

Four New Anthophilous Species of the Omaliinae (Coleoptera,  
Staphylinidae) from Mt. Miao'er Shan  
in Guangxi Province, China

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**Abstract** Four new anthophilous species of omaliine staphylinid beetles are described from Mt. Miao'er Shan in Guangxi, China, under the names *Amphichroum miaoershanum*, *Eusphalerum* (s. str.) *akikoeae*, *E.* (s. str.) *masatakai* and *E.* (s. str.) *miaoershanum*.

Three anthophilous species of the Omaliinae have hitherto been reported from China. One of them belonging to the genus *Amphichroum* was described by CAMERON (1928, p. 558) from Tropde in Tibet under the name *A. monticola*. The other two species belonging to the genus *Eusphalerum* were described from two different localities in China. One of them, *E.* (s. str.) *chinense* was described by BERNHAUER (1938, p. 49) from “Ma-ho chan in Kansou”, and the other, *E.* (s. str.) *chinecum*, by LI (1992, p. 59) from Mt. Qianshan in Liaoning Province.

Through the courtesy of Professor Masataka SATÔ and Dr. Akiko SAITO, I had an opportunity to examine a number of interesting staphylinids obtained from flowers of an evergreen broadleaved tree, *Rhododendron* sp., on Mt. Miao'er Shan in Guangxi Province, China. They comprise four species belonging to two different genera, *Amphichroum* and *Eusphalerum*.

After a careful examination, it has become clear that all the species are new to science by reason of disagreement with the known species of the respective genera in morphological characteristics. They will be described in the present paper. The holotype and allotypes of the four new species to be described are preserved at present in the collection of the National Science Museum (Nat. Hist.), Tokyo, and the paratypes are preserved in the collection of the Laboratory of Entomology, Tokyo University of Agriculture.

Before going further, I wish to express my deep gratitude to Dr. Shun-Ichi UENO, Visiting Professor at Tokyo University of Agriculture, for his kindness in giving me valuable advice on the present study. Thanks are also due to Professor Masataka SATÔ, Nagoya Women's University, and Dr. Akiko SAITO, Natural History Museum and Institute, Chiba, for their kindness in providing me with specimens used in this study.

*Amphichroum miaoershanum* Y. WATANABE, sp. nov.

(Figs. 1–4)

Body length: 2.8–3.2 mm (from front margin of head to anal end); 1.7–2.1 mm (from front margin of head to elytral apices).

Body elliptical and somewhat convex. Colour reddish yellow and moderately shining, with mouth parts, elytra and legs yellow, abdomen black except for brownish anal end, apical six antennal segments darkened.

Male. Head subtrapezoidal and more or less depressed above, much broader across compound eyes than length (width/length=1.67); postocular part remarkably

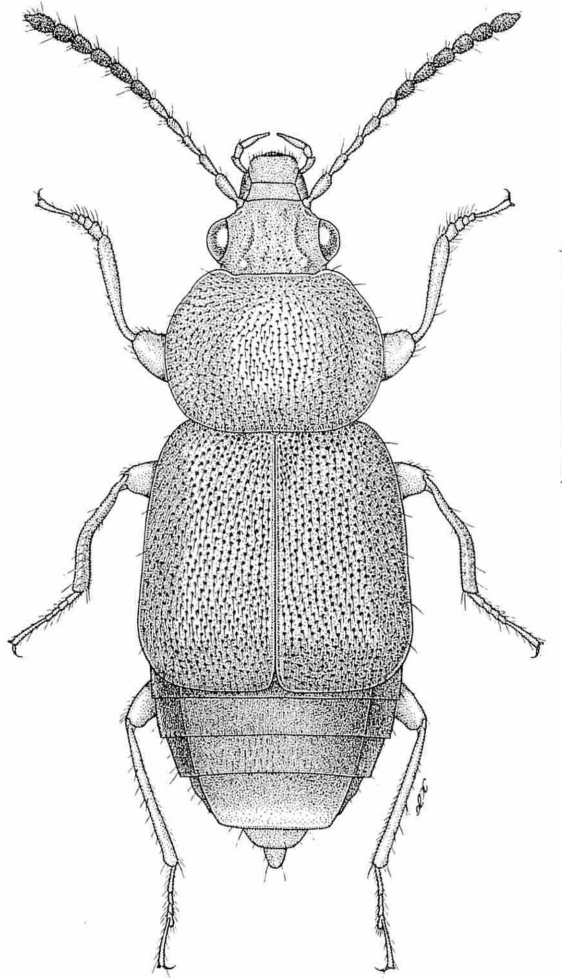


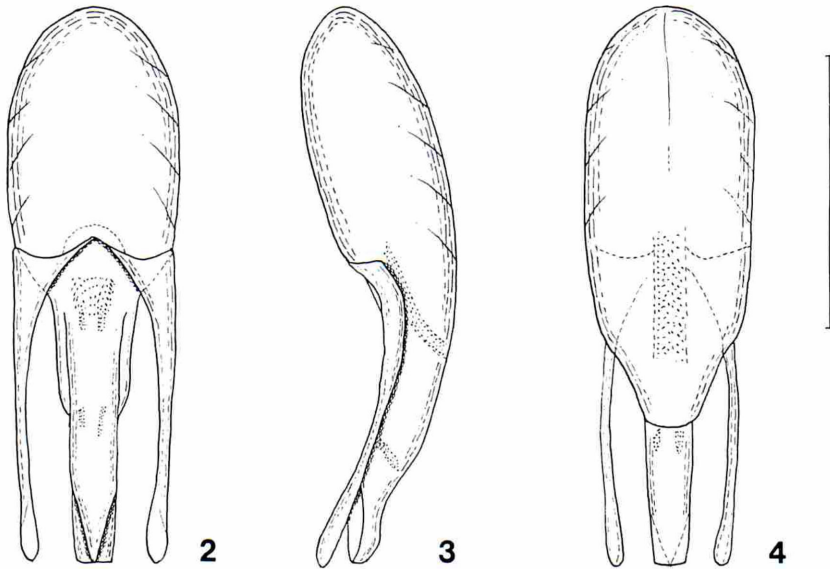
Fig. 1. *Amphichroum miaoershanum* sp. nov., ♂, from Mt. Miao'er Shan in Guangxi Prov., China. Scale: 1.0 mm.

shorter than the longitudinal diameter of each eye, and well contracted posteriorly; each ocellus present on each side of the middle before posterior margin, the distance between ocelli a little larger than that from the outside of ocellus to the inner margin of each eye, which is somewhat prominent laterally; surface rather densely and coarsely punctured except for impunctate clypeo-frontal part, which is covered with extremely fine coriaceous ground sculpture, bearing a longitudinal sulcus in front of each ocellus. Antennae elongate, extending to near posterior margin of pronotum and somewhat thickened towards the extremities, three proximal segments polished, 4th subopaque, the remainings opaque, 1st segment more than 1.5 times as long as broad, 2nd about 1.5 times as long as broad, somewhat shorter ( $2\text{nd}/1\text{st}=0.75$ ) and narrower ( $2\text{nd}/1\text{st}=0.80$ ) than 1st, 3rd elongate, about twice as long as broad, a little longer ( $3\text{rd}/2\text{nd}=1.27$ ) but slightly narrower ( $3\text{rd}/2\text{nd}=0.90$ ) than 2nd, 4th somewhat longer than broad (length/width=1.25), distinctly shorter ( $4\text{th}/3\text{rd}=0.66$ ) but slightly broader ( $4\text{th}/3\text{rd}=1.11$ ) than 3rd, 5th to 10th subequal in length, though gradually increasing in width, each segment slightly longer than broad, 11th about 1.5 times as long as broad, apparently longer than (11th/10th=1.50) though nearly as broad as 10th, obtusely pointed at the apex.

Pronotum convex and distinctly transverse (width/length=1.42), considerably broader than head (pronotum/head=1.70), widest at the middle and a little more strongly narrowed anteriorly than posteriorly; lateral margins finely bordered and arcuate through the whole length, posterior margin very feebly bisinuate, anterior margin somewhat broadly emarginate at middle, anterior angles rounded and posterior ones obtuse; surface not so closely and somewhat coarsely punctured, and covered with fine yellowish pubescence, bearing a vague depression at the middle in front of posterior margin. Scutellum minute and subtriangular, surface impunctate though covered with microscopic ground sculpture. Elytra gently elevated and somewhat dilated posteriorly, a little broader than length (width/length=1.08), much longer (elytra/pronotum=1.63) and apparently broader (elytra/pronotum=1.24) than pronotum; lateral margins each almost straight in anterior two-thirds and gently arcuate in posterior third, posterior margin subtruncate; posterior angles broadly rounded; surface much more densely and more coarsely punctured than on pronotum and covered with similar pubescence to those on pronotum. Legs moderately long, 1st to 4th protarsal segments slightly widened; mesotibia excavated at about middle on the inner face, curved internally in apical half, metatarsus thin, apical segment subequal to the four preceding segments together.

Abdomen narrowed towards the apical end; surface of each tergite sparingly, very obsoletely punctured and sparsely, finely pubescent, and covered with microscopic coriaceous ground sculpture; 8th sternite semicircularly emarginate at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe elongate, subparallel-sided, though abruptly narrowed in apical fourth towards the bluntly pointed apex, distinctly curved dorsad in apical half as seen from lateral side. Parameres slender and as long as



Figs. 2–4. Male genital organ of *Amphichroum miaoershanum* sp. nov.; dorsal view (2), lateral view (3), and ventral view (4). Scale: 0.2 mm.

median lobe, each a little dilated in the membranous apical part, apical setae not perceptible.

**Female.** Similar in general appearance to male, but different from it in the following points: protarsal segments thin; abdomen reddish yellow, with 8th sternite produced posteriad at the median part of posterior margin and subtruncated at the tip.

**Type series.** Holotype: ♂, Mt. Miao'er Shan, near Tieshan Ping, Xing'an Xian, Guangxi Province, China, 25–V–1996, A. SAITO leg.; allotype: ♀, Mt. Miao'er Shan, above Antang Ping, Xing'an Xian, Guangxi Province, China, 27–V–1996, A. SAITO leg. Paratypes: 1 ♂, same data as for the holotype; 2 ♂♂, same data as for the allotype; 1 ♀, same locality as above, 23–V–1996, A. SAITO leg.; 1 ♀, same locality as above, 22~27–V–1996, M. SATÔ leg.

**Distribution.** China.

**Remarks.** The present new species is somewhat similar in facies and body size to *A. monticola* from Tibet, but differs from it in the different punctations on head and pronotum, the latter of which is provided with only a slight fovea.

**Bionomics.** The type specimens were obtained by sweeping flowers of an ever-green broadleaved tree, *Rhododendron* sp., at an altitude 1,820 m to 2,000 m.

**Etymology.** The name of this new species is derived from “Miao'er Shan”, the type locality.

*Eusphalerum* (s. str.) *akikoeae* Y. WATANABE, sp. nov.

(Figs. 5–10)

Body length: 2.1–2.5 mm (from front margin of head to anal end); 1.7–2.0 mm (from front margin of head to elytral apices).

Male. Body spindle-shaped and moderately convex. Colour yellowish red and moderately shining, with mouth parts, six proximal segments of antennae, and legs yellowish, abdomen black except for yellowish anal end.

Head subtrapezoidal and depressed above, clearly broader across compound eyes than long (width/length=1.67); postocular part short, about one-third as long as the longitudinal diameter of each eye which is somewhat prominent; surface closely and finely but distinctly punctured and covered with microscopic coriaceous ground sculpture, provided with a shallow depression inside each antennal tubercle; ocelli indistinct. Antennae moderately long, extending to near posterior margin of pronotum and somewhat thickened towards the extremities, with six proximal segments polished, 7th

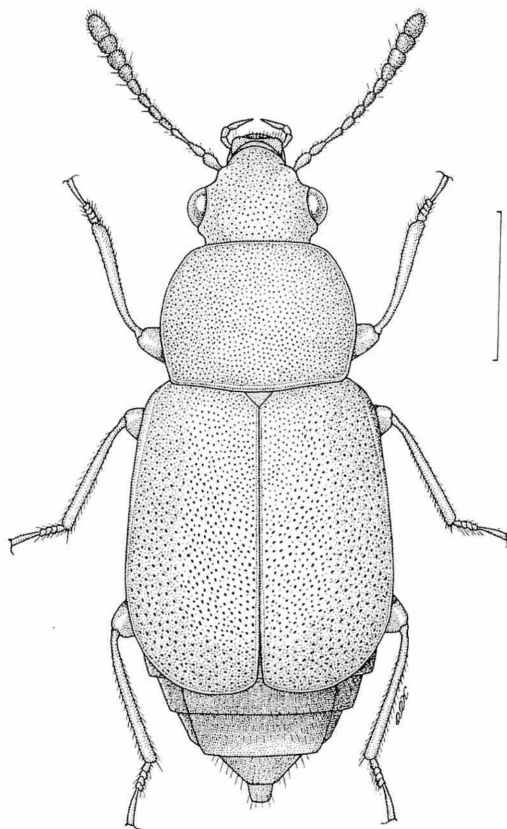
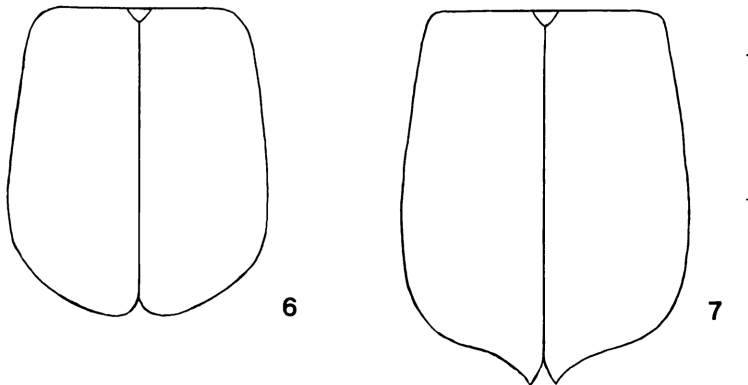


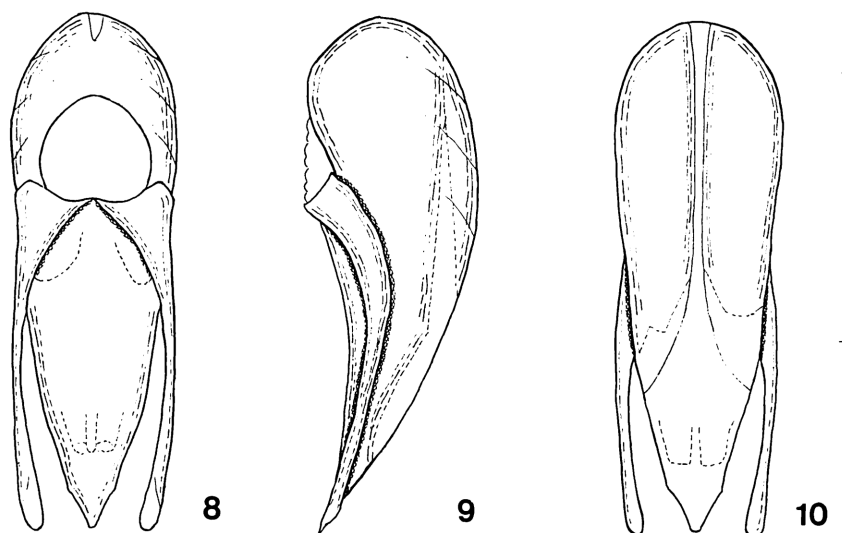
Fig. 5. *Eusphalerum* (s. str.) *akikoeae* sp. nov., ♂, from Mt. Maio'er Shan in Guangxi Prov., China. Scale: 0.5 mm.



Figs. 6–7. Elytra of *Eusphalerum* (s. str.) *akikoe* sp. nov.; male (6) and female (7). Scale: 0.5 mm.

subopaque, the remainings opaque, 1st segment robust and longer than broad (length/width=1.30), 2nd barrel-shaped, distinctly longer than broad (length/width=1.40), as long as but somewhat narrower (2nd/1st=0.70) than 1st, 3rd about twice as long as broad, as long as but a little narrower (3rd/2nd=0.75) than 2nd, 4th somewhat longer than broad (length/width=1.33), but distinctly shorter than (4th/3rd=0.67) though as broad as 3rd, 5th and 6th equal in both length and width to each other, each a little longer than broad (length/width=1.11) and somewhat broader than 4th (5th or 6th/4th=1.20), 7th slightly longer than broad (length/width=1.10), a little longer (7th/6th=1.10) and broader (7th/6th=1.10) than 6th, 8th globular and as long as broad, as long as and somewhat broader than 7th (8th/7th=1.10), 9th slightly transverse (width/length=1.12), a little longer (9th/8th=1.14) and apparently broader (9th/8th=1.27) than 8th, 10th transverse (width/length=1.20), as long as though slightly broader (10th/9th=1.07) than 9th, 11th suboval, distinctly longer than broad (length/width=1.25), markedly longer (11th/10th=1.60) and slightly broader (11th/10th=1.07) than 10th, obtusely pointed at the apex.

Pronotum subtrapezoidal and medially convex, clearly transverse (width/length=1.40) and distinctly broader than head (pronotum/head=1.40), widest at the middle and more strongly narrowed anteriorly than posteriorly; lateral margins finely bordered throughout, each gently arcuate in anterior two-thirds and nearly straight in posterior third, anterior margin slightly emarginate at middle, posterior margin very feebly bisinuate, anterior angles narrowly rounded and posterior ones rectangular, but blunt at the corners; surface covered with closer though somewhat less coarse punctures than those on head, and with coriaceous ground sculpture as on head. Scutellum subtriangular, provided with a few minute punctures and fine coriaceous ground sculpture on the surface. Elytra moderately elevated medially and a little dilated posteriorly, somewhat longer than broad (length/width=1.10), distinctly broader than (elytra/pronotum=1.36) and more than twice as long as pronotum; lateral margins each nearly straight, posterior margin somewhat arcuate, posterior angles broadly rounded; surface densely



Figs. 8–10. Male genital organ of *Eusphalerum* (s. str.) *akikoe* sp. nov.; dorsal view (8), lateral view (9), and ventral view (10). Scale: 0.2 mm.

and coarsely punctured. Legs moderately long, 1st to 4th protarsal segments not so widened, apical metatarsal segment longer than the four preceding segments together.

Abdomen strongly narrowed towards the apical end; surface of each tergite sparsely, very obsolete punctured and covered with extremely microscopic ground sculpture; 8th sternite shallowly and semicircularly emarginate at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe relatively broad, distinctly narrowed in basal three-fourths, and abruptly, more strongly so in apical fourth towards the narrowly truncated apex. Parameres elongate, as long as median lobe, each somewhat widened in membranous apical part, apical setae indistinct.

**Female.** Similar in general appearance to male, but different from it in the following points: body somewhat larger and broader; elytra much more strongly produced posteriad and angulate at each sutural angle; 1st to 4th protarsal segments thin; abdomen reddish yellow, 8th sternite somewhat produced posteriad at the median part of posterior margin and subtruncated at the tip.

**Type series.** Holotype: ♂, allotype: ♀, Mt. Miao'er Shan, Tieshan Ping, Xing'an Xian, Guangxi Prov., China, 23-V-1996, A. SAITO leg. Paratypes: 11 ♂♂, 5 ♀♀, same data as for the holotype.

**Distribution.** China.

**Remarks.** Similar to *E. (s. str.) solitare* (SHARP, 1874) from Japan, in having dense punctures and coriaceous ground sculpture on pronotum, but can be readily distinguished from it by the obscure ocelli and different configuration of elytra in the female.

*Bionomics.* According to Dr. SAITO, the type specimens were obtained by sweeping flowers of *Rhododendron* sp. on Mt. Miao'er Shan at an altitude of about 2,000 m.

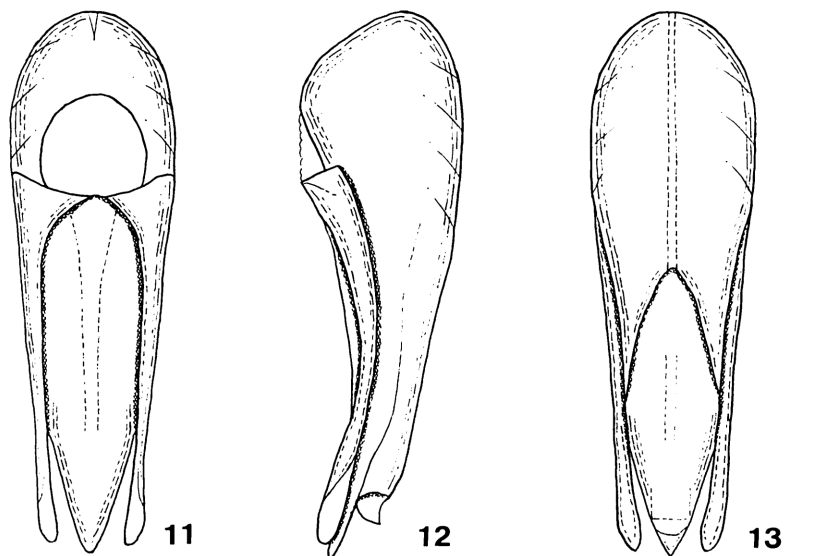
*Etymology.* The present new species is named after Dr. Akiko SAITO, Natural History Museum and Institute, Chiba, who kindly supplied me with the specimens of the type series.

*Eusphalerum* (s. str.) *masatakai* Y. WATANABE, sp. nov.

(Figs. 11–13)

Body length: 2.0–2.2 mm (from front margin of head to anal end); 1.7–1.8 mm (from front margin of head to elytral apices).

*Male.* In general appearance and body size, the present new species resembles the preceding species, but is easily separable from it by the following points: head more sparingly, much coarsely punctured and lacking in coriaceous ground sculpture on the surface; ocelli usually indistinct. Antennae with apical five segments clavate, 7th segment globular and as long as broad, 8th a little broader than long (width/length=1.12), 9th (width/length=1.20) and 10th (width/length=1.28) each distinctly transverse, 11th much longer than broad (length/width=1.43) and about twice as long as 10th. Pronotum more strongly narrowed posteriad in posterior half, lateral sides straight or feebly emarginate in posterior halves; surface moderately closely covered with much coarser punctures, though lacking in coriaceous ground sculpture. Elytra



Figs. 11–13. Male genital organ of *Eusphalerum* (s. str.) *masatakai* sp. nov.; dorsal view (11), lateral view (12), and ventral view (13). Scale: 0.2 mm.



much longer (length/width=1.20), posterior margin broadly rounded; surface less densely but more coarsely punctured. Legs and abdomen similar to those of the preceding species.

Genital organ similar to that of *E. (s. str.) akikoeae*, but different from it in the following points: median lobe much narrower, slightly and gradually narrowed apicad in basal three-fourths and abruptly tapered in apical fourth towards the obtusely pointed apex; parameres slightly shorter than median lobe, apical setae indistinct.

Female. Unknown.

*Type series.* Holotype: ♂, Mt. Miao'er Shan, Tieshan Ping, Xing'an Xian, Guangxi Prov., China, 22~27-V-1996, M. SATÔ leg. Paratypes: 6 ♂♂, same data as for the holotype; 4 ♂♂, same locality as for the holotype, 23-V-1996, A. SAITO leg.

*Distribution.* China.

*Bionomics.* The type specimens were obtained on *Rhododendron* flowers together with specimens of the preceding species.

*Etymology.* This new species is named after Prof. Masataka SATÔ, Nagoya Women's University, who collected the majority of the type series.

***Eusphalerum (s. str.) miaoershanum* Y. WATANABE, sp. nov.**

(Figs. 14–16)

Body length: 1.7–2.0 mm (from front margin of head to anal end); 1.3–1.4 mm (from front margin of head to elytral apices).

In facies and body size, this new species appears to belong to the group of *E. (s. str.) lewisi*, but differs from the members of that group in configuration of male genital organ.

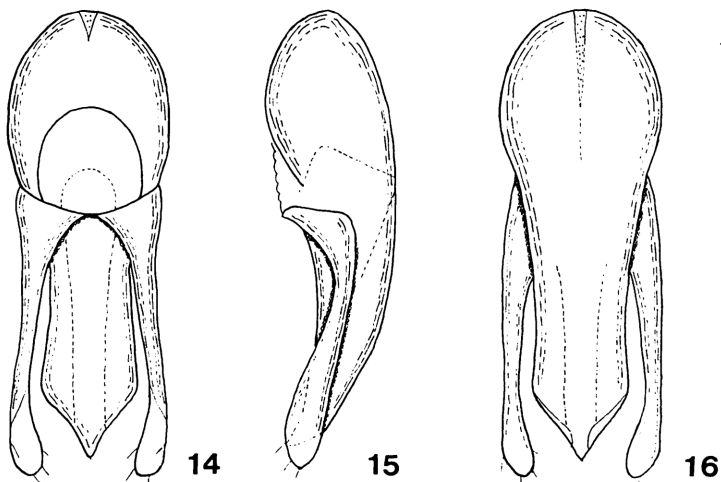
Male. Body spindle-shaped and moderately convex. Colour reddish yellow and moderately shining, with two apical segments of antennae reddish brown, abdomen black except for yellowish terminal segment.

Head subtrapezoidal and depressed above, much broader across compound eyes than long (width/length=1.64); postocular part very short, less than one-fifth as long as the longitudinal diameter of each eye, which is prominent; surface somewhat sparingly and more or less coarsely punctured, and covered with fine coriaceous ground sculpture, provided with a shallow depression just inside each antennal tubercle; ocelli minute, the distance between them being a little larger than that from the outside of ocellus to the inner margin of each eye. Antennae reaching posterior margin of pronotum and thickened towards the extremities, with six proximal segments polished and the remainings opaque, 1st segment robust and about 1.5 times as long as broad, 2nd somewhat longer than broad (length/width=1.14) though distinctly shorter (2nd/1st=0.67) and somewhat narrower (2nd/1st=0.88) than 1st, 3rd to 6th subequal in width to one another, 3rd a little longer than broad (length/width=1.33) and equal in length to 2nd though slightly narrower than that (3rd/2nd=0.86), 4th longer than broad (length/width=1.17) but a little shorter than 3rd (4th/3rd=0.88), 5th slightly longer

than broad (length/width=1.10) but slightly shorter than 4th (5th/4th=0.94), 6th globular and as long as broad but slightly shorter than 5th (6th/5th=0.91), 7th to 9th gradually increasing in both width and length, each transverse, 7th clearly longer than (7th/6th=1.43) and more than 1.5 times as long as 6th, 10th distinctly transverse (width/length=1.20), as long as though slightly broader than 9th (10th/9th=1.09), 11th apparently longer than broad (length/width=1.33), considerably longer (11th/10th=1.60) than though equal in width to 10th, obtusely pointed at the apex.

Pronotum medially convex and subtrapezoidal, transverse (width/length=1.38) and distinctly broader than head (pronotum/head=1.31), widest before the middle and more strongly narrowed posteriad than anteriad; lateral margins finely bordered, each gently arcuate in anterior half and almost straight in posterior half, anterior margin feebly arcuate, posterior margin slightly bisinuate and as finely bordered as lateral margins; anterior angles narrowly rounded and posterior ones obtuse; surface more sparingly and more finely punctured than on head and covered with coriaceous ground sculpture as on head. Scutellum subtriangular, surface impunctate, though covered with fine coriaceous ground sculpture similar to that on pronotum. Elytra gently convex and somewhat dilated posteriad, a little longer than broad (length/width=1.10), much longer (elytra/pronotum=1.88) and apparently broader (elytra/pronotum=1.23) than pronotum; lateral margins almost straight, posterior margin truncate, posterior angles broadly rounded; surface densely covered with coarse punctures. Legs moderately long, 1st to 4th protarsal segments not much dilated, apical metatarsal segment slightly longer than the four preceding segments together.

Abdomen narrowed towards the apical end; surface of each tergite sparsely covered with extremely fine punctures which are visible under high magnification, and with microscopic coriaceous ground sculpture; 8th sternite semicircularly emarginate



Figs. 14–16. Male genital organ of *Eusphalerum* (s. str.) *miaoershanum* sp. nov.; dorsal view (14), lateral view (15), and ventral view (16). Scale: 0.2 mm.

at the middle of posterior margin.

Genital organ trilobed and symmetrical. Median lobe broad, slightly dilated apicad in apical third and then abruptly tapered towards the tip, which is produced and bluntly pointed; dorsal surface longitudinally elevated along the median line. Parameres elongate and a little longer than median lobe, each somewhat dilated in apical part, which is membranous and provided with a few extremely fine setae.

Female. Similar to male in facies, but differing from it in the following details: 1st to 4th protarsal segments thinner, abdomen reddish yellow, with 8th sternite produced posteriad at the median part of posterior margin.

*Type series.* Holotype: ♂, allotype: ♀, Mt. Miao'er Shan, Tieshan Ping, Xing'an Xian, Guangxi Prov., China, 23-V-1996, A. SAITO leg. Paratypes: 1 ♂, 2 ♀♀, same data as for the holotype.

*Distribution.* China.

*Remarks.* Similar in facies and body size to *E. (s. str.) chinense* (BERNHAEUER, 1938), but different from it in the following points: antennae reddish yellow in basal halves, pronotum more strongly narrowed posteriad in posterior halves, and elytra more densely and more coarsely punctured.

*Bionomics.* The type series of the present new species was obtained on flowers of *Rhododendron* sp., together with specimens of the preceding species.

*Etymology.* The scientific name of this new species is derived from "Miao'er Shan", the type locality.

## 要 約

渡辺泰明：中国广西壮族自治区苗儿山から採集された訪花性ヨツメハネカクシ亜科の4新種（甲虫目ハネカクシ科）。—— これまで中国からのヨツメハネカクシ亜科に含まれる訪花性ハネカクシは、*Amphichroum* 属の1種がチベットから、また *Eusphalerum* 属の2種が甘肅省と辽宁省とから報告されているに過ぎなかった。私は、1996年に実施された中国广西壮族自治区苗儿山昆虫相の調査において、佐藤正孝教授および斉藤明子博士によつて採集された訪花性ハネカクシを検討することができた。その結果、これらのうちの1種は *Amphichroum* 属に、また他の3種は *Eusphalerum* 属に含まれるが、それぞれの種の形態的特徴が既知種とは異なっているので新種と判定し、下記のとおり命名・記載した。

### 1. *Amphichroum miaoershanum* Y. WATANABE

本種は苗儿山の標高1,820 mから2,000 mにかけて生育しているシャクナゲの一種の花から採集されたもので、頭部および前胸背板の点刻がより密でより粗いこと、さらに後者の後縁前方中央の凹陷が不明瞭であることなどによって、チベットから記載された *A. monticola* から区別される。

### 2. *Eusphalerum* (s. str.) *akikoe* Y. WATANABE

本種は標高2,000 mほどの地点のシャクナゲの1種の花から採集されたもので、前胸背板の点刻と微細印刻が日本産の *E. (s. str.) solitare* に類似しているが、頭部の単眼が不明瞭なこと、雌の翅端中央が後方に突出することおよび雄交尾器の形状が明らかに異なっていることで容易に

区別される。

3. *Eusphalerum* (s. str.) *masatakai* Y. WATANABE

本種は前種とともにシャクナゲの1種の花から採集され、形態、体長ともに前種に類似している。しかしながら頭部、前胸背板および翅鞘の点刻ははるかに粗く、頭部には微細印刻を欠き、雄交尾器の形状が異なっていることで区別される。

4. *Eusphalerum* (s. str.) *miaoershanum* Y. WATANABE

本種は*Eusphalerum*属の前2種に比べはるかに小型で、赤黄色を呈することで一見して区別され、この特徴によって*E.* (s. str.) *lewisi*グループに含められる。しかし、雄交尾器の形状は上記グループの既知種とは異なり、容易にそれらの種から区別される。

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