The Korean species of the genus *Thinodromus* Kraatz (Coleoptera: Staphylinidae: Oxytelinae)

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**ABSTRACT**

A taxonomic study of the genus *Thinodromus* Kraatz in Korea is presented. Four species are recognized, two of which are new to Korea: *Thinodromus* (*T.*.) *bernhaueri* (Klima) and *T.* (*T.*) *deceptor* (Sharp). Males of *Thinodromus* (*T.*) *deceptor* (Sharp) are described for the first time. A key, illustrations of the habitus, and line drawings of diagnostic characters are provided.

**Key words:** Taxonomy, Coleoptera, Staphylinidae, Oxytelinae, *Thinodromus*, Korea

**INTRODUCTION**


Members of *Thinodromus* are usually found under stones near streams, but some species occur in leaf litters. They are characterized by combination of the following features: body flattened dorso-ventrally, epistomal suture present, gular sutures confluent, maxillary palpomere 4 acicular, transverse curved groove present along basal part of pronotum, tarsal formula 5-5-5, basal three tarsomeres closely associated, abdominal sternite II well developed, tergite VII with posterior margin fimbriate, tergites II–VI each with two pairs of paratergites (Herman 1970, Makranczy 2006).

In this paper, we report four *Thinodromus* species, two of which are identified for the first time in Korea: *T.* (*T.*) *bernhaueri* (Klima, 1904) and *T.* (*T.*) *deceptor* (Sharp, 1889). Males of *T.* (*T.*) *deceptor* are described for the first time. A key, illustrations of the habitus, and line drawings of diagnostic characters are provided.

**MATERIALS AND METHODS**

Specimens for this study have been mainly collected manually with aspirator from under stones near streams. Occasionally specimens were collected by sifting from leaf litters and by Flight Intercept Traps (FIT). All photographs have been made with a Nikon D100 digital SLR camera in combination with 60 mm macro lens and a set of extension tube. Subsequent processing was done in Adobe Photoshop 6.0. Preparation of permanent microscopic slides was performed using the techniques described by Hanley and Ashe (2003) and Makranczy (2006). The subgeneric system follows Smetana (2004), while the terminology follows Herman.
SYSTEMATICS

Key to the species of the genus *Thinodromus* in Korea

1. Body color usually black (Figs. 1–3); punctures on pronotum small and shallow (Figs. 17–19); scutellar impression as inverted triangle (Figs. 21–23); male sternite VIII more or less prolonged apically (Figs. 25–27) ......................................................................................................................................................... 2
   - Body color usually dark brown (Fig. 4); punctures on pronotum large and deep; scutellar impression semicircular (Fig. 24); male sternite VIII more or less emarginated apically (Fig. 28) ...........................................

2. Intervals between punctures on pronotum narrower than diameter, punctures moderately large (Figs. 17, 18); abdomen with long pubescence (Figs. 25, 26, 29, 30); spermatheca curved more than 90 degrees (Figs. 41, 42) .............................................................................................................................................. 3
   - Intervals between punctures on pronotum wider than diameter, punctures small (Fig. 19); abdomen with short and dense pubescence (Figs. 27, 31); spermatheca very slightly curved (Fig. 43) ... *T. (T.) sericatus*

3. Apical region of elytral suture with red mark (Fig. 1); median sclerotized plate of hologlossa oval (Fig. 5); male antennomere 10 about 1.1 times wider than long (Fig. 9); spermatheca curved about 90 degrees (Fig. 41) ......................................................................................................................... *T. (T.) deceptor*
   - Apical region of elytral suture without red mark (Fig. 2); median sclerotized plate of hologlossa trapezoidal (Fig. 6); male antennomere 10 about 1.1 times longer than wide (Fig. 11); spermatheca curved about 130 degrees (Fig. 42) ......................................................................................................................... *T. (T.) bernhaueri*

Genus *Thinodromus* Kraatz, 1857

*Warburtonia* Oke, 1933: 104.  
*Paracarpalimus* Scheerpeltz, 1937: 105.  

See Herman (2001) for additional references.  
Type species: *Trogophloeus dilatatus* Erichson, 1839, by monotypy.

**Diagnosis.** The genus *Thinodromus* is very similar to the genus *Carpelimus* Leach, 1819. However, *Thinodromus* can be distinguished by having five tarsomeres and subcylindrical aedeagus with broad parameres (three tarsomeres and dorsoventrally flattened aedeagus with slender parameres in *Carpelimus*). *Thinodromus* is also superficially similar to *Ochthephyllus* Mulsant & Rey, 1856, but differs in having very small maxillary palpmere 4 (strongly enlarged in *Ochthephyllus*).

*Thinodromus (Thinodromus) deceptor* (Sharp, 1889)  
(Figs. 1, 5, 9, 10, 17, 21, 25, 29, 33, 37, 41)

*Trogophloeus deceptor* Sharp, 1889: 416.  
*Trogophloeus (Thinodromus) deceptor*: Bernhauer & Schubert, 1911: 94.  
**Description.** Body length 2.5–3.4 mm. Body glossy. Color usually black, legs dark brown, base of elytral suture red (Fig. 1).

*FIGURES 1–4.* Habitus of Thinodromus. 1: *T. deceptor*, 3.2 mm; 2: *T. bernhaueri*, 3.3 mm; 3: *T. sericatus*, 3.5 mm; 4: *T. japonicus*, 3.8 mm.

*Head.* As long as wide. Eyes large, convex, occupying almost entire lateral side of head. Mandible more or less blunt, three subapical teeth present. Median sclerotized plate of hologlossa (Fig. 5) oval, about 1.4 times longer than wide. In male antenna slightly longer than female. Male antenna (Fig. 9): scape robust, about 3.1 times longer than wide; pedicel about 2.1 times longer than wide, shorter and narrower than scape; antennomere 3 slender, slightly dilated apically, about 1.6 times longer than wide; 4–7 longer than wide; 8–9 about 1.1 times longer than wide; 10 about 1.1 times wider than long. Female antenna (Fig. 10): antennomeres 8–9 about 1.1 times wider than long; 10 about 1.2 times wider than long.

*Thorax:* Pronotum (Fig. 17) wider than long, widest at anterior third, narrowest at base. Intervals between punctures slightly narrower than puncture diameter. Scutellar impression (Fig. 21) 1.3 times longer than wide, shaped as broadly emarginated inverted triangle, with moderate pubescence. Elytra slightly wider than pronotum, each elytron with deep diagonal groove in apical third.
FIGURES 9–16. Antenna of Thinodromus, male (9, 11, 13, 15) and female (10, 12, 14, 16), ventral aspect. 9, 10: T. deceptor; 11, 12: T. bernhaueri; 13, 14: T. sericatus; 15, 16: T. japonicus. Scale bars: 0.1 mm.


*Abdomen:* Male sternite VIII (Fig. 25) wider than long and slightly prolonged apically. Posterior margin of female sternite VIII (Fig. 29) broadly round.

Aedeagus (Figs. 33, 37) oval, parameres broad, wrapping around the middle of median lobe.

Spermatheca (Fig. 41) in the middle curved about 90 degrees.


**Distribution.** Korea, Japan, and China

**Remarks.** This species can be easily distinguished from other Korean *Thinodromus* by the red mark at the base of elytral suture, more shining body, and proportion of each antennomere. The lectotype is female and brown without red mark at the apical region of elytral suture. However, all Korean specimens we studied are with red mark. First description of males is presented and this species is new to Korea.

*Thinodromus (Thinodromus) bernhaueri* (Klima, 1904)

(Figs. 2, 6, 11, 12, 18, 22, 26, 30, 34, 38, 42)


**Description.** Body length 2.6–3.5 mm. Body glossy. Color usually black, tip of tibia and tarsus brown (Fig. 2).

*Head:* As long as wide. Eyes large, convex, occupying almost entire lateral side of head. Mandible bidentate, slightly pointed, one subapical tooth present. Median sclerotized plate of hologlossa (Fig. 6) trapezoidal, about 1.3 times longer than wide. In male antenna slightly longer than female. Male antenna (Fig. 10): scape robust, about 2.2 times longer than wide; pedicel about 1.9 times longer than wide, shorter and narrower than scape; antennomere 3 slender, slightly dilated apically, about 2.0 times longer than wide, slightly longer and narrower than pedicel; 4–7 about 1.6 times longer than wide; 8 about 1.2 times longer than wide, shorter than
7; 9 about 1.2 times longer than wide, longer than 8; 10 about 1.1 times longer than wide. Female antenna (Fig. 11): antennomeres 4–5 about 1.4 times longer than wide; 6–7 about 1.2 times longer than wide, 8 about 1.1 times longer than wide, 9–10 as long as wide.

**Thorax:** Pronotum (Fig. 18) wider than long, widest at middle, narrowest at base. Intervals between punctures narrower than puncture diameter. Scutellar impression (Fig. 22) 1.2 times wider than long, shaped as moderately emarginated inverted triangle, with many long pubescence. Elytra wider than pronotum, each elytron with shallow diagonal groove in apical third.

**Abdomen:** Male sternite VIII (Fig. 26) wider than long and more or less prolonged apically. Posterior margin of female sternite VIII (Fig. 30) broadly round.

Aedeagus (Figs. 34, 38) oval, parameres broad, around the middle of median lobe.

Spermatheca (Fig. 42) in the middle curved about 130 degrees.

**FIGURES 33–40.** Aedeagus of *Thinodromus*, dorsal (33–36) and lateral (37–40) aspect. 33, 37: *T. deceptor*; 34, 38: *T. bernhaueri*; 35, 39: *T. sericatus*; 36, 40: *T. japonicus*. Scale bars: 0.1 mm.
**Distribution.** Korea, Russia, and Mongolia.

**Remarks.** This species is very similar in appearance to *T. sericatus*, but can be distinguished by the trapezoidal median sclerotized plate of hologlossa (circular in *T. sericatus*), a longer pubescence on the abdomen, and shorter antennomeres as well as a distinct structure of the aedeagus and spermatheca. *Thinodromus bernhaueri* is also different from *T. deceptor* and *T. japonicus* in having black coloration and all antennomeres longer than wide.

**Thinodromus (Thinodromus) sericatus** (Sharp, 1889)
(Figs. 3, 7, 13, 14, 19, 23, 27, 31, 35, 39, 43)

*Trogophloeus sericatus* Sharp, 1889: 415.
*Trogophloeus (Thinodromus) eminens*: Bernhauer & Schubert, 1911: 94.
*Trogophloeus (Thinodromus) sericatus*: Bernhauer & Schubert, 1911: 95.
*Thinodromus (Thinodromus) eminens*: Gildenkov, 2000: 693.

**Description.** Body length 2.7–3.6 mm. Body weakly glossy. Color usually black, tip of tibia and tarsus brown (Fig. 3).

**Head:** Slightly wider than long. Eyes large, convex, occupying almost entire lateral side of head. Median sclerotized plate of hologlossa (Fig. 7) circular, about 1.1 times longer than wide. In male antenna slightly longer than female. Male antenna (Fig. 13): scape robust, about 2.7 times longer than wide; pedicel about 2.1 times longer than wide, shorter and narrower than scape; antennomere 3 slender, slightly dilated apically, 2.3 times longer than wide, slightly longer and narrower than pedicel; 4–7 about 2.2 times longer than wide; 8 about 2.0 times longer than wide; 9–10 about 1.7 times longer than wide. Female antenna (Fig. 14): antennomeres 4–7 about 1.8 times longer than wide; 8 about 1.5 times longer than wide; 9 about 1.3 times longer than wide; 10 about 1.1 times longer than wide.

**Thorax:** Pronotum (Fig. 19) wider than long, widest at middle, narrowest at base. Intervals between punctures wider than puncture diameter, punctures very small. Scutellar impression (Fig. 23) 1.4 times wider than long, shaped as broadly emarginated inverted triangle, with many short pubescence. Elytra wider than pronotum, each elytron with shallow diagonal groove in apical third.

**Abdomen:** Male sternite VIII (Fig. 27) wider than long and more or less prolonged apically. Posterior margin of female sternite VIII (Fig. 31) broadly round.

Aedeagus (Figs. 35, 39) oval and more or less flattened, median lobe long, parameres slightly broad, wrapping around two-thirds of median lobe.

Spermatheca (Fig. 43) in the middle very slightly curved.


**Distribution.** Korea and Japan.

**Remarks.** The species is very similar in appearance to *T. bernhaueri*, but can be distinguished by the circular median sclerotized plate of hologlossa (trapezoidal in *T. bernhaueri*), shorter pubescence on abdomen, and longer antennomeres as well as a distinct structure of the aedeagus and spermatheca. *Thinodromus sericatus* is also different from *T. deceptor* and *T. japonicus* by the all antennomeres longer than wide, black coloration, and very short pubescence along the entire body.

**Thinodromus (Amisammus) japonicus** (Cameron, 1930)

(Figs. 4, 8, 15, 16, 20, 24, 28, 32, 36, 40, 44)

*Trogophloeus* (*Carpelimus*) *japonicus* Cameron, 1930: 183; Scheerpeltz, 1933: 1082.


*Carpelimus japonicus*: Herman, 1970: 392.


**Description.** Body length 3.3–4.0 mm. Body glossy. Color usually dark brown, legs pale brown (Fig. 4).

*Head:* Slightly longer than wide. Eyes moderately large and convex, occupying two-thirds of lateral side of head. Temples moderately developed. Mandible blunt, three subapical teeth present. Median sclerotized plate of hologlossa (Fig. 8) diamond, 1.7 times longer than wide. In male antenna slightly longer than female. Male antenna (Fig. 15): scape robust, about 2.6 times longer than wide; pedicel about 2.3 times longer than wide, shorter and narrower than scape; antennomere 3 slender, slightly dilated apically, about 1.8 times longer than wide; 4–6 about 1.4 times longer than wide; 7 about 1.3 times longer than wide; 8–9 as long as wide; 10 about 1.1 times wider than long. Female antenna (Fig. 26): scape about 2.4 times longer than wide; pedicel about 1.6 times longer than wide; antennomere 3 about 1.6 times longer than wide; 6–7 about 1.2 times longer than wide; 8–9 about 1.1 times wider than long; 10 about 1.3 times wider than long.

*Thorax:* Pronotum (Fig. 20) wider than long, widest at anterior third, narrowest at base, pubescence arrange toward head. Intervals between punctures as long as puncture diameter, punctures large and deep. Upper side of procoxal cavity pointed. Scutellar impression (Fig. 24) 1.9 times wider than long, shaped as semicircular, with several long pubescence. Elytra wider than pronotum.

*Abdomen:* Male sternite VIII (Fig. 28) wider than long and more or less emarginated apically. Posterior margin of female sternite VIII (Fig. 32) broadly round.

Aedeagus (Figs. 36 & 40) oval, parameres broad, wrapping one third of median lobe.

Spermatheca (Fig. 44) in the middle curved about 180 degrees.


**Additional materials** (total 141 specimens). KOREA: Jeju Prov.: 26 ex., Seongpanak, Jocheon-eup, Bukjje-gun, 27 VI 2003, M.-J. Jeon, ex under leaf litters (2 males, on slide); 27 ex., Goipyeongioreum, Namjeju-gun, 28 V 2003, S.-J. Park, C.-W. Shin and M.-J. Jeon, sifting; 4 ex., same data as former except for
KOREAN THINODROMUS

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