

Taxonomic Study of Korean Stenopelmatoidea (Orthoptera: Ensifera)

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ABSTRACT Eight species of the Stenopelmatoidea (Orthoptera: Ensifera) including two newly recorded *Nippancistroger testaceus* (Matsumura et Shiraki) and *Anoplophilus acuticercus* Karny are recognized in Korean fauna. *Paratachycines* (*Hemitachycines*) *uenoi* (Yamasaki) is proposed for junior synonym of *Paratachycines* (*Hemitachycines*) *boldyrevi* (Uvarov). The keys to species, characteristic figures and diagnoses for the newly recorded species are presented.

Key words : Taxonomy, Stenopelmatoidea, Gryllacridoidea, Ensifera, Orthoptera, Korea

INTRODUCTION

The superfamily Stenopelmatoidea (= Gryllacridoidea) (Orthoptera: Ensifera) consists of about 1000 species in 170 genera throughout the world, which is the most primitive group among the Orthoptera (Kevan, 1982). This group is a few known by general researchers because of their nocturnal and hiding habits.

Even though the first record of this taxon from Korea was done by Walker (1869), in which dealt with two species, *Gryllacris maculipes* and *G. maculicollis* labelled from 'Corea', but it was just mislabelling (Karny, 1937). Both specimens were also presented by 'Captain Belcher', as referred to the early history of Korean Tettigonids (Kim and Kim, 2001).

After that, a few fauna in Korea were reported by Doi (1932, 1933), Sohn (1957, 1963), and Cho (1959, 1969). Yamasaki (1969) recorded three species including two new species, *Tachycines coreanus* Yamasaki and *T. uenoi* Yamasaki from South Korea as the result of speleological survey. At the latest, Kostia (1996) reported five species in the Aemodogryllinae of the Rhabdophoridae from North and South Korea, which of them, three were newly recorded species, *T. asynamorus* Adelung, *Paratachycines ussuriensis* Storozhenko, and *P. boldyrevi* (Uvarov). However, as formerly, the members of

Korean Stenopelmatids are to be indistinct because of no comprehensive proposition for local synonymies, or systematical work.

This paper aims to clarify of Korean Stenopelmatids on the basis of the study of all materials and literatures available. As the result, eight species of two families are revised in Korean fauna: Two species of the Stenopelmatidae, a newly recorded *Nippancistroger testaceus* (Matsumura et Shiraki) and *Prosopogryllacris japonica* (Matsumura et Shiraki); Six species of the *Rhabdophoridae*, a newly recorded *Anoplophilus acuticercus* Karny, *Diestrammena* (*s. str.*) *unicolor* Brunner von Wattenwyl, *D. (Tachycines) asynamora* (Adelung), *D. (Tachycines) coreana* (Yamasaki), *Paratachycines* (*s. str.*) *ussuriensis* Storozhenko, and *P. (Hemitachycines) boldyrevi* (Uvarov). A new synonym, *Paratachycines* (*Hemitachycines*) *uenoi* (Yamasaki) is proposed for *P. (Hemitachycines) boldyrevi* (Uvarov), which are just in the adults-juveniles connection.

Throughout the work, the first important thing was a discrimination between adults and juveniles from the specimens, particularly in the apterous species. A lot of specimens of orthopteroids in general collections of Korea have been deposited as being of larvae as incomplete metamorphosis insects. Even some problems with regarding to Korean fauna having been arisen on the basis of the larvae, i.e. 1) A questionable record of *Diestrammena japonica* as juveniles from Korea (Yamasaki, 1969) maybe a misidentification or other Aemodogryllinae (pers. comm. from H. Ishikawa); 2) A newly recorded species in Korean fauna, *Anoplophilus*

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acuticercus Karny, was asked a careful consideration because very closely related species, *A. esakii* Furukawa was also described as the character states of larvae (Ishikawa, 1994); 3) The species of *Paratachycines uenoi* (Yamasaki) is also the larva of *P. boldyrevi* (Uvarov). Regarding to this way of the distinction, Ishikawa (1994) and Gorochochov (1998) proposed valuable information.

In this paper, we followed Gorochochov's system (2001), and also see the discussion for the discrepancy for use of superfamilial names between Stenopelmatoidea and Gryllacridoidea (Hale and Rentz, 2001). The keys to known species of Korean Stenopelmatids, characteristic figures and diagnoses for the newly recorded species are provided.

The depositories and the provinces of Korea are given in abbreviated form as follows: GU- Gyeongsang Univ.; KIB- The Korean Institute of Biospeleology; KU- Korea Univ.; NIAST- National Institute of Agricultural Science and Technology; NSM- National Science Museum; SNU- Seoul National Univ.; SSU- Sungshin Women's Univ.; YNU- Yeongnam Univ.; GW- Gangwon-do; GG- Gyeonggi-do; CB- Chungcheongbuk-do; CN- Chungcheongnam-do; GB- Gyeongsangbuk-do; GN- Gyeongsangnam-do; JB- Jeollabuk-do; JN- Jeollanam-do; JJ- Jeju-do.

SYSTEMATICS

Superfamily Stenopelmatoidea Burmeister Family Stenopelmatidae Burmeister

Key to Known Species of Korean Stenopelmatidae

1. Body relatively smaller and brown, apterous (Fig. 1); Hind tibia with a strong dorsal spine in inner middle side *Nippancistroger testaceus* (Matsumura et Shiraki)
- Body relatively larger and green, macropterous (Fig. 2); Hind tibia without a strong spine in inner middle side *Prosopogryllacris japonica* (Matsumura et Shiraki)

Genus *Nippancistroger* Griffini

Type species: *Eremus testaceus* Matsumura et Shiraki

1. *Nippancistroger testaceus* (Matsumura et Shiraki) 민어리여치 (신칭) (Figs. 1, 9, 10, 11)

Eremus testaceus Matsumura et Shiraki, 1908. J. Agric. Tohoku Imp. Univ. 3(1): 74. pl. 2. Fig. 21a-

b. Japan.

Diagnosis. Body length 13~18 mm. Pale brown or dark brown, particularly dark in latero-posterior. Adults apterous. Dorsum of hind tibia with a large inner spine (or sometimes near basally another small spine) in mid, and six (or rarely seven) small outer spines. Male last abdominal tergite with median tubercles, lateral lobes forming a pair of hook outwardly (Fig. 10); Caudal margin of subgenital plate smoothly emarginated with small styli. Female 7th abdominal sternite with a minute pair of hole inwardly (Fig. 11).

Materials examined. GW- 5 ♂5 ♀, Malaise trap, Mt. Gyeongsan Jinbu-myeon Pyeongchang, 16 viii-27 ix 2000, D-S. Ku (SSU); GG- 5 ♂1 ♀, Malaise trap, Mt. Chukryeongsan Sudong-myeon Namyangju, 16 viii-14 x 1999, D-S. Ku (SSU); 1 ♂, Anyang arboretum Anyang, 27 ix 1997, G-S. Yoon (SNU); 1 ♂, Batjireum beach Jinri Isl. Deokjeokdo Ongjin Incheon, 14 ix 2001, H-W. Lee (SSU); CN- 1 ♀, Malaise trap, Mt. Chilgapsan Daechi-myeon Cheongyang, 16 viii-27 ix 2000, D-S. Ku (SSU); 1 ♀, Malaise trap, Mt. Wolmyeongsan Biin-myeon Seocheon, 16 viii-27 ix 2000, D-S. Ku (SSU); 2 ♀, Malaise trap, Mt. Oseosan Cheongso-myeon Boryeong, 29 vi-9 ix 1999, D-S. Ku (SSU); GB- 1 ♂1 ♀, Huibangsa valley Mt. Sobaeksan Suchoel-ri Punggi-eup Yeongju, 5 ix 2000, T-W. Kim (SSU); 1 ♀, Sangchon-myeon Yeongdong, 25 vii 2001, H-A. Lee (SSU); GN- 1 ♀, Mt. Yeohangsan Osilgol Yeoyang-ri Jinjeon-myeon Hapcho-gu Masan, 12-13 viii 1999, G-H. Kang (GU); JB- 4 ♂3 ♀, Malaise trap, Mt. Naejangsan Jeongeup, 24 viii-28 ix 2000, D-S. Ku (SSU); JN- 1 ♂, Hohyeong-ri Goheung, 26 vii 2000, Y-B. Lee (NIAST); 1 ♂, Mt. Baegunsan Okryong-myeon Gwangyang, 24 viii 1999, T-W. Kim (SSU); 1 ♂2 ♀, Malaise trap, Mt. Mudeungsan Gwangju, 9 viii-28 ix 2000, D-S. Ku (SSU); 1 ♀, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 28 vii 1997, S-H. Lee (SNU); JJ- 1 ♀, in fallen leaves, Halim-eup Bukjeju, 12 viii 2000, T-H. Kang (SSU); 1 ♂, Andeokgyegok valley Gamsan-ri Andeok-myeon Namjeju, 20 vii 2001, Y-B. Lee (NIAST); 1 ♂, Seoguipo, 10 vii 1994, S-L. An (NSM).

Distribution. Korea (new record), Japan

Remarks. The two subspecies, *Nippancistroger testaceus drouarti* Griffini and *N. testaceus var. matsumurae* Griffini were synonymized by Ichikawa (2001), which forms are also observed in Korean samples. Rudiments of alae on the sides of meso-

and metanotum are more distinguishable when are the last instar larvae (Fig. 9), however, adults are entirely loss it. Thus, the apterous state is derived characteristic in this species. Terminal structures of male and female (Figs. 10, 11) are functionally linked their copulation postures.

Genus *Prosopogryllacris* Karny

Type species: *Gryllacris personata* Audinet-Serville.

2. *Prosopogryllacris japonica* (Matsumura et Shiraki) 어리여치 (Fig. 2)

Gryllacris japonica Matsumura et Shiraki, 1908. J. Agric. Tohoku Imp. Univ. 3(1): 70. pl. 2. Fig. 18a-c. Japan.

Gryllacris japonica: Doi, 1932: 38; Cho, 1958: 32, sexual dimorphism; Cho, 1959: 167, Fig. 43; Cho, 1969: 763, pl. 51; Ju, 1969: 21.

Prosopogryllacris japonica: Kwon and Huh, 1994: 48; Kwon et al. 1996: 103.

Materials examined. CN- 1 ♀, last instar, 4 vii 2000, Geumji-sa temple Mt. Wolmyeongsan Biinmyeon Seocheon, T-H. Kang (SSU); 1 ♂, larva, Mt. Chilgapsan Daechi-myeon Cheongyang, 26 xi 2000, T-H. Kang (SSU); GN- 1 ♂, Mt. Muisan Munsuam Museon-ri Sanri-myeon Goseong, 10-11 viii 1999, J-H. Sohn (GU); 1 ♀, light trap, Mt. Mangunsan Namsang-ri Seo-myeon Namhae, 18-19 ix 1998, J-S. Park (GU); JN- 1 ♂, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 10 viii 1978, BE3 (SNU); 1 ♂, Hwaomsa temple Hwangjeon-ri Masan-myeon Gurye, 26 viii 1970, B3 (SNU).

Distribution. Korea, Japan

Family Rhabdophoridae Thomas

Key to Known Species of Korean Rhabdophoridae

1. Body relatively cylindrical with shorter and robust appendages; Head globular; Male subgenital plate with styli (Fig. 12); Male genitalia simple, without pseudosternite
..... *Anoplophilus acuticercus* Karny
- Body relatively compressed with longer and slender appendages; Head oval; Male subgenital plate without styli; Male genitalia rather complex, with pseudosternite 2
2. Tubercles of vertex larger, separated; Fore knees with a small fixed inner spine; Middle process of

male phallus clearly divided, laterally arcuated ..

- 3
- Tubercles of vertex shorter, rounded; Fore knees without a inner spine; Middle process of male phallus not divided, not arcuated 5
3. Around eyes with distinct longitudinal stripes; Hindtibia with 22-32 dorsal spines, equal evenly arranged *Diestrammena* (*s. str.*) *unicolor unicolor* Brunner von Wattenwyl
- Around eyes without longitudinal stripes; Hindtibia with 40-70 dorsal spines, clearly gathered into groups of 2-10 spines each 4
4. Body and appendages with developed marking; Mid tibia with 1 outer and 1 inner ventral spines; Female subgenital plate with median notch
..... *Diestrammena* (*Tachycines*) *asynamora* (Adelung)
- Body and appendages simple bright brown; Mid tibia with 2 outer and 1-2 inner ventral spines; Female subgenital plate triangular
..... *Diestrammena* (*Tachycines*) *coreana* (Yamasaki)
5. Body relatively smaller with shorter appendages; Blackish shining thoraxes; Hind femora without ventral spines; Middle process of male phallus covered with short weak hairs
..... *Paratachycines* (*s. str.*) *ussuriensis* Storozhenko
- Body relatively larger with longer appendages; Dirty pubescent thoraxes; Hind femora with 1-6 ventral spines; Middle process of male phallus covered with marked dense setae
..... *Paratachycines* (*Hemitachycines*) *boldyrevi* (Uvarov)

Subfamily Troglophilinae Beier

Genus *Anoplophilus* Karny

Type species: *Anoplophilus acuticercus* Karny.

Remarks. According to Karny (1937), this genus was in the Troglophilinae. However, Gorochov (2001) pointed out the positional problem and suggested to association with the Protoglophilinae. Since the higher level of this genus had been discussed by Furukawa (1938), the Anoplophilinae is used for the genus in Japan without definite description.

3. *Anoplophilus acuticercus* Karny 산꿍등이 (신칭) (Figs. 3, 12, 13, 14)

Anoplophilus acuticercus Karny, 1931, Lingnan Sci. J. 10: 463. Japan.

Diagnosis. Body length 16–22 mm. Mottled brown or dark brown, particularly yellowish along dorsal median band. A lot of small bright spots distributed (Fig. 3). Head globulous. Hind basitarsus with a stout dorsal spine and near basally another small spine (or sometimes two) (Fig. 12). Male cerci simple with a large number of granules. Caudal margin of male subgenital plate almost roundly emarginated, with small styli (Fig. 13). Female subgenital plate obtuse triangular. Sickie shaped ovipositor; ventral edge with distinct seven (or eight) serration from apex; dorsal edge with delicate dentation from apex to mid (Fig. 14).

Materials examined. GW- 1 ♂ 1 ♀, Guryongsa temple Mt. Chiaksan Wonseong, 29 vii 1975, J-I. Kim (SSU); 1 ♂, Mt. Hambaeksan Taebaek, 11 viii 1999, T-W. Kim (SSU); 1 ♀, last instar, Mt. Baekdeoksan Suju-myeon Yeongwol, 15 v 2001, T-W. Kim (SSU); 1 ♂, Geomun-ri Jinbu-myeon Pyeongchang, 30 vi 1985, Y-S. Kim (SSU); GN- 1 ♂, Ssanggyesa temple Mt. Jirisan Hwagye-myeon Hadong, 31 vi 2001, T-W. Kim (SSU); 1 ♂, Sacheon, 5 viii 1996, E-S. Park (YNU); 2 ♂, larvae, Samjeong-ri Macheon-myeon Hamyang, 13 v 1990 (GU); JB- 1 ♂, Simwon-ri Sannae-myeon Namwon, 25 vi 1993, H-D. Park (SNU); JN- 1 ♂, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 24–27 vi 1996, (SU); 1 ♀, *ibid*, 29 ix 2001, T-W. Kim (SSU); 2 ♂ 2 ♀, Mt. Baegunsan Okryong-myeon Gwangyang, N-G. Im et al. (SNU); 1 ♂, Yeonhacheon Mt. Jirisan Toji-myeon Gurye, 28–29 vii 1992 (GU); 1 ♂, Seonbisaem Mt. Jirisan Toji-myeon Gurye, 29–30 vii 1992, (GU).

Distribution. Korea (new record), Japan.

Remarks. Some features of Korean species are somewhat different with original description, e.g. slightly shorter pronotum and spination of legs. However, according to Furukawa's additional description (1938), those are generally within the scope. Until more information gathered, we provisionally identify this species with *Anoplophilus* sp. near *acuticercus* Karny. Mostly specimens were captured around the mountainous areas in Korea as known as alpine genus (Ishikawa, 1993).

Subfamily Aemodogryllinae Jacobson

Genus *Diestrammena* Brunner von Wattenwyl

Type species: *Locusta (Rhaphidophorus) marmo-*

rata de Haan.

Remarks. The *Tachycines* auct. was generally regarded as independent genus, but as subgeneric position in the *Diestrammena* was proposed by Furukawa (1933). In this article, as in Gorochov (1998), the *Tachycines* is placed to subgenus on the basis of the phallic structures of males are more important characters than the spines arrangements of hind tibiae. When the members of two genera are early larvae, difference of spinal grouping on hind tibiae are not quite serious.

4. *Diestrammena* (s. str.) *unicolor unicolor*

Brunner von Wattenwyl 장수팍등이 (Fig. 4)

Diestrammena unicolor Brunner von Wattenwyl, 1888. Verh. zool-bot. Ges. Wien, 38: 299. Russia.

Diestrammena goliath: Sohn, 1957: 15; Sohn, 1963: 2. Figs. 1C, 2C; Cho, 1969: 765, pl. 52, text-fig. 14(3), 15(1), 16(1). [reduced as subspecies of *D. unicolor* by Storozhenko, 1990]

Diestrammena japonica: Yamasaki, 1969: 616. Korea. [?misidentification from juveniles]

Diestrammena unicolor unicolor: Kostia, 1996: 106, Figs. 1–8, 9–15, 27. North and South Korea

Diestrammena unicolor: Kwon et al., 1996: 103.

Materials examined. GW- 2 ♂ 9 ♀, Mt. Taebaeksan, Taebaek 13 viii 1999, T-W. Kim (SSU); 1 ♀, Mt. Hambaeksan Taebaek, 14 viii 1999, T-W. Kim (SSU); 3 ♂, Buyeongyegok valley Samsan-ri Yeongok-myeon Gangneung, 18–20 viii 2001, J-I. Kim et al. (SSU); 1 ♂, Yumogjeonggul cave Panun-ri Jucheon-myeon Yeongwol, 13 ix 2001, Y-G. Choi (KIB); 1 ♀, Solgaenggul cave Changwon-ri Nam-myeon Yeongwol, 14 ix 2001, Y-G. Choi (KIB); 1 ♂, Baramgul cave Chang-ri Mitan-myeon Pyeongchang, 21 ix 1998, Y-G. Choi (KIB); 1 ♂, Gwaneumsa temple Mt. Baegdeoksan Suju-myeon Yeongwol, 26 viii 2001 S-Y. Kim et al. (SSU); 1 ♂, pit-fall trap, Sambongyaksu Mt. Odaesan Gwangwon-ri Nae-myeon Hongcheon, 10 viii 1997, J-I. Kim (SSU); 1 ♂ 1 ♀, Baegdamsa temple Mt. Seoraksan Yongdae-ri Buk-myeon Inje, 29 viii 1984, S-H. Nam et al. (KU); 1 ♀, Gachilbong Yanggu, 24 vii 1981, H-Y. Han (KU); GG- 1 ♀, Gonjiam Silchon-myeon Gwangju, 13 viii 1996, S-Y. Im (SSU); 1 ♂, Mt. Chukryeongsan Sudong-myeon Namyangju, 16 vi 1999, D-S. Ku (SSU); 1 ♀, Mt. Cheonggyesan Wonji-dong Seoul, 14 ix 1985, G-M. Min (SSU); 1 ♂, *ibid*, 18 vii 1993, E-H. Kwag (SSU); 1 ♂, *ibid*, 8 x 1995, S-A. Lee (SSU); 1 ♀, *ibid*, 13 viii 1998, T-W. Kim (SSU); 1 ♂, Mt. Seodogsan Gwangmyeong,

15 viii 2001, T-W. Kim (SSU); 1 ♀, Samga-ri Yongin, 28 ix 1995, M-S. Kim (SSU); 1 ♀, Mugapsa temple Paju, 15 ix 1991, J-I. Kim (SSU); 1 ♀, Mt. Gwanaksan Seoul, 20 viii 1992, G-Y. Kim (SSU); 1 ♀, Gugi-dong Seoul, 9 x 1981, G-Y. Park (SSU); 1 ♀, Mt. Dobongsan Seoul, 1 ix 1993, S-Y. Kim (SSU); CB- ; 2 ♂ 1 ♀, alt. 800 m, Hwajangam Mt. Taehwasan Osa-ri Yeongchun-myeon Danyang, 27 viii 2001, S-Y. Kim et al. (SSU); 1 ♂, Mt. Hwangaksan Gungchon-ri Sachon-myeon Yeongdong, 4 viii 2001, T-W. Kim (SSU); GB- 1 ♂, Malaise trap, Mt. Baegamsan Onjeong-myeon Uljin, 11 viii-16 ix 1999, D-S. Ku (SSU); 1 ♂, Huibangsa valley Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 6 ix 2000, T-W. Kim (SSU); JB- 1 ♀, Mt. Naejangsan Jeongeup, 3 viii 1974, J-I. Kim (SSU); 1 ♀, ibid, 2 x 1997, M-I. Baek (SNU); 1 ♀, Yongdong-myeon Jeongeup, 6 x 1998, Y-W. Jeong (SSU); JN- 1 ♂ 2 ♀, Baegyangsa temple Mt. Baegamsan Yaksu-ri Bukha-myeon Jangseong, 23 viii 1999, T-W. Kim (SSU); 8 ♀, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 29 ix 2001, T-W. Kim (SSU); 2 ♂ 3 ♀, Mt. Baegunsan Okryong-myeon Gwangyang, 24 viii 1999, T-W. Kim (SSU).

Distribution. Korea, China, Russia.

Remarks. The report of *Diestrammena goliath* in Korea is included within this species as a subspecies of *D. unicolor* by Storozhenko (1990). But it is still argued as a separated Japanese species (Ichikawa, 1997).

5. *Diestrammena (Tachycines) asynamora*

(Adelung) 알락폭등이 (Fig. 5)

Tachycines asynamorus Adelung, 1902. Ann. Mus. Zool. St. Petersburg, 7: 59, pl. 58, Figs. a-b. Russia.

Diestrammena marmorata: Doi, 1933: 89; Haku, 1937: 73; Sohn, 1957: 14; Sohn, 1963: 1, Figs. 1A, 2A. [syn. of *Diestrammena japonica* by Blatchely, 1920] [misidentification]

Diestrammena japonica [sic]: Cho, 1959: 168, Fig. 44; Cho, 1969: 764, pl. 52, text-fig. 14(1), 15(3), 16(3); Ju, 1969: 21; Kwon and Huh, 1994: 48. [misidentification]

Diestrammena japonica: Kwon et al., 1996: 103. [misidentification]

Tachycines (s. str.) *asynamorus*: Kostia, 1996: 108, Figs. 25-26, 31. South Korea

Materials examined. GW- 1 ♀, Samhwasan temple Bukpyeong-myeon Jeongseon, 27 vi 1984, Y-M. Seo (SSU); 1 ♂, Mt. Seoraksan Sokcho, 20 vii

1998, M-A. Mam (SSU); GG- 1 ♀, Bulgwang-dong Seoul, 19 v 1998, J-H. Kang (SSU); 1 ♂ 3 ♀, ibid, 6-9 x 1999, T-W. Kim (SSU); 1 ♂ 1 ♀, ibid, 7 viii-1 ix 2001, T-W. Kim (SSU); 1 ♀, Mt. Gaehwasan Seoul, 25 vii 1998, T-W. Kim (SSU); 2 ♂ 1 ♀, Mapo Seoul, 17 xi 1980, O-H. Park (SSU); 1 ♂, Mt. Kkachisan Seoul, 17 xi 1995, J-H. An (SSU); 1 ♂, Nonhyeon-dong Seoul, 13 iv 1991, E-M. Kim (SSU); 1 ♂, Silim-dong Seoul, 23 vi 1983, M-J. Kim (SSU); 1 ♂, Dapsipri Seoul, 10 xi 1981, D-R. Lee (SSU); 1 ♂, Mog-dong Seoul, 11 ix 1981, H-S. Lee (SSU); 1 ♂, Banghwa-dong Seoul, 20 xi 1980, G-S. Kim (SSU); 1 ♂, Sansu-dong Seoul, 30 ix 1980, K-S. Woo (SSU); 1 ♂, Myeonmok-dong Seoul, 13 iv 1982, Y-S. Yu (SSU); 1 ♂, Mt. Gaeunsan Seoul, 31 v 1992, H-K. Yoon (SSU); 1 ♂, Yangjae-dong Seoul, 3 viii 1996, E-S. Kim (SSU); 1 ♂, Yeoksam-dong Seoul, 18 x 1980, Y-M. Kim (SSU); 1 ♂, Bogwang-dong Seoul, 28 vii 1989, M-Y. Choi (SSU); 1 ♂, Jeongneung Seoul, 3 xii 1980, M-Y. Eom (SSU); 1 ♂, Nuha-dong Seoul, 30 vi 1993, Y-S. Kim (SSU); 1 ♂ 1 ♀, Mt. Dobongsan Seoul, 16 ix 1982, Y. Kim (SSU); 1 ♂ 1 ♀, Sungshin Univ. Campus Dongseon-dong Seoul, 13-21 v 1986, S. Jegal (SSU); 1 ♂ 2 ♀, Junggok-dong Seoul, 14 v-7 vi 1992, J-K. Kim (SSU); 1 ♀, Dunchon-dong Seoul, 5 v 1985, K-M. Min (SSU); 1 ♀, Mt. Gwanaksan Seoul, 5 viii 1993, J-S. Lee (SSU); 1 ♀, Sadang-dong Seoul, 8 x 1981, S-H. Kim (SSU); 1 ♀, Mt. Cheonggyesan Gwacheon, 3 v 1990, S-H. Park (SSU); 1 ♀, Sinsa-dong Seoul, 14 vii 1990, S-A. No (SSU); 1 ♀, Eungam-dong Seoul, 25 viii 1996, H-S. Kim (SSU); 2 ♂, Banpo Seoul, 12 x 1980, K-S. Lee (SSU); 1 ♀, Maseok, 17 ix 1988, M-Y. Kim (SSU); 1 ♀, ibid, 1 x 1981, Y-A. Kim (SSU); 1 ♀, Isl. Daebu-do Ansan, 5 x 2001, T-W. Kim (SSU); 1 ♂ 2 ♀, Godeok-myeon Pyeongtaek, 25 ix 1988, S-B. Kim (SSU); 1 ♂ 1 ♀, Hyangnam-myeon Gwa-seong, 1 x 1988, M-O. Lee (SSU); 1 ♂, Gunnam-myeon Yeoncheon, 4 ix 1994, M-J. Yang (SSU); 2 ♂, Bupyeong-dong Incheon, 1-5 x 1994, J-Y. Yoon (SSU); 1 ♀, Yeokgok Bucheon, 30 v 1984, M-J. Kang (SSU); 1 ♂, Sang-dong Bucheon, 26 ix 1994, J-Y. Yoon (SSU); 1 ♀, Saeteo Guam-ri Hwado-eup Namyangju, 6 xi 1982, G-G. Lee (SSU); 1 ♂, Eungogae Eommi-ri Jungbu-myeon Gwangju, 23 x 1982, S-S. Kim (SSU); 2 ♂ 2 ♀, ibid, 15 ix 1984, S-M. Kim (SSU); 1 ♀, Icheon, 1 x 1982, M-H. Ko (SSU); 1 ♂, Bisan-dong Anyang, 30 x 1981, G-H. Shin (SSU); 1 ♂, Pyeongnae Namyangju, 18 ix 1982, E-G. Lee (SSU); 1 ♂, Namhansanseong, 3

x 1980, K-S. Kim (SSU); 1 ♂, Neunggok Goyang, 28 v 1993, E-H. Kim (SSU); CB- 1 ♂1 ♀, Namilmyeon Cheongwon, 25 ix 1994, H-J. Park (SSU); CN- 3 ♂, Seokgul cave Taeguksa temple Geunheung-myeon Taean, 4 xi 2001, Y-G. Choi (KIB); 2 ♀, Hyudae-ri Asan, 20 ix 1992, H-J. Kim (SSU); GB- 1 ♂, Seongnyugul cave Gusan-ri Geunnam-myeon Uljin, 30 x 1999, Y-G. Choi (KIB); JB- 1 ♀, Yongdong-myeon Jeongeup, 5 x 1998, Y-W. Jeong (SSU); JN- 1 ♂, Ssanggyesa temple Mt. Jirisan Hwagye-myeon Hadong, 31 vi 2001, T-W. Kim (SSU); 1 ♀, Cheonggye-myeon Muan, 23 vii 1995, H-S. Moon (SSU).

Distribution. Korea, China, Russia, Europe, North America (cosmopolitan).

Remarks. Mostly reported, *Diastrammena japonica* in Korea is misidentification of this species with distinct spotted marking. Compared with voucher specimens of *Diastrammena japonica* from Japan (leg. H. Ishikawa), the natural distribution of this species in Korea is certainly doubtful.

6. *Diastrammena (Tachycines) coreana*

(Yamasaki) 품둥이 (Fig. 6)

Tachycines coreanus Yamasaki, 1969. Bull. nat. Sci. Mus. Tokyo, 12: 616, Figs. 1-2. Korea.

Diastrammena apicalis: Doi, 1932; 38; Cho, 1963: 163; Ju, 1969: 21; Kwon and Huh, 1994: 48; Kwon et al., 1996: 103. [misidentification]

Tachycines (s. str.) coreanus: Storozhenko, 1990: 847, Korea; Kostia, 1996: 109, Figs. 21-24, 30.

Diastrammena coreana: Kwon and Huh, 1994: 48; Kwon et al., 1996: 103.

Materials examined. GW- 1 ♂, Gossigul cave Jinbyeol-ri Hadong-myeon Yeongwol, 20 vii 2001, Y-G. Choi (KIB); 1 ♂, Daeyagul cave Daeya-ri Hadong-myeon Yeongwol, 29 vii 1966, J. Namkung (KIB); 1 ♀, Yongdamgul cave Jinbyeol-ri Hadong-myeon Yeongwol, 30 vii 1966, J. Namkung (KIB); 1 ♂, Dongdaegul cave Sangye-ri Okgye-myeon Gangneung, 13 ix 1999, Y-G. Choi (KIB); 1 ♀, Jukhyeon-dong Gangneung, 29 vii 1997, H-J. Kim (SSU); 2 ♂, Daraegigul cave Jucheon-ri Jucheon-myeon Yeongwol, 13 ix 2001, Y-G. Choi (KIB); 2 ♂, Yumogjeonggul cave Panun-ri Jucheon-myeon Yeongwol, 13 ix 2001, Y-G. Choi (KIB); 1 ♂, Byeoggolgul cave Jumun-ri Hadong-myeon Yeongwol, 7 ix 2001, Y-G. Choi (KIB); 1 ♂, Solgaenggul cave Changwon-ri Nam-myeon Yeongwol, 14 ix 2001, Y-G. Choi (KIB); 2 ♂, Dongganggingul cave Gyulam-ri Jeongseon, 21 ix 1998, Y-G. Choi (KIB); 1

♀, Mt. Taebaeksan Taebaek, 13 viii 1999, T-W. Kim (SSU); 1 ♂, Hwaam-ri Dong-myeon Jeongseon, 18 viii 1998, Y-G. Choi (KIB); 1 ♂, Ogaetang Nam-myeon Inje, 5 ix 1998, Y-G. Choi (KIB); GG- 1 ♀, Bulgwang-dong Seoul, 10 ix 1983, S-H. Park (SSU); 13 ♂12 ♀, ibid, 29 vii-9 x 1999, T-W. Kim; 1 ♂, ibid, 13 viii 2001, T-W. Kim; 1 ♀, Mt. Bukhansan Seoul, 30 v 1992, S-A. Choi (SSU); 1 ♀, ibid, 10 viii 1999, T-W. Kim; 2 ♂1 ♀, ibid, 12 ix 2000, T-W. Kim; 2 ♂, Gupabal Seoul, 22 ix 1998, J-H. Kang (SSU); 1 ♀, Wonji-dong Seoul, 14 viii 1985, H-S. Kim (SSU); 1 ♂1 ♀, Cheonggyesan Gwacheon, 7 ix 1986, H-S. Yang et al. (SSU); 1 ♀, ibid, 17 ix 1989, H-K. Ku (SSU); 1 ♂, Sungshin Univ. Campus Dongseon-dong Seoul, 2 xi 1980, J-S. Kim (SSU); 3 ♀, ibid, 19 vii-28 x 1981, G-S. Jang et al. (SSU); 1 ♀, ibid, 25 ix 1986, J-H. Lee (SSU); 1 ♀, ibid, 20 ix 1988, H-J. Shim (SSU); 1 ♀, ibid, 10 x 1996, H-M. Park (SSU); 1 ♂, Amsa-dong Seoul, 29 viii 1995, S-E. Cho (SSU); 1 ♂3 ♀, Bongcheon-dong Seoul, 11 vi-11 x 1992, E-H. Lee (SSU); 1 ♀, Donam-dong Seoul, 30 ix 1982, H-K. Yu (SSU); 1 ♂, ibid, 17 x 1988, H-J. Oh (SSU); 1 ♂, Suyuri Seoul, 12 vi 1985, M-A. Kim (SSU); 1 ♀, ibid, 10 ix 1991, E-K. Kim (SSU); 1 ♀, Sinsa-dong Seoul, 14 vii 1990, S-A. No (SSU); 1 ♂, Mt. Suraksan Seoul, 28 ix 1995, Y-H. Lee (SSU); 1 ♀, Mt. Umyeonsan Seoul, 20 ix 1995, Y-H. Yeo (SSU); 1 ♂, Ui-dong Seoul, 22 ix 1984, S-H. Lee (SSU); 1 ♂, Mt. Dobongsan Seoul, 31 x 1992, S-A. Choi (SSU); 1 ♂, Heukseok-dong Seoul, 16 ix 1997, H-H. Cho (SSU); 1 ♂, Mapo Seoul, 3 x 1981, O-H. Park (SSU); 1 ♂, ibid, 20 ix 1985, J-A. Jang (SSU); 1 ♂, Hangang river Seoul, 9 viii 1995, H-M. Kim (SSU); 1 ♀, Jongam-dong Seoul, 23 x 1980, E-J. Lee (SSU); 1 ♂, ibid, 27 vii 1989, H-S. Cho (SSU); 1 ♂, ibid, 19 ix 1998, E-H. Cho (SSU); 1 ♂1 ♀, Jamsil-dong Seoul, 14 ix 1997, J-S. Park (SSU); 1 ♂, Dongsung-dong Seoul, 31 viii 1993, J-Y. Im (SSU); 1 ♀, Hwagok-dong Seoul, 17 ix 1988, M-H. Jeong (SSU); 1 ♀, Hagye-dong Seoul, 20 vii 1998, H-J. Lee (SSU); 1 ♀, Banghwa-dong Seoul, 10 x 1982, J-K. Park (SSU); 1 ♀, Bomun-dong Seoul, 4 x 1981, J-K. Lee (SSU); 1 ♀, Seocho-dong Seoul, 4 ix 1993, J-H. Jeong (SSU); 2 ♂, Mog-dong Seoul, 5-7 x 1995, J-Y. Lee (SSU); 1 ♀, Silim-dong Seoul, 22 viii 1986, S-R. Choi (SSU); 2 ♀, ibid, 4 vii-7 viii 1993, H-Y. Yoon et al. (SSU); 3 ♂, Mt. Myeongjisan Gapyeong, 28 viii-23 ix 1989, Y-H. Kang et al. (SSU); 1 ♂, ibid, 23 viii 1996, Y-J. Chu (SSU); 2 ♀, Isl. Ganghwado Inchoen, 24 v 1997, J-S. Lee

(SSU); 1 ♀, Namhansanseong Seongnam, 17 ix 1988, J-H. Kang (SSU); 1 ♀, Yeoncheon, 13 viii 1981, E-Y. Lee (SSU); 1 ♂, Bogwangsa temple Mt. Goryeongsan Yeonggiang-ri Gwangtan-myeon Paju, 22 ix 1974, H-Y. Kang (SSU); 1 ♂, Mt. Chukryeongsan Naebang-ri Gapyeong, 10 viii 1999 (SSU); 1 ♂, Sangdong-ri Sang-myeon Gapyeong, 6-7 viii 2001, A-Y. Kim (SSU); 1 ♀, Isl. Deokjeokdo Onjin Incheon, 23 vii 1977, S-Y. Nam (SSU); 1 ♀, Isl. Daebudo Ansan, 5 x 2001, T-W. Kim (SSU); 2 ♀, Eommi-ri Jungbu-myeon Gwangju, 18 ix 1981, M-O. Kim et al. (SSU); 1 ♀, Godeok-myeon Pyeongtaek, 25 ix 1988, S-B. Kim (SSU); 1 ♂, Palya-ri Jinjeop-eup Namyangju, 23 viii 1986, K-J. Lee (SSU); 1 ♀, Seodun-dong Suwon, 9 x 2000, H-S. Lee (NIAST); 1 ♂, Mt. Paldalsan Suwon, 20 viii 1989, Y-J. Choi (SSU); 1 ♀, Mt. Gwanggyosan Suwon, 1 ix 1992, H-S. Kim (SSU); 1 ♂, Mt. Cheonmasan Sudong-ri Hwado-eup Namyangju, 2 viii 1989, J-H. Hwang (SSU); 1 ♀, Gwangneung Pocheon, 9 x 1985, G-J. Park (SSU); 1 ♀, Gwangjiwon, 23 ix 1984, H-K. Jeong (SSU); 1 ♀, Pyeongnae Namyangju, 18 ix 1982, H-H. Kwak (SSU); 1 ♀, ibid, 14 x 1984, Y-N. Lee (SSU); CB- 1 ♂, Mt. Sobaeksan Gagok-myeon Danyang, 2 viii 1994, T-Y. Moon (KU); 1 ♂ 1 ♀, Yonggul cave Unam-ri Miwon-myeon Cheongwon, 14 ix 1975, J. Namkung (KIB); 1 ♂, Edendonggul cave Osa-ri Yeongchun-myeon Danyang, 23 ix 2001, Y-G. Choi (KIB); 1 ♂, Gosugul cave Gosu-ri Danyang, 17 vii 1999, Y-G. Choi (KIB); 1 ♀, Bagjuigul cave Mt. Surisan Chapyeong-ri Saenggeug-myeon Eumseong, 5 xi 1966, J. Namkung (KIB); CN- 1 ♀, Mt. Gyeryongsan Gongju, 3 viii 1973, C-H. Kim (KU); GB- 1 ♀, Huibangsa temple Mt. Sobaeksan Sucheol-ri Punggi-eup Yeongju, 6 ix 2000, T-W. Kim (SSU); 1 ♀, Dowon-dong Daegu, 12 x 1998, J-S. Choi (SSU); GN- 1 ♂, Jindong-myeon Masan, 13 viii 1997, J-H. Lee (SSU); JB- 1 ♀, Mipyong Jeongju, 18 x 1992, H-H. Park (SSU); 2 ♂ 1 ♀, Mt. Daedunsan Wanju, 8 vii 2000, Y-B. Lee (NIAST); JN- 1 ♂, Malaise trap, Mt. Cheongwansan Gwansan-eup Jangheung, 8 viii-29 ix 2000, D-S. Ku (SSU); 1 ♂, Malaise trap, Mt. Mudeungsan Gwangju, 9 viii-28 ix 2000, D-S. Ku (SSU); 2 ♂ 2 ♀, Mt. Baegunsan Okryong-myeon Gwangyang, 24 viii 1999, T-W. Kim (SSU); 2 ♂, Baegyangsa temple Mt. Baegamsan Yaksu-ri Bukha-myeon Jangseong, 23 viii 1999, T-W. Kim (SSU); 1 ♂ 5 ♀, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 29 ix 2001, T-W. Kim (SSU); 1 ♂, Isl. Geomundo Yecheon, 14 vii

1984, J-I. Kim (SSU); 1 ♂, Mt. Mandeoksan Haenam, 13 ix 1995, Y-H. Lee (SSU); JJ- 1 ♂ 1 ♀, Seongul cave Sinchang-ri Hangyeon-myeon Bukjeju, 9 x 1998, Y-G. Choi (KIB); 8 ♂ 9 ♀, ibid, 11-12 x 1999, T-W. Kim et al. (SSU); 2 ♂ 1 ♀, Hyeopjaegul cave Hyeopjae-ri Halim-eup Bukjeju, 9 x 1999, T-W. Kim (SSU); 1 ♂, Socheongul cave Hyeopjae-ri Halim-eup Bukjeju, 11 x 1998, Y-G. Choi (KIB); 3 ♂ 1 ♀, Waeulgul cave Hyeopjae-ri Halim-eup Bukjeju, 27 xi 1968, J. Namkung (KIB); 1 ♀, Andeokgyegok valley Gamsan-ri Andeok-myeon Namjeju, 11 x 1999, T-W. Kim (SSU); 1 ♂ 1 ♀, ibid, 26 ix 2000, M-A. Kim (NIAST); 1 ♀, ibid, 9 viii 2001, H-A. Lee (NIAST); 2 ♂, Jeju race-course Yusuam-ri Aewol-eup Bukjeju, 17 vii 1990, K-D. Han et al. (KU); 1 ♂ 1 ♀, Bilremotgul cave Eoeum-ri Aewol-eup Bukjeju, 31 vii ?, J. Namkung (KIB); 1 ♂ 1 ♀, Kwangnanmotgul cave Odeung-dong Jeju, 15 xi 1999, Y-G. Choi (KIB).

Distribution. Korea, Japan, China.

Remarks. Most reports of *Diestrammena apicalis* in Korea indicated to this species which is very common species living in the Korean houses and almost other areas. Occasionally, *D. (Tachycines) coreana* and *D. (Tachycines) asynamora* as one of the cosmopolitan species are forming interspecies groups, those are representative nocturnal neighboring insects.

Genus *Paratachycines* Storozhenko

Type species: *Paratachycines ussuriensis* Storozhenko

7. *Paratachycines* (s. str.) *ussuriensis*

Storozhenko 검정폭등이 (신칭) (Fig. 7)

Paratachycines (s. str.) *ussuriensis* Storozhenko, 1990. Ent. Obozr. 69(4): 844, Figs. 30-36. Russia.

Paratachycines (s. str.) *ussuriensis*: Kostia, 1996: 107, Figs. 16, 28. North and South Korea

Material examined. GW- 1 ♂ 5 ♀, Gachilbong Yanggu, 24 vii 1981, S-H. Nam et al. (KU); 2 ♂ 1 ♀, Baegdamsa temple Mt. Seoraksan Yongdae-ri Buk-myeon Inje, 29-30 viii 1984, S-H. Nam et al. (KU); 1 ♂, Guryongsa temple Mt. Chiaksan Wonseong, 28 vii 1975, J-I. Kim; 1 ♂ 1 ♀, Mt. Jeombongsan Inje, 10 viii 1983, T-Y. Moon (KU); 1 ♂, Oak valley Wonju, 11 ix 1997, J-S. Kim (SNU); 1 ♂, Dongsan-ri Jinbu-myeon Pyeongchang, 2 vii 1985, E-Y. Lee (SSU); GG- 1 ♂, Mt. Dobongsan Seoul, 13 viii 1986, E-J. Lee (SSU); 1 ♀, ibid, 15 ix 1993, M-H. Park (SSU); 1 ♂, Mt. Bukhansan

Seoul, 22 vii 1994, K-M. Kim (KU); 1 ♂, *ibid*, 24 vi 1998, T-W. Kim (SSU); 1 ♂, Mt. Cheonggyesan Gwacheon, 13 viii 1998, T-W. Kim (SSU); 1 ♂ 2 ♀, Mt. Baegunsan Idong-myeon Pocheon, 6 viii 1984, H-C. Park (KU); 1 ♀, Mt. Surian Gunpo, 9 ix 2000, T-W. Kim (SSU); 1 ♀, Mt. Yongmunsan Yangpyeong, 28 vii 2000, T-W. Kim (SSU); 1 ♀, Jangwi-dong Seoul, 3 ix 1981, H-J. Moon (SSU); 2 ♀, Mt. Maengsan Bundang Seongnam, 16 ix 1999, H-C. Park (NIAST); CB- 1 ♂, Mt. Namsan Chungju, 25 viii 2000, T-W. Kim (SSU); 1 ♂, Mt. Sokrisan Boeun, 9 viii 1990, J-I. Kim (SSU); 1 ♂, Yonggul cave Unam-ri Miwon-myeon Cheongwon, 14 ix 1975, J. Namkung (KIB); CN- 1 ♂ 1 ♀, Mt. Gwangdeoksan Cheonan, 22 vii 1994, J-I. Kim (SSU); GB- 1 ♀, Mt. Juwangsang Cheongsong, 6 ix 2000, T-W. Kim (SSU); 1 ♂, Guribawuigul cave Byeolbang-ri Gamcheon-myeon Yecheon, 30 viii 1966, J. Namkung (KIB); GN- 3 ♂ 4 ♀, Mt. Jirisan Jungsan-ri Sicheon-myeon Sancheong, 30-31 viii 1981, I-B. Yoon et al. (KU); 1 ♂, Mt. Bukbyeongsan Dongbu-myeon Geoje, 29 viii 2000, Y-B. Lee (NIAST); JB- 1 ♀, Mt. Daedunsan Wanju, 8 vii 2000, Y-B. Lee (NIAST); 1 ♀, Malaise trap, Mt. Naejangsan Jeongeup, 24 viii-28 ix 2000, D-S. Ku (SSU); JN- 1 ♀, Dogapsa temple Mt. Wolchulsan Dogap-ri Gunseo-myeon Yeongam, 26 vii 1988, S-H. Lee (KU); 1 ♂, Mt. Baegunsan Okryong-myeon Gwangyang, 27 vi 1995, K-S. Woo (SNU); 1 ♂, *ibid*, 24 viii 1999, T-W. Kim (SSU); 2 ♀, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 29 ix 2001, T-W. Kim (SSU); 1 ♂ 1 ♀, Songgwangsa temple Mt. Jogyesan Songgwang-myeon Suncheon, 7-10 viii 1976, J-H. Ryu (KU); JJ- 1 ♀, Gwaneomsa temple Ara-dong Jeju, 14 vii 1990, H-C. Park (KU); 1 ♂, Susangul cave Susan-ri Seongsan-eup Namjeju, 6 vii 1981, J. Namkung (KIB).

Distribution. Korea, Japan, Russia.

8. *Paratachycines (Hemitachycines) boldyrevi* (Uvarov) 굴뚝등이 (Fig. 8)

Tachycines boldyrevi Uvarov, 1926. Ann. Mag. Nat. Hist. (9)17: 284. Russia.

= *Tachycines uenoi* Yamasaki, 1969. Bull. nat. Sci. Mus. Tokyo, 12: 618, Figs. 3-6. Korea. **syn. nov.**

Distrammema apicalis: Sohn, 1957: 13; Cho, 1959: 168, Fig. 45; Sohn, 1963: 2. Fig. 1B; Cho, 1969: 765, pl. 52, text-fig. 14(2), 15(2), 16(2). [misidentification]

Paratachycines (Hemitachycines) uenoi: Storozhenko, 1990: 845.

Tachycines uenoi: Kwon and Huh, 1994: 48; Kwon et al., 1996: 103.

Paratachycines (Hemitachycines) boldyrevi: Kostia, 1996: 108, Figs. 17-20, 29. North Korea.

Materials examined. GW- 1 ♂, Yongdamgul cave Jinbyeol-ri Hadong-myeon Yeongwol, 15 vi 2001, Y-G. Choi (KIB); 10 ♂ 12 ♀, Ssanggul cave Mitam-myeon Pyeongchang, 11 vi-8 vii 1999, T-W. Kim et al. (SSU); 1 ♂ 1 ♀, Yujigul cave Gasu-ri Jeongseon, 5 vii 1999, Y-G. Choi (KIB); 3 ♂, unnamed cave Hami Jeongseon, 13 vi 1999, T-W. Kim et al. (SSU); 1 ♀, Dongdaegul cave Sangye-ri Okgye-myeon Gangneung, 31 vii 1999, Y-G. Choi (KIB); 1 ♂, unnamed cave Gyulam-ri Jeongseon, 4 vii 1999, Y-G. Choi (KIB); 1 ♂, Machabagjuigul cave Macha-ri Bug-myeon Yeongwol, 2 vi 2001, Y-G. Choi (KIB); 1 ♂, Gossigul cave Jinbyeol-ri Hadong-myeon Yeongwol, 27 vii 1999, Y-G. Choi (KIB); 1 ♂, Yongjeonggul cave Cheolwon, 14 viii 1999, Y-G. Choi (KIB); 1 ♂ 1 ♀, Ogaetang Nam-myeon Inje, 5 ix 1998, Y-G. Choi (KIB); 1 ♀, Mt. Taebaeksan Taebaek, 13 viii 1999, T-W. Kim (SSU); 1 ♂, Malaise trap, Mt. Hambaeksan Taebaek, 14 v-20 vii 1999, D-S. Ku (SSU); 1 ♀, Buyeongyegok valley Samsan-ri Yeongok-myeon Gangneung, 18-20 viii 2001, J-I. Kim (SSU); 1 ♀, Guryongsa temple Mt. Chiaksan Wonseong, 28 vii 1975, J-I. Kim (SSU); 1 ♀, Hantangang river Cheolwon, 7 viii 1994, Y-J. Kwon (SSU); 1 ♂ 1 ♀, Gwaneumgul cave Daei-ri Singi-myeon Samcheok, 30 vii 1970, J. Namkung (KIB); GG- 1 ♂, Sajeongdonggul cave Sajeong-ri Gwanin-myeon Pocheon, 7 vii 2001, Y-G. Choi (KIB); 1 ♂, Bogwangsa temple Mt. Goryeongsan Yeongjang-ri Gwangtan-myeon Paju, 18 vii 1998, T-W. Kim (SSU); 1 ♀, Mt. Yongmunsan Yangpyeong, 18 viii 1985, K-J. Park (SSU); 1 ♀, *ibid*, 28 vii 2000, T-W. Kim (SSU); 1 ♂, Mt. Gwanggyosan Suwon, 1 vii 1997 H-C. Park (NIAST); CB- 1 ♂, Simbokgul cave Galgeum-ri Yeonpung-myeon Goesan, v 1996, Y-G. Choi (KIB); 1 ♂ 1 ♀, Tohyeonbagjuigul cave Mireug-ri Sangmo-myeon Jungwon, 18 vi 1967, J. Namkung (KIB); GN- 1 ♂ 1 ♀, Ssanggyesa temple Mt. Jirisan Hwagye-myeon Hadong, 31 vi 2001, T-W. Kim (SSU); JN- 1 ♀, Piagol Mt. Jirisan Naedong-ri Toji-myeon Gurye, 29 ix 2001, T-W. Kim (SSU).

Distribution. Korea, Russia.

Remarks. We have examined adults specimens from Yongdamgul cave where is the type locality of *Paratachycines uenoi* and geographically adjoining

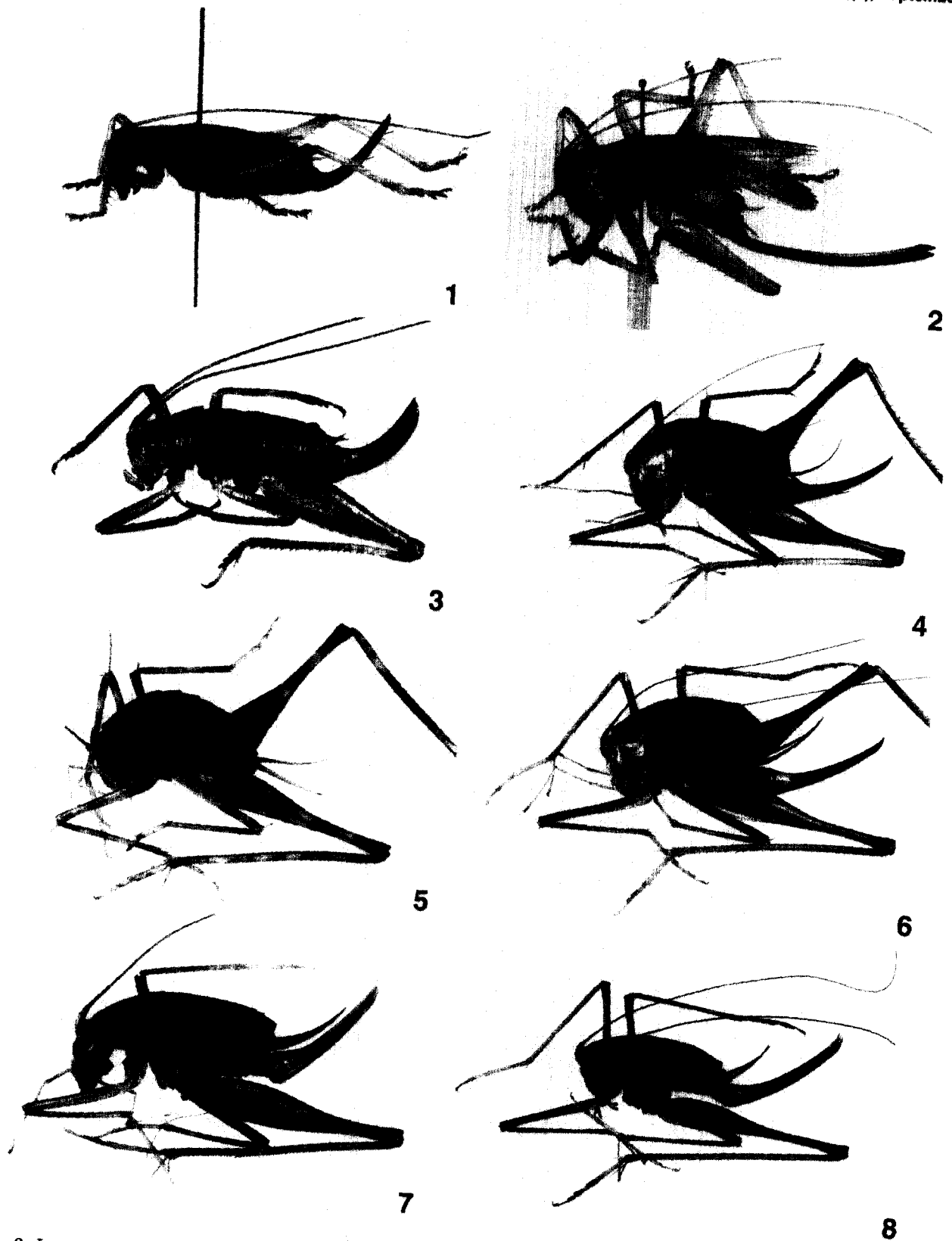
several caves. All the specimens were agreed well with *P. boldyrevi*, but not found any specimens with specific characters considering as *P. uenoi*. A little difference of the number of spines on hind tibia is not a useful key character which is more or less variable within Korean populations. On the other hand, judged from the drawings of *Diestrammena apicalis* by Sohn (1957, 1963) and Cho (1969) was the misidentification of this species with undivided middle part of male phallus.

ACKNOWLEDGEMENTS

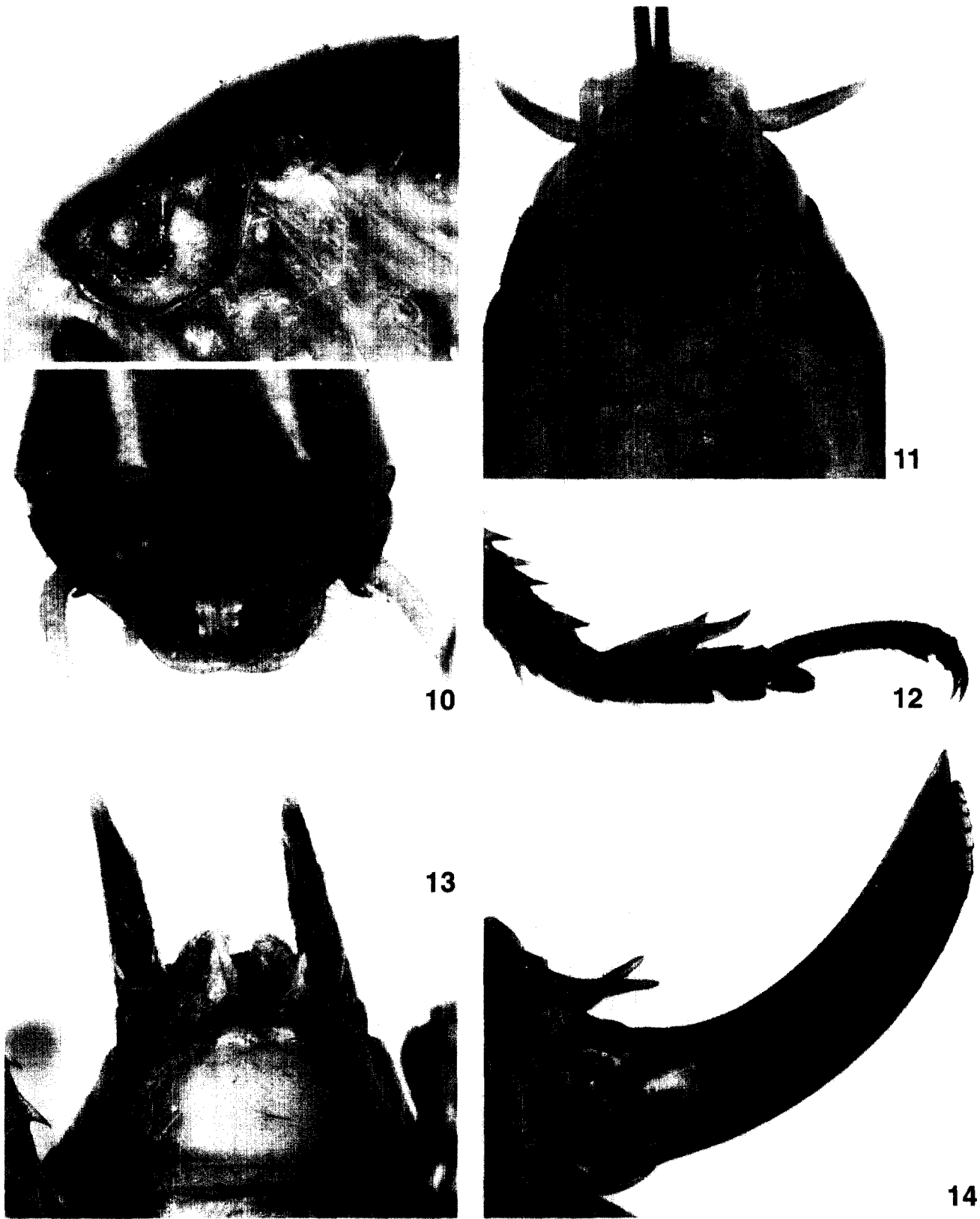
Authors thank to Mr J. Namkung who is a first pioneer in the study of biospeleology in Korea, and Mr Y-G. Choi in The Korean Institute of Biospeleology for their kind aid in many way. Messrs A. Ichikawa and H. Ishikawa in Japan friendly gave their valuable information and kind assistances to the corresponding author. This paper was supported by a special grant from Basic Science Research Institute of Sungshin Women's University in 2001.

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Figs. 1-8. Lateral habitus of Korean Stonopelmatids, 1. *Nippancistroger testaceus* (Matsumura et Shiraki); 2. *Prosopogryllacris japonica* (Matsumura et Shiraki); 3. *Anoplophilus acuticercus* Karny; 4. *Diestrammena* (s. str.) *unicolor* Brunner von Wattenwyl; 5. *Diestrammena* (*Tachycines*) *asynamora* (Adelung); 6. *Diestrammena* (*Tachycines*) *coreana* (Yamasaki); 7. *Paratachycines* (s. str.) *ussuriensis* Storozhenko; 8. *Paratachycines* (*Hemitachycines*) *boldyreui* (Uvarov). (Scales are not same; Except fig. 5, all are females with ovipositor)



Figs. 9-11. *Nippancistroger testaceus* (Matsumura et Shiraki); 9. Wings rudiments of meso, metanotum of last instar juvenile; 10. Dorsal view of male terminalia; 11. Ventral view of female terminalia; **12-14.** *Anoplophilus acuticercus* Karny, 12. Hind tarsus; 13. Ventral view of male terminalia; 14. Lateral view of female ovipositor.