

# Two Species of Melanoplinae (Orthoptera: Catantopidae) New to Korea

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Korean peninsula

*aberrans* Ikonnikov and *Miramella solitaria*

at, Korea, Melanoplinae, New Record, Orthop

## INTRODUCTION

of the Podismini (Orthoptera) are listed in Korea in the literature papers by Kim (1980, 1981, 1982, 1983, 1984, 1985). In particular, Kim (1980) reported the first record of Podismini in the Korean peninsula and Melanoplinae in Korea.

Kim (1980) was illuminated to the existence of *Melanoplinae* in Korea, according to the study of Kim (1980) and Kim (1981) on the distribution of *Melanoplinae* in Korea, which is mentioned in Kim (1980).

Kim (1980) reported the first record of *Melanoplinae* in Korea, *Melanoplina aberrans* Ikonnikov and *Melanoplina solitaria* (Ikonnikov, 1911).

Kim (1980) reported *Melanoplinae* already in Korea, *Melanoplina aberrans* Ikonnikov, *Melanoplina solitaria* (Ikonnikov, 1911), *Melanoplina*

*aberrans* Ikonnikov, *Melanoplina solitaria* (Ikonnikov, 1911), *Melanoplina* *aberrans* Ikonnikov, *Melanoplina solitaria* (Ikonnikov, 1911), *Melanoplina* *aberrans* Ikonnikov, *Melanoplina solitaria* (Ikonnikov, 1911).

Kim (1980) reported the specimens of both *Melanoplinae* in the middle part of the Korean peninsula and Gyeonggi-do and Gyeonggi-do.

Kim (1980) reported the specimens of both *Melanoplinae* in the middle part of the Korean peninsula and Gyeonggi-do and Gyeonggi-do.

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## Two Species of Melanoplineae (Orthoptera: Catantopidae) New to Korea

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**ABSTRACT** Two species of the subfamily Melanoplineae (Orthoptera: Catantopidae) from Korean peninsular are newly recognized: *Podisma aberrans* Ikonnikov and *Miramella solitaria* (Ikonnikov).

**Key words :** Catantopidae, Korea, Melanoplineae, New Record, Orthoptera, Podismini

### INTRODUCTION

Twelve species of the tribe Podismini (Orthoptera: Melanoplineae, Catantopidae) are listed in Korea (Kwon and Huh 1994), since the earlier papers by Lee and Lee (1984), and An and Lee (1986). In practical, the groups, Podismini or Podisminae that is represented from Palaeartic region and Melanoplineae that is firstly known from Nearctic region are equivalent, which was illuminated by Storozhenko (1993). In this paper, according to generally accepted current system, we simply deal with it under a subfamilial position that is Melanoplineae in the family Catantopidae which is commonly known as a spine-breasted grasshopper.

In a course of taxonomic study of the Korean Orthoptera, two species of the Melanoplineae are newly recognized: *Podisma aberrans* Ikonnikov, 1911 and *Miramella solitaria* (Ikonnikov, 1911). From the five genera of Melanoplineae already known in Korea, (i.e. *Anapodisma*, *Ognevia*, *Parapodisma*, *Primnoa*, and *Zubovskya*) both of them are easily distinguished by generic specificities and quite useful keys for this group (Bey-Bienko and Mishchenko, 1951; Mishchenko, 1952; Storozhenko, 1983; Storozhenko, 1986).

It is an interesting fact, the specimens of both species are collected around middle part of the Korean peninsular (i.e. Gangwon-do and Gyeonggi-do). So far, their distributions were known limited in Far Eastern Russia and Mts. Changbaishan area in China (Zhang, 1984; Won et al., 1990; Chang and Choe, 1992). Thus, this recognition helps us to

believe that grasshoppers are also found in North Korea.

The abbreviations used in this paper are as follows: BL: Body length; GG: Gyeonggi-do; GW: Gangwon-do; HFL: Hind femoral length; LT: Lectotype; PL: Pronotal length; SSU: Sungshin Women's University, Korea; TL: Tegminal length; ZMMU: Zoological Museum, Moscow University, RUSSIA.

### ADDING SPECIES OF MELANOPLINAE TO KOREAN FAUNA

#### 1. *Podisma aberrans* Ikonnikov, 1911

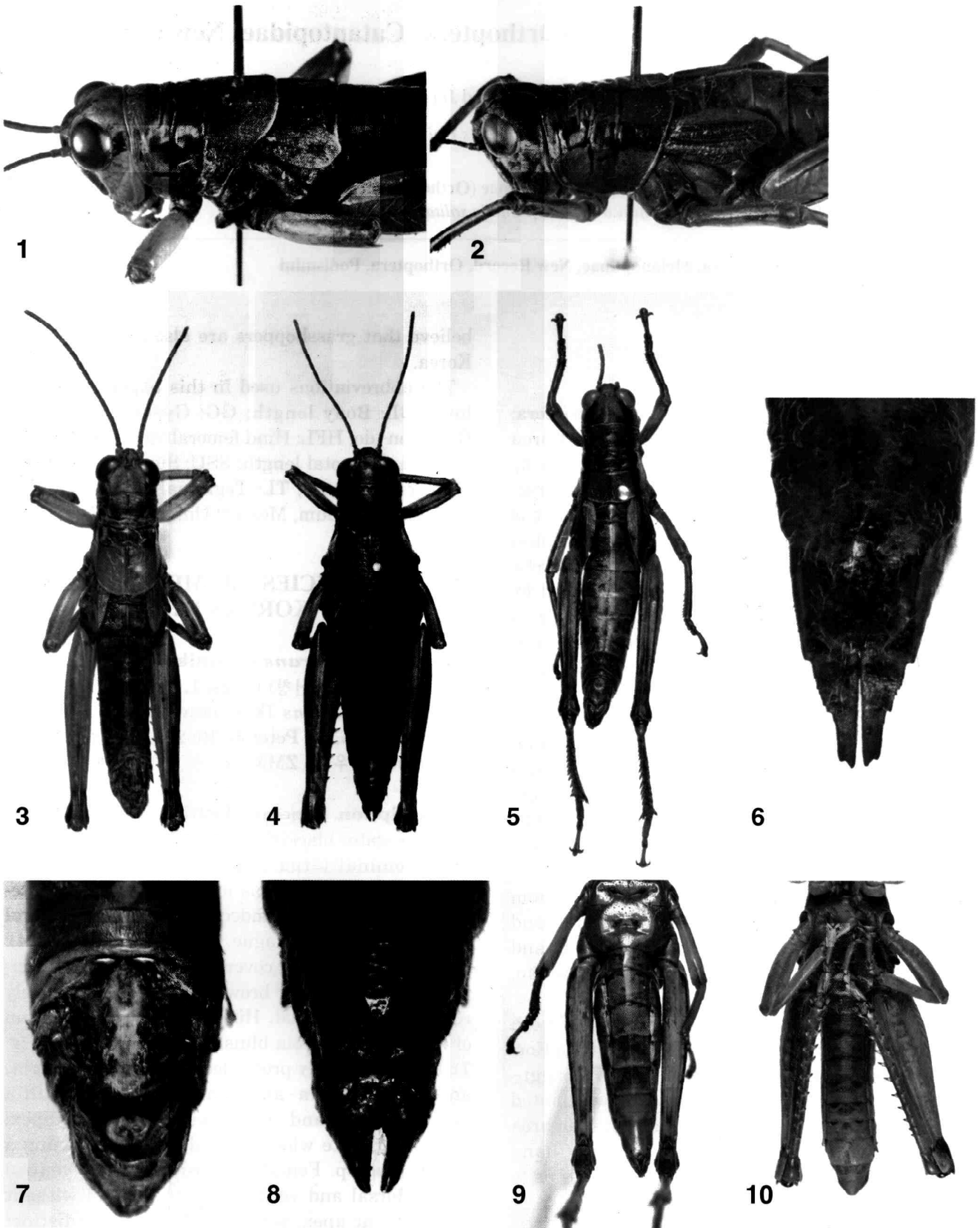
참밀들이메뚜기 (신칭) (Figs. 1, 3, 4, 7, 8, 10)

*Podisma aberrans* Ikonnikov, 1911. Ann. Mus. Zool. Acad. Sci. St. Petersburg. 16: 262. Russia: Kamen-Rybolov. LT ♀ in ZMMU.

**Description.** General coloration yellowish-brown in alive state; blackish patterns more remarkable on abdominal terga in male (Fig. 3). Pronotum (Figs. 1, 3, 4): prozona as long as metazona; posterior margin widely rounded; black bands of lateral traces of pronotum vague. Tegmina (Figs. 1, 3, 4): micropterous, hardly covering the abdominal tympana; monochromatic brown; tegminal apex widely rounded or truncated. Hind legs (Fig. 10): ventum of femur yellow, tibia bluish. Male terminalia (Fig. 7): furculae bluntly protruded; cerci short, straight, and conical; supra-anal plate trapezoidal with a median groove and two tubercles near the apex; subgenital plate widely well developed, forming a shape of scoop. Female ovipositor (Fig. 8, ventral view): dorsal and ventral valves pointed without any teeth at apex, ventral valves with indistinct denticles on the outer margin. Measurements: BL:

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**Figs. 1-10.** 1-2. Side views of upper half of body; 3-5. General habitus; 6-8. Terminalia; 9-10. Hind legs. (*Podisma aberrans* Ikonnikov: 1, 3, 4, 7, 8, 10; *Miramella solitaria* (Ikonnikov): 2, 5, 6, 9; Male: 1, 3, 7, 10; Female: 2, 4, 5, 6, 8, 9)

♂ 19-23 mm  
7.5-8.0 mm  
HFL: ♂ 19 mm

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♂ 19-23 mm, ♀ 25-28 mm. PL: ♂ 5.6-5.8 mm, ♀ 7.5-8.0 mm. TL: ♂ 3.0-4.0 mm, ♀ 4.0-5.5 mm. HFL: ♂ 11.7-13.0 mm, ♀ 14.5-15.2 mm.

**Materials examined.** GW: 1 ♀, 21 VII 1981, Mts. Gyebangsan Nae-myeon Hongcheon, S.H. Nam (SSU); 1 ♀, 4 VII 2000, Mts. Gwangdeoksan Gwangdeok-ri Naeseo-myeon Hwacheon, T.W. Kim (SSU); 2 ♂ 1 ♀, 25 VIII 2002, Mts. Soppulsan Duchon-myeon Hongcheon, T.W. Kim (SSU); GG: 1 ♀, 8 VIII 1984, Mts. Gwangdeoksan Pocheon, H.C. Park (SSU); 1 ♂, 20 VI 1989, Mts. Cheonggye-san Gapyeong, J.W. Lee (SSU); 1 ♂, 18 VII 1991, Mts. Myeongjisan Gapyeong, O.J. Lee (SSU).

**Remarks.** Specific characters of male genitalia were well described in Storozhenko (1983), which are also agreed with Korean samples. The color photo of unidentified female (*Podismini* sp.) shown in the book, 'Insects' life in Korea I' (Bae, 1998: 187, Fig. 2) is regarded this species.

## 2. *Miramella solitaria* (Ikonnikov, 1911)

고산밀들이메뚜기 (신칭) (Figs. 2, 5, 6, 9)

*Podisma solitaria* Ikonnikov, 1911. Ann. Mus. Zool. Acad. Sci. St. Petersburg. 16: 263, pl. 5, fig. 4. Russia: Evsejevka. LT ♂ in ZMMU.

**Description.** General coloration olive-green in alive state; more black banded or spotted in male (based on a color picture, see below remarks). Pronotum (Figs. 2, 5): prozona as long as 1.5 times of metazona; posterior margin rather rounded, slightly emarginated in the middle; black bands of lateral traces of pronotum clear. Tegmina (Figs. 2, 5): micropterous, entirely covering the abdominal tympana; coloration black with yellowish green dorsal margin; tegminal base and apex narrowed by degrees from the middle. Hind legs (Fig. 9): ventum of femur remarkable bright red, tibia darkish. Female ovipositor (Fig. 6. ventral view): dorsal and ventral valves with two sharp teeth at apex, outer margin of valves with indistinct denticles. Measurements: BL: ♀ 25-27 mm. PL: ♀ 6.4-6.5 mm. TL: ♀ 5.0-5.5 mm. HFL: ♀ 13.5-14.5 mm.

**Materials examined.** GW: 1 ♀, 18 IX 1971, Temple Sangwonsa Mts. Odaesan Dongsan-ri Jinbu-myeon Pyeongchang, C.H. Kim (SSU); 1 ♀, 14 VIII 1999, Mts. Hambaeksan Taebaek, T.W. Kim (SSU); 1 ♀, 18 IX 2001, altitude 1573 m. Mts. Hambaeksan Taebaek, T.W. Kim (SSU).

**Remarks.** The color photo of unidentified male (*Podismini* sp.) shown in the book, 'Insects' life in

Korea I' (Bae, 1998; 188, Fig. 7) is regarded this species, although the authors could not examine male specimens at this time. The *Miramella* is rather regarded as an alpine genus.

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