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Beetles of the Genus *Lewisister* (Coleoptera, Histeridae), with Description of a New Species from Taiwan

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The genus *Lewisister* Bickhardt, 1912 was previously only known to contain a single species, *L. excellens* Bickhardt, 1912, and had only been recorded from Southeast Asia. In this study, a new species found in Taiwan, *L. masumotoi* sp. nov., is described and the male genitalia are illustrated. Additional morphological characters are presented for *L. excellens* Bickhardt, 1912 and an illustration of its male genitalia is provided. The pairwise genetic distance of *COI* sequences of *Lewisister* are also provided to support the delimitation of both species. Both species are distributed in Taiwan, and the distribution records from Taiwan are discussed.

Key words: Histeridae, Omalodini, *Lewisister*, Taiwan, New species.

BACKGROUND

Histeridae Gyllenhal, 1808 is a group of small to medium-sized beetles that mainly prey on other arthropods. They can be found in all zoogeographic regions, and can be found in various environments, such as dung and carrion; tree bark; mushrooms; decaying plants; and the nests of birds, mammals, ants and termites (Kovarik and Caterino 2016). More than one hundred species of Histeridae have been recorded in Taiwan. Among them, more than 50% of species are in the subcortical group, and this may be related to the wealth of forest formations in Taiwan. The histerid fauna of Taiwan also contains relatively high degree of endemic species (21.5%), which can also be a good example supporting the view of Taiwan as a hot spot of evolution (Mazur 2007 2008).

The genus *Lewisister* Bickhardt, 1912 was established as a member of the tribe Exosternini (Bickhardt 1912). Later, the same author transferred it into the tribe Histerini (Bickhardt 1917). Kryzhanovskij (1972) suggested that *Lewisister* was closely related to *Sphyracus* Marseul, 1854 which would place it in the tribe Omalodini. Mazur (1989) later rearranged the systematic relationships among the genera of the tribe Omalodini and finally the genus *Lewisister* was placed into this tribe. At that time, *Lewisister* was the only representative of the tribe in Asia, with the remaining genera being distributed in the Neotropical Region (*Omalodes*, *Ebonius*, *Sphyracus*, *Scapomegas*) and Madagascar (*Notolister*).

Leivas et al. (2014) proposed a cladistics analysis of the tribe Omalodini based on morphological characters, and tested the monophyly of Omalodini. According to their results, the tribe represents a polyphyletic group. Besides the lineages of *Ebonius* Lewis, 1885 and *Omalodes* Dejean, 1833, two other groups have been recognized: (*Blypotehus* Vienna, 2000 + *Notolister* Lewis, 1894) and (*Sphyracus* Marseul, 1854 + (*Lewisister* Bickhardt, 1912 (*Asolenus* Lewis, 1906 + *Scapomegas* Lacordaire, 1854))). Later Leivas et al. (2015) redefined the tribe Omalodini, and restricted the tribe to only two genera: *Ebonius* and *Omalodes*, while the systematic position of the other genera remained

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unclear.

Lewisister excellens Bickhardt, 1912 is the only described species of the genus *Lewisister*, and it has been recorded from Indonesia (Java, Sumatra), Malaysia (Borneo: Sabah), Thailand and Nepal. Mazur (2008) was the first to record *L. excellens* from Taitung County, Taiwan.

Recently, we had the opportunity to examine a series of specimens of *Lewisister* from Taiwan. Among them, we discovered a species that differs from *L. excellens* in body size and the striation of elytra. In this paper, we describe it as a new species and diagnose it from *L. excellens*, as well as illustrate its male genitalia.

MATERIALS AND METHODS

Specimens were collected and preserved under dry conditions for morphological observation. The preparation of genitalia follows Ôhara (1994). Color photographs were taken using a Canon EOS 650D camera with a Canon MP-E65 f2.8 1–5x Macro lens. All photos were subsequently stacked with Helicon Focus 5.3 Pro. The terminology used herein follows Ôhara (1994) and the abbreviations for measurements of some body parts are given in text as follows: PPL = length between anterior angles of pronotum and apex of pygidium; PEL = length between anterior angles of pronotum and apices of elytra; APW = width between anterior angles of pronotum; PPW = width between posterior angles of pronotum; PL = length of pronotum along mid line; EL = length of elytron along sutural line; EW = maximal width between outer margins of elytra; ProW = maximal width of propygidium; ProL = length of propygidium; PyL = length of pygidium; PTL = length of protibia; MSTL = length of mesotibia; MTTL = length of metatibia. The specimens were deposited into Systematic Entomology, Hokkaido University, Sapporo, Japan (SEHU); National Museum of Natural Science, Taichung, Taiwan (NMNS); Private Collation of Yu-Hsiang Ho, Taichung, Taiwan (PCHO); Private Collection of Slawomir Mazur, Warsaw, Poland (PCSM); and the private collection of Tomáš Lackner, Berlin, Germany (PCTL).

The complete genomic DNA of both species was extracted by QuickExtract DNA extraction kit (Epicentre Biotechnologies, Madison, WI). One hind leg was crushed and soaked in 50 µL solution, following by manufacturer's protocol. The primers used to amplify cytochrome *c* oxidase I (*COI*) were C1-J-2183 ("Jerry") (CAACATTTATTTTGATTTTTTGG) + TL2-N-3014 ("Pat") (TCCAATGCACTAATCTGCCATATTA) (Simon et al. 1994). PCR assay was performed in a 20-µL volume under the following conditions: first denaturation at 94°C for 1 min, followed by 35 cycles of denaturation at 94°C for 30 s, annealing at 47°C or 50°C for 40 s, and extension at 72°C for 1 min. The final extension was at 72°C for 10 min. DNA sequences were aligned using the ClustalW multiple alignment program and then edited in Bioedit 7.2 (Hall 1999).

COI sequences of other species within Histerinae were acquired from GenBank, and the accession numbers for this study are listed in table 1. The sequences were aligned using MUSCLE in MEGA 11 (Kumar et al. 2021), resulting in a 657-bp dataset. Pairwise genetic distances were analyzed using MEGA 11 (Kumar et al. 2021).

RESULTS

TAXONOMY

Family Histeridae Gyllenhal, 1808
Subfamily Histerinae Gyllenhal, 1808
Genus *Lewisister* Bickhardt, 1912

Type species: *Lewisister excellens* Bickhardt, 1912.

Diagnosis: Since a new species is added to the genus, it requires a new diagnosis to accommodate the newly described *L. masumotoi* sp. nov. This genus can be distinguished from other genera related to Omalodini by following characters: 1) body oval-shaped; 2) lateral pronotal stria abbreviated at base; 3) frons and epistoma impressed; 4) the margin of protibiae multispinulose, without any teeth; 5) all of the tibiae with one to two

Table 1. GenBank accession numbers of *COI* sequences for this study

Species	Accession number	Reference
Lewisister excellens	OL810983	This study
Lewisister masumotoi sp. nov.	OL810984	This study
Sphyracus sp.	KJ496768.1	Caterino and Tishechkin 2015
Scapomegas auritus	DQ124306.1	Caterino and Tishechkin 2015
Operclipygus subterraneus	KJ496696	Caterino and Tishechkin 2015

rows of setae on each side; 6) post metacoxal stria on first abdominal sternum present; 7) trochanter of forelegs with setae on anterior margin; 8) carinal striae of prosternum subparallel, converted at apex. 9) anterior margin of mesoventrite broadly and slightly curve outwardly; 10) pygidium longer than propygidium; 11) propygidium and pygidium covered with large and round punctures, separated by one to two times of its diameters.

Lewisister excellens Bickhardt, 1912

(Figs. 1–3)

Lewisister excellens Bickhardt, 1912, 223 [Java]; Ôhara et al. 2001, 60 [Malaysia: Borneo: Sabah]; Mazur, 2008, 91 [Taiwan: Taitung]; 2011, 75 [Indonesia, Java, Sumatra, Borneo, Nepal, Thailand, Taiwan].

Lewisister curvistriatus Bickhardt, 1914, 313 [Sumatra], synonymized by Mazur, 1997, 90.

Material examined: 1 ♀, 18. Oct. 1999, Ulu Senagang, Crocker Range Park, Malaysia, leg. K. Mizota (MO-00-0171, SEHU). 1 ♂, 9. Nov. 1989, Sungai Penuh to Tapan, Jambi km 15, Indonesia, 1450 m, leg. A. Löbl (MO-00-010, PCSM). 1 ♂, 23. Aug. 2021, Xuanyuan trail, Fuxing, Taoyuan, Taiwan, 24.6544, 121.4079, leg. F. S. Hu (PCHO). 1 ♂, 6. May 2020, Huisun Forest Reserve, Ren'ai, Nantou, Taiwan, 24.0907, 121.0341, leg. Y. H. Ho (PCHO). 1 ♀, 26. Mar – 5. May 2018, Huisun Forest Reserve, Ren'ai, Nantou, Taiwan, leg. W. R. Liang (PCHO). 1 ♀, 8. Apr. 2007, Road No. 20 after Chulai, km 202, Taitung, Taiwan, 300 m, Plain forest litter, sifted, leg. S. Vit (PCTL).

Diagnosis: This species can be distinguished from *Lewisister masumotoi* sp. nov. by the following characters: 1) third dorsal stria incomplete; 2) body larger than *L. masumotoi* sp. nov. (PEL = 3.95–4.20 mm); 3) lateral sides of parameres little outwardly curved on apical one-third.

Additional description on the basis of Taiwanese specimens: Body length, PPL, male, 4.39 mm, female, 4.26 mm, PEL, male, 4.20 mm, female, 3.95 mm, body width, EW, male, 3.19 mm, female, 3.05 mm. Biometric data are given in table 2. Body oval, convex, black and shiny; apices of segments of maxillary palps yellowish brown.

Frontal stria (Fig. 2A) deeply impressed laterally and absent medio-anteriorly. Orbital stria absent. Head covered with coriaceous microsculpture; surface broadly and deeply excavate on frons and clypeus. Mandibles well developed, with a large denticle on inner side. Anterior margin of labrum feebly emarginate at middle (Fig. 2A).

Pronotal sides (Fig. 1A) regularly convergent apically. Apical angle obtusely angulate. Marginal pronotal stria complete, median half impressed on underside (hypomeron). Lateral pronotal stria impressed on apical two-thirds to four-fifths (complete on specimen of Java). Disk of pronotum with large depression behind anterior angle; surface covered with coriaceous microsculpture. Posterior margin of pronotum obtusely angulated posteriorly at middle. Prescutellar impression of disk with a longitudinal puncture.

Epipleural marginal stria (Fig. 1A) present on median third and its ventral edge carinate; elytral marginal stria complete; disk of epipleura feebly excavated on median third. External subhumeral stria complete. Oblique humeral stria lightly impressed on basal third. First and second dorsal striae completely and deeply incised, their outer edges subcariniform; third dorsal stria incomplete, present on anterior half

Table 2. Biometric data on *Lewisister excellens* (based on Taiwanese specimens)

	Male (n = 2)	Female (n = 2)
APW	1.20–1.22 mm	1.20–1.25 mm
PPW	2.70–2.89 mm	2.62–2.83 mm
PL	1.50–1.56 mm	1.52–1.58 mm
EL	2.70–2.89 mm	2.60–2.88 mm
EW	3.19–3.33 mm	3.05–3.46 mm
ProW	1.80–2.00 mm	2.09–2.35 mm
ProL	1.00–0.94 mm	0.70–1.20 mm
PyL	1.10–1.14 mm	1.10–1.20 mm
PTL	0.90–1.03 mm	1.01–1.10 mm
MSTL	1.00–1.18 mm	1.00–1.20 mm
MTTL	1.35–1.41 mm	1.20–1.44 mm
PPL	4.39–4.61 mm	4.26–4.80 mm
PEL	4.20–4.22 mm	3.95–4.32 mm

and with a short rudiment on apical fifth, basal end attaining basal margin of elytron; fourth dorsal striae short, present on anterior one seventh, sometimes reduce to short rudiment and barely visible; fifth dorsal striae absent; sutural stria incomplete, present on apical three-fifths. Surface of elytra shining, sparsely covered with fine punctures.

Propygidium (Fig. 2B) and pygidium (Fig. 2C) sparsely and irregularly covered with large and round punctures. Punctures of pygidium becoming denser near apical margin.

Anterior margin of prosternal lobe (Fig. 1B) round, its marginal stria complete, outer side of stria strongly carinate; disk of lobe convex longitudinal medially and coarsely punctate laterally. Prosternal keel (Fig. 2F) rather wide, its median disk with fine punctures and alutaceous microsculptures; carinal striae present and united anteriorly as a straight stria (anterior part of striae); lateral disk densely covered with coarse punctures; posterior margin of keel straight. Lateral descending striae of keel deeply and completely impressed, outer sides of striae strongly carinate.

Anterior margin of mesoventrite (Fig. 1B) broadly and slightly curve outwardly; marginal stria complete; intercoxal disk sparsely covered with fine punctures separated by four to ten times their diameter. Meso-metaventral suture lightly impressed and angulated at middle. Post-mesocoxal stria of metaventrite absent. Lateral metaventral stria well impressed, extending posteriorly and obliquely, the anterior side of stria strongly carinate. Lateral disk of metaventrite densely covered with large, round, shallow and setiferous

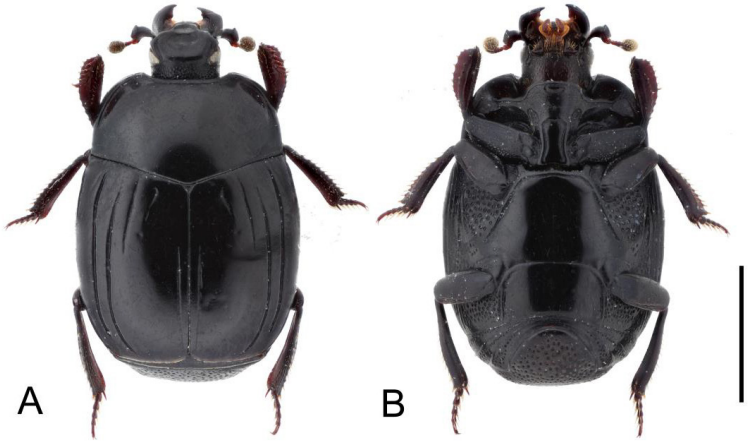

Fig. 1. *Lewisister excellens* Bickhardt, 1912. A, Dorsal view. B, Ventral view. Scale bar = 2 mm.

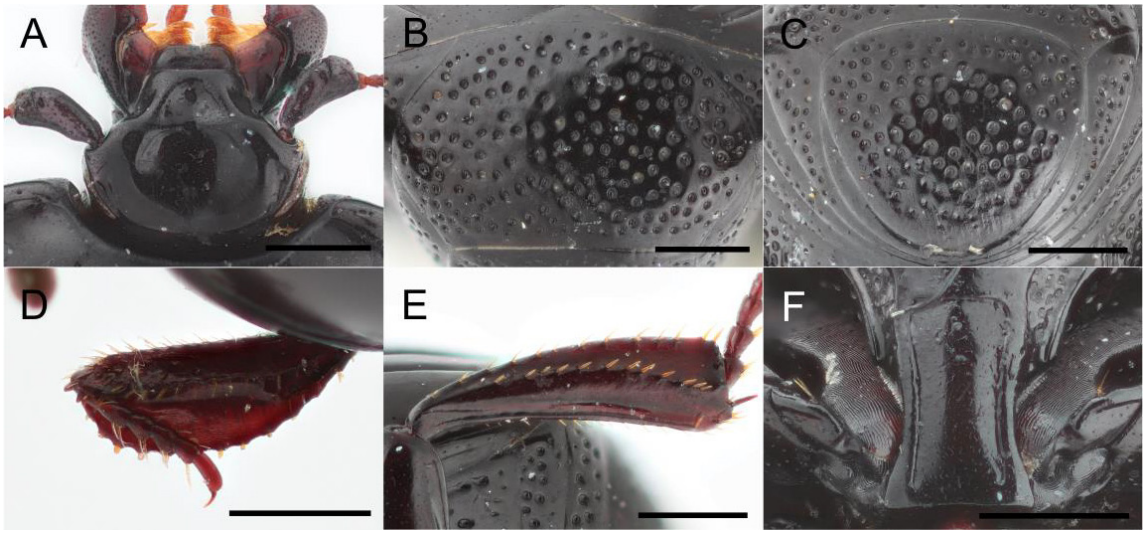

Fig. 2. *Lewisister excellens* Bickhardt, 1912. A, Head, dorsal view. B, Propygidium, dorsal view. C, Pygidium, caudal view. D, Protibia, dorsal view. E, Metatibia, ventral view. F, Prosternal keel, ventral view. Scale bar = 0.5 mm.

punctures, punctures becoming smaller medially. Punctation of intercoxal disk of metaventrite similar to that of intercoxal disk of mesoventrite.

Lateral disk of first abdominal sternite (Fig. 1B) covered with large, longitudinal and setiferous punctures separated by about one-third of their diameter; two lateral striae complete on each side, their outer edges carinate.

Protibia (Fig. 2D) with sixteen denticles on outer margin. Profemoral anterior stria complete. Meso- and metatibiae (Fig. 2E) with three rows of long and stout spinulae on outer margin.

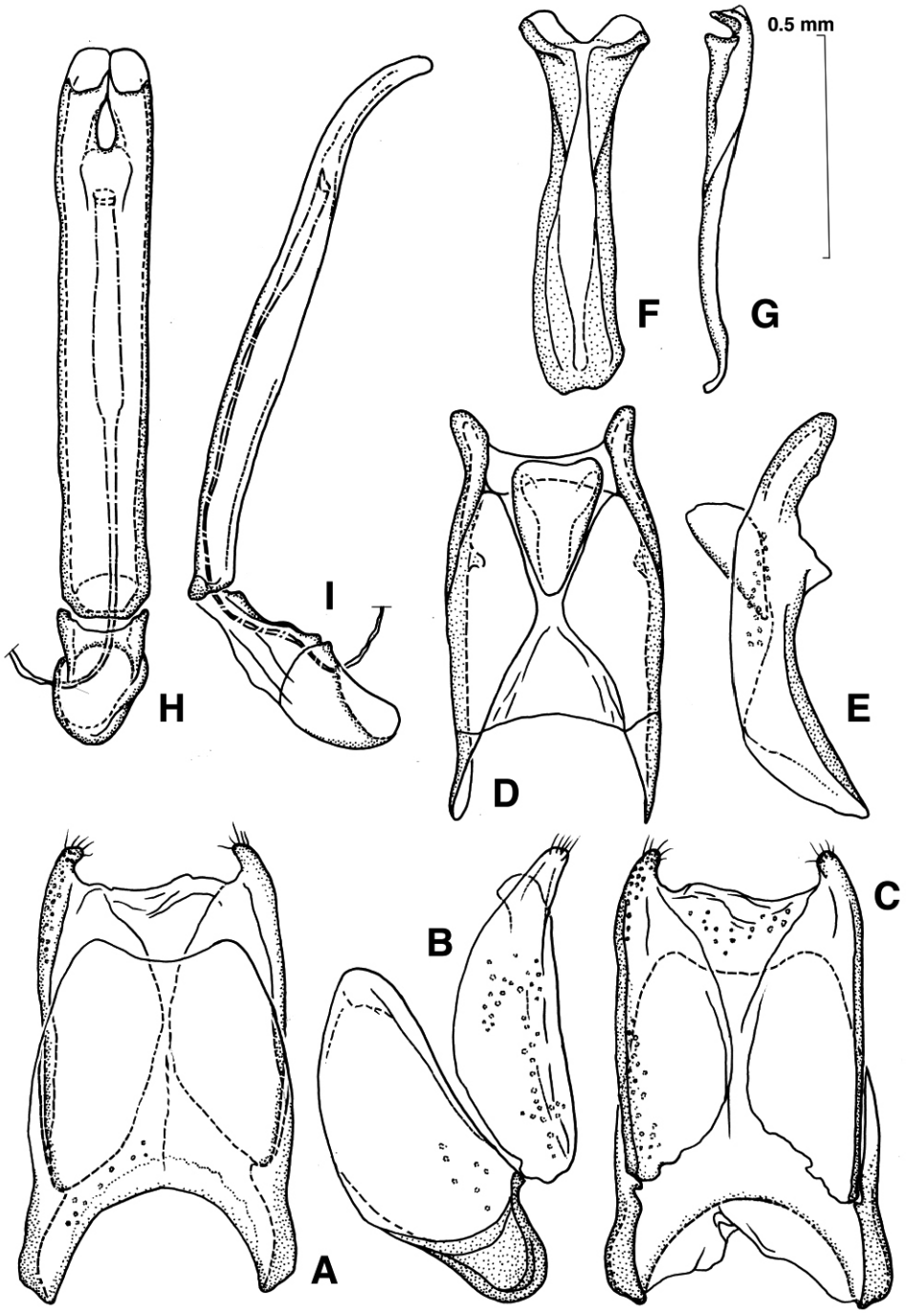

Fig. 3. *Lewisister excellens* Bickhardt, 1912. A, 8th tergite and sternite, dorsal view. B, Ditto, lateral view. C, Ditto, ventral view. D, 9th and 10th tergites, dorsal view. E, Ditto, lateral view. F, 9th sternite (spiculus), dorsal view. G, Ditto, lateral view. H, Aedeagus, dorsal view. I, Ditto, lateral veiw.

Male genitalia as shown in figure 3. Lateral sides of parameres straight on basal two-thirds and a little outwardly curved on apical one-third; ratio of length of parameres to basal length about 2.58.

Distribution: Indonesia, Java, Sumatra, Borneo, Nepal, Thailand, Taiwan (Mazur 2011) (Fig. 7).

Lewisister masumotoi Ho et Ôhara, sp. nov.

(Figs. 4–6)

urn:lsid:zoobank.org:act:C29E7CFB-A399-4516-93A6-FA662D4C3365

Material examined: Holotype: 1 ♂, 29. Jul – 14. Aug. 2011, Meiling, Nanxi, Tainan, Taiwan, leg. M. L. Jeng (NMNS ENT 8328-6, NMNS). Paratypes. 1 ♂, 26. Jun. 1986, Malibulu, Taimali, Taitung, Taiwan, leg. K. MASUMOTO (MO-10-007, SEHU). 1 ♀, 13 – 27. Aug. 2011, Meiling, Nanxi, Tainan, Taiwan, leg. M. L. Jeng (NMNS ENT 8328-7, NMNS). 1 ♀, 9 – 12. Jun. 2011, Meiling, Nanxi, Tainan, Taiwan, leg. M. L. Jeng, (NMNS ENT 8328-5, NMNS). 1 ♂, 26. May 2019, Huisun Forest reserve, Ren'ai, Nantou, Taiwan, by Berlese funnel, leg. Y. H. Ho (PCHO). 1 ♀, 28. Jul. 2020, Guanyin Dong trail, Fuxing, Taoyuan City, 24.8132, 121.3661, leg. B. H. Ho & K.W. Chan (PCHO).

Diagnosis: This species can be distinguished from *Lewisister excellens* by the following characters: 1) third dorsal stria complete, which is incomplete on *L. excellens*; 2) body smaller than *L. excellens* (PEL = 2.42–3.23 mm); 3) lateral sides of parameres weakly convergent on apical one-third.

Description: Body length, PPL, male, 2.71 mm, female, 3.60–3.70 mm, PEL, male, 2.42 mm, female, 3.10–3.23 mm, body width, EW, male, 1.80 mm, female, 2.28–2.38 mm. Biometric data are given in table 3. Body oval, convex, black and shiny; apices of segments of maxillary palps yellowish brown.

Frontal stria (Fig. 5A) deeply impressed laterally and absent medio-anteriorly. Orbital stria slightly incised. Head covered with fine punctures and coriaceous microsculpture; surface excavate on frons and clypeus. Mandibles well developed, with a large denticle on inner side. Anterior margin of labrum feebly round.

Pronotal sides (Fig. 4A) regularly convergent apically. Apical angle obtusely angulate. Marginal pronotal stria complete anteriorly but shortened at latero-anterior angle; stria also impressed on median one-third of underside (hypomeron). Lateral pronotal stria deeply impressed completely, its outer edge strongly cariniform. Disk of pronotum with large depression behind anterior angle; surface covered with coriaceous microsculpture. Posterior margin of pronotum obtusely angulated posteriorly at middle. Prescutellar impression of disk with a longitudinal puncture.

Epipleural marginal stria (Fig. 4A) present on median one-third with ventral edge carinate; elytral marginal stria complete; disk of epipleura feebly excavated on posterior two-thirds. External subhumeral stria completely present. Oblique humeral stria lightly impressed on basal third. First to third dorsal striae completely incised, with outer edges subcariniform; fourth dorsal stria only present on apical one-sixth, with a short rudiment on basal fifth; fifth dorsal stria sometimes present apically, and formed by a line of dots; sutural stria present on apical two-thirds to five-sixths. Surface of elytra sparsely covered with fine punctures.

Propygidium (Fig. 5B) and pygidium (Fig. 5C) sparsely and irregularly covered with large and round punctures. Punctures of pygidium becoming denser near to the apical margin.

Table 3. Biometric data on *Lewisister masumotoi* sp. nov

	Male (n = 3)	Female (n = 3)
APW	0.73–0.92 mm	0.88–0.93 mm
PPW	1.65–2.04 mm	2.02–2.10 mm
PL	0.90–1.22 mm	1.20–1.31 mm
EL	1.67–1.93 mm	1.92–2.20 mm
EW	1.80–2.30 mm	2.25–2.38 mm
ProW	0.98–1.37 mm	1.28–1.39 mm
ProL	0.64–0.73 mm	0.68–0.77 mm
PyL	0.69–0.78 mm	0.69–0.82 mm
PTL	0.59–0.82 mm	0.77–0.81 mm
MSTL	0.65–0.87 mm	0.80–0.84 mm
MTTL	0.78–1.02 mm	0.95–1.01 mm
PPL	2.71–3.96 mm	3.33–3.70 mm
PEL	2.42–3.12 mm	3.10–3.23 mm

Anterior margin of prosternal lobe (Fig. 4B) round; marginal stria complete, outer side of stria strongly carinate; another short stria present laterally, its outer edge strongly carinate; disk of lobe convex longitudinal medially and coarsely punctate laterally. Prosternal keel (Fig. 5F) narrow; carinal striae impressed parallel and united anteriorly as an arch (anterior part of the stria round); median disk with fine punctures and alutaceous microsculptures; lateral disk densely covered with coarse punctures; posterior margin of keel straight. Lateral descending striae of keel completely and deeply impressed, outer sides of striae strongly carinate.

Anterior margin of mesoventrite (Fig. 4B) broadly and slightly curve outwardly; marginal stria complete; another short stria present behind antero-lateral angle; intercoxal disk sparsely covered with fine punctures separated by four to seven times their diameter. Meso-metaventral suture lightly impressed and angulated at middle. Post-mesocoxal stria of metaventrite absent. Lateral metaventral stria well impressed, extending posteriorly and obliquely, the apical end attaining near metacoxa. Lateral disk of metaventrite densely covered with large, round, shallow and setiferous punctures, punctures becoming smaller medially. Punctation of intercoxal disk of metaventrite similar to that of intercoxal disk of mesoventrite.

Lateral disk of first abdominal sternite (Fig. 4B) covered with large, longitudinal setiferous punctures separated by their own diameter; lateral stria completed on each side, its outer edge carinate.

Protibia (Fig. 5D) with fifteen denticles on outer margin. Profemoral stria complete. Meso- and

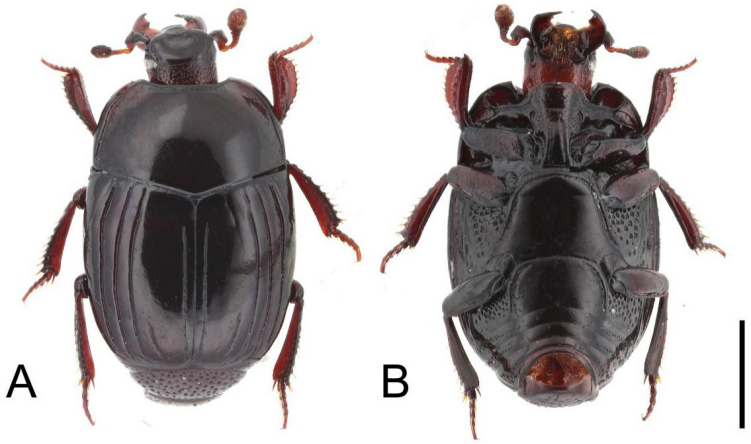

Fig. 4. *Lewisister masumotoi* sp. nov. A, Dorsal view. B, Ventral view. Scale bar = 1 mm.

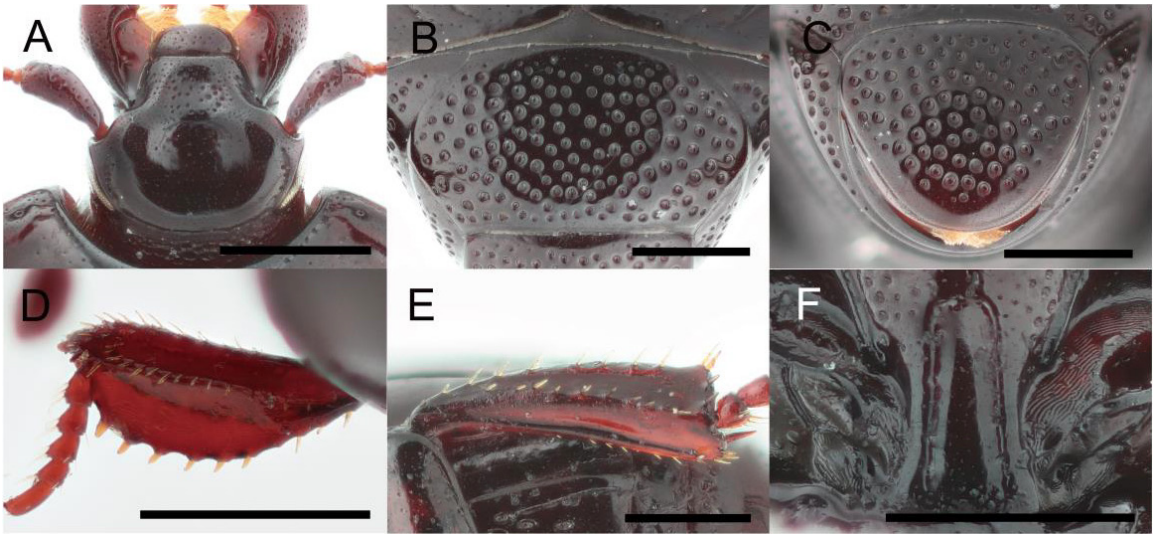

Fig. 5. *Lewisister masumotoi* sp. nov. A, Head, dorsal view. B, Propygidium, dorsal view. C, Pygidium, caudal view. D, Protibia, dorsal view. E, Metatibia, ventral view. F, Prosternal keel, ventral view. Scale bar = 0.5 mm.

metatibiae (Fig. 5E) with three rows of long and stout spinulae on outer margin.

Male genitalia as shown in Fig 6. Lateral sides of parameres straight on basal two-thirds and weakly convergent on apical one-third; ratio of parameres length to basal length about 1.66.

Etymology: The specific epithet, *masumotoi*, is named in honor of Dr. Kimio Masumoto, who is the first person to collect this species, as well as the collector of one of the paratypes, and also a specialist of coprophagous group scarab-beetles and family Tenebrionidae.

Distribution: Taiwan (Fig. 7).

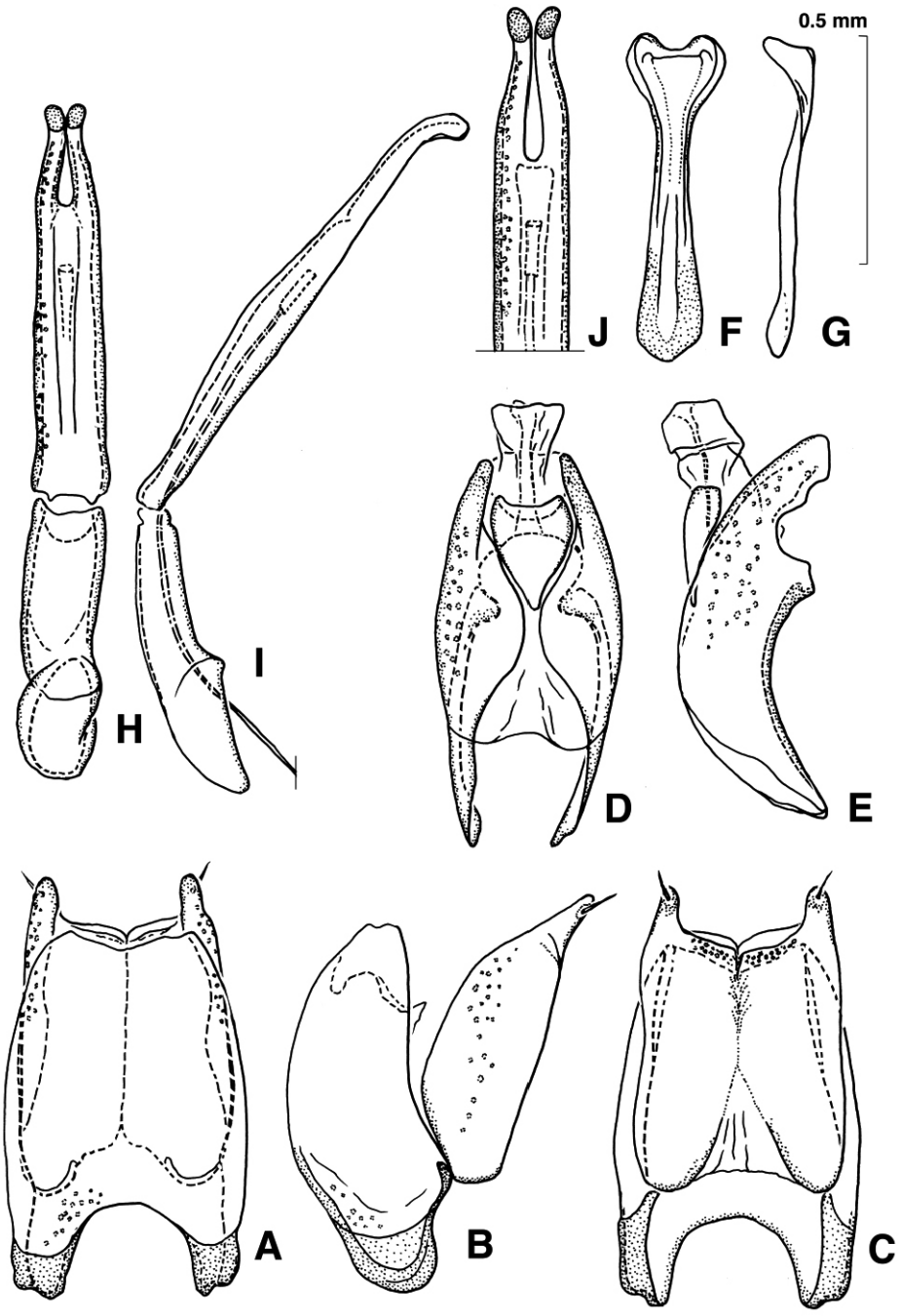

Fig. 6. *Lewisister masumotoi* sp. nov. A, 8th tergite and sternite, dorsal view. B, Ditto, lateral view. C, Ditto, ventral view. D, 9th and 10th tergites, dorsal view. E, Ditto, lateral view. F, 9th sternite (spiculus), dorsal view. G, Ditto, lateral view. H, Aedeagus, dorsal view. I, Ditto, lateral view. J, Apical part of aedeagus, dorsal view.

Key to species of the genus *Lewisister* Bickhardt, 1912

1. Small species (PEL = 2.42–3.23 mm), third dorsal stria complete, anterior part of carinal striae of prosternal keel round (Fig. 5F) ... . *Lewisister masumotoi* sp. nov.

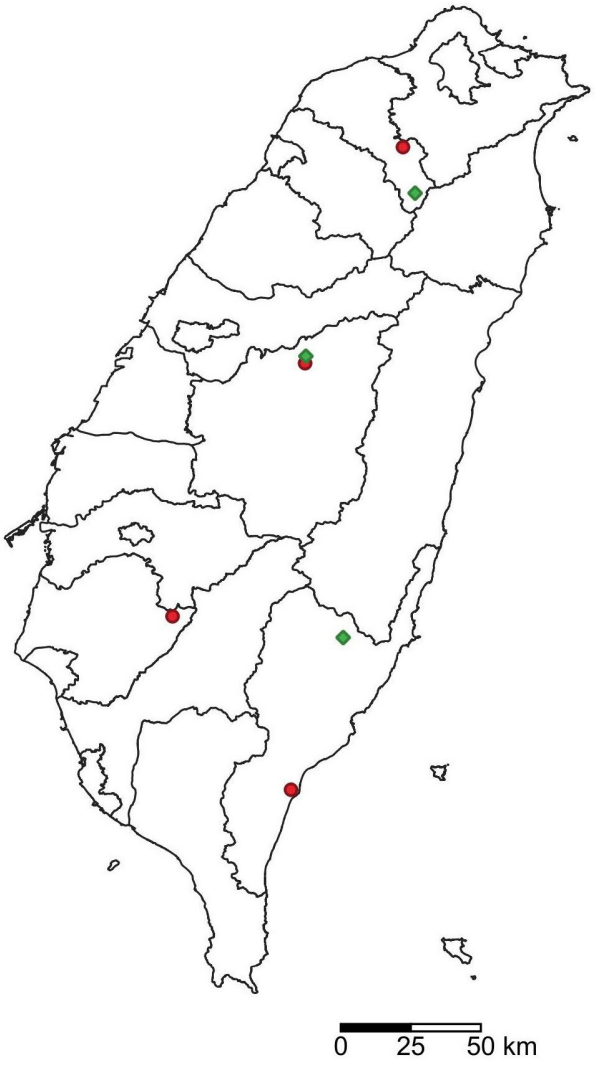

Fig. 7. Distribution map of *Lewisister* from Taiwan. Red circle: *L. masumotoi* sp. nov. Green square: *L. excellens*.

- Large species (PEL = 3.95–4.20 mm), third dorsal stria incomplete, present on anterior half and apical eighth, anterior part of carinal striae of prosternal keel straight (Fig. 2F) .... *Lewisister excellens* Bickhardt, 1912

DISCUSSION

Biological information on *Lewisister* is relatively rare. Mazur (2008) first recorded *L. excellens* from Taiwan, and he also provided some brief information on the habitat where the specimen was found from namely plain leaf litter. Most of our *Lewisister* specimens were collected by flight interception trap, but some individuals of *L. masumotoi* sp. nov. were collected by sifting through leaf litter and using a Berlese funnel. All of our current information suggests that the members of this genus mainly live in leaf litter, and may prey upon other arthropods living in the leaf litter.

Current records show that both species are widely distributed in Taiwan, but the records of *Lewisister excellens* is still rare. Both species are sympatric in central Taiwan (Huisun Forest Reserve). The rarity of *L. excellens* may be due to the scarcity of studies on the leaf litter insect fauna from Taiwan. Thus, more field investigations are needed to determine whether both species are sympatric in other localities in Taiwan.

Kryzhanovskij (1972) provided a discussion on the systematic position of *Lewisister*, and mentioned a specimen collected from Southwest China with a complete third dorsal stria. This character of elytra striation is similar to *L. masumotoi* sp. nov. Because we have not examined Kryzhanovskij's specimen, we cannot confirm whether this specimen is *L. masumotoi* sp. nov. or another undescribed species, but this record also indicates that there may be more species of *Lewisister* to be discovered. With more field investigations, we can better understand the diversity of this genus in Southeast Asia.

Leivas et al. (2015) proposed that *Lewisister* should be excluded from the tribe Omalodini, and added it to a clade with *Sphyracus*, *Asolenus* and *Scapomegas*. In our analysis, we were unable to retrieve the *COI* sequence of *Asolenus*, but only the sequences of

Table 4. Pairwise genetic distances between *Lewisister* and related genera

	L. excellens	*L. masumotoi* sp. nov.	*Sc. auritus*	*Sp.* sp.
Lewisister excellens				
Lewisister masumotoi sp. nov.	16.0%			
Scapomegas auritus	24.2%	22.8%		
Sphyracus sp.	23.1%	20.3%	21.6%	
Operclipygus subterraneus	22.2%	21.9%	25.1%	19.8%

Sphyracus and *Scapomegas*. The results of the pairwise genetic distance of *Lewisister* and related genera are shown in table 4. The distance between two species of *Lewisister* is approximately 16.0%, while the distances between *Lewisister* species and other genera range from 20.3% to 24.2%. The results also strongly support the delimitation of two species, and the genetic distances with related genera also show great variations. Since the presence of *COI* sequences may not be sufficient to represent the relationship of *Lewisister* with related genera, more markers should be included, and more genera should be added to clarify the phylogeny of Histerinae.

CONCLUSIONS

Lewisister masumotoi sp. nov. is described and illustrated in our study and represents the second species of the genus *Lewisister*. In addition, the type species of this genus, *L. excellens*, is described and illustrated. Both species can be distinguished by the body size, striation on the elytra, and the shape of the male genitalia. To accommodate the newly described species, a new diagnosis of the genus is provided. The biological information and distribution record of this genus is discussed. The pairwise genetic distance of *COI* sequences among *Lewisister* and related genera are provided, which also well supports the delimitation of two species of *Lewisister*. This is the first taxonomic revision work on the species of *Lewisister*. The finding of the second species indicates the diversity of *Lewisister* in Southeast Asia needs more surveys, and the molecular information on the *COI* sequence of both species also provides more information for future studies on the phylogeny of the genus.

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Availability of materials: All specimens are deposited in museum collections or private collections as stated in the paper. The sequence data of *L. excellens* was submitted to GenBank with GenBank number OL810983, and the sequence data of *L. masumotoi* sp. nov. was submitted to GenBank with GenBank number OL810984.

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