

Two New *Eusphalerum* KRAATZ (Coleoptera, Staphylinidae) from the Northern Japanese Alps in Central Honshu, Japan

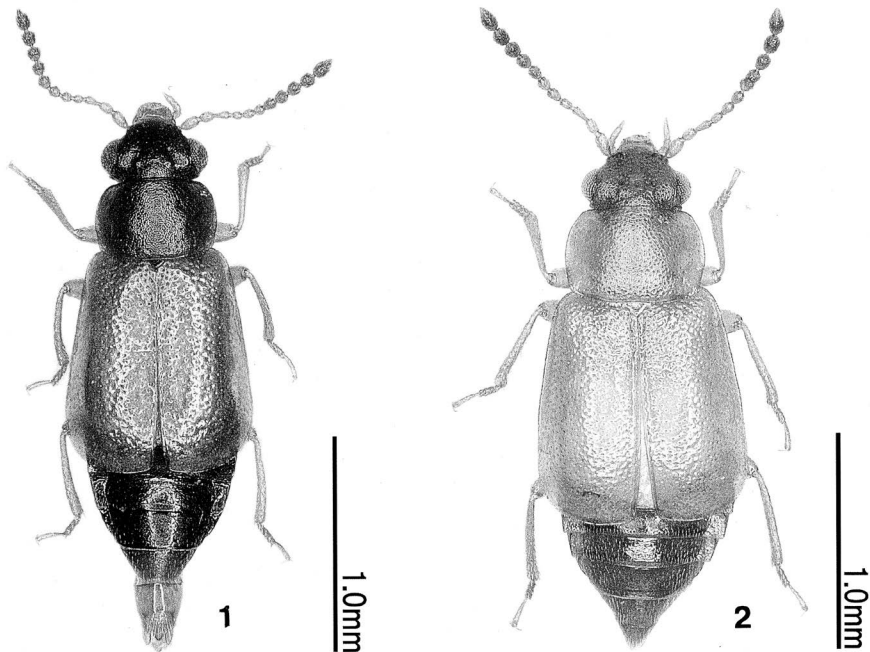
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Abstract Two new species of the genus *Eusphalerum* (Staphylinidae) are described under the names of *E. (E.) yotsudakense* and *E. (E.) tsurugaikenum*. They were found on the flowers of deciduous broadleaved tree, *Sorbus commixta*, at the Northern Japanese Alps in central Honshu, Japan.

The Japanese members of the genus *Eusphalerum* KRAATZ, 1858 have been divided into three species-groups, *E. (E.) pollens*, *E. (E.) japonicum*, and *E. (E.) michinoku*, by WATANABE (1990). Until now, twenty-six species of the group of *E. (E.) pollens* have been reported from various localities in Honshu, Japan by WATANABE (2013, 2015). The second author had an opportunity to investigate the insect-fauna of the high mountain area in nature conservation of Mt. Norikura-dake, the Northern Japanese Alps, central Honshu, in company with Mr. K. TOYOSHIMA who has permission of Chûbu Nature Conservation, Ministry of the Environment (Kanchûchishô-Kyo No. 1707143). Through the investigation, two interesting species belonging to the group of *E. (E.) pollens* were found on the flowers of deciduous broadleaved tree, *Sorbus commixta*. After careful examination, it has become



Figs. 1–2. *Eusphalerum* (*Eusphalerum*) spp. — 1, *E. (E.) yotsudakense* sp. nov., ♂, from Mt. Yotsudake, Ikenomata, Nyûgawa-chô, Takayama-shi, Gifu Pref., Honshu, Japan; 2, *E. (E.) tsurugaikenum* sp. nov., ♂, from Tsurugaiké-pond side, Iwaidani, Nyûgawa-chô, Takayama-shi, Gifu Pref., Honshu, Japan.

clear that these species are new to science on account of disagreement in external features and male genital organ from the previously known species of the species group of *E. pollens*. They are described in the present paper.

Before going further, we wish to express our hearty thanks to Mr. Kentarô TOYOSHIMA, Gifu, for kindly providing us with the specimens use in the present study, and to Dr. Hiroaki KOJIMA and Mr. Naoki KANEKO, Laboratory of Entomology, Tokyo University of Agriculture, for taking the photographs used in this paper.

Eusphalerum (Eusphalerum) yotsudakense sp. nov.

[Japanese name: Yotsudake-hanamuguri-yotsumehanakakushi]

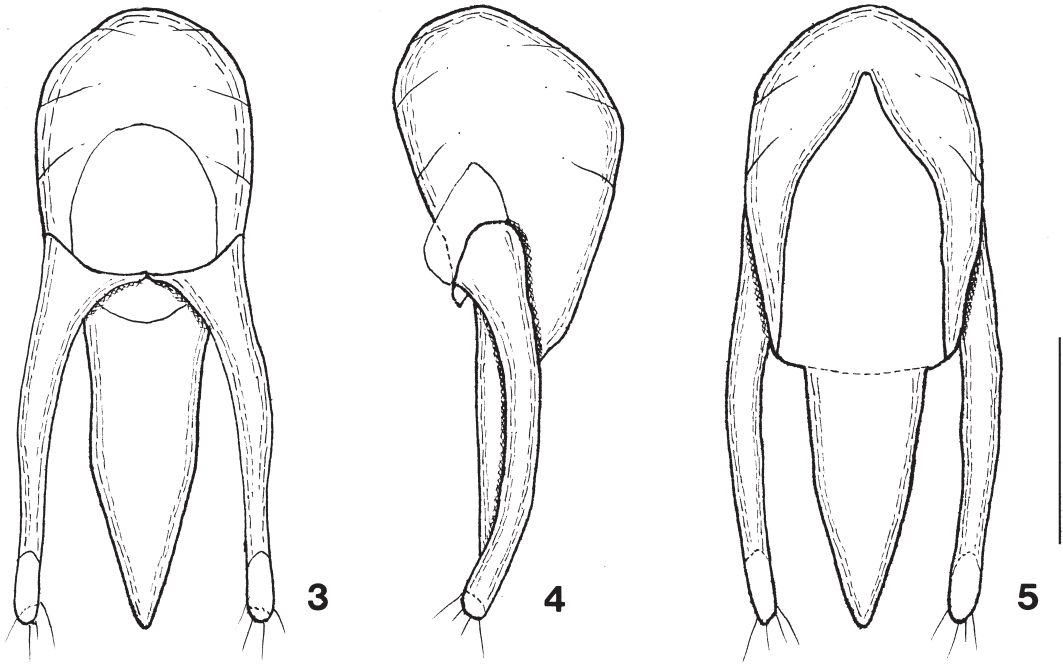
(Figs. 1 & 3–5)

Body length: 2.2–2.4 mm (from front margin of head to anal end); 1.7–1.8 mm (from front margin of head to elytral apices).

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

Male. Head subtrapezoidal, narrowed anteriorly and nearly flattened above, about twice as wide as across compound eyes than long, post ocular 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 scattered with minute punctures and covered with somewhat coarse microscopic ground sculpture, provided with a shallow depression inside each antennal tubercle and also with a vague depression before each ocellus; ocelli distinct, the distance between them being slightly larger than from the outer side of ocellus to the inner margin of each eye. Antennae moderately long, hardly extending to posterior margin of pronotum, somewhat thickened from 7th to the apical segment, with proximal five segments polished; 6th and 7th subopaque and the remainings opaque; 1st apparently longer than wide (length/width = 1.60); 2nd distinctly longer than wide (length/width = 1.36) though clearly shorter (2nd/1st = 0.75) and somewhat narrower (2nd/1st = 0.88) than 1st; 3rd slender and dilated apically, about 1.50 times as long as wide, and almost as long as though slightly narrower (3rd/2nd = 0.91) than 2nd; 4th and 5th equal in both length and width to each other, each distinctly narrower (length/width = 0.67) than though as wide as 3rd; 6th slightly wider than length (width/length = 1.10), equal in length to though slightly wider than 5th (6th/5th = 1.10); 7th as long as wide, a little longer (7th/6th = 1.25) and somewhat wider (7th/6th = 1.14) than 6th; 8th to 10th equal in length and width to one another, each as long as wide; 11th apparently longer than wide (length/width = 1.67), and apparently longer (11th/10th = 1.67) than though as wide as 10th, bluntly pointed at the apex.

Pronotum gently elevated medially and distinctly transverse (width/length = 1.44), about 1.5 times as long as and somewhat wider than head (pronotum/head = 1.13), widest at the middle and more strongly narrowed anteriorly than posteriorly; lateral margins bordered, feebly arcuate in anterior half and slightly emarginate in posterior half; anterior margin nearly straight at the middle; posterior margin slightly bisinuate; anterior angles rounded and posterior ones more distinctly angulate than anterior ones; surface sparingly, finely punctured and covered with fine coriaceous ground sculpture as on head, provided with a narrow depression in posterior half inside each lateral margin and with a shallow depression at each side of the middle though sometimes obscure. Scutellum subtriangular, impunctate though covered with fine coriaceous ground sculpture on the surface. Elytra somewhat dilated posteriorly, a little longer than wide (length/width = 1.21), apparently wider than pronotum



Figs. 3–5. Male genital organ of *Eusphalerum (Eusphalerum) yotsudakense* sp. nov. — 3, Dorsal view; 4, lateral view; 5, ventral view. Scale: 0.25 mm.

(elytra/pronotum = 1.46) and more than 2.50 times as long as pronotum; posterior margin almost straight; posterior angles widely rounded; surface densely and coarsely punctured. Legs moderately long; protarsus thin, apical segment of metatarsus elongate, slightly longer than the four preceding segments combined.

Abdomen narrowed towards the apical end; surface of each tergite sparsely scattered with extremely minute and obsolete punctures, and covered with microscopic ground sculpture; preapical sternite semicircularly emarginate at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe somewhat broad, nearly parallel-sided in basal half and abruptly narrowed in apical half towards the apex which is bluntly pointed. Parameres relatively stout and almost as long as median lobe, each not so widened in the apical part which is fringed with a few fine setae.

F e m a l e. Similar in general appearance to male, though 8th abdominal sternite narrowed towards the subtruncate apex.

Type series. Holotype: ♂, paratype: 1 ♀, Mt. Yotsu-dake, Ikenomata, Nyûgawa-chô, Takayama-shi, Gifu Pref., Honshu, Japan, N.36°8'45", E.137°33'11", 29.VII. 2017, K. TOYOSHIMA leg.

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

Distribution. Japan (central Honshu).

Remarks. This new species is somewhat similar in general appearance to *Eusphalerum (Eusphalerum) kumoma* Y. WATANABE, 1990 found from Kamegaike to Katanokoya on Norikura-dake in the Northern Japanese Alps, central Honshu, but can be distinguished from the latter by the following points: body somewhat larger; head and pronotum more darkened in colour and covered with some-

what more distinct punctures and ground sculpture on the surface; elytra distinctly longer than the latter, covered with less close puncture and less coarse ground sculpture on the surface, and different configuration of the male genital organ.

Bionomics. All the specimens of the type series were found on the flowers of a deciduous broad-leaved tree, *Sorbus commixa*, at an altitude of 2,520 m.

Etymology. The specific epithet of this new species is derived from “Mt. Yotsu-dake” the type locality.

***Eusphalerum (Eusphalerum) tsurugaikenum* sp. nov.**

[Japanese name: Tsurugaike-hanamuguri-yotsumehanakakushi]

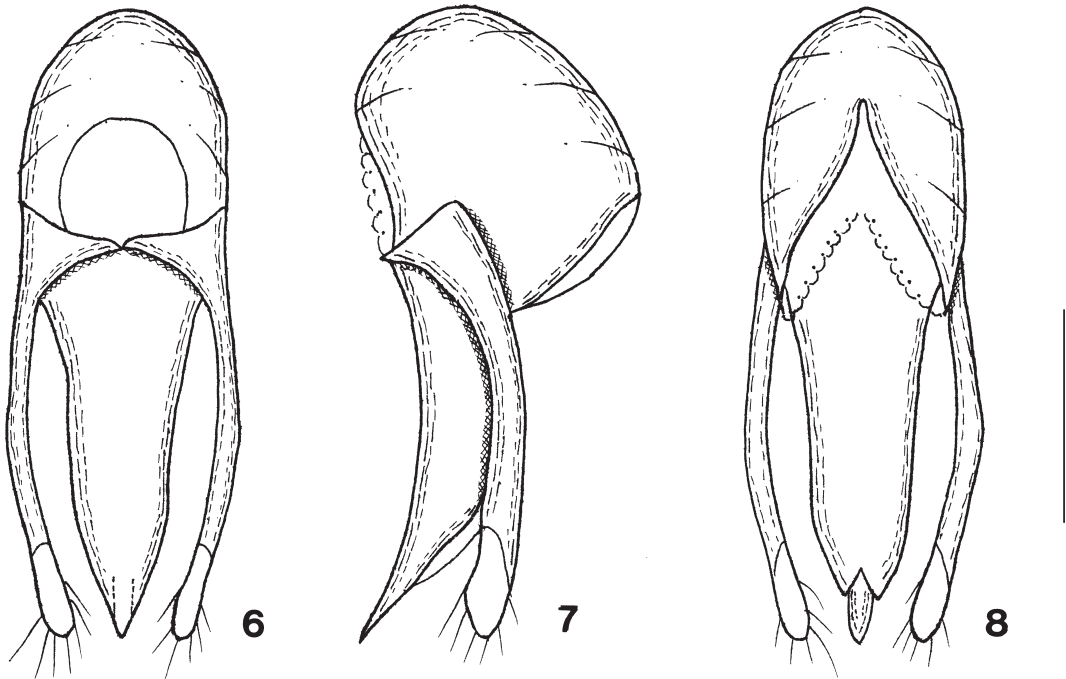
(Figs. 2 & 6–8)

Body length: 1.8–2.2 mm (from front margin of head to anal end); 1.5–1.6 mm (from front margin of head to elytral apices).

Body elliptical and moderately elevated dorsally. Colour yellow and moderately shining, palpi, apical three or four antennal segments and abdomen brownish yellow.

Male. Head subtrapezoidal, narrowed anteriorly and somewhat depressed above, much wider across compound eyes than long (width/length = 1.43); postocular part well constricted at neck and considerably short, about one-fifth as long as the longitudinal diameter of compound eye which is distinctly expanded laterally; front margin between antennal tubercles somewhat produced anteriorly at the median part; surface moderately closely, distinctly punctured and covered with fine coriaceous ground sculpture, provided with a vague fovea in front of each ocellus; ocelli relatively distinct, the distance between them about 1.30 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 5th to the apical segment, with proximal five or six segments polished and the remainings somewhat opaque; 1st segment robust and twice as long as wide; 2nd elliptical, distinctly longer than wide (length/width = 1.43), apparently shorter (2nd/1st = 0.63) and somewhat narrower (2nd/1st = 0.88) than 1st; 3rd more than 1.5 times as long as wide, slightly longer (3rd/2nd = 1.10) but distinctly narrower (3rd/2nd = 0.86) than 2nd; 4th to 6th each segment longer than wide; 7th and 8th equal in length and width to each other, each slightly longer than wide (length/width = 1.11); 9th and 10th equal in length and width to each other, each a little longer (each of 9th and 10th/8th = 1.20) and wider (each of 9th and 10th/8th = 1.11) than 8th; 11th nearly twice as long as wide, apparently longer (11th/10th = 1.50) than though as wide as 10th, distinctly tapered in apical third towards the pointed apex.

Pronotum gently elevated medially and clearly transverse (width/length = 1.43), somewhat wider than head (pronotum/head = 1.18), widest just before the middle and slightly more strongly narrowed posteriorly than anteriorly; lateral margins bordered, feebly arcuate in anterior half and almost straight in posterior half; anterior margin slightly emarginate at the middle; posterior margin slightly bisinuate; anterior angles nearly rounded and posterior ones more distinctly angulate than anterior angles; surface sparingly, regularly and distinctly punctured and covered with fine coriaceous ground sculpture as on head, provided with a shallow depression in posterior half just inside each lateral margin. Scutellum subtriangular, surface impunctate though covered with fine coriaceous ground sculpture. Elytra somewhat dilated posteriorly, a little longer than wide (length/width = 1.26), apparently wider (elytra/pronotum = 1.43) and obviously longer (elytra/pronotum = 2.57) than pronotum; posterior margin broadly rounded; posterior angles obscure; surface densely and coarsely punctured. Legs moderately long, protarsus thin, apical segment of metatarsus elongate, slightly longer than the



Figs. 6–8. Male genital organ of *Eusphalerum (Eusphalerum) tsurugaikenum* sp. nov. — 6, Dorsal view; 7, lateral view; 8, ventral view. Scale: 0.25 mm.

four preceding segments together.

Abdomen narrowed towards the apical end; surface of each tergite sparingly, minutely and obsoletely punctured, and covered with microscopic ground sculpture; preapical sternite semicircularly emarginate at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe moderately broad, slightly constricted before the basal third and then abruptly tapered in the apical fourth towards the apex, with apical part somewhat produced backwards and apparently curved dorsad as seen from lateral side. Parameres elongate, almost as long as median lobe, each slightly widened in the apical part which is membranous and provided with several fine setae.

F e m a l e. Similar in general appearance to male, though different from it by 8th abdominal sternite, which is narrowed towards the subtruncate apex.

Type series. Holotype: ♂, paratypes: 12 ♂♂, 10 ♀♀, Tsurugaiké-pond side, Iwaidani, Nyûgawa-chô, Takayama-shi, Gifu Pref., N.30°7'30", E.137°33'28", Honshu, Japan, 29.VII.2017, M. YOSHIDA leg.

Type depositories. The type specimens are deposited in the collection of the Laboratory of Entomology, Tokyo University of Agriculture except for two pairs of paratypes are deposited in the second author's private collection.

Distribution. Japan (central Honshu).

Remarks. This new species is similar in general appearance to *Eusphalerum (Eusphalerum) solitale* (SHARP, 1874), but can be readily distinguished from it by the following points: elytra more elongate and more strongly rounded at the posterior margin, surface more coarsely punctured, colour of abdomen yellow in both sexes, median lobe of male genital organ distinctly broader and apical part a

little produced backwards.

Bionomics. All the type specimens of this new species were found on the flowers of a deciduous broadleaved tree, *Sorbus commixta*, at an altitude of about 2,705 m.

Etymology. The specific epithet of this new species is derived from “Tsurugaikae-pond side” the type locality.

要 約

渡辺泰明・吉田正隆：北アルプス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。——— 現在までハナムグリヨツメハネカクシ属に含まれる種として、日本の本州からは26種が知られている。筆者の一人吉田は、環境省中部環境事業所長の許可（環中地松許第1707143号）の下に乗鞍岳高山帯の甲虫調査を進めている岐阜市の豊島健太郎氏の調査に随行する機会を得た。その折、四ツ岳の標高2,520 m付近（特別保護区）で、ハイマツの間に開花していたナナカマドの花から豊島氏が2頭のハナムグリヨツメハネカクシ属に含まれる種を採集し吉田に託された。一方、吉田はその場所よりも上部の標高2,705 mに位置する鶴が池畔で、同じ様な環境で開花していたナナカマドの花から四ツ岳で得た個体とは明らかに異なるハナムグリヨツメハネカクシ属に含まれる数個体を採集することができた。これらを検討した結果、共に未記載種と認め *Eusphalerum (Eusphalerum) yotsudakense* sp. nov. ヨツダケハナムグリヨツメハネカクシおよび *E. (E.) tsurugaikenum* sp. nov. ツルガイケハナムグリヨツメハネカクシとそれぞれ命名・記載した。

References

- WATANABE, Y., 1990. A taxonomic study on the Subfamily Omaliinae from Japan (Coleoptera, Staphylinidae). *Memoirs of the Tokyo University of Agriculture, Tokyo*, **31**: 59–391.
- WATANABE, Y., 2013. Subfamily Omaliinae. Pp. 73–80. In SHIBATA, Y., & M. MARUYAMA (eds.), Catalogue of Japanese Staphylinidae (Insecta: Coleoptera). *Bulletin of the Kyushu University Museum, Fukuoka*, (11): 69–218.
- WATANABE, Y., 2015. Subfamily Omaliinae. Pp. 33–34. In SHIBATA, Y., & M. MARUYAMA (eds.), Catalogue of Japanese Staphylinidae (Insecta: Coleoptera) –Addition and Corrections until 2014–. *Bulletin of the Kyushu University Museum, Fukuoka*, (13): 33–34.

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