

Tachinus (Tachinus) javanus Cameron (Coleoptera: Staphylinidae: Tachyporinae) New to Korea with a Key to the Known Species of the Genus *Tachinus* Gravenhorst

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한반도 미기록 붉은뿔족반날개[딱정벌레목: 반날개과: 뿔족반날개아과]의 보고 및 북방뿔족반날개속의 종 검색표

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ABSTRACT: *Tachinus (Tachinus) javanus* Cameron is identified for the first time in the Korean Peninsula. Description, illustrations of habitus and diagnostic characters, and a key to the known species of Korean *Tachinus* Gravenhorst are provided. *Tachinus (Tachinus) yezoensis* Li is redescribed with male characteristics.

Key words: Coleoptera, Staphylinidae, Tachyporinae, *Tachinus*, Korea

초록: 붉은뿔족반날개 [*Tachinus (Tachinus) javanus* Cameron]를 한반도에서 처음으로 보고한다. 기재문, 외형사진과 식별형질의 그림 및 북방뿔족반날개속의 검색표를 제시한다. 큰갈색뿔족반날개 [*Tachinus (Tachinus) yezoensis* Li]의 수컷형질을 추가하여 재기재한다.

검색어: 딱정벌레목, 반날개과, 뿔족반날개아과, 북방뿔족반날개속, 한국

The genus *Tachinus* Gravenhorst contains about 250 species worldwide and 191 species in the Palaearctic region, 78 species in China and 18 species in Japan (Feng et al., 2013; Schülke and Smetana, 2015). In Korea, six species have been recorded (Kim and Ahn, 2000; Ahn et al., 2017).

Members of *Tachinus* occur on rotten fungi, leaf litter, and decaying organism. Some species are found in cool and humid habitats such as streamside and wetland. In this paper, we report *Tachinus (T.) javanus* Cameron for the first time in the Korean peninsula and redescribe *T. (T.) yezoensis* Li with male

characteristics. Photographs of adult habitus, key, and diagnostic characters with line drawings of these two species are provided.

Materials and Methods

The specimens used in this study are deposited in the Chungnam National University Insect Collection (CNUIC), Daejeon, Korea and the Hannam University Natural History Museum (HUNHM), Daejeon, Korea.

Taxonomic accounts

Genus *Tachinus* Gravenhorst, 1802 북방뿔족반날개속(개칭)
(Fig. 1)

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Received October 14 2017; Revised November 24 2017

Accepted November 30 2017

Tachinus Gravenhorst, 1802: 134 Type species: *Staphylinus rufipes* Linnaeus, 1758.

See Schülke and Smetana (2015) for the detailed synonymy.

Diagnosis. Body black to brown, usually convex; sides of abdomen triangularly narrowed; head narrower than pronotum; maxillary palpi with 4 palpomeres, filiform, palpomere 4 longest; pronotum glabrous, convex, posterior margin wider than anterior margin; elytra longer than wide, glabrous; legs moderately long, tibiae with spines, tarsal formula 5-5-5; abdominal tergite III with pruinose spots; tergites III-VI with broad paratergites; male tergite VIII usually with 4 lobes; sternite VII with particular pattern of granules or spines; sternite VIII emarginate; genitalia with paramere paired; female tergite VIII with 4 lobes; female sternite VIII with 6 lobes, inner lobes with setae or fused (Campbell, 1973; Li, 1995a).

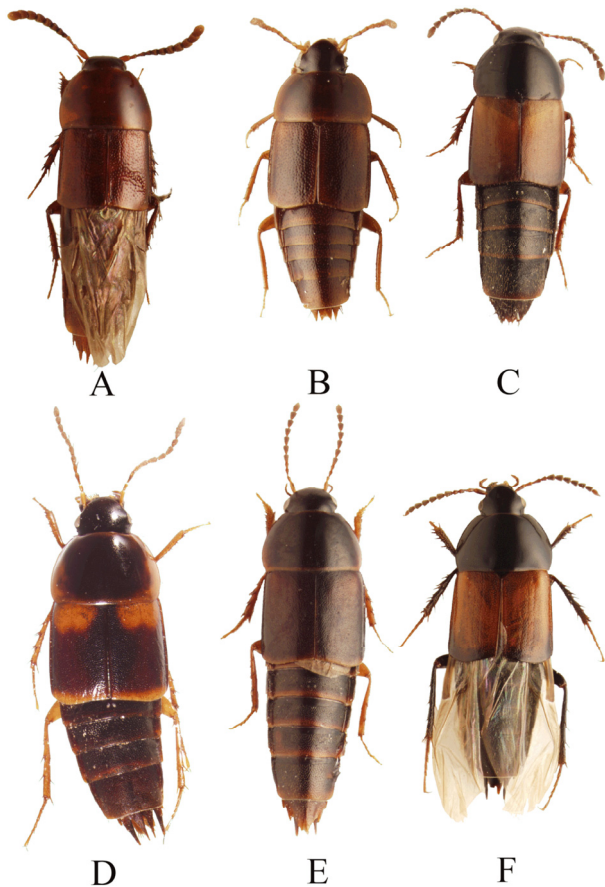


Fig. 1. Habitus. A: *Tachinus javanus*, 5.5 mm; B: *T. nigriceps*, 3.7 mm; C: *T. gelidus*, 6.2 mm; D: *T. marginatus*, 6.4 mm; E: *T. sibiricus*, 5.5 mm; F: *T. yezoensis*, 8.2 mm.

Key to the known species of Korean *Tachinus*

1. Antennomeres 1-2 glabrous, 3 with few setae, 4-11 densely pubescent ... *T. (Tachinoderus) nigriceps rubricollis* (Fig. 1B)
 - Antennomeres 1-4 glabrous except for a few setae, 5-11 densely pubescent 2 (subgenus *Tachinus*)
2. Head and elytra without microsculptures ... *T. (T.) javanus*
 - Head and elytra with microsculptures 3
3. Lateral margin of pronotum reddish brown to yellowish brown 4
 - Pronotum black 5
4. Elytra black, posterior margin brown; male sternite VII with spoon-like setae (Kim and Ahn, 2000: Fig. 4C); female sternite VIII without triangular process *T. (T.) sibiricus* (Fig. 1E)
 - Elytra with yellow spots on humeral region, posterior margin yellow; male sternite VII without spoon-like setae; female sternite VIII with triangular process (Kim and Ahn, 2000: Fig. 1F) *T. (T.) marginatus* (Fig. 1D)
5. Male sternite VIII with long and stout inner lobes (Fig. 3C) *T. (T.) yezoensis*
 - Male sternite VIII with short inner lobes 6
6. Male sternite VII emarginate widely (Campbell, 1973: Fig. 66); female sternite VIII emarginate with 6-lobes (Campbell, 1973: Fig. 12D) *T. (T.) basalis*
 - Male sternite VII emarginate narrowly (Kim and Ahn, 2000: Fig. 3A); female sternite VIII not emarginate without lobe *T. (T.) gelidus* (Fig. 1C)

Tachinus (Tachinus) javanus Cameron, 1937 붉은북방뽕족 반날개(신칭) (Figs. 1A, 2)

Tachinus javanus Cameron, 1937: 35.

Tachinus shibatai Hayashi, 1987: 13; Li, 1995b: 204; Schülke, 2004: 952.

Description. Body length 4.9-5.5 mm. Head reddish brown; mouthparts reddish brown to yellowish brown; antennae, pronotum, elytra, abdomen reddish brown. Head small, finely punctate. *Mouthparts.* Mandible asymmetrical. Maxillary palpomere 2 robust, slightly longer than 3, 3 shortest, 4 longest, about 2.0 times as long as 3. Labial palpi robust, 1 longest, 2 shortest. *Thorax.* Pronotum convex, about 1.5 times as long as wide, with microsculpture at antero-lateral margin, anterior

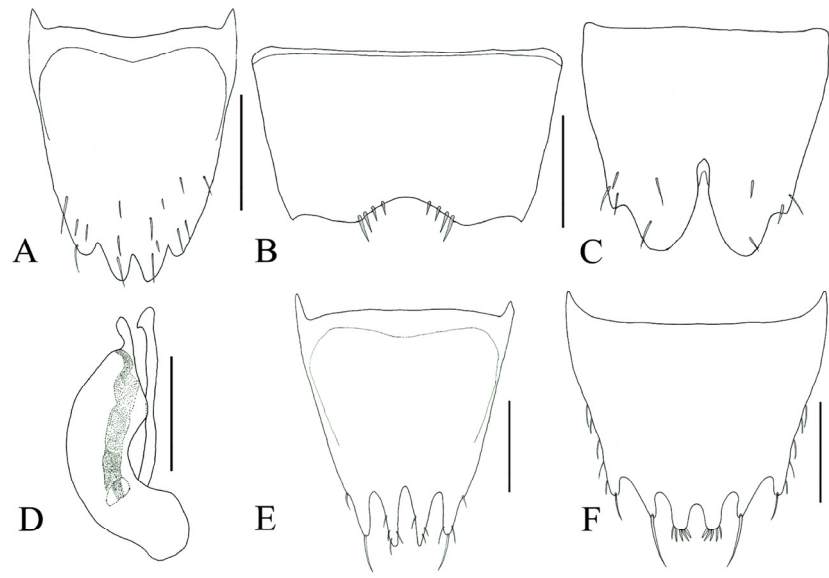


Fig. 2. *Tachinus javanus* A: male tergite VIII, dorsal aspect; B: male sternite VII, ventral aspect; C: male sternite VIII, ventral aspect; D: genitalia, lateral aspect; E: female tergite VIII, dorsal aspect; F: female sternite VIII, ventral aspect. Scale bars = 0.5 mm.

margin distinctly convex; posterior margin 1.4 times as wide as anterior margin. Prosternum with few setae. Procoxal process short and sharp. Elytra suture 1.3 times as long as median part of pronotum, 1.2 times as wide as long, subparallel-sided, posterior-lateral margin rounded. Mesoventrite with 4 setae on middle part, with distinct microsculpture. Mesocoxal process narrow and long; metacoxal process concealed. Isthmus absent. *Legs.* Long and slender with spines, tarsomere 4 shortest, tarsomere 5 longest, tarsomeres 1-4 getting shorter, gradually broad apically. Protarsomeres 1-4 heart shaped. Meso-metatarsus filiform. *Abdomen.* Tergites III-IV with pruinose spots. *Male.* Tergite VIII (Fig. 2A) with 4 lobes. Sternite VII (Fig. 2B) depressed at posterior-medial part; without granules but some short setae at sides of depression. Sternite VIII (Fig. 2C) inner lobes separated by deep emargination. *Genitalia* (Fig. 2D). Paramere long and thin; apex bent like hook. Median lobe narrowed to apex; apex with lobe. *Female.* Tergite VIII (Fig. 2E) with 4 lobes; inner lobes longer than outer lobes. Sternite VIII (Fig. 2F) with 6 lobes; inner lobes with short spines.

Materials examined. **KOREA: Gangwon Prov.:** 1♂, Yanggu-gun, Yanggu-eup, Mt. Samyeong, N38° 4'12.18" E 127°56'5.93", 14 VII-12 VIII 2003, SJ Park, DH Lee, FIT. **Gyeonggi Prov.:** 2♀, Yangju-gun Jangheung-myeon, Songschu, Mt. Bukhansan, 26 VII-31 VIII 2001, KJ Ahn, SJ Park, CW

Shin, FIT (1♀, on the slide).

Distribution. Korea, China (Fujian, Hubei, Shaanxi, Sichuan), Japan, Russia (Far East), Oriental Region.

Remarks. The species is recorded for the first time in Korea and can be distinguished from other species by the head and elytra without microsculpture, male sternite VII without granules and paramere of genitalia bent like a hook at apex.

Tachinus (Tachinus) yezoensis Li, 1995a 큰갈색복방뽕족반 날개(개칭) (Figs. 1F, 3)

Tachinus yezoensis Li, 1995a: 67; Kim and Ahn, 2000: 130; Schülke and Smetana, 2015: 484.

Redescription. Body length 7.1-8.5 mm. Head black. Mouthparts, antenna reddish brown. Pronotum black. Elytra reddish brown, posterior margin black. Coxae, femora black, tibia, tarsus reddish brown. Head. Small with dense microsculptures and punctures. Eyes protruded. *Mouthparts.* Mandible asymmetrical. Maxillary palpomere 2 robust, slightly longer than 3, 3 shortest, 4 longest, about 2.0 times as long as 3. Labial palpi robust, palpomere 1 longest, 2 shortest. *Thorax.* Pronotum convex, about 1.3 times as wide as long, with dense microsculptures and punctures; anterior margin distinctly convex; posterior part 1.5 times as wide as anterior margin. Prosternum with few setae. Procoxal process short

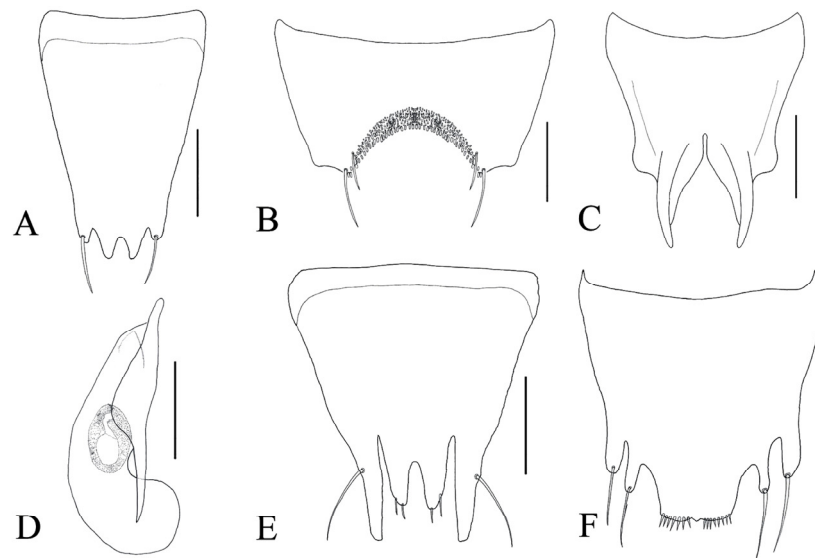


Fig. 3. *Tachinus yezoensis* A: male tergite VIII, dorsal aspect; B: male sternite VII, ventral aspect; C: male sternite VIII, ventral aspect; D: genitalia, lateral aspect; E: female tergite VIII, dorsal aspect; F: female sternite VIII, ventral aspect. Scale bars = 0.5 mm.

and sharp. Elytra suture about 1.4 times as long as median part of pronotum, 1.2 times as wide as long, subparallel-sided, dense microsculptures and punctures present, posterior-lateral margin rounded. Mesoventrite with 3 setae on middle part, with distinct microsculpture. Mesocoxal process narrow and long; concealed metacoxal process. Isthmus absent. *Legs.* Long and slender with setae, tarsomere 4 shortest, tarsomere 5 longest, 1-4 getting shorter, gradually broad apically. Protarsomeres 1-4 heart shaped. Meso-metatarsus filiform. *Abdomen.* Tergites III-IV with pairs of pruinose spots. *Male.* Tergite VIII (Fig. 3A) elongate, narrowed to apex with 4 lobes, inner lobes with short setae, outer lobes with long setae. Sternite VII (Fig. 3B) trapezoidal, roundly and deeply emarginate on posterior margin, granules arranged throughout emargination. Sternite VIII (Fig. 3C) with 4 lobes, inner lobes separated by deep emargination, outer lobes depressed with setae. *Genitalia.* (Fig. 3D) Median lobe long, tapered to apex; paramere long, thin and narrowed to apex. *Female.* Tergite VIII (Fig. 3E) with 4 lobes, inner lobes shorter than outer lobes, outer lobes narrowed to apex. Sternite VIII (Fig. 3F) with 5 lobes, inner lobe fimbriate at apical margin.

Materials examined. KOREA: Gangwon Prov.: 1♂2♀, Pyeongchang-gun Jinbu-myeon, Mt. Odaesan, Sangwonsa, N37°47'10" E128°33'57.2", 19 IV 2007-11 V 2007, TK Kim, YH Kim, FIT; 1♂, Pyeongchang-gun Jinbu-myeon, Mt.

Odaesan, Sangwonsa, 25-26 IV 2001, KJ Ahn, sifting; (1♂ on slide) 1♀, Pyeongchang-gun Jinbu-myeon, Mt. Odaesan, Sangwonsa, 18 VI-22 VII 2004, SJ Park, KM Yang, DH Lee, FIT (1♀ on slide).

Distribution. Korea, Japan.

Acknowledgements

This work was supported by a grant from the National Institute of Biological Resources (NIBR), funded by the Ministry of Environment (MOE) of the Republic of Korea (NIBR201701203) and carried out with the partial support of "Cooperative Research Program for Agricultural Science & Technology Development (Project No. PJ009970)", Rural Development Administration, Republic of Korea.

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