

A Taxonomic Review of the Genus *Myzia* (Coleoptera: Coccinellidae: Coccinellinae) from Korea

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ABSTRACT

The taxonomic study of the genus *Myzia* Mulsant, 1846 in Korea is presented. The genus *Myzia* contains five species worldwide and two species currently recognized in Palaearctic region. Until now, only *M. oblongoguttata* (Linnaeus, 1758) has been known in Korea, but we found *M. gebleri* (Crotch, 1874) for the first time in Korea. We redescribed these two Korean species of the genus *Myzia* with photographs of the habitus and detailed illustrations of their aedeagus and other appendages. A taxonomic key to the species of Korean *Myzia* beetles are also provided.

Keywords: Coleoptera, Coccinellidae, *Myzia*, *M. gebleri*, *M. oblongoguttata*

INTRODUCTION

The world-widespread genus *Myzia* (Coccinellidae: Coccinellinae), was introduced by Mulsant (1846) with *M. oblongoguttata* (Linnaeus, 1758) as the type-species. They are medium sized lady bugs (with average length between 6.0 to 10.0 mm) with 2 spurs in each apex of middle and hind tibiae, clefted tarsal claws, and incomplete post-coxal lines (Gordon, 1985).

The genus *Myzia* includes 2 species in the Palaearctic region, but only *M. oblongoguttata* has been reported in Korea. We added one more species, *M. gebleri* (Crotch, 1874), for the first time in Korea. These two species are described and figures of their habitus and aedeagus are provided.

RESULTS

Order Coleoptera Linnaeus, 1758
Superfamily Cucujoidea Latreille, 1802
Family Coccinellidae Latreille, 1807
Subfamily Coccinellinae Ganglbauer, 1899

¹*Genus *Myzia* Mulsant, 1846
Myzia Mulsant, 1846: 277 (in index part).

Myzia Mulsant, 1846: 129. Type species: *Coccinella oblongoguttata* Linnaeus. Homonym of *Mysia* Lamarck.

Neomysia Casey, 1899: 98. Type species: *Coccinella pullata* Say.

Paramysia Reitter, 1911: 144. Type species: *Coccinella oblongoguttata* Linnaeus.

Key to the Korean species of *Myzia*

1. Elytron yellowish brown with various sized and elongated white spots. Pronotum yellowish brown with yellow parts at sides *Myzia oblongoguttata*
- Elytron yellowish brown with 3 white stripes and 1 spot near scutellum. Pronotum yellowish brown with broad yellowish white parts at sides *M. gebleri*

²**Myzia oblongoguttata* (Linnaeus, 1758) (Fig. 1)

Coccinella oblongoguttata Linnaeus, 1758: 367.

Myzia oblongoguttata: Gozis, 1875: 93.

Neomysia oblongoguttata: Seidlitz, 1911: 356.

Paramysia oblongoguttata: Jacobson, 1916: 986.

Mysia kasaii Kurisaki, 1920: 231.

Neomysia nipponica: Yuasa, 1963: 12.

Sospita (Myzia) oblongoguttata nipponica: Iablokoff-Khuzorian, 1979: 59.

Korean name: ¹*긴점무당벌레속 (신청), ²*긴점무당벌레

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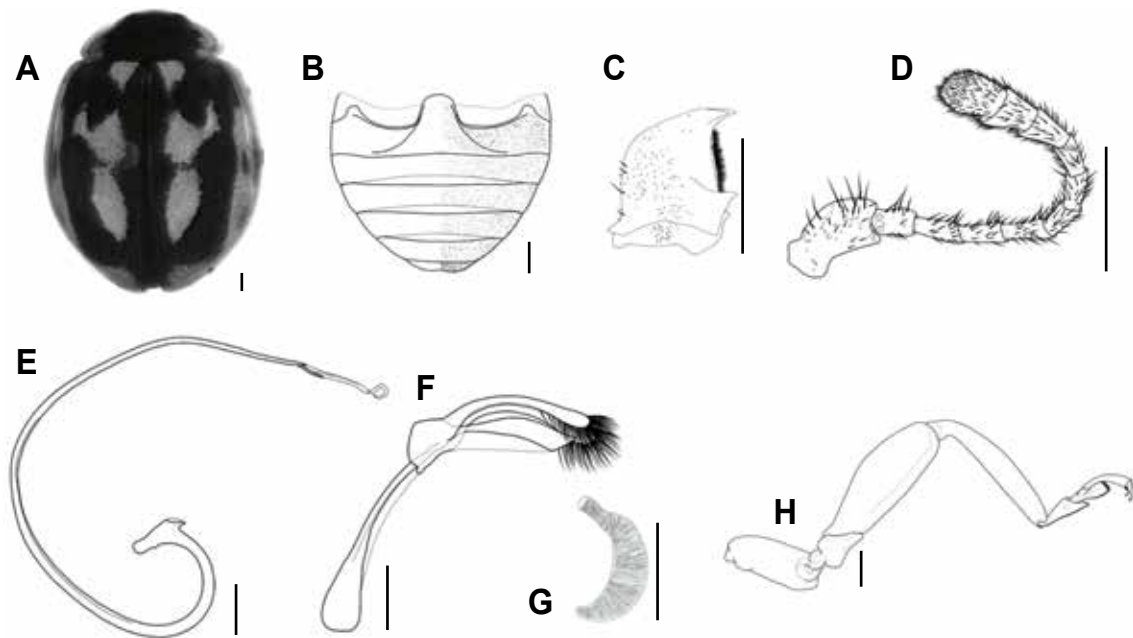


Fig. 1. *Myzia oblongoguttata*. A, Habitus; B, Abdomen (male); C, Mandible; D, Antenna; E, Siphus; F, Tegmen; G, Spermatheca; H, Hind leg. Scale bars: A–H=0.5 mm.

Material examined. Korea, 2♂ 5♀, Gyeongsangbuk-do: Cheongsong-gun, Andeok-myeon, Sinseong-ri, 6 Jul 2013; 1♀, Andong-si, Mt. Gyemyeongsan, 12 Jul 2012; 1♀, Gangwon-do: Pyeongchang-gun, Mt. Odaesan, 28 Aug 2012.

Redescription. Size: 6.0–8.5 mm in length, 4.5–6.5 mm in width.

Coloration and shape: Oblong-oval shaped, strongly convex; dorsal surface yellowish brown, finely punctate (Fig. 1A). Head slightly narrower than pronotum; yellowish brown. Antennae and mouth parts reddish brown. Anterior margin of pronotum pale yellow. Elytra with various sized and elongated white spots.

Head: Head slightly narrower than half of pronotum. Frons pubescence. Clypeus and labrum with long and many setae. Mandibles with 2 teeth and distinct groove ventrally; lateral margin of mandibles with 1 long and 8 short setae (Fig. 1C). Antennae distinctly longer than head; 9th antennomere twice as long as width; 10th antennomere one and a half as long as width (Fig. 1D).

Thorax: Pronotum narrower than two-thirds of body width; rounded at anterior and posterior corner; finely and densely punctured. Elytra distinctly shagreened finely punctured. Apex of middle and hind tibia each with 2 spurs. Tarsal claw cleft (Fig. 1H).

Abdomen: Abdominal ventrites pubescence sparsely. Post-

coxal line incomplete (Fig. 1B). Female spermatheca slightly bent (Fig. 1G). Male tegmen relatively long and slender (Fig. 1F). Male siphus elongated (Fig. 1E). Posterior margin of last ventrites rounded in females, slightly caved in males (Fig. 1B).

Remarks. Most specimens of this species were captured by light trap in forest areas.

Distribution. Korea, Japan, Russia, Kyrgyzstan, Kazakhstan, Mongolia, Turkey, Morocco, United Kingdom, Sweden, Belgium, Netherlands, Norway, Finland, Isle of Man, France, Germany, Ireland, Denmark, Luxembourg, Italy, Austria, Poland, Belarus, Latvia, Switzerland, Czech Republic and Lithuania.

¹**Myzia gebleri* (Crotch, 1874) (Fig. 2) (new Korean record)

Coccinella ramosa Faldermann, 1833: 71. Homonym of *Coccinella ramosak* Olivier.

Mysia ramosa: Mulsant, 1850: 139.

Mysia gebleri Crotch, 1874: 33.

Myzia gebleri: Gozis, 1875: 94.

Paramysia gebleri: Jacobson, 1916: 986.

Neomysia kasaii Kurisaki, 1920: 231; Nakane, 1963: 106.

Neomysia gebleri: Mader, 1928: 49.

Neomysia remosa: Sasaji, 1971: 274.

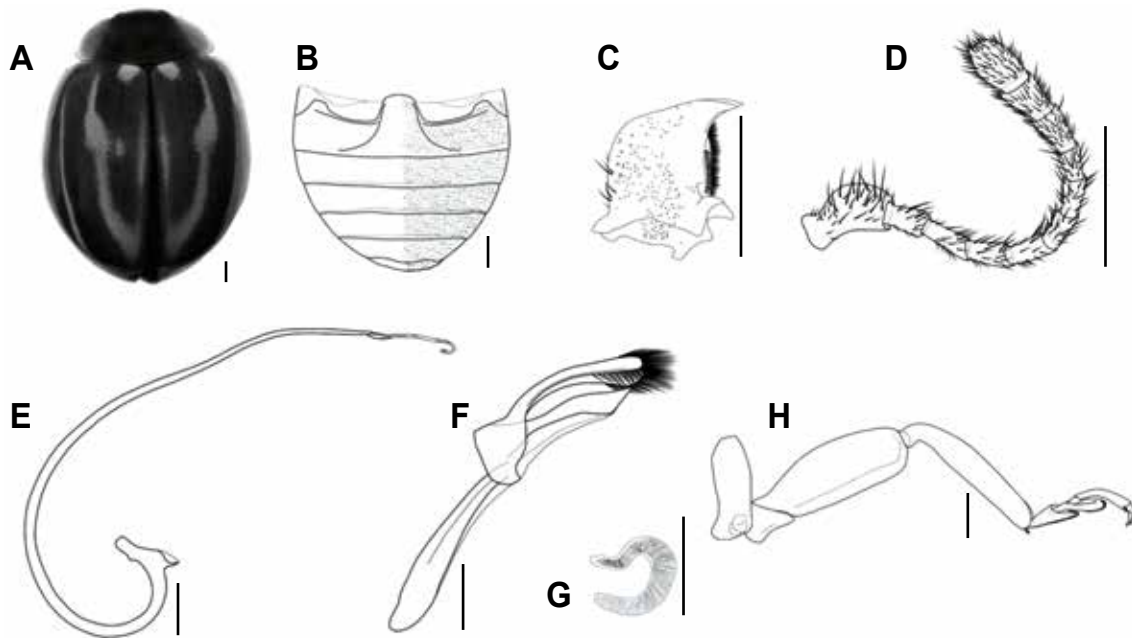


Fig. 2. *Myzia gebleri*. A, Habitus; B, Abdomen (female); C, Mandible; D, Antenna; E, Siphus; F, Tegmen; G, Spermatheca; H, Hind leg. Scale bars: A–H=0.5 mm.

Sospita (Myzia) gebleri: Iablokoff-Khnzorian, 1982: 158.

Material examined. Korea: 1 ♀, Gangwon-do: Wonju-si, Mt. Chiaksan, 7 Aug 2012; 1 ♂, 2 ♀, Pyeongchang-gun, Mt. Odaesan, 28 Aug 2012.

Redescription. Size: 6.0–7.0 mm in length, 4.5–5.0 mm in width.

Coloration and shape: Short oval shaped, strongly convex; dorsal surface yellowish brown or reddish brown, finely punctate (Fig. 2A). Head reddish brown with a pair of white spots at inner ocular margin. Antennae and mouth parts reddish brown or brown. Pronotum with broad yellowish white parts at sides. Elytra with 3 white to yellow stripes and 1 spot near scutellum.

Head: Head slightly transverse, narrower than half of pronotum. Frons densely and shallowly punctured. Mandibles with 2 teeth and distinct groove ventrally; lateral margin of mandibles with 2 long and 5 short setae (Fig. 2C). Antennae distinctly longer than head (Fig. 2D).

Thorax: Pronotum narrower than two-thirds of body width; rounded at anterior and posterior corner; finely, but shallowly punctured. Elytra not distinctly shagreened irregularly punctured. Apex of middle and hind tibia and terminal tarsomere each with 2 spurs. Tarsal claw cleft (Fig. 2H).

Abdomen: Abdominal ventrites pubescence sparsely. Post-coxal line incomplete (Fig. 2B). Female spermatheca hardly bended (Fig. 2G). Male tegmen relatively long and slen-

der (Fig. 2F). Male siphus finely elongated (Fig. 2E). Posterior margin of last ventrites rounded in females (Fig. 2B), slightly caved in males.

Remarks. All specimens of *M. gebleri* were captured by light trap in forest areas. According to the records of Japan, China, and Russia, this species has 2 types of body coloration: pale brownish surface with white to yellowish stripes; and blackish surface with white to yellowish stripes. Therefore, blackish *M. gebleri* might also exist in Korea.

Distribution. Korea (new record), Japan, China, Russia, Mongolia, Morocco.

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REFERENCES

- Casey TL, 1899. A revision of the American Coccinellidae. *Journal of the New York Entomological Society*, 7:71-169.
 Crotch GR, 1874. A revision of the Coleopterous Family Coccinellidae. EW Janson, London, pp. 1-311.

- Faldermann F, 1833. Species novae Coleopterorum Mongolia et Sibiriae. Bulletin of the Moscow Natural History Society, 6:69-72.
- Ganglbauer L, 1899. Die Käfer von Mitteleuropa. II. Band. Familienreihe Staphylinoidea. Carl Gerold's Sohn, Wien, pp. 1-1046.
- Gordon RD, 1985. The Coccinellidae (Coleoptera) of America North of Mexico. Journal of the New York Entomological Society, 93:1-912.
- Gozis M, 1875. Catalogue des coléoptères de France. Montluçon, pp. 1-108.
- Iablokoff-Khnzorian SM, 1979. Genera der palaarktischen Coccinellini (Coleoptera, Coccinellidae). Entomologische Blätter fuer Biologie und Systematik der Käfer, 75:37-75.
- Iablokoff-Khnzorian SM, 1982. Les Coccinelles Coleopteres: Coccinellidae Tribu Coccinellini des regions paleartique et orientale. Société Nouvelle des Editions Boubée, Paris, pp. 1-568.
- Jacobson GG, 1916. The beetles of Russia and Western Europe and adjacent countries. Devrien, St. Petersburg, pp. 967-991.
- Kurisaki H, 1920. A new species of Coccinellidae in Japan. The Insect World, 24:230-231.
- Latreille PA, 1802. Histoire naturelle, générale et particulière des crustacés et des insectes. Ouvrage faisant suite à l'histoire naturelle générale et particulière, composée par Lecer de Buffon, et rédigée par C.S. Sonnini, membre de plusieurs sociétés savantes. Familles naturelles des genres. Tome troisième. F. Dufart, Paris, pp. 1-467.
- Latreille PA, 1807. Genera Crustaceorum et Insectorum Secundum Ordinem Naturalem in Familias Disposita, Iconibus Exemplisque Plurimis Explicata. Vol. 3. Amand Koenig, Paris, pp. 1-258.
- Linnaeus C, 1758. Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tomus I. Holmiae, pp. 1-823.
- Mader L, 1928. Evidenz der paläarktischen Coccinelliden und ihrer Aberrationen in Wort und Bild. Zeitschrift des Vereines der Naturbeobachter, 3:49-76.
- Mulsant ME, 1846. Histoire naturelle des coléoptères de France: Sulcolles-Sécuripalpes. Paris, pp. 1-280.
- Mulsant ME, 1850. Species des coleopteres trimeres securipalpes. Annales des Sciences Physiques et Naturelles de Lyon, 2:1-1104.
- Nakane T, 1963. Iconographia insectorum japonicorum: colore naturali edita. Vol. II Coleoptera. Hokuryukan, Tokyo, pp. 1-443.
- Reitter E, 1911. Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen methode bearbeitet. K. G. Lutz, Stuttgart, pp. 1-436.
- Sasaji H, 1971. Fauna Japonica: Coccinellidae (Insecta: Coleoptera). Academic Press, Tokyo, pp. 1-345.
- Seidlitz G, 1911. Coleoptera für 1910. Archiv für Naturgeschichte, 4:43-360.
- Yuasa H, 1963. Two new species of Coccinellidae from Japan. Fragmenta Coleopterologica, 3:12.

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