

# Chloropidae (Diptera) from the Imperial Palace, the Akasaka Imperial Gardens, and the Tokiwamatsu Imperial Villa, Tokyo

By

**Kenkichi Kanmiya<sup>1)</sup>**

上宮健吉<sup>1)</sup>: 皇居, 赤坂御用地, 常盤松御用邸のキモグリバエ科 (双翅目)

## Introduction

The Japanese Chloropidae are now represented by 159 species belonging to 59 genera. The chloropid fauna of Tokyo Metropolis have been increased up to 28 species through additional 3 species from the Imperial Palace by Hayashi & Shinonaga (2000), 1 species from Asakawa by Kanmiya (2004), and 8 species from the Akasaka Imperial Gardens by Kanmiya (2005a). Based on the chloropid collections obtained from the Akasaka Imperial Gardens, the fauna of the inhabitants were found to occupy their enough element of Oriental origin derived from the understory layer of broad-leaved trees, and fewer element of Palaearctic origin because of insufficient fields of rich gramineous plants (Kanmiya, 2005a). In this occasion, I had the opportunity to make faunistic surveys in the Imperial Palace, the Akasaka Imperial Gardens, and the Tokiwamatsu Imperial Villa, Tokyo on the 20–21th of July and the 3–4th of October in 2005. I also examined complementary specimens collected in the Imperial Palace by Dr. S. Shinonaga of Tokyo Medical and Dental University. As a result, a total of 20 species are enumerated, of which 7 species and 2 genera are additionally records from Tokyo, and the results are taxonomically reviewed here.

## Enumeration of chloropid species obtained in the present study

1. *Rhodesiella yamagishii* Kanmiya, 1983 ヤマギシモリノキモグリバエ  
*Rhodesiella yamagishii*: Hayashi & Shinonaga, 2000 (Imperial Palace); Kanmiya, 2005a (Akasaka Imperial Gardens, Tokiwamatsu Imperial Villa).  
Specimens examined: Tokiwamatsu Imperial Villa (5♂5♀, July 20, 2005, K. Kanmiya leg.). Akasaka Imperial Gardens (3♂1♀, July 20, 2005, K. Kanmiya leg.). Imperial Palace (12♂14♀, July 21, 2005, K. Kanmiya leg.).  
Distribution. Japan (Honshu, Kyushu, Tsushima Is., Nansei Is.); Taiwan.
2. *Rhodesiella simulans* Kanmiya, 1983 ニセクロモリノキモグリバエ  
*Rhodesiella simulans*: Hayashi & Shinonaga, 2000 (Imperial Palace); Kanmiya, 2005 (Akasaka Imperial Gardens).

<sup>1)</sup> Biological Laboratory, School of Medicine, Kurume University, Asahi-machi 67, Kurume, Fukuoka, 830-0011 Japan

E-mail: kanmiya@med.kurume-u.ac.jp

久留米大学医学部生物学教室 久留米市旭町 67

Specimen examined: Tokiwamatsu Imperial Villa (3♂, Oct. 3, 2005, K. Kanmiya leg.).

Distribution. Japan (Honshu, Kyushu, Nansei Isls.).

Remarks. This species is characterized by the small sized body, the metallic blue ocellar triangle, the basal antennal segments infuscated, and the femora and tibiae blackened. The present species is easily distinguished from the similar species, *R. scutellata* (de Meijere), by the male hind femur less strongly thickened, and the 2nd costal section of the wing highly shortened, about 1/3 of the 3rd. I observed many males were occupying a piece of leaf respectively in a broad-leaved tree. It seemed that the male was maintaining territory for the female who would visit the leaf.

3. *Elachiptera sibirica* (Loew, 1858) ヒゲブトキモグリバエ

*Elachiptera sibirica*: Hayashi & Shinonaga, 2000 (Imperial Palace), Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined: Imperial Palace (3♂, March 24, 2003, S. Shinonaga leg.). Tokiwamatsu Imperial Villa (1♂2♀, July 20, 2005, K. Kanmiya leg.). Akasaka Imperial Gardens (2♂3♀, July 20, 2005, K. Kanmiya leg.). Imperial Palace (1♂1♀, July 21, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima Is.); Taiwan, S. China, Amur, Mongolia, Ussuri, Siberia, Sakhalin, Kuril Isls., Europe.

4. *Elachiptera insignis* (Thomson, 1869) ニセヒゲブトキモグリバエ

*Elachiptera insignis*: Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined: Imperial Palace (1♂1♀, Aug. 12, 2003, 1♀, Nov. 8, 2004, S. Shinonaga leg.; 11♂9♀, July 21, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Shikoku, Kyushu, Tsushima Is., Nansei Isls.); Taiwan, China, Primorski Krai, Sakhalin, Kuril Isls.

5. *Gampsocera numerata* (Heeger, 1858) キタモンヒゲブトキモグリバエ

*Gampsocera numerata*: Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined: Imperial Palace (1♀, Aug. 3, 2004, S. Shinonaga leg.; 1♀, July 21, 2005, K. Kanmiya leg.). Tokiwamatsu Imperial Villa (2♂1♀, July 20, 2005, K. Kanmiya leg.). Akasaka Imperial Gardens (1♂1♀, July 20, 2005, K. Kanmiya leg.).

Distribution. Japan (Honshu); Far East, Russia, Europe.

Remarks. Most of *Gampsocera* species were recorded from worldwide tropical, and the predominant members were collected in the understory layer of evergreen broad-leaved forests with sufficient moisture and nutrients.

6. *Dicraeus rossicus* Stackelberg, 1955 カモジグサミモグリバエ (改称)

*Dicraeus rossicus*: Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined. Akasaka Imperial Gardens (1♂2♀, May 13, 2002, S. Shinonaga leg.). Imperial Palace (1♂, May 16, 2002, S. Shinonaga leg.).

Distribution. Japan (Honshu, Kyushu, Tsushima Is.); Primorski Krai, Mongolia, European part of Russia, Siberia.

7. *Dicraeus phyllostachyus* Kanmiya, 1971 オオササノミモグリバエ

*Dicraeus phyllostachyus*: Hayashi & Shinonaga, 2000 (Imperial Palace); Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined: Imperial Palace (2♂1♀, Jan. 15, 2001, S. Shinonaga leg.).

Distribution. Japan (Honshu, Shikoku, Kyushu, Tsushima Is., Yakushima Is., Okinawa, Hachijyo Is.).

8. *Lipara japonica* Kanmiya, 1982 ニホンオオヨシノメバエ

Specimens examined: Imperial Palace (5 full-grown larvae, July 22, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Shikoku); Korea.

Remarks. This is the first record from Tokyo. The larvae of *Lipara* species are well known as causing characteristic galls on common reeds, and the adults communicate by substrate-borne vibration of the reed stem on which they sit. Gall formation and gall shape are influenced by the larval feeding behavior (Kanmiya, 1981). Adult body size is also decided by the specific larval feeding behavior (Kanmiya, 1986). The male vibratory signals differ by species. In the isolated population, males of the present species show geographic variation in body size, and also in vibratory signals (Kanmiya, 1986, 2005b). The signal variation does not show clear clinal variation in most districts, but incidental value as a byproduct of genetic divergence (Kanmiya, 1986, 2005b). It is of most interest to examine acoustic properties for the population of the Imperial Palace.

9. *Lipara orientalis* Nartshuk, 1977 トウヨウヒメヨシノメバエ

Specimens examined: Imperial Palace (3 immature larvae, July 22, 2005, K. Kanmiya leg.).

Distribution. Japan (Honshu, Shikoku, Kyushu, Tsushima Is., Ishigaki Is.); Korea. Mongolia.

Remarks. The gall of the present species is not so obvious, much narrower than that of *L. japonica*. These galls may be able to escape from picking by warbler birds (*Phylloscopus* spp.), but yield attacks by parasitic braconid wasps (*Polemochartus* spp). The adult flies have scarcely been collected by net sweeping or malaise traps. This is because the flies appear only for a definite short periods of time in late spring, and are unable to fly for a long distance.

10. *Siphunculina nitidissima* Kanmiya, 1982 ツヤムネメマトイキモグリバエ (新称)

Specimens examined: Imperial Palace (1♂, July 21, 2005, K. Kanmiya leg.).

Distribution. Japan (Kyushu, Tsushima, Nansei Is.); Taiwan, Nepal.

Specimens of the genus have been reared from organic matter of vegetable origin, or feces of animals (Lamb, 1918; Kanmiya, 1994). I have observed adults are often attracted to decayed meat, body opening, wounds and lachrymal secretion of man and animals in local districts in Nepal, Sri Lanka, and Thailand. The *Siphunculina* flies are known as “eye-gnats”, and believed to help in the spread of certain eye disease (Oldroyd, 1964). The present species is similar to *S. aenea* (Macquart) by the frontal triangle entirely polished and bare, its anterior apex nearly reaching anterior margin of frons, the cephalic and thoracic setae and hairs entirely black (Kanmiya, 1982). The species is easily distinguished from the similar species by the frontal triangle narrow with straight sides, and the third costal section of the wing much longer than (3.0–4.0×) the second.

11. *Oscinella pusilla* (Meigen, 1830) ツヤセシバメモグリバエ (新称)

*Oscinella pusilla*: Kanmiya, 2004 (Asakawa).

Specimens examined: Tokiwamatsu Imperial Villa (4♂4♀, Oct. 3, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu); widely distributed in the Palaearctic region.

Remarks. The present species belongs to one of the “frit fly”. The larvae are injurious to cereal plants, especially on shoot of lawn grass.

12. *Conioscinella divitis* Nartshuk, 1971 エミリアヒメコナキモグリバエ (新称)

Specimens examined: Akasaka Imperial Gardens (1♂, July 20, Kanmiya leg.; 1♀, Oct. 3, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Kyushu, Nansei Is.); Taiwan, Primorski Krai, Mongolia, Amur.

Remarks. This species is characterized by the reduced frontal triangle, only restricted around the ocellar tubercle, and the mesonotum brownish yellow in ground color with 3 dark stripes, but

- superficially appearing entirely mat by thick gray pruinosity.
13. *Conioscinella frontella* (Fallen, 1820) タイリクヒメコナキモグリバエ (新称)  
 Specimens examined: Tokiwamatsu Imperial Villa (3♂, July 20, 2005, M. Owada leg.; 1♂2♀, July 20, K. Kanmiya leg.). Akasaka Imperial Gardens (2♂3♀, July 20, 2005, K. Kanmiya leg.). Imperial Palace (1♂1♀, July 21, 2005, K. Kanmiya leg.).  
 Distribution. Japan (Honshu, Hokkaido); Mongolia, Kazakhstan, Europe, Mediterranean.
14. *Conioscinella gallarum* (Duda, 1933) ツヤセヒメコナキモグリバエ (新称)  
 Specimens examined: Akasaka Imperial Gardens (2♀, July 20, 2005, K. Kanmiya leg.).  
 Distribution. Japan (Hokkaido, Honshu, Kyushu, Tsushima Is.); widely distributed in the Palaearctic Region.  
 Remarks. This species is characterized by the frontal triangle entirely black, thinly pruinose and weakly shining, its anterior apex extending to about 5/7 length of frons. The mesonotum robust, as long as wide, also entirely black and subshining by thin pruinosity, The larvae have been reared from oak-apples made by hymenopterous Cynipid larvae (Collin, 1946).
15. *Meijerella inaequalis* (Becker, 1911) アジアコブカタキモグリバエ  
*Meijerella inaequalis*: Kanmiya, 2005a (Akasaka Imperial Gardens).  
 Specimens examined: Tokiwamatsu Imperial Villa (1♀, July 20, 2005, K. Kanmiya leg.). Akasaka Imperial Gardens (3♂1♀, July 20, 2005, K. Kanmiya leg.). Imperial Palace (1♀, Feb. 14, 2002, 1♂, Feb. 19, 2003, 1♂, Mar. 24, 2003, 1♀, Jan. 19, 2004, S. Shinonaga leg.; 12♂9♀, July 21, K. Kanmiya leg.).  
 Distribution. Japan (Shikoku, Kyushu, Tsushima, Nansei Is.); widely distributed in the Oriental region.
16. *Pachyrophus rufescens* (de Meijere, 1904) セアカモモブトキモグリバエ (改称)  
*Pachyrophus rufescens*: Kanmiya, 1983 (Asakawa, Mogusaen, Nishigahara, Mt. Takao, Yugi); Kanmiya, 2005 (Akasaka Imperial Gardens).  
 Specimens examined: Tokiwamatsu Imperial Villa (93 exs., Oct.3, 2005, K. Kanmiya leg.). Akasaka Imperial Gardens (1♀, May 13, 2003, S. Shinonaga leg.; 51exs., July 20, 2005, 18exs., Oct. 3, 2005, K. Kanmiya leg.). Imperial Palace (2♀, May 8, 2003, 3♂4♀, Aug. 12, 2003, S. Shinonaga leg.; 97 exs., July 21, 2005, K. Kanmiya leg.).  
 Distribution. Japan (Honshu, Kyushu); Nepal, Oriental region, Australia.  
 Remarks. This species may be top shoot borer of gramineous plants. The adults were collected most abundantly by net sweeping on lawn grass of Tokiwamatsu and Akasaka locations.
17. *Steleocerellus cornifer* (Becker, 1911) ミナミタチヅノキモグリバエ  
*Steleocerellus cornifer*: Kanmiya, 2005a (Akasaka Imperial Gardens).  
 Specimens examined: Tokiwamatsu Imperial Villa (6♂7♀, Oct. 3, 2005, K. Kanmiya leg.).  
 Distribution: Japan (Hokkaido, Honshu, Kyushu, Tsushima Is., Goto Is., Nansei Is.); Taiwan, S. China, Philippines, Indonesia, Thailand, India.  
 Remarks. The larvae are saprophagous, reared from decayed shoots of *Setaria verticillata* (L.) (Jap. Name=Zaratsuki-enokorogusa), *Sasa nipponica* Makino et Shibata (=Miyakozasa), *Arundinaria argenteostriata* var. *communis* (Nakai) Ohwi (=Gokidake), and *Phragmites australis* (Cav.) Trin. ex Steud. (=Yoshi) in (Kanmiya, 1977 & 1983).
18. *Steleocerellus ensifer* (Thomson, 1869) アジアタチヅノキモグリバエ  
*Mepachymerus ensifer*: Kanmiya, 1977 (Mogusaen, Nerima, Nishigahara, Yaho, Yugi, Tachikawa, Mt. Takao).

*Steleocerellus ensifer*: Kanmiya, 2005a (Akasaka Imperial Gardens).

Specimens examined: Akasaka Imperial Gardens (1 ♀, July 20, 2005; 2 ♀, Oct. 3, 2005, K. Kanmiya leg).

Distribution. Japan (Honshu, Shikoku, Kyushu, Tsushima Is., Nansei Is.); Taiwan, Philippines, S. China, Viet Nam, Indonesia, Thailand, Sri Lanka, India, Nepal, Ussuri.

Remarks. The larvae of this species are also saprophagous, bred from the decayed tissue of *Phragmites australis* in Kanmiya (1983).

19. *Thaumatomyia notata* (Meigen, 1830) ナミネアブラキモグリバエ

Kanmiya, 1983 (Mt. Takao, Yaho).

Specimens examined: Imperial Palace (1♂2♀, July 21, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Kyushu); widely distributed in the Palaearctic, Oriental, and Afrotropical regions.

Remarks. The larvae of this genus are predaceous, well known as natural enemies of root aphids.

20. *Thaumatomyia rufa* (Macquart, 1835) アカスジネアブラキモグリバエ

Specimens examined: Akasaka Imperial Gardens (1 ♀, July 20, 2005, K. Kanmiya leg.).

Distribution. Japan (Hokkaido, Honshu, Kyushu); China, Mongolia, North Africa, widely distributed in the Palaearctic region.

**List of Chloropidae in the Imperial Palace, the Akasaka Imperial Gardens,  
and the Tokiwamatsu Imperial Villa**

This is a list of species obtained in the project of the National Science Museum, Tokyo from 1997–2005.

Abbreviations: Imperial Palace (=Palace), Akasaka Imperial Gardens (=Akasaka), Tokiwamatsu Imperial Villa (=Tokiwamatsu). Species 1–20) are belong to Oscinellinae, and 21–25) are to Chloropinae.

- 1) *Rhodesiella yamagishii* Kanmiya: Palace, Akasaka, Tokiwamatsu.
- 2) *Rhodesiella nitidifrons* (Becker): Akasaka.
- 3) *Rhodesiella simulata* Kanmiya: Palace, Akasaka.
- 4) *Rhodesiella* sp.1: Akasaka.
- 5) *Disciphus* (*Discadrema*) *subelongatus* Kanmiya: Akasaka.
- 6) *Elachiptera sibirica* (Loew): Palace, Akasaka.
- 7) *Elachiptera insignis* (Thomson): Akasaka.
- 8) *Gampsocera numerata* (Heeger): Akasaka.
- 9) *Gampsocera magnisinuosa* Kanmiya: Akasaka.
- 10) *Dicraeus rossicus* Stackelberg: Akasaka.
- 11) *Dicraeus phyllostachyus* Kanmiya: Palace, Akasaka.
- 12) *Lipara japonica* Kanmiya: Palace. [New to Tokyo]
- 13) *Lipara orientalis* Nartshuk: Palace. [New to Tokyo]
- 14) *Siphunculina nitidissima* Kanmiya: Palace. [New to Tokyo]
- 15) *Caviceps orientalis* (Becker): Akasaka, Tokiwamatsu.
- 16) *Oscinella pusilla* (Meigen): Tokiwamatsu.
- 17) *Conioscinella divitis* Nartshuk: Akasaka. [New to Tokyo]
- 18) *Conioscinella frontella* (Fallen): Akasaka, Tokiwamatsu. [New to Tokyo]
- 19) *Conioscinella gallarum* (Duda): Akasaka. [New to Tokyo]
- 20) *Meijerella inaequalis* (Becker): Palace, Akasaka, Tokiwamatsu.

- 21) *Pachyrophus rufescens* (de Meijere): Akasaka, Tokiwamatsu.
- 22) *Steleocerellus cornifer* (Becker): Akasaka, Tokiwamatsu.
- 23) *Steleocerellus ensifer* (Thomson): Akasaka.
- 24) *Thaumatomyia notata* (Meigen): Palace.
- 25) *Thaumatomyia rufa* (Macquart): Akasaka. [New to Tokyo]

### Discussion

Up to the present, a total of 28 species of the family Chloropidae have been recorded from Tokyo Metropolis. Kanmiya (2005a) enumerated 27 species from Tokyo disregarding a record (Kanmiya, 2004) of *Oscinella pusilla* Mg. from Asakawa, Tokyo. In the present paper, 7 species and 2 genera were newly recognized from Tokyo.

Newly recorded genera and species are as follows: *Conioscinella* Duda and *Lipara* Meigen; *Lipara japonica* Kanmiya, *L. orientalis* Nartshuk, *Siphunculina nitidissima* Kanmiya, *Conioscinella divitis* Nartshuk, *C. frontella* (Fallen), *C. gallarum* Duda, and *Thaumatomyia rufa* (Meigen). Consequently, a total of 35 species are recognized from Tokyo. These species are assigned to 25 species and 12 genera of the subfamily Oscinellinae, and 10 species and 6 genera of the subfamily Chloropinae. A total of 25 out of 35 species from Tokyo were known to inhabit in the Imperial Palace, the Akasaka Imperial Gardens and the Tokiwamatsu Imperial Villa. It is notable that 20 out of these 25 species belong to genera of Oscinellinae. As mentioned in Kanmiya (2005a), the fauna of the subfamily Oscinellinae in the Akasaka Imperial Gardens are more rich in species than that of Chloropinae because of the surrounding habitat, with many shady areas of broad-leaved trees. Each ratio of species number between Oscinellinae to Chloropinae is 1.31 (85/65) from Japan in total (Kanmiya, 1983), and 2.5 (25/10) from Tokyo in total. Whereas, the ratio is 4.3 (13/3) from Akasaka Imperial Gardens (Kanmiya, 2005a), and 4.0 (20/5) in the present record. It is conceivable that these data explain a special faunistic composition of the Chloropidae in relation to their larval food habits or to floral resources under special soil environment in these locations.

### Acknowledgements

I am most grateful to Prince Masahito for providing me with deep consideration for entomological surveys in the Tokiwamatsu Imperial Villa. My sincere thanks are also due to Dr. S. Shinonaga, Tokyo Medical and Dental University, who gave me the opportunity to examine specimens in the Imperial Palace. Last but not least, I would also like to express my deepest thanks to Dr. M. Owada, National Science Museum, Tokyo, for his kind help in carrying out investigation and publication.

### 要 約

皇居、赤坂御用地、常盤松御用邸で篠永哲（2003–2004年）と上宮（2005年）により採集されたキモグリバエ科昆虫を分類学的に調査した。東京都下で記録されたキモグリバエ科昆虫は Kanmiya (2005a) の報告により、それまで知られていた 19 種に 8 種が追加されて 27 種に達していた。しかし、この間に東京浅川から *Oscinella pusilla* Mg. が記録された (Kanmiya, 2004) ので、合計 28 種が東京から記録されていたことになる。今回は上記 3 地域から 20 種のキモグリバエ科昆虫を採集した。その中には、東京からはじめて記録された種が 7 種、はじめて記録された属が 2 属含まれる。その結果、東京都下のキモグリバエ科は 18 属 35 種になった。これは関東圏で比較的良好に調査されている埼玉県の子モグリバエ科 (玉木, 2000) の 32 種を超える種数である。今回、新しく東京都下から記録された属は *Conioscinella* Duda と *Lipara* Meigen で、新しく記録された種は *Lipara japonica* Kanmiya, *L. orientalis* Nartshuk, *Siphunculina nitidissima* Kanmiya, *Conioscinella divitis* Nartshuk, *C. frontella* (Fallen), *C.*

*gallarum* Duda, *Thaumatomyia rufa* (Macquart) である。この調査を含めて皇居、赤坂御用地、常盤松御用邸で記録されたキモグリバエ科は 25 種に達し、そのうちの 20 種が Oscinellinae 亜科、5 種が Chloropinae 亜科に属する。Kanmiya (2005a) が述べたように、赤坂御用地では Oscinellinae 亜科の方が Chloropinae 亜科よりも種数が多いのは、広葉樹林の林床が関係すると考えられる。Oscinellinae/Chloropinae の種数の比を再び取り上げると、日本全種 (Kanmiya, 1983) では 1.31 (85/65 種) であるが、東京都全体では 2.5 (25/10 種) となる。ところが、赤坂御用地 (Kanmiya, 2005a) の場合は 4.3 (13/3 種)、これに常盤松御用邸と皇居を含めた場合は 4.0 (20/5 種) となる。この数値は、種数が最も多い赤坂御用地 (19 種) を中心に考えると、ここの生物学的環境 (植物、土壌など) が幼虫の食性を反映して Oscinellinae 亜科 (多くは食腐性) の種構成を高くしたと説明できるのではないだろうか。

今回の調査で、ヨシノメバエ属の 2 種が皇居吹上御苑の観瀑亭前流れの小規模の葦原に棲息していることが、ヨシの先端に形成された 2 種のゴールと、その中の幼虫で確認された。しかし、昭和天皇はすでにヨシの先端にゴールをつくるハエに気付かれており、長谷川仁氏 (元北海道農業試験場長) に昆虫の種名をお尋ねになったと、氏から直接伺ったことがある。週れば、入り江に面した江戸期の河口の葦原と皇居の内濠との隔離が成立して以降、この 2 種はずっと皇居に存続してきたと見なされる。なぜなら、ヨシノメバエ属はよく飛べないからである。観瀑亭前流れのヨシは、2005 年 10 月 4 日に調査に赴いた時には全部刈り取られていた。刈られたヨシが他所に廃棄されたと仮定して、翌年生えたヨシに再びゴールが形成されたなら、最も近い距離の葦原 (下道灌漑?) から成虫が飛来したと考えてよい。ヨシノメバエ属は、成虫が太いヨシを揺り動かして振動による交信を雌雄で行うことで知られている (上宮, 1981)。よく発達した飛翔筋が納まる異常に肥大した中胸部と短縮した翅は、このハエに長距離の飛翔能力を消失させた。なぜなら、飛翔は宿主である群生する葦原の範囲で行われればよく、ヨシを揺るだけの機能に特殊化したと解釈されるからである (上宮, 2001)。

最後に、この特別なプロジェクトによって 1997-2005 年の間に得られたキモグリバエ科 25 種のうち、皇居から 9 種、赤坂御用地から 19 種、常盤松御用邸から 7 種を数えたものの、短時間の調査と、徹底したネットスウィーピングが不足し、とくに皇居における筆者の 2 回目の調査日は降雨によってまったくできなかったので、ほかの昆虫相の記録と比較して不十分であると認めざるをえない。

## References

- Collin, J. E., 1946. The British genera and species of Oscinellinae. *Trans. R. Ent. Soc. Lond.*, **97**: 117-148.
- Hayashi, T. & Shinonaga, S., 2000. Acalypratae flies (Diptera) from the Imperial Palace, Tokyo. *Mem. natn. Sci. Mus., Tokyo*, (36): 451-456. (In Japanese with English summary.)
- Kanmiya, K., 1977. Notes on the genus *Mepachymerus* Speiser from Japan and Formosa, with descriptions of four new species (Diptera, Chloropidae). *Kurume Univ. J.*, **26**: 47-65.
- Kanmiya, K., 1981. Life of *Lipara* species. *Insectarium*, **18**: 140-148. (In Japanese.)
- Kanmiya, 1982. Two new species and three new records of the genus *Siphunculina* Rondani from Japan (Diptera: Chloropidae). *Jap. J. Sanit. Zool.*, **33**: 115.
- Kanmiya, K. 1983. A systematic study of the Japanese Chloropidae (Diptera). *Mem. ent. Soc. Wash.*, **11**: 1-370.
- Kanmiya, K., 1986. Speciation of the genus *Lipara*: Life-form and mating behavior. In Kimoto, S., ed., *Biogeography in Japan*, pp. 66-76. (In Japanese.) Tokai Univ. Press, Tokyo.
- Kanmiya, K., 1994. Studies on the eye-flies, *Siphunculina* Rondani from Nepal (Diptera, Chloropidae). *Jpn. J. Sanit. Zool.*, **45** (Suppl.): 55-69.
- Kanmiya, K., 2001. Phylogeny and origin of the Reed-flies, In Shinonaga, S. & H. Shima, eds., *The Natural History of Flies*, pp. 215-243. (In Japanese.) Tokai Univ. Press, Tokyo.
- Kanmiya, K., 2004. New records of genera and species of the subfamily Oscinellinae from Japan (Diptera, Chloropidae). *Makunagi/Acta Dipterologica*, (21): 129-133.
- Kanmiya, K., 2005a. Chloropidae (Diptera) from the Akasaka Imperial Gardens, Tokyo. *Mem. natn. Sci. Mus., Tokyo*, (39): 337-345.
- Kanmiya, K., 2005b. Communication by vibratory signals in Diptera. In Drosopoulous, S. & M. F. Claridge, eds.,

- Insect Sounds and Communication: Physiology, Behaviour, Ecology and Evolution*, pp. 381–396. CRC Taylor & Francis, Boca Raton, London, New York.
- Lamb, C. G. , 1918. Notes on exotic Chloropidae. Part II. Osciniinae. *Ann. Mag. nat. Hist.*, (9) 1: 329–348.
- Oldroyd, H., 1964. *The Natural History of Flies*. 324 pp. Weidenfeld and Nicolson, London.
- Tamaki, C. 1997. Insects of Saitama Japan. II. Diptera. 405 pp. (In Japanese.) Saitama Kontyu Danwakai, Saitama.