

## Taxonomic Review of Korean Phaneropterinae (Orthoptera, Tettigoniidae)

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**ABSTRACT** A taxonomic study of Korean Phaneropterinae (Orthoptera, Tettigoniidae) was presented. Eight species are recognized, one of which is *Psyra japonica* (Shiraki) reported for the first time in Korea. A key, distributional data and biological notes are provided.

**Key words :** Taxonomy, Orthoptera, Tettigoniidae, Phaneropterinae, Korea

### INTRODUCTION

As a member of Tettigoniidae (Orthoptera), subfamily Phaneropterinae has been recognized nearly 2,060 species in 85 genera throughout the world (Naskrecki and Otte, 1999). The early faunistic studies of Korea were presented by Mori (1933), Cho (1959) and Lee (1990) as six species each in part of Orthoptera, Kwon and Huh (1994) summarized it as seven species. However, a comprehensive taxonomic study of Korean Phaneropterinae was not provided until now.

In this paper, we report eight species in seven genera from Korean fauna including a new record of *Psyra japonica* (Shiraki). A key to each species, figures for identification (stridulatory apparatus and terminalia of males), distributional data and biological notes are presented.

Abbreviations for the depositories and the provinces of Korea are as follows: EU- Ehwa Women's Univ.; GSU- Gyeongsang Univ.; KU- Korea Univ.; NIAST- National Institute of Agricultural Science and Technology; SSU- Sungshin Women's Univ.; YNU- Yeongnam Univ.; HB- Hamgyeongbuk-do; 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.

### SYSTEMATIC ACCOUNT

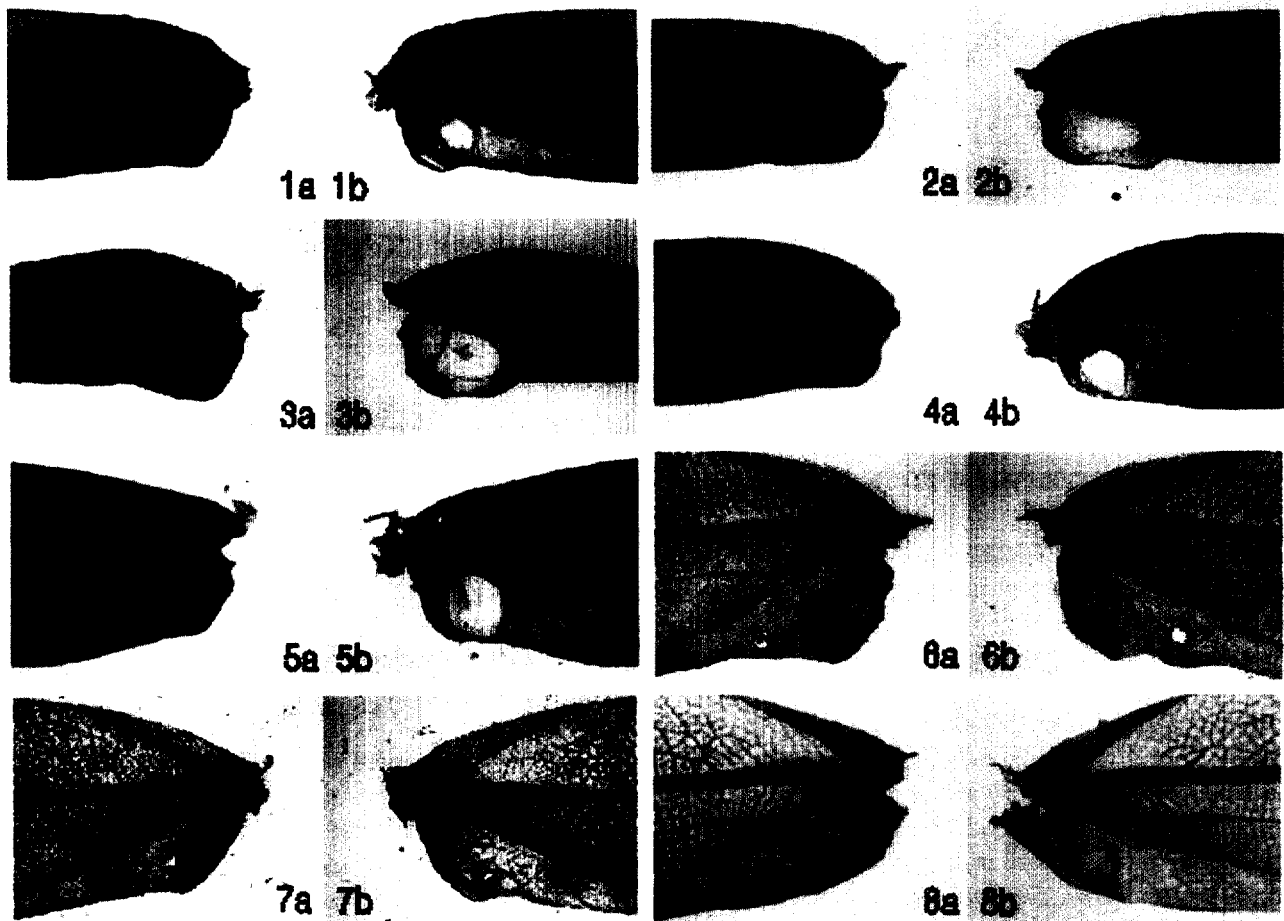
#### Subfamily Phaneropterinae Burmeister

Type genus: *Phanoptera* Audinet-Serville.

#### Key to Korean Species and Genera of Phaneropterinae

1. Auditory structure of fore tibiae identical each sides. Male subgenital plate without styli. .... 2  
- Auditory structure of fore tibiae slit shaped with conchate fold internally, oval shaped externally. Male subgenital plate with styli. .... 6
2. Base of fore femora with weak sinus. Auditory structure of fore tibiae slit shaped each sides with conchate fold. ....  
..... (**Genus *Elimaea***) ***E. fallax*** Bey-Bienko  
- Base of fore femora straight. Auditory structure of fore tibiae opened as oval shaped each sides. ....  
..... 3
3. Pronotum with strong humeral sinus. Tegmina with dark small spots developed. ....  
..... (**Genus *Phanoptera***) .... 4  
- Pronotum with weak humeral sinus. Tegmina without dark spots developed. .... 5
4. Antennae pale or concolor with body. Eyes slightly convex, not more than hemispherical. ....  
..... ***P. falcata*** Poda  
- Antennae black with regular whitish annulation. Eyes strongly convex, more than hemispherical. ....  
..... ***P. nigroantennata*** Brunner  
von Wattenwyl
5. Hind wings longer than tegmina in both sexes. Male subgenital plate bifurcate deeply. ....  
..... (**Genus *Ducetia***) ***D. japonica*** Thunberg

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**Figs. 1-8.** Stridulatory apparatus in tegmina of male (a. left, b. right). 1. *Elimaea fallax* Bey-Bienko, 2. *Phaneroptera falcata* (Poda), 3. *Phaneroptera nigroantennata* Brunner von Wattenwyl, 4. *Ducetia japonica* (Thunberg), 5. *Kuwayamaea sapporensis* Matsumura et Shiraki, 6. *Psyrana japonica* (Shiraki), 7. *Holochlora japonica* Brunner von Wattenwyl, 8. *Sinochlora longifissa* (Matsumura et Shiraki)

- Hind wings longer than tegmina only in male. Male subgenital plate not bifurcate, hemicylindrical. .... (Genus *Kuwayamaea*)

***K. sapporensis* Matsumura et Shiraki**

6. Male last abdominal tergite simple, cerci fully exposed. Female ovipositor as long as more 3 times of mid width. ....

..... (Genus *Psyrana*) ***P. japonica* Shiraki**

- Male last abdominal tergite largely developed, cerci covered. Female ovipositor as long as less 2.5 times of mid width. .... 7

7. Male last abdominal tergite bilobate. Female ovipositor serrated along dorsal margin with apex weakly truncated. ....

..... (Genus *Holochlora*) ***H. japonica***

**Brunner von Wattenwyl**

- Male last abdominal tergite trilobate. Female ovipositor serrated only apex with strong trunca-

tion. .... (Genus *Sinochlora*) ***S. longifissa***  
**Matsumura et Shiraki**

**Genus *Elimaea* Stål**

Type species: *Phaneroptera subcarinata* Stål.

**1. *Elimaea* (s. str.) *fallax* Bey-Bienko**

큰실배짱이 (Figs. 1a, 1b, 9)

*Elimaea fallax* Bey-Bienko, 1951. Trud. Vsesoyuz. Ent. Obshch. 43: 130. Figs. 1-2. Ussuriisk, Russia: Liu and Jin, 1993: 104. Korean peninsula.

*Phaneroptera grandis*: J. Agric. Tohoku Imp. Univ. 3(1): 23. Taf. II. fig. XV. a. Taiwan: Doi, 1932: 37; Cho, 1959: 34, fig. 37; Cho, 1969: 760. pl. 51; Lee, 1990: 106.

*Elimaea grandis*: ESK and KSAE, 1994: 48.

*Elimaea gradis* (sic!): Moon and Yoon, 1993: 56.

*Eirema* (sic!) *grandis*: Park et al. 1993: 165.

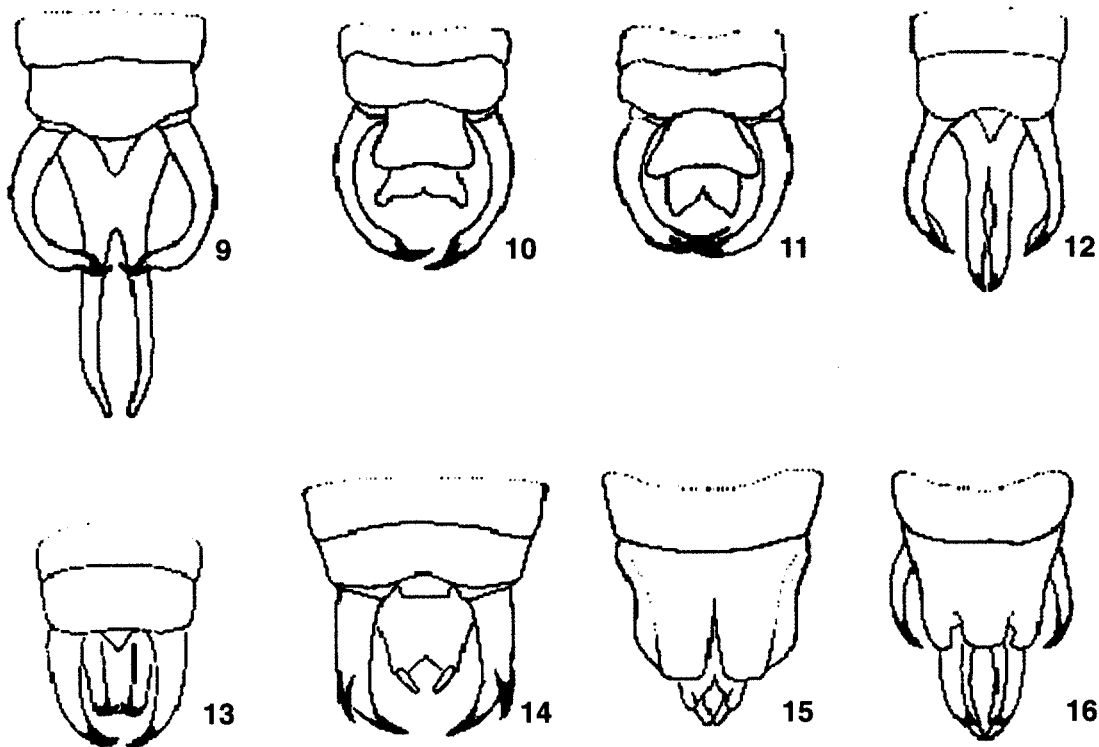
**Material examined.** GW- 1 female, Sangye Okgye Gangneung, 29 X 1999, Namkung, (NIAST); 1 female, Gangchon Chuncheon, 18 IX 1982, Kim, (SSU); 2 males 2 females, Gojindong Mt. Geonbongsan, 28 VIII 1990, Kim et al. (SSU); 1 male 1 female, Heulri Jinburyeong Goseung, 31 VIII 1984, Jang et al. (SSU); 1 male, Mt. Geumgangsán [Kankakei], 24 VIII 1924, Okamoto et al. (NIAST); 1 female, Naeseorak, 24 X 1971, Im, (EU); 2 females, Mt. Seoraksan, 9-10 X 1970, Lee et al. (EU); 1 male 2 females, Changwon-ri Yeongwol, 13 VIII-14 IX 1999, Kim, (NIAST); 6 males 2 females, Mt. Chiaksan Wonju, 14 VIII-15 X 1999, Kim et al. (NIAST); 2 females, Mt. Jeombongsan Gwidun-ri Inje, 26 IX 1998, Kim, (NIAST); 3 males 2 females, Mulgubi Jinburyeong, 10-12 VIII 1979, Yoon et al. (EU); 1 female, Goseokjeong Cheolwon, 24 VIII 1977, Yoon, (EU); 1 male 1 female, Malase trap, Mt. Myeongseongsan Cheolwon, 17 VIII-14 X 1999, Ku, (NIAST); 3 females, Balsan-ri Chuncheon, 28 VIII-10 XI 1998, Park, (NIAST); 3 males 1 female, Mt. Taebaeksan, 12-13 VIII 1999, Kim et al. (SSU); 1 female, Yongpyeong Pyeongchang, 26 VIII 1996, Choi, (NIAST); 1 male, Mt. Paekunsan Hwachon, 15 VIII 1996, Yoo. GG- 1 female, Mt. Godongsan Gapyeong, 1 IX 1980, Jang, (SSU); 1 male 2 females, Mt. Myeongjisan Gapyeong, 23-25 VIII 1996, Yim et al. (SSU); 1 male, Mt. Unaksan Gapyeong, 15 IX 1984, Choi, (SSU); 1 female, Byeokje Goyang, 1 IX 1973, Yoon, (EU); 1 male, Mt. Cheonggyesan, 14 VIII 1983, Kim, (SSU); 2 females, Gwangneung, 25 VIII-22 IX 1990, Yoo, (SSU); 1 female, Mt. Mugapsan Gwangju, 5 VIII 1991, Kim, (SSU); 3 females, Ungogae Gwangju, 15 IX-9 X 1984, Kim et al. (SSU); 1 female, Mt. Suraksan Namyangju, 15 IX 1991, Kim, (SSU); 3 males, Mt. Cheonmasan, 11 IX-9 X 1965, Sohn et al. (EU); 3 males 4 females, Mt. Chukryeongsan, 16 VIII 1999, Ku, (NIAST); 1 male, Mt. Soyosan, 1 IX 1991, Lee, (SSU); 1 female, Namhansanseong, 17 X 1980, Kim, (SSU); 1 female, Light trap, Suwon, 4 IX 1991, (NIAST); 1 male 4 females, Mt. Seounsan Anseong, 30 IX 1995, Choi, (NIAST); 1 male 1 female, Mt. Yongmunsan Yangpyeong, 22 VII-9 IX 1989, Kim et al. (SSU); 1 male, Yeongjongdo Incheon, 20 VIII 1967, Park, (EU); 1 female, Mungapdo Ongjin Incheon, 28 VII 1972, Lee, (EU); 1 male, Papyeong Paju, 22 VIII 1995, Yoon, (EU); 1 female, Mt. Gwanaksan, 6 X 1996, No, (SSU); 1 female, Mt. Guryongsan, 2 IX 1990, Kim, (SSU); 1 female, Mt. Namsan, 15 IX 1967, Cho, (EU); 1 female, Mt.

Daemosan, 19 VIII 1996, (SSU); 1 male 1 female, Mt. Dobongsan, 25-26 IX 1982, Kim et al. (SSU); 1 male 1 female, Mt. Bukhansan, 21 IX 1996, Lee, (SSU); 1 female, Mt. Suraksan, 29 IX 1995, Jang, (SSU); 1 female, Mt. Cheonggyesan, 20 X 1973, Park, (EU); 1 female, Hangang river-bed, 24 VIII 1997, Lee, (SSU). CB- 2 males 1 female, Mt. Sobaeksan, 31 IX 1994, Lee, (SSU); 1 male 1 female, Daemok Mt. Songrisan, 9 VIII 1990, Kim et al. (SSU); 1 female, Eumseong, 10 IX 1995, Lee, (SSU); 3 females, Deokgok Jecheon, 22 X 1995, Jeon, (SSU); 1 female, Noeun Jungwon, 16 VIII 1986, Lee, (SSU). CN- 1 male, Mt. Gyeryongsan Gongju, 24 VII 1973, Kim, (SSU); 1 female, Daecheon Boryeong, 15 VIII 1997, So, (SSU). GB- 1 female, Sangri Seongsan Goryeon, 28 VII 1997, Lee, (YNU); 5 males 2 females, Mt. Sudosan Gimcheon, 1 IX 1995, Choi, (NIAST); 1 male, Mungyeongsaejae, 14 IX 1980, No, (SSU); 1 male 4 females, Malase trap, Mt. Sobaeksan Yeongpung, 13 VIII-15 X 1999, Ku, (NIAST); 1 male, Mt. Paekamsan Uljin, 11 VIII 1999, Ku, (NIAST). GN- 4 males 3 females, Jungsan-ri Mt. Jirisan, 30-31 VII 1981, Han et al. (SSU); 1 female, Gajwa-dong Jinju, 2 VIII 1996, Jeong, (GSU). JB- 1 female, Gwanganru Namwon, 19 VIII 1990, Choi, (SSU). JN- 1 female, Toji Gurye, 27 IX 1996, Huh, (SSU); 1 female, Mt. Mudeungsan Gwangju, 10 X 1988, Lee, (SSU); 1 female, Mt. Naejangsan, 5 X 1992, Oh et al. (SSU); 1 female, Wando, 30 VIII 1984, Ahn, (NIAST); 1 male, Mt. Paekyangsan Jangseong, 23 VIII 1999, Kim, (NIAST).

**Biological note.** Female stridulation with weak sound is observed in this species as studied on some Phaneropterid (Heller and Helversen, 1986).

**Distribution.** Korea, China, Russia.

**Remarks.** In Korea, the name *Elimaea grandis* (Matsumura et Shiraki) from Taiwan mostly had been used for the species and *E. fallax* Bey-Bienko was reported recently by Liu and Jin (1993). All Korean samples were similar to this, based on geographical range, using the name *E. fallax* is reasonable. However, 1) measurements of Korean specimens are larger than them of *E. fallax* in general, while near to *E. grandis* 2) Bey-Bienko (1951) did not recognized the differences with *E. grandis* because the species belonged to the genus *Phaneroptera* at that time. Thus, it is need to clarify the difference with the types.



**Figs. 9-16.** Terminalia of male. 9. *Elimaea fallax* Bey-Bienko, 10. *Phaneroptera falcata* (Poda), 11. *Phaneroptera nigroantennata* Brunner von Wattenwyl, 12. *Ducetia japonica* (Thunberg), 13. *Kuwayamaea sapporensis* Matsumura et Shiraki, 14. *Psyra japonica* (Shiraki), 15. *Holochlora japonica* Brunner von Wattenwyl, 16. *Sinochlora longifissa* (Matsumura et Shiraki)

### Genus *Phaneroptera* Audinet-Serville

Type species: *Gryllus falcatus* Poda.

#### 2. *Phaneroptera falcata* (Poda) 실베장이

(Figs. 2a, 2b, 10)

*Gryllus falcatus* Poda, 1761. Ins. Mus. Graes., p. 52. Gratz, Austria.

*Phaneroptera falcata*: Cho, 1959: 34. fig. 39; Cho, 1969: 760. pl. 51; Storozhenko, 1986: 250; Lee, 1990: 105.

**Material examined.** HB- 1 female, Nanam [Ranan], 22 VIII 1922, Okamoto et al. (NIAST); 1 male, Hoeryeong [Kwainei], 22 VIII 1922, Okamoto et al. (NIAST). GW- 1 male, Geojin, 14 VIII 1980, Yoon, (EU); 1 female, Changwon-ri Yeongwol, 14 IX 1999, Kim, (NIAST); 1 male, Mt. Chiaksan Wonju, 14 VIII 1999, Ku, (NIAST); 1 female, Mt. Jeombongsan Gwidun-ri Inje, 26 IX 1998, Kim, (NIAST); 1 female, Seohwa Inje, 29 VIII 1992, Park, (SSU); 1 female, Tojeon Jeongseon, 26 VIII 1997, Kim et al. (SSU); 4 males 4 females, Mulgubi Jinburyeong, 10-13 VIII 1979, Yoon et al. (EU); 1 female, Balsan-ri Chuncheon, 10 XI 1998, Park,

(NIAST). GG- 1 male, Mt. Godongsan Gapyeong, 10 IX 1977, Lee, (SSU); 1 male 1 female, Songchu Goyang, 16 X 1983, Park, (SSU); 1 female, Gwangneung, 2 X 1966, Lee, (EU); 1 female, Mt. Mugapsan Gwangju, 5 VIII 1991, Kim, (SSU); 1 female, Mt. Bulamsan Namyangju, 18 IX 1982, Kim, (SSU); 3 females, Daeseong-ri, 22 IX-17 X 1984, Seo et al. (SSU); 1 male 2 females, Mt. Chukryeongsan Sudong, 6 VIII-28 IX 1980, Jang et al. (SSU); 1 male 1 female, Suwon [Suigen], 14 VII 1921, Okamoto, (NIAST); 1 female, Light trap [Yugato] *ibid*, 8 VII 1926, (NIAST); 1 male 1 female, Anseong, 30 IX 1966, Kim, (EU); 1 female, Anyang, 8 X 1967, Tak, (EU); 1 male 1 female, Mt. Yongmusan Yangpyeong, 31 VII 1978, Jang, (SSU); 1 male 1 female, Mt. Hobongsan Incheon, 2 X 1994, Yoon, (SSU); 1 female, Mt. Gamaksan Paju, 8 IX 1984, Kim, (SSU); 1 male 2 females, Mt. Cheonmasan Pyeongnae, 30 IX-14 X 1984, Lee et al. (SSU); 1 male, Misari Hanam, 14 VII 1991, Cho, (SSU); 2 females, Mt. Gwanaksan, 4 X 1997, Ahn, (SSU); 1 male, Mt. Namsan, 7 XI 1972, Kim, (EU); 1 male 1 female, Mt. Dobongsan, 22 IX 1984, Park, (SSU); 2

females, Mt. Bulamsan, 18 IX 1966, Kim et al. (EU); 2 females, Ehwa Univ. Campus, 21 IX-2 X 1965, Kim et al. (EU); 1 male, Taeneung, 12 IX 1969, Kim, (EU); 1 male, Hangang river-bed, 24 VIII 1997, Lee, (SSU). CB- 1 female, Bogyongsan Mt. Naeyonsan, 1 VIII 1983, Jang, (SSU); 1 female, Nohyeon Boeun, 23 X.1990. Kim, (SSU); 4 females, Sojeon Gunbuk Okcheon, 23 X 1990, Kim et al.; 1 female, Onyang, 27 IX 1988, Jeon, (SSU). CN- 1 male, Muryangsa Mt. Mansusan Boryeong, 19 VII 1999; Kang, (SSU); 1 male 1 female, AB area Seosan, 4 VII 2000, Lee, (NIAS); 1 female, Hyudaeri Asan, 20 IX 1992, Kim, (SSU). GB- 1 male, Yeongnam Univ. Campus Gyeonsan, 24 VI 1994, Huh, (YNU); 1 female, *ibid*, 18 VII 1998, Lee, (YNU); 1 male, Mt. Sudosan Gimcheon, 1 IX 1995, Choi, (NIAS); 1 male, Daegu, 30 VI 1975, Yeo, (EU); 1 male, Mt. Sobaeksan, 29 VII 1983, Yoon, (SSU); 1 female, Mt. Paekamsan Uljin, 2 VIII 1999, Kim et al. (NIAS); 1 female, Bulyeonggyegok Uljin, 1 VIII 1999, Han, (NIAS). GN- 1 female, Jinyeong Gimhae, 26 IX 1996, Ahn, (SSU); 1 male, Daeyeon-dong Busan, 22 VII 1972, Lee, (EU). JB- 1 male 1 female, Munsujae Buan, 18 VII 1998, Ryu, (YNU); 3 females, Bongun Buan, 10 X 1981, Jang, (SSU); 1 female, Saja-dong Buan, 13 IX 1998, Ryu, (YNU); 1 male 1 female, Sannae Buan, 28 VI 1990, Jeon, (SSU); 1 male, Sanoe Jeongeup, 1 IX 1998, Park, (SSU). JN- 1 female, Gwangju, 18 IX 1965, Jang, (EU); 1 male, Mt. Mudeungsan Gwangju, 10 X 1988, Lee, (SSU); 4 males 1 female, Geomundo Yecheon, 12-13 VII 1984, Kim et al. (SSU); 1 male 2 females, Wando, 6-7 VII 1982, Kim et al. (SSU). JJ- 2 females, Donnaeko, 12 VII 1983, (SSU); 1 male 2 female, Topyeong-ri Seogwipo, 12-20 VII 1983, Jang et al. (SSU).

**Biological note.** This species is univoltine in mountain area or bivoltine in southern part and lowland from the end of June until the mid of November in Korea as written by Lee (1990).

**Distribution.** Korea, Japan, Taiwan, China, Russia, Palaearctica.

### 3. *Phanoptera nigroantennata* Brunner

von Wattenwyl 검은다리실베짱이

(Figs. 3a, 3b, 11)

*Phanoptera nigroantennata* Brunner von Wattenwyl, 1878. Monogr. Phaneropt. p. 215. Japan: Doi, 1932: 37; Mori, 1933: 56; Lee, 1990: 106; Liu and Jin, 1993: 106.

*Phanoptera* (sic!) *nigroantennata*: Kamijo, 1933:

49.

= *Phanoptera nakanoensis* Matsumura et Shiraki, 1908. J. Agric., Tohoku Imp. Univ. 3(1): 21. Taf. II. fig. XIV. a. Tokyo, Japan: Mori, 1933: 56; Cho, 1959: 34. fig. 38; Cho, 1969: 760. pl. 80. [synonymized by Ragge, 1957]

**Korean name.** 검은수염이슬여치 (Ju, 1969); 검은다리실베짱이 (Lee, 1990); 검은다리베짱이 (Moon and Yoon, 1993) under *P. nigroantennata*. 나카노실베짱이 [나카노실베짱이] (Cho, 1959) under *Phanoptera nakanoensis*.

**Material examined.** GW- 1 male, Gangneung, 19 IX 1971, Kim, (SSU); 1 female, Gangchon Chuncheon, 18 IX 1982, Kim, (SSU); 8 males, Gojindong Mt. Geonbongsan, 28 VIII 1990, Park et al. (SSU); 2 females, Okgye Myeongju, 13~15 IX 1993, Jeong, (SSU); 1 male, Mt. Seoraksan, 9 IX 1972, Yoon, (EU); 7 males, Changwon-ri Yeongwol, 1 IX-30 X 1999, Kim, (NIAS); 1 male 1 female, Oeseorak, 26 IX 1979, Jang, (SSU); 2 males 1 female, Malase trap, Mt. Chiaksan Wonju, 4 VIII-15 X 1999, Ku, (NIAS); 2 males, Seohwa Inje, 29. VIII. 1990, Park, (SSU); 1 male 1 female, Goseokjeong Cheolwon, 24 VIII 1977, Yoon, (EU); 1 male, Mt. Myeongseongsan, 17 VIII 1999, Ku, (NIAS); 8 males 21 females, Balsan-ri Chuncheon, 25 VIII-10 XI 1998, Park, (NIAS); 1 female, Noil Hongcheon, 19 IX 1993, Kim, (SSU). GG- 2 males, Mt. Godongsan Gapyeong, 4-10 IX 1977, Seok et al. (SSU); 3 males 6 females, Mt. Myeongjisan Gapyeong, 23 IX 1989, Park et al. (SSU); 1 female, Wondang Goyang, 10. VIII. 1988, Paik, (SSU); 1 male, Mt. Cheonggyesan, 23 X 1994, Mo, (SSU); 1 female, Gwangneung, 5 IX 1954, Lee, (EU); 3 males 2 females, Mt. Mugapsan Gwangju, 15 IX 1991, Kim et al. (SSU); 2 males 1 female, Eommi-ri Gwangju, 15 IX 1984, Kim et al. (SSU); 4 males, Bogwangsa Gwangtan, 4-17 IX 1977, Park et al. (SSU); 3 males, Mt. Suraksan Namyangju, 15 IX 1991, Kim et al. (SSU); 1 male 1 female, Mt. Soyosan, 6 X 1981, Jang, (SSU); 2 males 1 female, Namhansanseong, 6-28 IX 1997, Jang et al. (SSU); 5 males 2 females, Mt. Yeogisan Suwon, 27 VIII-31 X 1982, Ryu et al. (NIAS); 2 males, Mt. Seounsang Anseong, 30 IX 1995, Choi, (NIAS); 1 female, Yangsuri, 14 X 1978, Yoon, (EU); 2 males, Mt. Yong-munsan Yangpyeong, 1 IX 1980, Jang et al. (SSU); 1 male, Mt. Ungilsan Namyangju, 19 X 1995, Lee, (NIAS); 1 male, Yeosu, 10 X 1975, Park, (NIAS); 1 female, Mt. Cheolmasan Incheon, 10 IX 1995, Lee, (SSU); 7 males 1 female, Mt. Gamaksan Paju, 8 IX 1984, Jang et al. (SSU); 1

male, Mt. Cheonmasan Pyeongnae, 13 X 1984, Jang, (SSU); 1 male, Yeongpyeong Pocheon, 21 IX 1996, Kim, (SSU); 3 males, Mt. Gwanaksan, 3 X 1992, Lee, (SSU); 1 female, Nanjido Seoul, 16 IX 1999, Yoon, (EU); 1 male, Mt. Daemosan, 20 VIII 1998, Jang, (SSU); 3 males, Mt. Dobongsan, 4~16 IX 1982, Kim et al. (SSU); 9 males 1 female, Mt. Umyeonsan Seoul, 1-19 IX 1991, Oh et al. (SSU); 6 males, Wonji-dong Seoul, 14 VIII-14 IX 1985, Kwon et al. (SSU); 1 male, 8. X. 1995, ○]; 4 males 2 females, Ehwa Univ. Campus, 21 IX 1976, Yoon, (EU); CB- 1 female, Hwayang Cheongcheon Goe-san, 15 IX 1984, Kim, (SSU); 1 female, Yeongdong, 18 VII 1981, Oh, (SSU); 1 male, Deokgok Jecheon, 18 VIII 1996, Park, (SSU); 1 female, Mt. Wolaksan Jecheon, 29 VIII 1994, Lee, (SSU); 1 male, Cheonan, 12 IX 1992, Bae, (SSU); 1 female, Danwol-dong Chungju, 14 IX 1996, Jeon, (SSU). CN- 1 male 1 female, Mt. Gyeryongsan Gongju, 30 VII 1982, Goh, (NIAS); 2 males 1 female, *ibid*, 8 X 1994, Kim, (SSU); 1 female, Daejeon, 1 IX 1992, Nam, (EU); 2 females, Seochang, 17 IX 1997, Yeom, (SSU); 1 female, Hyudae-ri Asan, 20 IX 1992, Kim, (SSU). GB- 1 female, Yeongnam Univ. Campus Gyeongsan, 24 VIII 1997, (YNU); 1 female, Goryeongyo Goryeong, 6 IX 1997, Lee, (YNU); 1 female, Mt. Sudosan Gimcheon, 1 IX 1995, Choi, (NIAS); 3 males 1 female, Ehwaryeong Mungyeong, 31 VIII 2000, Lee, (NIAS); 1 male, Mungyeongsaejae, 14 IX 1980, Kim, (EU); 1 female, Andong Univ. Campus, 17 VIII 1990, Lee, (NIAS); 1 male 1 female, Ma-lase trap, Mt. Sobaeksan, 13 VIII-15 X 1999, Ku, (NIAS). GN- 1 male, Deokgye, 18 VIII 1996, Park, (SSU); 1 female, Jinjeon Masan, 28 VIII 2000, Kang, (NIAS); 1 female, Duseo Ulju, 11 IX 1992, Choi, (SSU); 1 female, Donam-dong Chungmu, 11 IX 1992, Shin, (SSU). JB- 1 male, Oncheon Byeonsan, 13 IX 1998, Ryu, (YNU); 1 male 1 fe-male, Maljae Buan, 13 IX 1998, Ryu, (YNU); 1 male, Saja-dong Buan, 13 IX 1998, Ryu, (YNU); 1 male, Unju Wanju, 10 VIII 1995, Ku, (SSU); 2 males, Iri, 22 IX 1991, Oh, (SSU). JN- 1 male, Dapgok Gwangyang, 11 VIII 1993, Ha, (SSU); 1 male 1 female, Mt. Mudeungsan Gwangju, 10 X 1988, Lee, (SSU); 3 males, Mt. Paekyangsan [Hakuyosan] Jangseong, 9 X 1921, Hasegawa, (NIAS); 1 male, *ibid*, 23 VIII 1999, Kim, (NIAS).

**Biological notes.** This species is univoltine in mountain area or bivoltine in southern part and lowland from the mid of June until the mid of November in Korea as written by Lee (1990). Also

which is likely to inhabit mountain area, comparing with *Phaneroptera falcata* Poda.

**Distribution.** Korea, Japan, Taiwan, China.

#### Genus *Ducetia* Stål

Type species: *Locusta japonica* Thunberg.

#### 4. *Ducetia japonica* (Thunberg) 줄베짱이 (Figs. 4a, 4b, 12)

*Locusta japonica* Thunberg, 1815. Mém. Acad. Sci. Imp. Petersb., V: 282. Japan.

*Ducetia japonica*: Doi, 1932: 37; Cho, 1959: 35. fig. 40; Cho, 1969: 761. fig. 12; Lee, 1990: 107; Gorochov et al. 1993: figs. 23-25; Liu and Jin, 1993: 103.

*Dicetia* (sic!) *japonica*: Mori, 1933: 56.

*Dicetia* (sic!) *thymifolia*: Mori, 1933: 56. (misidentification)

*Ducetia thyrnifolia* (sic!): Ju, 1969: 17. (misidentification)

**Material examined.** GW- 1 male 1 female, Gyodong Gangneung, 12 IX 1993, Park, (SSU); 3 females, Gangchon Chuncheon, 4-18 IX 1982, Kim et al. (SSU); 4 males 2 females, Gojindong Mt. Geonbongsan, 28 VIII 1990, Park et al. (SSU); 2 females, Sinpyeong Goseong, 26 VIII 1998, Nam, (SSU); 2 females, Mt. Seoraksan, 9 X 1970, Byeon et al. (EU); 5 females, Chanwon-ri Yeongwol, 16 X 1998, Park, (NIAS); 4 males, Malase trap, Mt. Chiaksan Wonju, 4 VIII-15 X 1999, Ku, (NIAS); 1 female, Gyeonggang Chunseong, 16 IX 1984, Jang, (SSU); 6 males 27 female, Balsan-ri Chuncheon, 28 VIII-10 XI 1998, Park, (NIAS); 1 female, Noil Hongcheon, 18 IX 1993, Kim, (SSU); 1 female, Mt. Paekunsan Hwacheon, 16 IX 1990, Lee, (SSU). GG- 2 females, Gwangneung, 5-9 X 1968, Cho et al. (EU); 3 males 6 females, Mt. Chukryeongsan Sudong, 6 IX-19 X 1980, Jang et al.; 2 males 1 female, Mt. Cheonggyesan, 31 VIII-1 IX 1991, Kim et al. (SSU); 1 female, Maseok Namyangju, 17 IX 1988, Lee, (SSU); 1 male 1 female, Mt. Suraksan, 15 IX 1991, Kim, (SSU); 1 male 4 females, Suwon, 8 VIII-28 IX 1992, Yeom et al. (NIAS); 1 male 2 females, Mt. Myeongjisan 23 IX 1989, Cho et al. (SSU); 1 female, Ganghwado, 25 X 1992, Yoon, (SSU); 1 male, Jangheung Goyang, 18 IX 1991, Paik, (SSU); 1 male 1 female, Mt. Gwanaksan ,8-15 IX 1990, Kim et al. (SSU); 1 female, Mt. Namsan, 7 XI 1992, Kim, (EU); 4 males 1 female, Mt. Daemosan, 29 VIII-13 X 1998, Park et al. (SSU); 5 males 2 females, Mt. Dobongsan, 21 VIII-11 X

1992, Jeon et al. (SSU); 3 males 10 females, Ungogae Gwangju, 15 IX–9 X 1984, Park et al. (SSU); 1 male, Bogwangsa Gwangtan, 3 X 1998, Kim, (NIAST); 3 females, Mt. Soyosan Dongducheon, 1–22 IX 1991, Lee, (SSU); 3 females, Mt. Bukhansan, 3 IX 2000, Kim, (NIAST); 2 males 2 females, Mt. Bulamsan, 14 VII–13 IX 1986, Jegal et al. (SSU); 1 male 2 females, Namhansanseong, 31 VIII–3 X 1996, No et al. (SSU); 2 males, Mt. Ahasan, 28 VIII 1997, Cho, (SSU); 1 male 2 females, Mt. Yongmunsan, 16–22 IX 1990, Kim, (SSU); 2 females, Mt. Yumyeongsan Yangpyeong, 3 VIII 1998, Sohn, (SSU); 1 female, Gunnam Yeoncheon, 4 IX 1994, Yang, (SSU); 5 males 1 female, Wonji-dong, 14 IX 1985, Kim et al. (SSU); 1 female, Uijeongbu, 27 IX 1998, Kim, (SSU); 1 female, Juan Incheon, 10 IX. 1967, Kim, (EU); 1 male 3 females, Mt. Gamaksan Paju, 8 IX 1984, Kim et al. (SSU); 1 male 2 females, Mt. Cheonmasan Pyeongnae, 29 VIII–4 IX 1981, Kim et al. (SSU); 2 males, Yeongpyeong Pocheon, 18 VIII–21 IX 1996, Kim et al. (SSU); 1 female, Hyangnam Hwaseong, 18 IX 1988, Lee, (SSU). CB– 1 female, Goesan 9 X 1987, Ahn, (NIAST); 1 female, Sojeong Gunbuk Okcheon, 23 X 1990, Kim, (SSU); 1 female, Ewol Jincheon, 12 VIII 1998, Lee, (NIAST); 1 male, Cheonju, 2 VIII 1960, Jeong, (EU). CN– 1 male, Mt. Gyeryongsan Gongju, 28 VII 1984, Kim, (SSU); 2 males, Dusan Dangjin, 17 VIII 1984, Choi, (SSU); 1 female, Daejeon, 30 IX 1993, Lee, (SSU); 1 female, Jiksan, 15 VIII 1971, Park, (SSU); 1 female, Cheonan, 14 X 1996, Jeong, (SSU); 1 female, Hongseong, 23 X 1983, No, (SSU). GB– 2 females, Yeongnam Univ. Campus Gyeongsan, 30 VIII–2 IX 1993, Kim et al. (YNU); 1 female, *ibid*, 18 VIII 1996, Park, (YNU); 1 female, Sangri Seongsan Goryeong, 6 IX 1997, Ryu, (YNU); 1 male 1 female, Jikjisa Gimcheon, 22 X 1972, Cho, (EU). GN– 1 male, Mt. Bukbyeongsan Dongbu Goje, 29 VIII 2000, Lee, (NIAST); 1 male, Mt. Gudeoksan Busan, 23 VIII 1971, Kim, (EU); 1 female, Yaeum Ulsan, 22 IX 1991, Shim, (SSU). JB– 1 female, Maljae Buan, 13 IX 1998, Ryu, (YNU); 1 male 2 female, Bongun Buan, 10 X 1981, Jang, (SSU); 1 female, Imsil, 17 X 1970, Han, (EU); 1 male, Jangsu, 1 VIII 1960, Lee, (EU). JN– 1 female, Toji Gurye, 27 IX 1996, Huh, (SSU); 1 male 1 female, Mt. Paekunsan Gwangyang, 24 VIII 1999, Kim, (NIAST); 2 males, Gwangju, 5–13 VIII 1985, Yoon, (SSU); 1 female, Mt. Mudeungsan, 29 IX 1984, Jang, (SSU); 1 male, *ibid*, 10 X 1988, Im, (SSU); 1 female, Yeosu, 23 IX 1991, Shim, (SSU); 1

male, Wando, 23 VIII 1982, Jang, (SSU); 1 male, *ibid*, 31 VIII 1984, Ahn, (NIAST); 2 males 2 females, Mt. Paekyongsan [Hakuyosan] Jangseong, 9 X 1921, Hasegawa, (NIAST); 1 male, Haenam, 28 VII 2000, Kim, (NIAST). JJ– 1 female, Jeju, 17 VIII 1975, Kim, (SSU); 1 male, *ibid*, 12 VIII 1983, Lee, (NIAST).

**Distribution.** Korea, Japan, Taiwan, China, Australia.

### Genus *Kuwayamaea* Matsumura et Shiraki

Type species: *Kuwayamaea sapporensis* Matsumura et Shiraki.

#### 5. *Kuwayamaea sapporensis* Matsumura et Shiraki 극동실베짱이 (Figs. 5a, 5b, 13)

*Kuwayamaea sapporensis* Matsumura et Shiraki, 1908. J. Agric. Tohoku Imp. Univ. 3(1): 8. Taf. II. fig. XI. a–d. Josankei, Sapporo, Hokkaido, Japan: Uvarov, 1926: 274; Doi, 1932: 37; Mori, 1933: 56; Bey-Bienko, 1955: 1252; Cho, 1959: 35. fig. 41. A–B; Cho, 1969: 762. pl. 51 (♂), 80 (♀). fig. 13; Rentz and Miller, 1971: 270; Storozhenko, 1986: 253; Gorochov et al. 1993: 288. figs. 1–11.

*Ducetia sapporensis*: Kim and Yoo, 1987: 495; Naskrecki and Otte, 1999. 2 images (male, stridulatory apparatus) from Daegu [Teagu], Korea.

*Ducetia chinensis*: Ragge, 1961: 190 (*part.*) fig. 8, 24, 35, 56, 84; Storozhenko, 1980: 12 (*part.*) Storozhenko, 1986: 250 (*part.*). (misidentification)

*Ducetia* (sic!) *chinensis*: Lee, 1990: 107. (misidentification)

*Duetia* (sic!) *chinensis*: Moon and Kim, 1995: 231. (misidentification)

*Kuwayamaea chinensis*: Kwon et al. 1996: 103. (misidentification)

*Isotima japonica*: Nagaoka, 1938: 29. (misidentification)

**Korean name.** 극동실베짱이 (Kwon et al. 1996) under *Kuwayamaea sapporensis*. 북방실베짱이 [북방실벧장이] (Cho, 1959); 이슬여치 (Ju, 1969) under *K. [Ducetia] chinensis*.

**Material examined.** GW– 1 male, Malase trap, Mt. Chiaksan Wonju, 4 VII–15 X 1999, Ku, (NIAST); 1 female, Jindong-ri Inje, 1 X 1995, Moon, (KU); 1 male 2 females, Balsan-ri Chuncheon, 13 VII–10 VIII 1998, Park, (NIAST) GG– 1 male, Gwangreung, 4 VIII 1981, Yoon, (EU); 1 male, Pocheon, 30 VII 1994, Choi, (NIAST). CN– 5 males, Mt. Gwangdeoksan Cheonan, 9 VIII 1999, Kim, (NIAST). GB– 1 female, Andong, 2 VII 1988, Lee,

(NIAST); 1 female, Mt. Juwangsang Cheongsong, 6 IX 2000, Kim, (NIAST). GN- 2 male, Hyangrobong Dongsan-ri Sangri-myeon Goseong, 5 VIII 1999, Jeon, (GSU); 1 male, Mt. Muisan Munsuam Sangri-myeon Goseong, 7-8 VIII 1996, Lee, (GSU); 1 male, Mt. Odusan Osan-ri Sangri-myeon Goseong, 7-8 VIII 1996, Jeon, (GSU); 1 male, Mt. Yeohangsang Hapso Masan, 12 VIII 1999, Kim, (GSU); 1 female, Cheokgwa-ri Beomseo-myeon Ulju, 17 VIII 1987, (GSU); 1 male, Mt. Jirisan, 19 VIII 1982, Kim, (KU). JB- 2 males 1 female, Mt. Naejangsang, 2-3 VIII 1974, Kim et al. (KU); 1 male, Selcheon-myeon Muju, 22 VIII 1977, Nam, (KU); 1 female, Naesosa Buan, 17 VII 1998, Ryu, (YNU); 1 female, Bongnae Buan, 20. VII. 1998, Ryu, (YNU). JN- 2 females, Mt. Baekunsang Gwangyang, 20 VIII 1992, Ahn, (NIAST); 2 males, *ibid*, 25 VIII 1999, Kim, (NIAST); 1 male, Songgwangsa Senamsa, 8 VIII 1976, Kim, (KU); 1 male 1 female, Dogapsa Mt. Wolchulsang Yongam, 27-28 VII 1988, Park, (KU); 2 males, Mt. Paekyongsang Jangseong, 4-5 VIII 1974, Kim, (KU); 1 female, Wonsang Gusan-ri Nasan-myeon Hampyeong, 28. VII. 2000, Park, (S.M. Lee's collection); 1 male, Yongseong-ri Daedong-myeon Hampyeong, 25 VII 2000, Lee, (S.M. Lee's collection). JJ- 1 male, Donnaeko Seogwipo, 29 VII 1998, Park, (NIAST); 3 males 2 females, Seongpanak, 5 VIII 1984, Park, (S.M. Lee's collection); 1 male, *ibid*, 12 VIII 1995, (NIAST); 1 female, Eoseungsaeng, 11 VIII 1984, Park, (S.M. Lee's collection); 3 females, *ibid*, 2 IX 1994, Park, (S.M. Lee's collection); 1 male 1 female, Mt. Hallasan, 11. VIII. 1984, Lee, (S.M. Lee's collection).

**Distribution.** Korea, Japan, Russia.

**Remarks.** This species was confused with *Kuwayamaea [Ducetia] chinensis* (Brunner von Wattenwyl), but the differences are quite clear according to designation of neotype, *K. chinensis* by Gorochov et al. (1993). All Korean specimens were agreed well with *K. sapporensis* Matsumura et Shiraki.

### Genus *Psyrana* Uvarov

Type species: *Psyrana melanonota* Stål.

#### 6. *Psyrana japonica* (Shiraki) 검은테베짱이 (신칭) (Figs. 6a, 6b, 14)

*Psyrana japonica* Shiraki, 1930. Trans. Nat. Soc. Formosa, 20: 339. Mt. Koyasan, Wakayama, Japan.

**Diagnosis.** Length of body with tegmina 44~48 mm. Body color deep green. Macropterous. Last abdominal tergite simple. Male cercus horn shaped with granulation and a short inner spine located in middle dorsally; apex pointed sharply (Fig. 14). Female subgenital plate trapezoidal. Ovipositor sickle shaped as long as 4 times of middle width.

**Material examined.** JJ- 1 male, Donnaeko, 15 VIII 1990, Yoon, (KU); 1 male, Gwaneumsa, 14 VIII 1990, Han, (KU); 1 female, *ibid*, 21 VIII 1995, Park, (S.M. Lee's collection).

**Distribution.** Korea (new record), Japan.

### Genus *Holochlora* Stål

Type species: *Holochlora venosa* Stål.

#### 7. *Holochlora japonica* Brunner von

Wattenwyl 배짱이불이 (Figs. 7a, 7b, 15)

*Holochlora japonica* Brunner von Wattenwyl, 1878. Monogr. Phaneropt. pp. 175, 181. Japan: Mori, 1933: 56; Ebner, 1939: 300. figs. 9-10; Cho, 1959: 36. fig. 42; Cho, 1969: 762. pl. 51.

**Korean name.** 배짱이불이 [벧장이불이] (Cho, 1959), 과수여치 (Ju, 1969), 어리베짱이 (ESK and KSAE, 1994).

**Material examined.** GB- 1 female, Yeongnam Univ. Campus Gyeongsang, 16 X 1993, Lee, (YNU); 1 female, Sangri Seongsang Goryeong, 6 IX 1997, Ryu, (YNU); 1 female, Inan Seongsang Goryeong, 6 IX 1997, Lee, (YNU). GN- 1 female, Mt. Bukbyeongsang Dongbu Geoje, 29 VIII 2000, Lee et al. (NIAST); 3 males, Jangsuam Yulpo Dongbu Geoje, 25-26 VIII 1990, Yoon et al. (GSU); 1 female, Soksa Geumsang, 17 X 1985, Jeon, (GSU); 1 female, Mt. Muhaksang Masan, 3 VIII 1997, Lee, (SSU); 1 male, Mt. Gudeoksang Busan, 4 VIII 1971, Kim, (EU); 1 female, Soho-dong Yeosu, 23 IX 1991, Shim, (SSU); 1 female, Gajwa-dong Jinju, 20 VIII 1984, Ku, (GSU); 1 male, *ibid*, 18 VIII 1985, Oh, (GSU); 1 male 1 female, *ibid*, 27 X 1986, Paik et al. (GSU); 1 female, *ibid*, 27 VIII 1987, (GSU); 8 males 4 females, Mt. Bibongsang Sangbongseo-dong Jinju, 10 VIII-12 X 1984, Oh, (GSU); 2 females, Jinyangho Jinju, IX 1985, Song, (GSU); 1 female, Jinhae, 18 IX 1988, Yoon, (EU); 1 male, Changwon, 8 IX 1991, Lee, (NIAST); 1 male, Gadeok-ri Geumseong Hadong, 19 IX 1998, Jeon, (GSU); 1 female, Pyeongchon Cheongam Hadong, 17 IX 1981, (GSU). JJ- 1 female, Seongeup Namjeju, 3 IX 1994, Lee, (S.M. Lee's collection); 1 female, Musucheon, 9 X 1999, Kim, (NIAST); 1 female, Seoguiipo, 16 VIII



1973, Huh, (EU); 1 female, Donnaeko Seoguipo, 3 IX 1994, Lee, (S.M. Lee's collection).

**Distribution.** Korea, Japan, Taiwan, China, Hawaii.

### Genus *Sinochlora* Tinkham

Type species: *Sinochlora kwangtungensis* Tinkham.

#### 8. *Sinochlora longifissa* (Matsumura et Shiraki) 날배쟁이 (Figs. 8a, 8b, 16)

*Holochlora longifissa* Matsumura et Shiraki, 1908. J. Agric. Tohoku Imp. Univ. 3(1): 18. Taf. II. fig. XIII. a. Yamaguchi, Japan: Lee, 1990: 107.

**Material examined.** GW- 1 female, Gangchon Chuncheon, 20 IX 1996, Huh, (SSU). GG- 1 male 3 females, Seondu-ri Gilsang-myeon Ganghwa, 12 VIII 1991, Kim, (SSU); 1 male, Mt. Manisan Ganghwa, 11 VIII 1991, Kim, (SSU); 1 male, Jeondeungsa Ganghwa, 15 IX 1991, Ahn, (SSU); 1 male, Ilsan Goyang, 4 X 1998, Choi, (NIAST); 1 male, Gwacheon, 8 IX 1990, Kim, (SSU); 1 female, Mt. Cheonggyesan Gwacheon, 20 IX 1998, Kim, (NIAST); 1 male 1 female, Mt. Taehwasan Gwangju, 11 VIII 1989, SHS et al. (KU); 1 male, Bogwangsa Gwangtan, 3 X 1998, Kim, (NIAST); 1 male, Songnae Dongducheon, 11 VIII 1991, Yoon, (SSU); 1 male, Seongnam, 14 IX 1987, Lee, (SSU); 1 female, Namhansanseong, 26 VIII 1990, Kim, (SSU); 1 male, Bundang, 5 IX 1997, Lee, (SSU); 1 male, Suwon, 21 VIII 1985, Ahn, (NIAST); 1 female, Mt. Gwanggyosan Suwon, 18 VIII 1999, Chang, (NIAST); 13 males 1 female, Mt. Surisan Anyang, 23 VIII 1986, Ahn et al. (NIAST); 1 male, Osan, 11. IX. 1992, Park, (SSU); 1 female, Myeongji Univ. Campus Yongin, 10 VIII 1996, Kim, (SSU); 1 female, Mt. Sohyeonsan Yongin, 16 IX 1991, Lee, (SSU); 6 males 2 females, Jangheung, 3 IX 1999, Yoon, (EU); 4 males 2 females, Mt. Jugeumsan Pocheon, 12 IX 1999, Park, (NIAST); 1 female, Mt. Dobongsan, 24 IX 1995, Lee, (SSU); 1 male, Mt. Cheonggyesan, 22 VIII 1973, Oh, (SSU); 1 female, *ibid*, 15 VIII 1998, Kang, (SSU). CB- 1 female, Dongi-myeon Okcheon, 28 IX 1993, Lee, (SSU); 1 female, Mipyong Cheongju, 18 X 1992, Park, (SSU). CN- 2 males 1 female, Gapsa Mt. Gyeryongsan Gongju, 4-6 VIII 1973, Nam et al. (KU); 1 female, *ibid*, 19 VIII 1976, Lee, (KU); 1 male 1 female, Cheondong Daejeon, 10 VII-22 VIII. 1997, Lee et al. (SSU); 1 male, Daecheon Boryeong, 15 VIII 1987, Sohn, (SSU); 1 male, Onseok-dong Seosan, 18 VIII 1997, Choi, (SSU); 1

female, Seochang, 17 IX 1997, Yeom, (SSU); 1 male 1 female, Hyudae-ri Asan, 20 IX 1992, Kim, (SSU). GB- 1 male, Ehwaryeong Mugyeong, 31 VIII 2000, Lee, (NIAST); 1 male, Samgye-ri Unmun-myeon Cheongdo, 26 VIII 1990, Park, (GSU). GN- 1 female, Bonggoksa Geoje, 14-15 VIII 1985, Kim, (GSU); 1 female, *ibid*, 14 VIII 1986, Park, (GSU); 1 female, Sinhyeon Geoje, 6 VIII 1987, (GSU); 1 male, Yongyeon Habuk Yangsan, 20 VIII 1987, (GSU); 1 female, Seochang Ungsang Yangsan, 19 VIII 1987, (GSU); 1 female, Yeongpo Wondong-myeon Yangsan, 15 VIII 1989, (GSU); 1 male, Gampo Ulju, 12 VIII 1990, Shin, (NIAST); 1 male 1 female, Gangdong Ulju, 18 VIII 1987, (GSU); 10 males, Cheokgwa-ri Beomseo-myeon Ulju, 17-18 VIII 1987, (GSU); 1 male, *ibid*, 14-18 VIII 1989, (GSU); 3 males, Pyeonchon Cheonam Hadong, 17 IX 1987, (GSU); 7 males 1 female, Hwagae Hadong, 19-29 IX 1987, (GSU). JB- 2 males, Byeonsan, 20 VII 1982, Goh, (SSU); 3 males 1 female, Naesosa Buan, 6. IX. 1998, Ryu et al. (YNU); 1 male, Maljae Buan, 13 IX 1998, Ryu, (YNU); 2 males 1 female Buan Dam Buan, 5 IX 1998, Lee et al. (YNU). JN- 1 female, Mt. Paekunsan Gwangyang, 20 VIII 1992, Ahn, (NIAST); 1 male, *ibid*, 25 VIII 1999, Kim, (NIAST); 1 male, Mt. Naejangsan, 6 X 1974, Yoo, (KU); 2 males, Suncheon, 20 VIII-10 IX 1987, Paik, (KU); 1 female, Mt. Paekyangsan Jangseong, 13 X 1971, Han, (EU); 1 male 1 female, *ibid*, 23 VIII 1999, Kim, (NIAST); 2 males, Mt. Jirisan, 17 X 1992, Kim et al. (EU); 1 female, *ibid*, 17 IX 1996, Choi, (NIAST); 2 males 2 females, Mt. Daedunsan Haenam, 14-15 VIII 1972, Kim et al. (KU).

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

**Remarks.** This species was mostly treated in *Holochlora*, but transferred to *Sinochlora* by Xia and Liu (1992), according to Jin and Xia (1994) though without remark for new combination. The species was agreed well with definition of the genus *Sinochlora* by Tinkham, 1944 [1945].

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