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# A new species and three new records of tribe Tritomini (Coleoptera: Erotylidae) in Korea

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## Abstract

A new species, *Tritoma gangwonensis* sp. nov., is described. Also three species - *Rhodotritoma fitlva* (Reitter, 1879), *Triplax discicollis* Lewis, 1887 and *Triplax signaticollis* Reitter, 1879 - are reported for the first time in Korea. A description and redescriptions for each species, photographs of adults and illustrations of diagnostic characters are provided.


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## Introduction

The Tribe Tritomini Curtis, 1834 is one of large groups belonging to the family Erotylidae with more than 401 species in 18 genera in the Palaearctic region (Wegrzynowicz, 2007). Up to now, 17 species in 6 genera belonging to tribe Tritomini were recorded in Korea (Kim *et al.*, 1994; Kwon *et al.*, 1996; Wegrzynowicz, 2007; Hong and Lee, 2014; Jung, 2015a, b, 2017, 2018).

Members of Tritomini are distinguished by the following combination of characters: body mostly oval or oblong, with variable width, convex and generally glabrous dorsally; head with a pair of stridulatory files on occipital region in many cases; apical three (four or five in some case) antennomeres forming a club; apical maxillary palpomere distinctly wider than long or triangular; 1-3 tarsomeres enlarged; fourth tarsomere minute, hidden under third; tarsal formula 5-5-5 (Chûjô, 1969; Goodrich and Skelley, 1993, 1995).

Larvae and adults are closely associated with various macrofungi including Basidiomycetes. Most species exhibit specific preference for special fungi (Chûjô, 1969; Goodrich and Skelley, 1993, 1995; Jung, 2017).

In this paper, I describe a new species, *Tritoma gangwonensis* sp. nov. and report three new records - *Rhodotritoma fitlva* (Reitter, 1879), *Triplax discicollis* Lewis, 1887 and *Triplax signaticollis* Reitter, 1879 - for the first time in Korea. A description and redescriptions for each species, photographs of adults and illustrations of diagnostic characters are provided.

## Materials and Methods

Materials for this study were collected from March to November between 2017 and 2019 from rotten wood or on macrofungi including Basidiomycetes, which are the most commonly used food source of fungivorous erotylids. Some

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samples were collected by flight intercept traps, installed in the mixed forest.

The detailed morphological characters are carefully examined under stereomicroscopy (M50, DM2500, Leica, Germany). Photographs for adults were captured by using digital camera (Canon EOS 60D, Japan). Several taken layers of pictures were stacked by the software (Zerene Stacker 1.04, Zerene Systems, USA). All samples used in this study, including types, are deposited in JUNG's Private Insect Collection (JPIC, Seoul, Korea) and National Institute of Biological Resources (NIBR, Incheon, Korea). The following abbreviation was used to indicate the provinces in which the various specimens were collected: Gangwondo, GW.

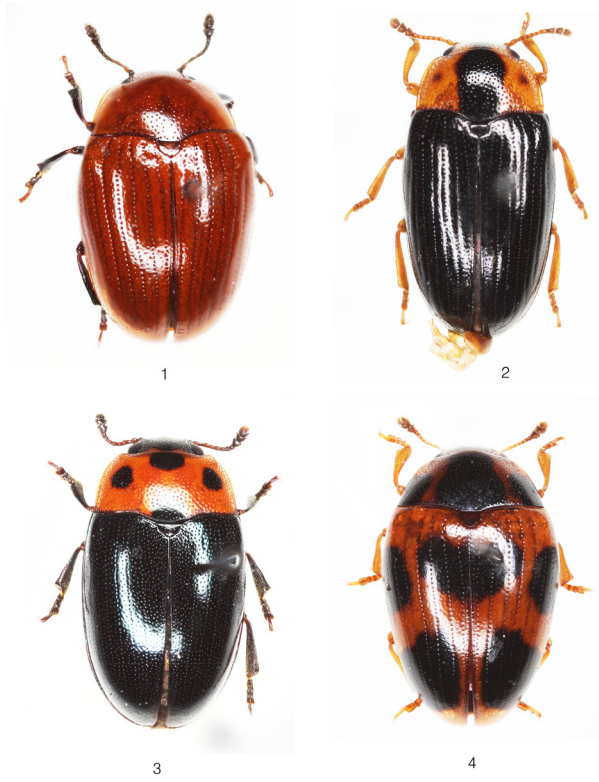
## Systematic accounts

Family Erotylidae Latreille, 1802 버섯벌레과
Subfamily Erotylinae Latreille, 1802 버섯벌레아과
Tribe Tritomini Curtis, 1834 시베리아버섯벌레족

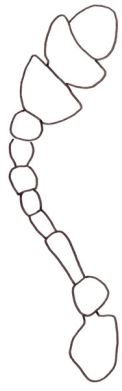
***Rhodotritoma fitlva*** (Reitter, 1879) 장미색버섯벌레
(Figs. 1, 6)

*Triplax fitlva* Reitter, 1879: 223.
*Triplax sufflava* Lewis, 1887: 70.

Redescription: Body length 4.0-4.5 mm. Body elongate-oval, strongly convex dorsally, glabrous; body color mostly yellowish brown or reddish orange and shiny; clypeus, eyes, mouthparts, antennae and legs brown to black. Head sparsely and finely punctate, ridged at each side, shallowly concave at each side of the apical part of frons; ocular distance about 2.3 times wider than eye diameter; third antennomere about twice than fourth; ninth antennomere distinctly wider than eighth, but much smaller than tenth; antennomeres 9–11 strongly widened, forming distinct and flattened club; apical antennomere transversely and irregularly rotundate; apical maxillary palpomere strongly transverse. Pronotum with sparse and small punctures; about twice broader than long, narrowing anteriorly; anterior margin arched, anterior angles not produced and rounded obtuse, with pore at each side; lateral sides narrowly rimmed, and slightly rounded; basal margin arched posteriorly at middle. Scutellum nearly short-cordate, with very sparse and tiny punctures.

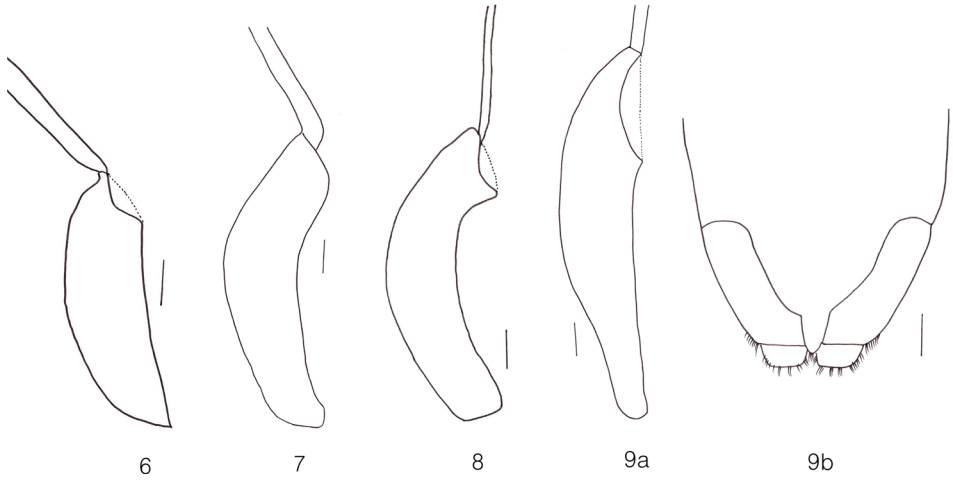



**Figures 1-4.** Adults of Korean Tritomini. 1. *Rhodotritoma fitlva*; 2. *Triplax discicollis*; 3. *Triplax signaticollis;* 4. *Tritoma gangwonensis.*




**Figures 5.** Antenna of *Tritoma gangwonensis.*

Elytra striate-punctate; strial punctures dense, regular and deep; interstriae almost flat, with small and sparse punctures. Legs with swollen femora, longitudinally furrowed for corresponding tibia when repose; protibial with a pair of spurs ventrally at apex; fifth tarsomere a little shorter than four preceding combined. Prosternal proccess almost elongate-trapezoidal, enlarged apically, widest at apex, reaching over procoxae; metaventrite with longitudinal line.




**Figures 6-8.** Genitalia (scale bar = 0.1mm; male). 6. *Rhodotritoma fitlva*; 7. *Triplax discicollis*; 8. *Triplax signaticollis*; 9. *Tritoma gangwonensis* (a, male; b. female).

Specimens examined: [GW] 1♀, Yongdai-ri, Inje-gun, 6-30. iv.2017, J.B. Seung (F.I.T.); 1♀, Seorim valley, Seo-myeon, Yangyang-gun, 4.iv.2018, J.B. Seung.

Distribution: Korea (New Record), Japan, Russia (Far East).

***Triplax discicollis*** Lewis, 1887 큰점버섯벌레

(Fig. 2, 7)

*Triplax discicollis* Lewis, 1887: 71.

Redescription: Body length 4.5 mm. Body elongate oblong, moderately convex, color mostly black, lustrous; antennae (except for blackish brown clubs), mouth-part, head (partially) pronotum (partially) and legs yellowish brown to reddish brown; pronotum with one large black marking on middle (length and width variable by individual). Head finely and sparsely punctate; obliquely and shallowly impressed at each side of forehead; ocular distance about twice wider than eye diameter; antennae alomst reaching to pronotal base; third antennomere about 1.8 times longer than fourth; antennomeres 9-11 strongly widened, forming distinct and loose club. Pronotum with fine and weakly dense punctures, feebly shagreened lateral side; about twice wider than length; front margin almost straight and weakly arched anteriorly; lateral margins roundly narrowed anteriorly; basal margin arched posteriorly at median part. Elytra striate-punctate; strial punctures deep, coarse and distinct; interstriae strongly convex, with small and sparse punctures. All tibiae of legs strongly widened apically; 1-4 tarsomeres with dense seta ventrally; fifth tarsomere almost equal to four preceding tarsomeres combined; fourth tarsomere minute, inserted into third.

Specimens examined: [GW] 1♀, Guryongneong, Nai-myeon, Hongcheon-gun, 7.vii.2018, J.B. Seung and B.H. Jung.

Distribution: Korea (New Record), Japan.

***Triplax signaticollis*** Reitter, 1879 네점버섯벌레

(Figs. 3, 8)

*Triplax signaticollis* Reitter, 1879: 221.

*Triplax longior* Mader, 1941: 930.

Redescription: Body length 4.5 mm. Body elongate oval, weakly convex, color mostly bluish black, lustrous; antennae, mouthparts and legs brownish black; head yellowish brown on vertex; prothroax yellowish brown, dorsum with four black spots, each spot placed at basal-middle part, lateral part and at middle part of anterior margin. Head finely and densely punctate; obliquely and shallowly impressed at each side of forehead; ocular distance about 1.8 times wider than eye diameter; antenna comparatively short, not reaching to basal pronotal base; third antennomere about twice longer than fourth; antennomeres 9-11 strongly widened, forming distinct and loose club; apical maxillary palpomere strongly transverse or triangular, about twice wider than long, widest at apex. Pronotum about twice wider than longer; with fine and regular punctures; anterior margin almost straight and weakly arched anteriorly; lateral

margins gradually and roundly narrowed anteriorly; basal margin strongly rimmed, arched posteriorly at median part. Elytra weakly striate-punctate but not striate-punctate near suture line of basal 1/3 part; strial punctures irregular and dense; interstriae weakly flat, with irregular punctures. 1-4 tarsomeres with dense seta ventrally; fifth tarsomere almost equal to four preceding tarsomeres combined; fourth tarsomere minute, inserted into third.

Specimens examined: [GW] 1♀, Seorim valley, Serim-ri, Yangyang-gun, 23.v.2018, J.B. Seung.

Distribution: Korea (New Record), Russia (Far East), China (Fujian).

***Tritoma gangwonensis*** sp. nov. 강원작은버섯벌레
(Figs. 4, 5, 9)

Description: Body length 4.0-4.5 mm. Body strongly convex, oval, shining and glabrous; color mostly reddish brown; scutellum black; pronotum with three large black markings, one placed on middle and two placed at each side, touching basal border; elytron with three large black markings, one placed behind scutellum, touching suture line, the other placed behind humerus and very large and broad band–like one placed at apical 1/3 part, nearly not touching suture line. Head a little coarsely and densely punctate; narrowly ridged at each side; obliquely and shallowly impressed at each side of forehead; ocular distance about twice wider than eye diameter; antenna not reaching to pronotal base; third antennomere about 2.2 times longer than fourth; antennomeres 9-11 strongly widened, forming distinct and loose club; ninth antennomere triangular and wider than long, tenth antennomere bowl-shaped and wider than long; apical antennomere chestnut-like. Pronotum about twice wider than longer, widest at basal 1/3, gradually narrowing anteriorly; a little coarsely and densely punctate; anterior margin very narrowly rimmed, weakly arched; lateral margins distinctly rimmed, gradually and roundly narrowed anteriorly, with a small pore at anterior corner; basal margin strongly rimmed, arched posteriorly at median part. Scutellum almost cordiform, rounded at each side, with tiny punctures. Elytra striate-punctate; strial punctures dense, deep, moderate and regular; interstriae weakly convex, with tiny and rather sparse punctures. All tibiae of legs strongly widened apically, dorsal edge distinctly thin and blade-like apically; 1-4 tarsomeres with dense setae ventrally; fifth tarsomere almost equal to four preceding tarsomeres combined; fourth tarsomere minute, inserted into third. Prosternal proccess elongate-trapezoidal enlarged apically, widest at apex, reaching over procoxae and extending beyond front margin of procoxal cavities.

Type material. Holopype: Korea: Male, Yongdai-ri, Inje-gun, 16.vii.2018, J.B. Seung (JPIC). Paratypes: Korea: 1♂, Odaisan, Jinbu-myeon, Pyeongchang-gun, 29.viii.2015, B.H. Jung (JPIC); 1♀, Mureung-ri, Suju-myeon, Yeongwol-gun, 15-30.viii.2015, J.B. Seung and B.H. Jung by flight intercept trap (NIBR); 1♀, Mureung-ri, Suju-myeon, Yeongwol-gun, 15-30.viii.2015, J.B. Seung and B.H. Jung by flight intercept trap (JPIC).

Distribution. Korea (Gangwon-do).

Remarks. *Tritoma gangwonensis* sp. n. is very similar to *Tritoma pantherina* (Lewis, 1887) and *T. hakusanensis* Sasaji et Hoshina, 2002, but can be distinguished by followings: pronotum with three large black markings, one placed on middle and two placed at each lateral side, touching basal border; broad band–like marking at apical 1/3 part of elytron nearly not reaching to suture line.

Etymology. The species is named, referring to its occurrence locality, Gangwon-do.

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