate at the middle; surface sparsely and coarsely punctate. Legs long; protarsi thin in the male, apical segment of metatarsus elongate, slightly longer than the four preceding segments combined.

Abdomen narrowed towards the anal end, surface of each tergite practically impunctate, sparsely scattered with short pubescence, and covered with microscopic ground sculpture; preapical sternite



Figs. 3–5. Male genital organ of *Eusphalerum (Eusphalerum) tsurugisanum* sp. nov. from Mt. Tsurugi-san, Shikoku. — 3, Dorsal view; 4, lateral view; 5, ventral view. Scale: 0.25 mm.

semicircularly emarginate at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe elongate, distinctly tapered towards the pointed apex. Parameres elongate, slightly longer than median lobe, each somewhat dilated in the apical part which is membraneous and fringed with a few fine setae.

F e m a l e. Similar in general appearance to male, though differs from it in the following points: posterior margin of elytra almost straight, and preapical abdominal sternite narrowed towards the bluntly pointed apex.

Type series. Holotype: ♂, allotype: ♀, Mt. Tsurugi-san, Nishijima, Higashiiya, Miyoshi City, Tokushima Pref., Shikoku, Japan, N. 33°51', E. 134°05', 5.VI.2006, M. YOSHIDA leg. Paratypes: 7 ♂♂, 3 ♀♀, same data as for the holotype.

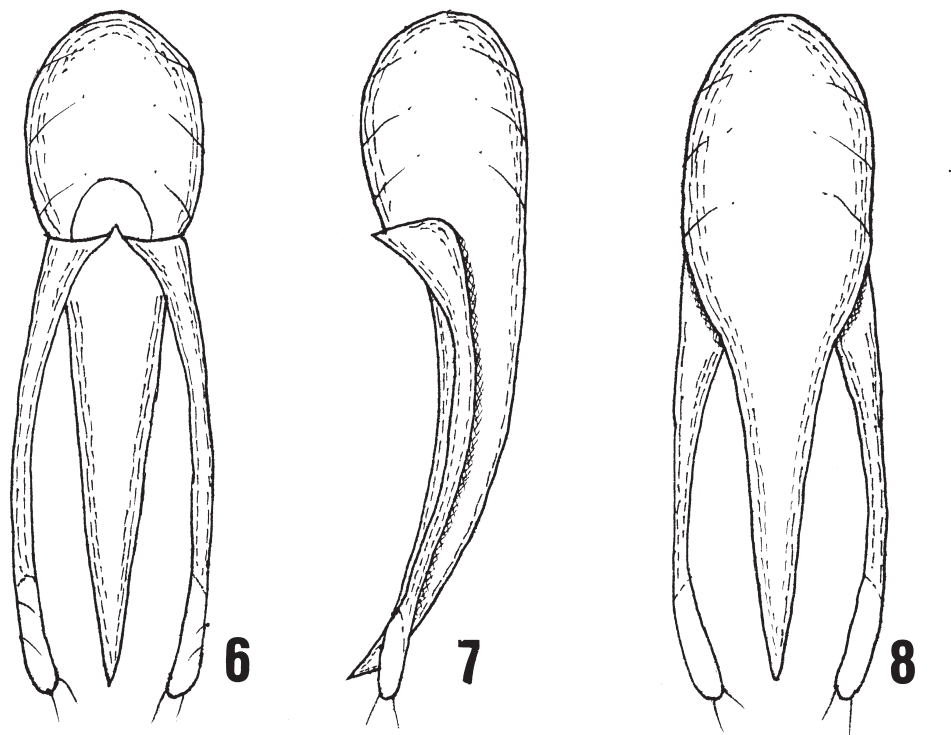
Type depository. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (eastern Shikoku).

Remarks. This new species is similar in facies and basal conformation of the male genital organ to *E. (E.) shibatai* Y. WATANABE (1990) which was found in central Honshu, but can be distinguished from the latter in different punctures on pronotum, colour of abdomen in female and configuration of the male genital organ.

Bionomics. All the specimens of the type series were found on the flowers of Japanese woodland peony, *Paeonia japonica*, at an altitude of 1,710 m.

Etymology. The specific epithet of this new species is derived from “Mt. Tsurugi-san”, the type locality.



Figs. 6–8. Male genital organ of *Eusphalerum (Eusphalerum) tokushimanum* sp. nov. from Mt. Tsurugi-san, Shikoku. — 6, Dorsal view; 7, lateral view; 8, ventral view. Scale: 0.25 mm.

***Eusphalerum (Eusphalerum) tokushimanum* sp. nov.**

[Japanese name: Tokushima-hanamuguri-yotsumehanakakushi]

(Figs. 2, 6–8)

Body length: 1.9–2.0 mm (from front margin of head to anal end); 1.4–1.5 mm (from front margin of head to elytral apices).

Body elliptical and somewhat depressed above. Colour pale yellow to yellow and moderately shining, apical three or four antennal segments brownish yellow and abdomen black in the male.

M a l e. Head subtrapezoidal and somewhat depressed above, apparently wider across compound eyes than long (width/length = 1.83), postocular part well constricted at neck and remarkably short, about one-fifth as long as the longitudinal diameter of compound eye which is expanded laterally; surface scattered with fine punctures except for impunctate frontal area and covered with fine coriaceous ground sculpture, and provided with a vague fovea in front of each ocellus; ocelli small though relatively distinct, the distance between them about 1.3 times as wide as the distance from the outside of ocellus to the inner margin of each compound eye. Antennae moderately long, extending a little beyond the middle of pronotum, somewhat thickened from 7th to the apical segment, with proximal six segments polished and the remainings somewhat opaque, 1st segment robust and about 1.4 times as long as wide, 2nd elliptical, a little longer than wide (length/width = 1.14), distinctly shorter (2nd/1st = 0.80) than and subequal in width to 1st, 3rd to 6th each segment somewhat longer than wide, 7th to

9th each as long as width, 10th slightly transverse, as long as 9th though slightly wider than 9th, 11th semioval, more than 1.5 times as long as wide and remarkably longer than 10th (11th/10th = 1.78), abruptly tapered in apical half towards the pointed apex. Pronotum subtrapezoidal and moderately elevated medially, evidently transverse (width/length = 1.46) and somewhat wider than head (pronotum/head = 1.15), widest near the middle and more strongly narrowed posteriorly than anteriorly; lateral sides each arcuate in anterior half and somewhat emarginate in posterior half, and finely bordered throughout, the border containing on arcuate posterior margin, anterior angles narrowly rounded, posterior ones more distinctly angulate than anterior angles; surface sparingly, obsolete punctured and covered with coriaceous ground sculpture as on head, and provided with a shallow depression inside each lateral margin in posterior half. Scutellum subtriangular, surface almost impunctate though covered with microscopic ground sculpture. Elytra subtrapezoidal, dilated apically and gently convex, a little longer than wide (length/width = 1.13), remarkably longer (elytra/pronotum = 2.27) and distinctly wider (elytra/pronotum = 1.37) than pronotum, lateral and posterior margins each almost straight, posterior angles broadly rounded; surface densely and coarsely punctured. Legs moderately long, basal four pretarsal segments not so dilated compared with meso- and metatarsal segments, apical segment of metatarsus about 1.5 times as long as the four preceding segments combined.

Abdomen narrowed towards the anal end; surface of each tergite practically impunctate, though covered with much finer ground sculpture than that on pronotum, 8th sternite semicircularly excised at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe elongate, strongly narrowed towards the acutely pointed apex. Parameres elongate, slightly longer than median lobe, each paramere slightly widened at the apical part, which is membranous and provided with a few fine setae.

F e m a l e. Similar in facies to male, though abdomen yellow and strongly narrowed towards the obtusely pointed apex.

Type series. Holotype: ♂, allotype: ♀, Mt. Tsurugi-san, Nishijima, Higashiiya, Miyoshi-City, Tokushima Pref., Shikoku, Japan, N. 33°51', E. 134°05', 5.VI.2006, M. YOSHIDA leg. Paratypes: 1 ♂, 1 ♀, same data as for the holotype.

Type depository. All the type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Distribution. Japan (eastern Shikoku).

Remarks. This new species is similar in general appearance to *E. lewisi* (CAMERON, 1930) from Unzen in Kyushu, but can be distinguished from the latter in smaller body, different punctures on elytra and conformation of male genital organ.

Bionomics. All the type specimens were found on the flowers of Japanese woodland peony, *Paeonia japonica*, together with the specimens of the preceding new species.

Etymology. The specific epithet of this new species is derived from the name of the Tokushima Prefecture in which lies the type locality "Mt. Tsurugi-san".

要 約

渡辺泰明・吉田正隆：四国剣山から採集されたハナムグリヨツメハネカクシ属(鞘翅目ハネカクシ科) 2新種の記載。——— 現在まで日本からはハナムグリヨツメハネカクシ属に含まれる種として53種が知られているが、その内の6種が四国から記録されている。筆者の一人、吉田は徳島県剣山の甲虫相を調査した折に標高1,710 m地点で開花していたヤマシャクヤクの花からこの属に含まれる数個体を採集した。これらを検討した結果、2種の未記載種を見出したので、*Eusphalerum* (*Eusphalerum*) *tsurugisanum* ツルギサンハナムグ

リヨツメハネカクシおよび *E. (E.) tokushimanum* トクシマハナムグリヨツメハネカクシと命名・記載した。

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