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## Notes on the Sepsidae (Diptera) from South Korea<sup>1),2)</sup>

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**Abstract.** Nine species belonging to five genera of Sepsidae are recorded for the first time from South Korea with redescription of *Sepsis bicornuta* Ozerov. The distributional notes of each species and a key to the genera and species known in South Korea are presented.

### INTRODUCTION

The Sepsidae of the Far East has been reported from China (Hennig, 1949; Zuska, 1984), Japan (Iwasa, 1980, 1981, 1984 and 1985) and Russia (Ozcrov, 1983, 1985a, b, 1986, 1989). But little is known of the Sepsidae from the Korean Peninsula. In 1991 and 1992, we had a chance to examine the sepsid flies in South Korea that were collected by one (K. Kanmiya) of us in the Overseas Scientific Survey, entitled “Evolution and Biogeography of the Insects in the East Asia”. As a result of the examination of the specimens, we newly record nine species of the family from South Korea with a

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redescription of *Sepsis bicornuta* Ozerov and give their distributional notes.

### Key to the genera and species of Sepsidae in South Korea

1. First and second basal cells united ..... *Saltella orientalis* (Hendel)
- First and second basal cells separated ..... 2
2. Fronto-orbital setae developed ..... 3
- Fronto-orbital setae vestigial or absent ..... 4
3. Postvertical setae present and acrostichal setae absent ..... *Meroplus minutus* (Wiedemann)
- Postvertical setae absent and small acrostichal setae present ..... *Xenosepsis fukuharai* Iwasa
4. Abdomen in both sexes without distinct macrochaetae; male epandrial processes bifurcate at the tip ..... *Dicranosepsis bicolor* (Wiedemann)
- Abdomen in male, and often in female also, with distinct macrochaetae; male epandrial processes not bifurcate at the tip ..... *Sepsis* Fallén .... 5
5. Wing without a dark spot at the end of vein  $R_{2+3}$  ..... *S. indica* Wiedemann
- Wing with a dark spot at the end of vein  $R_{2+3}$  ..... 6
6. Stenopleuron anteroventrally shiny ..... *S. thoracica* (Robineau-Desvoidy)
- Stenopleuron wholly pruinose ..... 7
7. Male epandrium with a pair of distinct processes pointing inward at base ... *S. bicornuta* Ozerov
- Male epandrium without such processes ..... 8
8. Male fore femur anterobasally with a strong setae ..... *S. monostigma* Thomson
- Male fore femur anterobasally with a weak setae ..... *S. punctum* (Fabricius)

#### 1. *Saltella orientalis* (Hendel, 1934)

(Fig. 1)

*Pandora orientalis* Hendel, 1934, Ark. Zool., 25A (21):4

**Specimen examined.** 19, Kwangnung, Pochon-gun, Kyonggi Do, 19 Jul. 1992, K. Kanmiya.

**Remarks and distributional notes.** This species is closely related to *Saltella setigeru* Brunetti, but differs from it in having brownish 2nd tarsal segments of middle and hind legs (Fig. 1). The genus *Saltella* R.-D. contains West Palaearctic *nigripes* R.-D., Oriental *setigera* (Brunetti), Holarctic *sphondylii* (Schrank) and *orientalis* (Hendel). *S. orientalis* has been recorded from China (South Kansu and Manchuria) (Hennig, 1949) and the Russian Far East (Khabarovsk and Ussuriysk) (Ozerov, 1983). Though the distributional data of *orientalis* are limited, this species is probably an East Palaearctic species. New to Korea.

#### 2. *Meroplus minutus* (Wiedemann, 1830)

*Sepsis minutus* Wiedemann, 1830, Aussereurop. zweifl. Insekt., 2:468.

**Specimens examined.** 2♂, Jeonglyeongchi, Jeong-la Buk Do, 16 Jul. 1991, K. Kanmiya.

**Distributional notes.** This species is widely distributed in the Palaearctic and Nearctic Regions and Nepal. New to Korea.

### 3. *Xenosepsis fukuharai* Iwasa, 1984

*Xenosepsis fukuharai* Iwasa, 1984, Kontyû, 52:300–302.

**Specimens examined.** 1♂, Jeonglyeongchi, Jeong-la Buk Do, 16 Jul. 1991, K. Kanmiya; 2♂, 19, Bougmyong-ri, Dongsan–myon, Chunchon-gun, Kangweon Do, 21 Jul. 1992, K. Kanmiya.

**Distributional notes.** This species has been recorded from China (Manchuria) (Hennig, 1949), Japan (Iwasa, 1984) and Amur Province of Russia (Ozerov, 1989). The present record seems to show that this species is widely distributed in the Palaearctic Far East. New to Korea.

### 4. *Sepsis monostigma* Thomson, 1869

*Sepsis monostigma* Thomson, 1869, K. svenska fregatten Eugenie Resa, Zool., Dipt.:587.

**Specimens examined.** 15♂, 109, Jeonglyeongchi, Jeong-la Buk Do, 12–16, Jul. 1991, K. Kanmiya; 76, 1♀, Samjeong Ri, Kyong-sam Nam Do, 14 Jul. 1991, K. Kanmiya; 2♂, Tam Ri, Kyong-sang Nam Do, 18 Jul. 1991, K. Kanmiya; 1486, 45♀, Kwangnung, Pochon-gun, Kyonggi Do, 16–19 Jul. 1992, K. Kanmiya; 75♂, 209, Bougmyong-ri, Dongsan–myon, Chunchon-gun, Kangweon Do, 21 Jul. 1992, K. Kanmiya; 30♂, 28♀, Gamjong-ri, Dong–myon, Chunchon-gun, Kangweon Do, 23 Jul. 1992, K. Kanmiya.

**Distributional notes.** *S. monostigma* is an Oriental species, but even in the Palaearctic Japan this species is one of the most abundant species. The present data suggest that this species is a very common species in South Korea and widely distributed in the southern Palaearctic Far East. New to Korea.

### 5. *Sepsis punctum* (Fabricius, 1794)

*Musca punctum* Fabricius, 1794; Ent. syst., 4:351.

**Specimens examined.** 13♂, Jeonglyeongchi, Jeong-la Buk Do, 12 Jul. 1991, K. Kanmiya; 3♂, Samjeong Ri, Kyong-sam Nam Do, 14 Jul. 1991, K. Kanmiya.

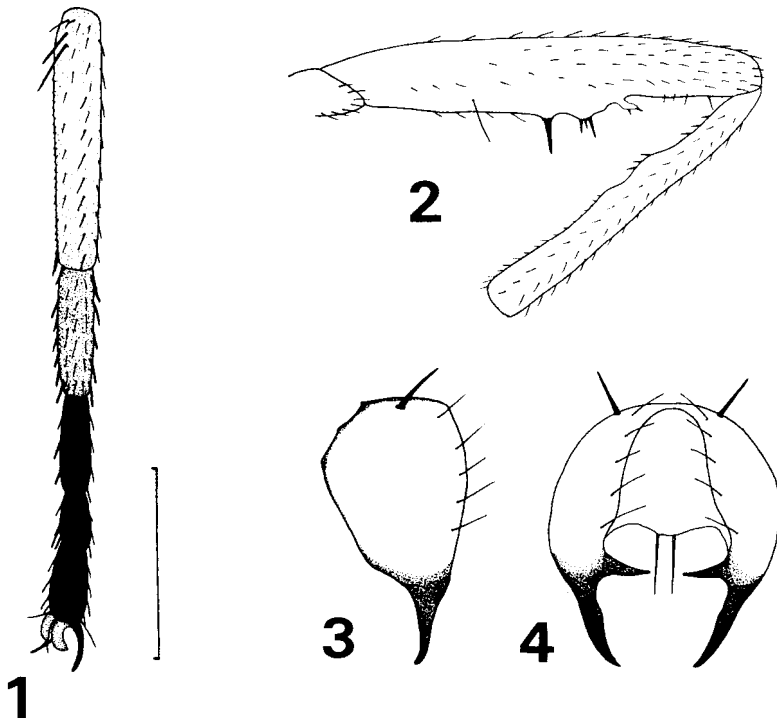
**Distributional notes.** This species is widely distributed in the Palaearctic Region. New to Korea.

### 6. *Sepsis bicornuta* Ozerov, 1985

(Figs. 2–4)

*Sepsis bicornuta* Ozerov, 1985, Ent. Obozr., 64:841.

**Male.** Head: eyes reddish brown; frons black and subshining; face and facial orbits brown; gena and occiput black and subshining; 1st and 2nd antennal segments dark brown, 3rd segment brown; vibrissal angle with 3 moderately developed setae; 1 oc, 1 vti, 1 vte, 1 pvt. Thorax: wholly black; mesonotum and scutellum thinly pruinose; propleuron dark brown and subshining; meso- and pteropleuron black and shining; sterno- and hypopleuron wholly pruinose; metapleuron and postscutellum thinly pruinose; metanotum shining; 1 h, 2 n, 1 dc, 1 sa, 1 pa, 1 m, 1 ap sc; b sc vestigial. Wings: hyaline, slightly tinged with brown; vein  $R_{2+3}$  with a dark spot at the tip; alula with microtrichia marginally; halteres whitish yellow, darkened basally. Legs: all coxae and hochanters yellow; fore femur yellow and ventrally with 1 stout and 3-4 short spines at middle part and with ventral small tubercle bearing 2 small spinules at apical one-third (Fig. 2); fore tibia (Fig. 2), middle and hind femora yellow; middle and hind tibiae dark brown basally and yellow apically; tarsi yellow



**Fig. 1.** Female hind tarsal segments of *Saltella orientalis* (Hendel), anteroventral view (left).

**Figs. 2-4.** *Sepsis bicornuta* Ozerov — 2, male fore femur and tibia, anterior view (left); 3, male epandrium, lateral view (left); 4, ditto, posterior view. Scales: 0.5 mm.

basally and black apically. Abdomen: black and shining; tergites clothed with short setae; 2nd segment constricted posteriorly; epandrial processes slender and pointed apically (Figs. 3-4) with distinct processes pointing inward at base (Fig. 4). Body length: 3-3.3 mm.

**Female.** According to Ozerov (1985a), fore femur without any spines or tubercles and macrochaetae on 3rd abdominal tergite absent; other characters same as those of the male.

**Specimens examined.** 2♂, Tam Ri, Kyong-sang Nam Do, 18 Jul. 1991, K. Kanmiya; 5♂, Kwangnung, Pochon-gun, Kyonggi Do, 19 Jul. 1992, K. Kanmiya; 1♂, Gamjong-ri, Dong-myon, Chunchon-gun, 23 Jul. 1992, K. Kanmiya.

**Remarks and distributional notes.** This species has not been recorded from any other localities since the original description from Ussuriysk District of the Russian Far East by **Ozerov** (1985a). He (1985a) considered *S. bicornuta* to be related to the Oriental species, *S. zuskai* Iwasa without examining the type-specimen. But *S. bicornuta* apparently belongs to "punctum"-species group of the genus *Sepsis* and is closely related to *S. violacea* Meigen and *S. punctum* (Fabricius). In the Palaearctic Region, the "punctum" -species group contains 1 European (*helvetica*), 2 West Palaearctic (*fulgens* and *pseudomonostigma*) and 2 widespread Palaearctic species (*violacea* and *punctum*). The distribution of *bicornuta* is unclear, but the present record from South Korea leads us to the speculation that this species is an East Palaearctic element. New to Korea.

#### 7. *Sepsis thoracica* (Robineau-Desvoidy, 1830)

*Micropezathoracica* Robineau-Desvoidy, 1830, Essai Myod.:742.

**Specimens examined.** 7♂, Jeonglyeongchi, Jeong-la Buk Do, 12 Jul. 1991, K. Kanmiya; 2♂, Nae-lyeong Ri, Jeong-la Buk Do, 12 Jul. 1991, K. Kanmiya; 6♂, 3♀, Pupan-myon, Hongcheon-gun, Kangweon Do, 22 Jul. 1992, K. Kanmiya.

**Distributional notes.** This species is widely distributed in the Palaearctic, Oriental and Afro-tropical Regions. New to Korea.

#### 8. *Sepsis indica* Wiedemann, 1824

*Sepsis indica* Wiedemann, 1824, Analecta Ent.:57.

**Specimen examined.** 1♂, Pupan-myon, Hongcheon-gun, Kangweon Do, 22 Jul. 1992, K. Kanmiya.

**Distributional notes.** *S. indica* is widely distributed in the Oriental Region. In the Palaearctic Region, this species has been recorded from Japan (Iwasa, 1980) and Ussuriysk District of Russia (Ozerov, 1985a). This species may widely spread in the southern Palaearctic Far East. New to Korea.

#### 9. *Dicranosepsis bicolor* (Wiedemann, 1830)

***Sepsis bicolor*** Wiedemann, 1830, Aussereurop. zweifl. Insekt., 2:468.

**Specimens examined.** 3♂, Jeonglyeongchi, Jeong-la Buk Do, 16 Jul. 1991, K. Kanmiya; 1, Kwangnung, Pochon-gun, Kyonggi Do, 19 Jul. 1992, K. Kanmiya.

**Distributional notes.** *D. bicolor* is widely distributed in the Oriental and Australasian Regions. In the Palaearctic Region, this species was recorded only from Japan (Iwasa, 1984). The present data suggest that this species also probably spreads in the southern Palaearctic Far East. New to Korea.

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