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Two New Species of *Eusphalerum* (Coleoptera, Staphylinidae) from Mikura-jima Island of the Izu Islands off Central Honshu, Japan

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Abstract Two new species of the staphylinid genus *Eusphalerum* are described under the names *E.* (*E.*) *kojimai* and *E.* (*E.*) *mikurajimaense*. They were found on flowers of broadleaved trees on Mikura-jima Island of the Izu-Islands off central Honshu, Japan.

Members of the genus *Eusphalerum* are usually found on flowers of broadleaved trees, and distributed in Palaearctic and Oriental Regions (Herman, 2001). Until now fifty-one species of the genus have been reported from Japan by Sharp (1874, 1899), Fauvel (1901), Bernhauer (1909), Cameron (1930), Watanabe (1990, 1993, 2003, 2012, 2013), Watanabe and Shimada (2006), Hayashi (2007) and Zerche (2007). So far as I know, however, no species of the genus has been recorded from Mikura-jima Island of the Izu Islands off central Honshu, Japan.

Through the courtesy of Prof. H. Kojima, I had an opportunity to examine many specimens of the genus obtained on this island by himself. As the result of a close examination, they are classified into two species belonging to the group of *E. pollens*. They are new to science, however, for reason of different structure of male genital organ of the previously known species. I am therefore going to describe the new species in the present paper.

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi Uéno, Visiting Professor at Tokyo University of Agriculture, for his kind advice on the present study. Deep gratitude is also due to Prof. Hiroaki Kojima, Laboratory of Entomology, Tokyo University of Agriculture, for his kindness in provided me with the interesting specimens used in the present study, and Mr. Naoya Ito, Laboratory of Entomology, Tokyo University of Agriculture, for taking the photographs inserted in this paper.

The survey on Mikura-jima Island by Prof. Hiroaki Kojima was conducted under a permission of the village office, and was supported in part by KAKENHI (24510333).

Eusphalerum* (*Eusphalerum*) *kojimai Y. Watanabe, sp. nov.

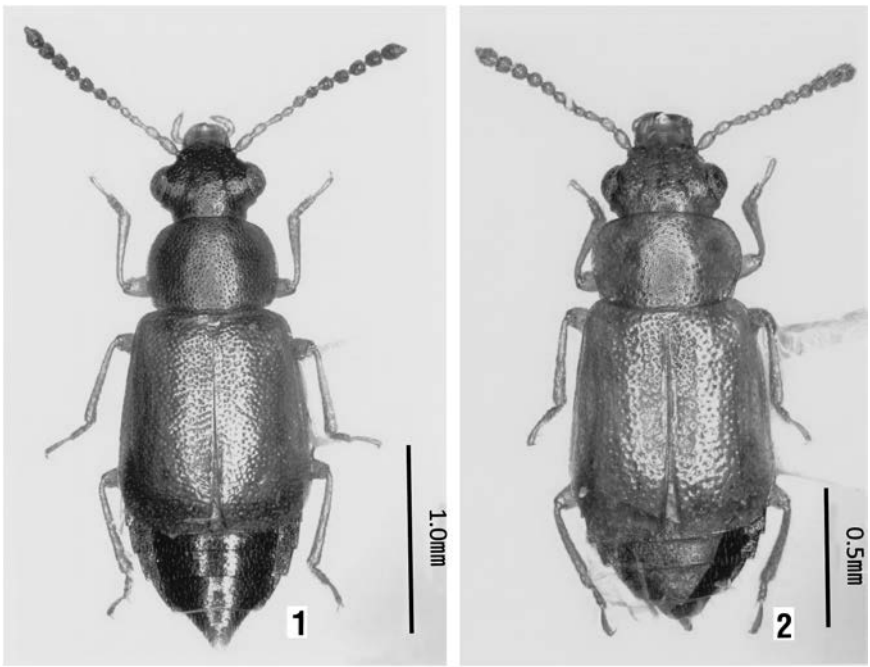
[Japanese name: Kojima-hanamuguri-yotsumehanekakushi]

(Figs. 1, 3–5)

Body length: 2.4–2.7 mm (from frontal margin of head to anal end); 0.9–1.2 mm (from frontal margin of head to elytral apices).

Body elliptical and moderately convex. Colour brownish red and moderately shining, with mouth parts, four or five proximal antennal segments and legs yellow, elytra dark yellow, abdomen black with the exception of two yellowish apical segments.

In facies and body size this species is similar to *E. amamiense* Y. Watanabe (1993) from Amami-Ôshima, but can be readily separable from the latter by different punctures on pronotum and con-

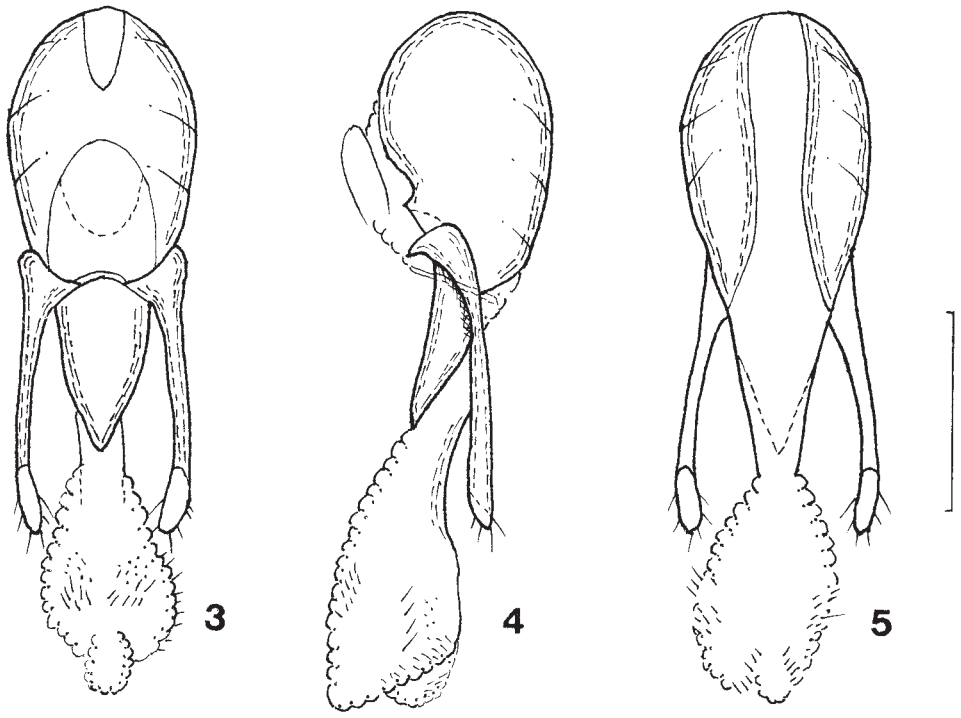


Figs. 1–2. *Eusphalerum* (*Eusphalerum*) spp. from Mikura-jima Is. of the Izu Isls. ——— 1. *E*. (*E*.) *kojimai* sp. nov.; 2, *E*. (*E*.) *mikurajimaense* sp. nov.

figuration of the male genital organ, and by the following external features:

M a l e. Head subtrapezoidal, more strongly narrowed anteriad before eyes and somewhat more distinctly elevated medially than in *E*. *amamiense*, apparently wider across compound eyes than long (width/length = 1.50); postocular part arcuate and short, about one-fifth as long as the longitudinal diameter of each eye which is somewhat expanded laterally; surface sparsely, finely punctured and covered with microscopic ground sculpture as in *E*. *amamiense*, provided with a more distinct depression than that of *E*. *amamiense* inside each antennal tubercle, and also with a minute shallow depression before each ocellus as in *E*. *amamiense*; ocelli distinct, the distance between them about 1.5 times as long as that from the outer side of ocellus to the inner margin of each eyes. Antennae somewhat thickened towards the extremities, hardly extending to posterior margin of pronotum, and similar in articulation to those of *E*. *amamiense*.

Pronotum elevated medially as in *E*. *amamiense*, subtrapezoidal and strongly transverse (width/length = 1.40), somewhat wider than head (pronotum/head = 1.17), widest near the middle and similarly narrowed anteriad in anterior half as in *E*. *amamiense* though less strongly narrowed posteriad in posterior half than in *E*. *amamiense*, sides finely bordered as in *E*. *amamiense*, each feebly arcuate in anterior half though nearly straight in posterior half, anterior margin arcuate, posterior margin finely bordered as lateral sides and nearly straight, anterior angles rounded and posterior ones obtuse as in *E*. *amamiense*; surfrace somewhat less closely and more finely punctured than in *E*. *amamiense*, and covered with finer coriaceous ground sculpture than that of *E*. *amamiense*, provided with a finer longitudinal depression than that of *E*. *amamiense* in posterior half just inside each lateral margin. Scutellum similar to that of *E*. *amamiense*. Elytra gently convex and somewhat dilated apicad as in *E*. *amamiense*, distinctly longer than wide (length/width = 1.26), and clearly wider (elytra/pronotum = 1.36) than pronotum, more than twice as long as pronotum; lateral sides each almost straight and posterior



Figs. 3–5. Male genital organ of *Eusphalerum* (*Eusphalerum*) *kojimai* sp. nov. from Mikura-jima Is. of the Izu Isls. ——— 3, Dorsal view; 4, lateral view; 5, ventral view. Scale: 0.25 mm.

margin somewhat arcuate as in *E. amamiense*, posterior angles each broadly rounded; surface densely covered with less coarse punctures than those of *E. amamiense*. Legs moderately long, 1st to 4th segments of protarsus not so widened as in *E. amamiense*, apical segment of metatarsus slightly longer than the four preceding segments together.

Abdomen narrowed towards the apical end; surface of each tergite covered with similar punctures and ground sculpture to those of *E. amamiense*; preapical sternite semicircularly emarginate at the middle of posterior margin as in *E. amamiense*.

Genital organ trilobed and symmetrical. Median lobe gradually narrowed apicad in basal two-thirds and abruptly narrowed in apical third towards the bluntly pointed apex. Parameres elongate and obviously longer than median lobe; each paramere slightly widened in the apical part, which is membraneous and fringed with several fine setae.

F e m a l e. Similar in facies to male, though preapical abdominal sternite strongly narrowed towards the subtruncate apex.

Type series. Holotype: ♂, allotype: ♀, Otome-tôge kurosakitakao, Mikura-jima Is., Izu Isls., Japan, 23.IV.2014, H. Kojima leg. Paratypes: 12 ♂♂, 11 ♀♀, 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 (Mikura-jima Is. of the Izu Isls.).

Remarks. Basal conformation of genital organ is more similar to that of *E. okutamaense* Y. Watanabe (1993) than that of *E. amamiense*. Median lobe of the present new species is, however, much shorter than that of *E. okutamaense*.

Bionomics. All the specimens of the type series were found on the flowers of four species of broadleaved trees, *Prunus lannesiana* var. *speciosa*, *Trochodendron aralioides*, *Symplocos prunifola* and *Castanopsis cuspidate* var. *sieboldii*, at the type locality.

Etymology. The specific epithet of this new species is given after Prof. Hiroaki KOJIMA, who collected all the specimens of the type series.

Eusphalerum* (*Eusphalerum*) *mikurajimaense Y. WATANABE, sp. nov.

[Japanese name: Mikurajima-hanamuguri-yotsumehanekakushi]

(Figs. 2, 6–8)

Body length: 1.7–2.0 mm (from front margin of head to anal end); 1.3–1.5 mm (from front margin of head to elytral apices).

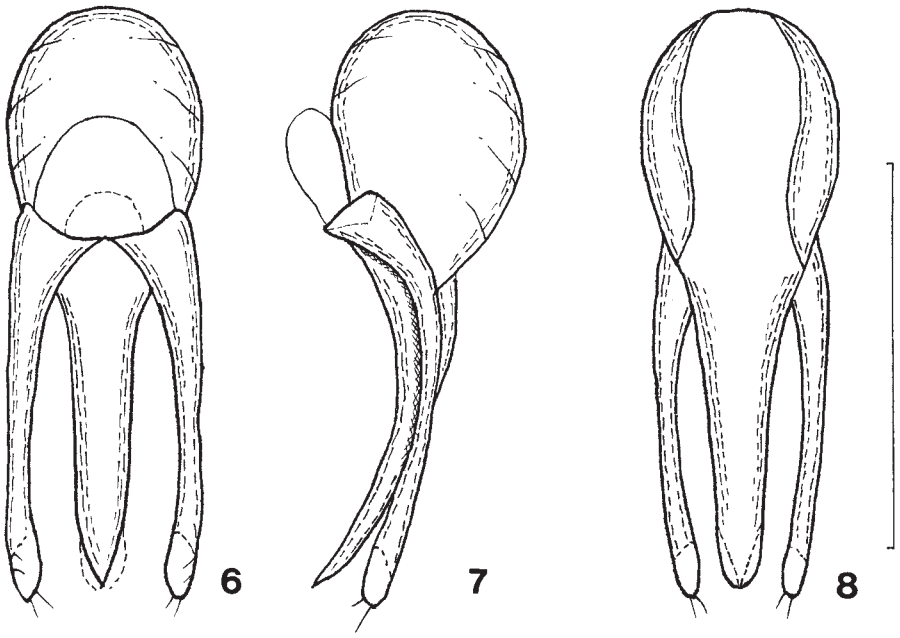
The present new species is similar in general appearance, including basal conformation of male genital organ to *E.* (*E.*) *kana* Y. WATANABE (1993) from Amami-Ôshima lsland, one of the Ryukyu lslands, but can be distinguishes from the latter in different punctures on both pronotum and elytra, configuration of median lobe of the male genital organ, and in the following external features.

Body long-oval and moderately convex. Colour reddish yellow and moderately shining, with mouth parts, six proximal antennal segments, elytra and legs yellow, five apical antennal segments yellowish brown, and abdomen black in male, though yellowish-brown in female.

M a l e. Head subtrapezoidal, more strongly narrowed anteriad than posteriad and apparently wider across compound eyes than long (width/length = 1.80), postocular part short, nearly one-fifth as long as the longitudinal diameter of each eye; surface covered with slightly more coarse punctures and more coarse coriaceous ground sculpture than those in *E. kana*, provided with a more strong depression inside each antennal tubercle than in *E. kana*; ocelli minute, though slightly larger than those of *E. kana*, the distance between them being distinctly larger than that from the outer side of ocellus to the inner margin of each eye as in *E. kana*. Antennae somewhat thickened towards the extremities and moderately long, extending to posterior margin of pronotum, and similar in articulation to those of *E. kana*.

Pronotum elevated medially and subtrapezoidal, widest near the middle and more strongly narrowed posteriad than anteriad as in *E. kana*, transeverse, clearly wider than long (width/length = 1.38), apparently longer (pronotum/head = 1.60) and wider (pronotum/head = 1.22) than head; lateral sides bordered as in *E. kana*, gently arcuate in anterior half and slightly emarginate in posterior half, anterior and posterior angles each similarly arcuate to those of *E. kana*, anterior angles rounded though more distinct than those of *E. kana*, posterior angles more strongly angulate than in *E. kana*; surface somewhat more sparsely and more infinitely punctured than in *E. kana*, and covered with similar coriaceous ground sculpture to that of *E. kana*, provided with a more strong longitudinal depression just inside in posterior half of each lateral margin than that of *E. kana*. Scutellum small and subtriangular, surface impunctate and covered with similar ground sculpture as in *E. kana*. Elytra gently convex and subtrapezoidal, dilated apicad as in *E. kana*, though distinctly longer than those of *E. kana*, clearly longer than wide (length/width = 1.21), about twice as long as pronotum and distinctly wider (elytra/pronotum = 1.27) than pronotum; lateral and posterior margins each similar to those of *E. kana*, posterior angles more broadly angulate than in *E. kana*; surface densely and coarsely punctured as in *E. kana*. Legs moderately long and similar in structure to those of *E. kana*.

Abdomen narrowed towards the anal end as in *E. kana*, each tergite sparsely and obsoletely punctured as in *E. kana* and covered with similar coreaceous ground sculpture to those of *E. kana*; 4th



Figs. 6–8. Male genital organ of *Eusphalerum* (*Eusphalerum*) *mikurajimaense* sp. nov. from Mikura-jima Is. of the Izu Isls. ——— 6, Dorsal view; 7, lateral view; 8, ventral view. Scale: 0.25 mm.

tergite provided with a pair of small transverse purinose spots at the middle before posterior margin, 5th tergite also with a pair of minute purinose spots at the middle; 8th sternite semicircularly emarginate at the middle of posterior margin as in *E. kana*.

Genital organ trilobed and symmetrical. Median lobe similar in configuration to that of *E. kana*, though almost parallel-sided in apical two-thirds. Parameres elongate, slightly longer than median lobe, each slightly dilated in the apical part, which is membraneous and fringed with a few setae.

F e m a l e. Similar in general appearance to male, though differs from it in the following points: abdomen yellowish brown, and strongly narrowed towards the subtruncated apex.

Type series. Holotype: ♂, allotype: ♀, Obannoo, Mikura-jima Is., Izu Isls., Japan, 22.IV.2014, H. KOJIMA leg. Paratypes: 6 ♂♂, 5 ♀♀, same data as for the holotype; 26 ♂♂, 30 ♀♀, Otome-tôge–Kurosakitakao, Mikura-jima Is. of the Izu Isls., Japan, 23.IV.2014, H. KOJIMA leg.

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

Distribution. Japan (Mikura-jima Is. of the Izu Islands).

Bionomics. All the type specimens of the type series were found on the flowers of broadleaved trees, *Prunus lannesiana* var. *speciosa*, together with the specimens of the preceding new species.

Etymology. The specific epithet of this new species is derived from “Mikura-jima Island” in which lies the two known localities.

要　　約

渡辺泰明：伊豆御蔵島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．——— これまで伊豆御蔵島からはハナムグリヨツメハネカクシ属に含まれる種は知られていなかった．

私は最近小島弘昭博士によって同島から採集されたこの属に含まれる多くの個体を検討する機会を得た．この結果，これらはハナムグリヨツメハネカクシ種群に含まれる2種に分類され，いずれも雄交尾器の形状等が既知種とは異なることによって未記載種と認め，*Eusphalerum* (*Eusphalerum*) *kojimai* および *E.* (*E.*) *mikurajimaense* と命名・記載した．

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