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# Contents



**Cover photograph:** *Eristalinus* cf. *cinereus*, female, photo by Kelvin Wu Ka-Lun.



 

# Contribution to the knowledge of Chinese Phasmatodea XIV: An updated checklist of stick and leaf insects (Phasmatodea) from Hong Kong

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## ABSTRACT

An updated checklist of the stick and leaf insects in Hong Kong is provided. The list includes a total of six families, seven subfamilies, 20 genera, eight tribes, and 22 species. An assessment of local restrictedness is given. Additionally, this paper reports two new records of stick and leaf insects, namely *Scionecra pseudocerca* (Chen & He, 2008) and *Cryptophyllium parum* (Liu, 1993), in Hong Kong. Furthermore, a new combination is proposed for *Paramenexenus balteatus* (Chen & He, 2002) **comb. nov.**, which has been transferred from Lopaphus Westwood, 1859.

**Key words:** stick insects, leaf insects, checklist, new records, new combination, Hong Kong

中國蝽目之新知XIV：香港竹節蟲及葉蟲名錄更新（蝽目）

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摘要：本文提供香港竹節蟲及葉蟲的更新名錄及本地分佈局限性；報導二新紀錄種：擬尾突臀蝽 *Scionecra pseudocerca* (Chen & He, 2008)及同隱葉蝽 *Cryptophyllium parum* (Liu, 1993)；並建議一新組合：粒帶齒臀蝽 *Paramenexenus balteatus* (Chen & He, 2002) **comb. nov.**。

關鍵字：竹節蟲，葉蟲，名錄，新紀錄，新組合，香港

## INTRODUCTION

The first taxonomic study on the Phasmatodea of Hong Kong was conducted by Brock and Seow-Choen (2000), documenting a total of nine different species. Following their research, two new species were described: *Maculonecroscia shukayi* (Bi, Zhang & Lau, 2001) and *Planispectrum hongkongense* Zompro, 2004, both found in Hong Kong (Bi, Zhang and Lau, 2001; Zompro, 2004). Subsequently, Ho (2013a) published a comprehensive study on the taxonomy and ecology of stick insects in Hong Kong, identifying a total of 18 distinct species. Furthermore, Ho (2013b, 2017a, b) described two new species, namely *Entoria hei* Ho, 2013 and *Parasinophasma laifanae* Ho, 2017, and also documented the first record of *Neososibia brevispina* Chen & He, 2000 in Hong Kong. Additionally, Lau (2019) provided a taxonomic list of the Phasmatodea of Hong Kong.

In this paper, two new species records, *Scionecra pseudocerca* (Chen & He, 2008) and *Cryptophyllium parum* (Liu, 1993), are reported from Hong Kong (Figs. 1-2). A new combination has been suggested for *Paramenexenus balteatus* (Chen & He, 2002) **comb. nov.**

## MATERIALS & METHODS

The systematic treatment is according to Otte and Brock (2005), Bradler et al. (2014), Robertson et al. (2018), Simon et al. (2019), Bank and Bradler (2022), Brock and Büscher (2022), and Brock et al. (2024). The assessment of local restrictedness is based on the author's unpublished survey data from 2007 to 2023, using the method proposed by Fellowes et al. (2002). Records of photos on iNaturalist were also considered until 1 April 2024. The distribution is based on Chen and He (2008), Hennemann et al. (2008) and Ho (unpub. data).

**Figure 1**. *Scionecra pseudocerca* (Chen & He, 2008), adult male, Aberdeen, Hong Kong. Photo by author.

**Figure 2**. *Cryptophyllium parum* (Liu, 1993), adult male, Ma On Shan, Hong Kong. Photo by author.

 

## RESULTS

A total of six families, seven subfamilies, 20 genera, eight tribes, and 22 species of stick and leaf insects are currently known in Hong Kong. The faunal systematics and local restrictedness are listed in Table 1. Two species, namely *Parasinophasma laifanae* Ho, 2017 and *Entoria hei* Ho, 2013, are considered to be endemic to Hong Kong and are currently only found in this region. The former species is restricted to one locality. A total of 13 species (59%) have been catergorised as E and are known to occur in 17 to 32 localities. Six species [*Cryptophyllium parum* (Liu, 1993), *Dajaca napolovi* Brock, 2000, *Neososibia brevispina* Chen & He, 2000, *P. laifanae*, *Scionecra pseudocerca* (Chen & He, 2008), and *Sinophasma mirabile* Günther, 1940], have been catergorised as A to C. These species are known to occur in fewer than five localities, where they exist in small numbers.

Two newly discovered species, *Scionecra pseudocerca* (Chen & He, 2008) and *Cryptophyllium parum* (Liu, 1993), have been identified in Hong Kong for the first time. *S. pseudocerca* is currently known in Guangdong, Hainan, and Hong Kong (found in Aberdeen and Ma On Shan), while *C. parum* is currently known in Guangdong, Guangxi, Hainan, Hong Kong (found in Ma On Shan and Tai Mo Shan), and Shenzhen (Chen and He, 2008; Ho, unpub. data). The latter species also represents the first record of the family Phylliidae Brunner von Wattenwyl, 1893, the subfamily Phylliinae Brunner von Wattenwyl, 1893, the tribe Phylliini Brunner von Wattenwyl, 1893, and the genus *Cryptophyllium* Cumming et al., 2021 from Hong Kong.

An updated taxonomic classification has been proposed for *Paramenexenus balteatus* (Chen & He, 2002) **comb. nov.** (originally described in Chen et al., 2002), and this suggestion is supported by a recent phylogenetic study (Bank and Bradler, 2022). In fact, *P. balteatus* **comb. nov.** is characterised by the absence of wings, the elongate body, the unarmed head, the marginally tuberculate thorax, and the presence of small subapical serrations on the anteroventral and posteroventral carinae of mesofemora and metafemora in both sexes, as well as the elongate micropylar plate on the oval egg capsule. These characteristics align with the generic features of *Paramenexenus* Redtenbacher, 1908.

## DISCUSSION & CONCLUSION

Stick and leaf insects are nocturnal animals and can be difficult to find during the day. This study documents 22 species, but the actual number may be underestimated due to undiscovered species. Some species, specifically *Marmessoidea bispina* (Redtenbacher, 1908), *Necroscia multicolor* (Redtenbacher, 1908), and *Sipyloidea biplagiata* Redtenbacher, 1908, are widely distributed in southern China and have been recorded in Guangdong. Given the similar zoogeographical relationship, flora composition, and subtropical climate that Hong Kong shares with Guangdong, particularly in the southern region, it is possible to find these species in Hong Kong by conducting more extensive surveys

Stick and leaf insects are herbivores and primarily inhabit well-wooded habitats, with a few species found in grassy or/and shrubby habitats. Despite Hong Kong being a small and urbanised place, covering 1,114m², about 40% of the region is made up of various natural habitats designated as Country Parks or Special Areas. Consequently, these well-preserved areas have a rich species diversity of the stick and leaf insects compared to neighbouring regions (Ho, 2013a, 2016) and can provide a vital refuge and protection for these species and other insect fauna. Conversely, there are certain species populations that exist outside the boundaries of Country Parks or Special Areas, leaving them vulnerable and unprotected. For example, small populations of *Entoria hei* have been found on Po Toi Island and Lamma Island. These species face threats from activities like clearing vegetation, constructing concrete structures, and degrading the landscape, which leads to the loss of their natural habitats. It is imperative that further actions be implemented to protect these areas, potentially by designating them as Country Parks or Protected Areas to halt any further destruction of their habitats.

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**TABLE**

| Species | Local Restrictedness# | Distribution* |
|---|---|---|
| Aschiphasmatidae Brunner von Wattenwyl, 1893 柄翅蠑科 | | |
| Aschiphasmatinae Brunner von Wattenwyl, 1893 柄翅蠑亞科 | | |
| Dajacini Bragg, 2001 爬蠑族 | | |
| *Dajaca* Brunner von Wattenwyl, 1893 爬蠑屬 (= *Nanhuaphasma* Chen, He & Li, 2002) | | |
| *Dajaca napolovi* Brock, 2000 暗斑爬蠑 (= *Nanhuaphasma hamicercum* Chen & He, 2002) | C | HK, SZ, GX, HN, also VN |
| Bacillidae Brunner von Wattenwyl, 1893 桿蠑科 | | |
| Pachymorphinae Brunner von Wattenwyl, 1893 短角棒蠑亞科 | | |
| Gratidiini Cliquennois, 2004 閣蠑族 | | |
| *Macellina* Uvarov, 1940 瘦蠑屬 (= *Macella* Stål, 1875) | | |
| *Macellina souchongia* (Westwood, 1859) 索康瘦蠑 | F | HK, MC, SZ, CQ, FJ, GD, GX, GZ, HN, HuN, FJ, JS, SC, SD, ZJ |
| Heteropterygidae Kirby, 1896 異翅蠑科 | | |
| Dataminae Rehn & Rehn, 1939 瘤蠑亞科 | | |
| Datamini Rehn & Rehn, 1939 瘤蠑族 | | |
| *Orestes* Redtenbacher, 1906 異瘤蠑屬 | | |
| *Orestes guangxiensis* (Bi & Li, 1994) 廣西異瘤蠑 (= *Pylaemenes hongkongensis* Brock & Seow-Choen, 2000) | F | HK, MC, SZ, FJ, GD, GX, JX, also VN |
| *Planispectrum* Rehn & Rehn, 1939 扁蠑屬 (= *Platymorpha* Redtenbacher, 1906; = *Platyphasma* Uvarov, 1940) | | |
| *Planispectrum hongkongense* Zompro, 2004 香港扁蠑 | F | HK, SZ |
| Lonchodidae Brunner von Wattenwyl, 1893 長角棒蠑科 | | |
| Lonchodinae Brunner von Wattenwyl, 1893 長角棒蠑亞科 | | |
| Lonchodini Brunner von Wattenwyl, 1893 長角棒蠑族 | | |
| *Phraortes* Stål, 1875 皮蠑屬 | | |
| *Phraortes stomphax* (Westwood, 1859) 雙角皮蠑 (= *Dixippus cornutus* Kirby, 1896) | F | HK, SZ, GD |
| Necrosciinae Brunner von Wattenwyl, 1893 長角枝蠑亞科 | | |
| Necrosciini Brunner von Wattenwyl, 1893 長角枝蠑族 | | |
| *Huananphasma* Ho, 2013 華南蠑屬 | | |
| *Huananphasma amica* (Bey-Bienko, 1959) 友善華南蠑 (= *Marmessoidea viridescens* Chen, He & Chen, 2000; = *Sipyloidea peelensis* Brock & Seow-Choen, 2000) | F | HK, SZ, FJ, GD, GX, HN, HuN, JX |
| *Maculonecroscia* Seow-Choen, 2016 斑角臀蠑屬 | | |
| *Maculonecroscia shukayi* (Bi, Zhang & Lau, 2001) 樹基斑角臀蠑 (= *Necroscia ovata* Chen & He, 2008) | F | HK, SZ, GD, GX, JX, XZ, YN, also VN |
| *Micadina* Redtenbacher, 1908 小異蠑屬 | | |
| *Micadina yingdeensis* Chen & He, 1992 英德小異蠑 | E | HK, SZ, GD, GX, HuN, JX |
| *Neohirasea* Rehn, 1904 新棘蠑屬 (= *Paracentema* Redtenbacher, 1908) | | |
| *Neohirasea hongkongensis* Brock & Seow-Choen, 2000 香港新棘蠑 | F | HK, SZ, GD |
| *Neososibia* Chen & He, 2000 新健蠑屬 | | |
| *Neososibia brevispina* Chen & He, 2000 短刺新健蠑 | A | HK, GD, JX |
| *Paramenexenus* Redtenbacher, 1908 齒臀蠑屬 | | |
| *Paramenexenus balteatus* (Chen & He, 2002) **comb. nov.** 粒帶齒臀蠑 | F | HK, SZ, GD, GX, HN, HuN |
| *Parasinophasma* Chen & He, 2008 副華枝蠑屬 | | |
| *Parasinophasma laifanae* Ho, 2017 麗芬副華枝蠑 | A | HK |
| *Planososibia* Seow-Choen, 2016 扁健蠑屬 | | |
| *Planososibia truncata* (Chen & Chen, 2000) 截臀扁健蠑 | F | HK, SZ, FJ, GD, HN, HuN, JX, YN, ZJ |
| *Scionecra* Karny, 1923 突臀蠑屬 | | |
| *Scionecra pseudocerca* (Chen & He, 2008) 擬尾突臀蠑 | B | HK, GD, HN |
| *Sinophasma* Günther, 1940 華枝蠑屬 | | |
| *Sinophasma mirabile* Günther, 1940 異尾華枝蠑 (= *Sinophasma crassum* Chen & He, 1995) | C | HK, FJ, GD, GX, HuN, ZJ |

| Species | Local Restrictedness# | Distribution* |
|---|---|---|
| *Sipyloidea* Brunner von Wattenwyl, 1893 管蝽屬 | | |
| *Sipyloidea sipylus* (Westwood, 1859) 棉管蝽 | F | HK, MC, SZ, AH, CQ, FJ, GD, GX, GS, GZ, HN, HeN, HuN, JX, SC, YN, ZJ, also worldwide |
| Phasmatidae Gray, 1835 蝽科<br>Clitumninae Brunner von Wattenwyl, 1893 克蝽亞科<br>Clitumnini Brunner von Wattenwyl, 1893 克蝽族<br>*Entoria* Stål, 1875 長肛蝽屬 | | |
| *Entoria hei* Ho, 2013 何氏長肛蝽 | E | HK |
| *Entoria victoria* Brock & Seow-Choen, 2000 香港長肛蝽 | F | HK, SZ |
| *Ramulus* Saussure, 1862 短角枝蝽屬 (= *Clitumnus* Stål, 1875; = *Dagys* Günther, 1935; = *Dubreuilia* Brunner von Wattenwyl, 1907; = *Paraclitumnus* Brunner von Wattenwyl, 1893) | | |
| *Ramulus caii* (Brock & Seow-Choen, 2000) 蔡氏短角枝蝽 (= *Baculum shenzhenense* Chen & Chen, 2000) | F | HK, SZ, GD, GX |
| *Ramulus rotundus* (Chen & He, 1992) 圓粒短角枝蝽 | F | HK, SZ, GD, GX, GZ, HN, HuN, YN |
| Pharnaciini Günther, 1953 彪蝽族<br>*Tirachoidea* Brunner von Wattenwyl, 1893 巨樹蝽屬 | | |
| *Tirachoidea jianfenglingensis* (Bi, 1994) 尖峰嶺巨樹蝽 | D | HK, GD, GX, HN, YN, also VN, TL |
| Phylliidae Brunner von Wattenwyl, 1893 葉蝽科<br>Phylliinae Brunner von Wattenwyl, 1893 葉蝽亞科<br>Phylliini Brunner von Wattenwyl, 1893 葉蝽族<br>*Cryptophyllium* Cumming, Bank, Bresseel, Constant, Le Tirant, Dong, Sonet & Bradler, 2021 隱葉蝽屬 | | |
| *Cryptophyllium parum* (Liu, 1993) 同隱葉蝽 | C | HK, SZ, GD, GX, HN |

**Table 1**. Checklist of stick and leaf insects (Phasmatodea) from Hong Kong [# = Local restrictedness: A = known to occur in this locality alone; B = know to occur in two localities; C = known to occur in three to four localities; D = known to occur in five to eight localities; E = known to occur in nine to 16 localities; F = known to occur in 17-32 localities; * = Abbreviation of distribution: AH = Anhui; CQ = Chongqing; FJ = Fujian; GD = Guangdong; GS = Gansu; GX = Guangxi; GZ = Guizhou; HK = Hong Kong; HN = Hainan; HeN = Henan; HuN = Hunan; JS = Jiangsu; JX = Jiangxi; MC = Macau; SC = Sichuan; SD = Shandong; SZ = Shenzhen; TL = Thailand; VN = Vietnam; XZ = Xizang; YN = Yunnan; ZJ = Zhejiang].

 

# The hoverfly genus *Eristalinus* Rondani, 1845 (Diptera: Syrphidae) in Hong Kong (Part 2)

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## ABSTRACT

The hoverfly genus *Eristalinus* Rondani, 1845 in Hong Kong was studied. Literature on the local hoverfly fauna and a total of 406 observation records from both the author and iNaturalist were reviewed. Eleven species were found to occur in Hong Kong, three of which have not previously been reported. A brief account of the morphology and ecology for each of these species was given.

**Key words:** *Eristalinus*, Syrphidae, Hong Kong

## INTRODUCTION

Part 1 of this article reviewed the literature related to *Eristalinus* species and the observation records from both the author and iNaturalist (Wu, 2022). Brief accounts of five species with known identity were given. In Part 2, brief accounts are given of the remaining species, which have uncertain nomenclature, are unidentified or yet to be observed in the field.

## MATERIALS & METHODS

Refer to Part 1 of this article.

## RESULTS

Refer to Part 1 of this article.

## DISCUSSION

The observation records from the author and iNaturalist indicate that there are 11 *Eristalinus* species recorded in Hong Kong to date, one of which was recorded for the first time in Hong Kong after Part 1 of this article was published. Amongst some of the 11 recorded species, there is some phenotypic variability, which may indicate that additional species are present, but may alternatively be explained by within-species polymorphism; for the purposes of this paper, these individuals are not counted as separate species. These 11 species are divided into the following four categories:

(1) Species with known identity
(2) Species with uncertain nomenclature
(3) Species which are unidentified
(4) Species not yet observed in the field by the author

Part 1 gives a brief account of the species in Category 1. Brief accounts of the species in Categories 2 to 4, as well as the newly recorded species, are given in this article.

### Category 1: *Eristalinus* species with known identity – new record

***Eristalinus tristriatus* (Meijere, 1911)** (Figs. 1-2)

This tiny *Eristalinus* species was first recorded by the author on 27 December 2022. Its body length is only about 6 to 7 mm, the smallest among all known *Eristalinus* species in Hong Kong. In the field it looks more like a house fly (Muscidae) than a hoverfly because of its size and flying pattern. The frons is shiny black and this colour extends medially to the base of antennae in female. There are four creamy yellow vittae lying on both sides of the scutum, dividing the black background into three broad bands (hence the species name epithet). The middle two creamy yellow vittae are connected by a transverse line of the same colour at the posterior edge of the scutum. The scutellum is shiny black. Black posterior fasciae are present on tergites 2 to 4. Female individuals bear black median vittae on tergites 2 to 4; together with the posterior fasciae they form a series of inverted T-shape markings on the dorsal

**Figure 1.** *Eristalinus tristriatus* male. Photo by author.

**Figure 2.** *Eristalinus tristriatus* female. Photo by author.

 

side of the abdomen. In males, only tergite 2 bears the median vitta. The femora are black, the tibiae and the tarsi are creamy yellow, except that the hind leg tibiae are black. The terminal tarsomeres are brownish black. Adults are recorded between December and March on flowers near fish ponds in the northwest New Territories. Its actual spatial and temporal distribution may however be wider as it may well be overlooked due to its small size.

**Distribution** (from Evenhuis and Pape, 2024): Java, Philippines, Negros.

### Category 2: *Eristalinus* species with with uncertain nomenclature

***Eristalinus fasciatus* (Macquart, 1834)**
Other name: *Eristalinus multifarius* (Walker, 1852)
(Figs. 3-4)

This is the only *Eristalinus* species of the subgenus *Merodonoides* in Hong Kong. The maculation in the compound eyes is arranged in stripes instead of random spots. It has been known as *E. multifarius* (Walker, 1852) (e.g. Syrphidae Community Website, 2024) but is treated as a synonym of *E. fasciatus* by Evenhuis and Pape (2024). Ghorpadé (2019) mentioned that this may comprise several species which closely resemble each other. It has been erroneously identified in former Hong Kong publications as *E. paria* (Bigot, 1880) which also bears eye stripes. In fact the two are very different in appearance. The name *E. fasciatus* is adopted in this article following Evenhuis and Pape (2024).

The eyes of males only touch at a point right above the antennae. The creamy white bands surrounding the periphery of scutum are broad. The abdomen is subconical in shape, different from the oval shape in most other local *Eristalinus* species. There are creamy yellow bands at the posterior edges of tergites 2, 3 and 4. The legs are reddish brown. The hind femora are thickened with a narrow black ring about two-thirds from the base. The species occurs throughout the year but is more commonly seen in summer.

**Distribution** (from Evenhuis and Pape, 2024): India and Nepal to Vietnam, south to Java.

**Figure 3.** *Eristalinus fasciatus* male. Photo by author.

***Eristalinus megacephalus* (Rossi, 1794)**
Other names: *Eristalinus quinquelineatus* (Fabricius, 1781) / *Eristalinus laetus* (Wiedemann, 1830)
(Figs. 5-8)

This species is similar to *Eristalinus quinquestriatus* in appearance but with black legs and wider creamy white bands on the tergites. In males all creamy white bands nearly reach the lateral edge of the tergites, with a right-angle-rotated “H” black marking on tergite 2. In *E. quinquestriatus*, the foremost creamy white band occurs on tergite 3 and is much shorter, and the black marking on tergite 2 does not form the rotated “H” shape. The abundance of *E. megacephalus* in Hong Kong peaks in late summer / autumn. Some Hong Kong publications (e.g. Yiu et al., 2014) use the name *E. quinquelineatus* as adopted in Hervé-Bazin (1923) (see Figs. 7-8) and Huang and Cheng (2012), but Knuston et al. (1975) pointed out that this species is “not Oriental”. Ghorpadé (2019) mentioned that the name *E. quinquestriatus* is used for an African species with stripes of maculation on the eyes, and that the Asian species should be *E. megacephalus* or its close ally. *E. laetus* is recorded to occur in Hong Kong by Huang and Cheng (2012), but it is regarded as a synonym of *E. megacephalus* (Ghorpadé, 2019). The name *E. megacephalus* is adopted in this article.

**Distribution** (from Evenhuis and Pape, 2024): South Africa, Egypt; Sri Lanka, China, Taiwan, India, Java; Guam.

### Category 3: Unidentified *Eristalinus* species

***Eristalinus* cf. *cinereus* (Meijere, 1924)** (Figs. 9-12)

This is a distinctive species in that (i) the scutum is mostly yellowish grey with no clear vittae, (ii) there is a brown translucent spot on the wings with smoked veins (unique among other local *Eristalinus* spp.), (iii) it has a thickened black hind femora , and (iv) there are broken black fasciae at the posterior edges of tergites, with those on tergite 3 bent forward in the middle. Characteristics (i) to (iii) above generally match with the original description of *E. cinereus* by Meijere (1924) based on a single female, the type specimen of which is deposited in Naturalis Biodiversity Center in Leiden, the Netherlands (see Fig. 12). From the habitus photos

**Figure 4.** *Eristalinus fasciatus* female. Photo by author.

**Figure 5.** *Eristalinus megacephalus* male. Photo by author.

**Figure 6.** *Eristalinus megacephalus* female. Photo by author.

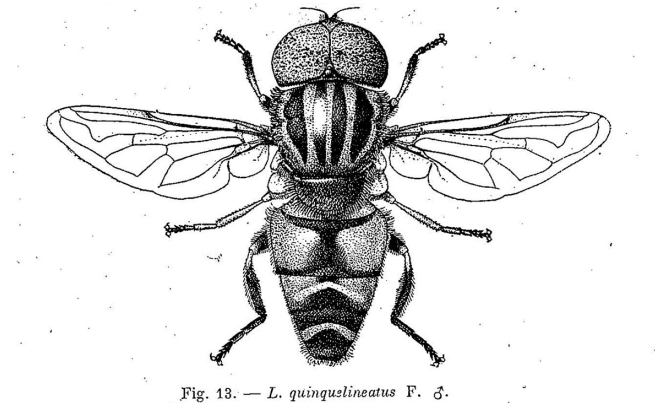

Fig. 13. — *L. quinquelineatus* F. ♂.

**Figure 7.** Illustration of *Eristalinus quinquelineatus* male in Hervé-Bazin (1923).

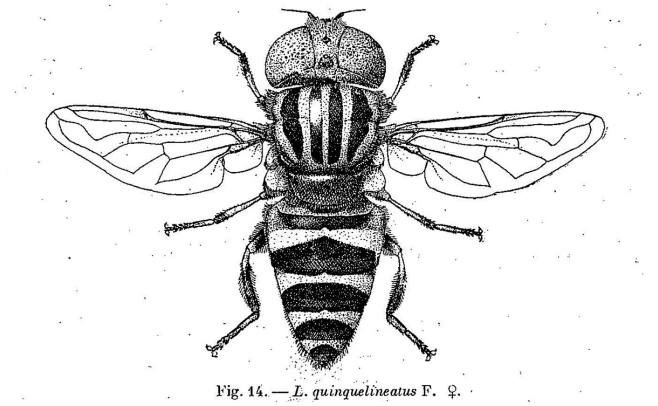

Fig. 14. — *L. quinquelineatus* F. ♀.

**Figure 8.** Illustration of *Eristalinus quinquelineatus* female in Hervé-Bazin (1923).

**Figure 9.** Possibly *Eristalinus* cf. *cinereus* male. Photo by author.

**Figure 10.** Possibly *Eristalinus* cf. *cinereus* female. Photo by author.

**Figure 11.** Possibly a melanic form of *Eristalinus* cf. *cinereus* male. Photo by author.

**Figure 12.** Habitus photo of *Eristalinus cinereus* female type specimen. Photo courtesy of Naturalis Biodiversity Center, the Netherlands.

of this type specimen, however, it is noted that the black fasciae on tergites are complete without a break, unlike (iv) above. It is postulated that the Hong Kong species is at least closely related to *E. cinereus*, if not conspecific with slight variations.

There is no description of the male *E. cinereus* to the author's knowledge. In Hong Kong, an unidentified male *Eristalinus* species is deemed the male of *E.* cf. *cinereus*, as it shares with the female the features (i) to (iv) described above, which are unique among the local *Eristalinus* species. It is usually recorded in March. At the only locality that it has been found, individuals of similar morphology but with different tergite patterns have been observed, in which the medially forward-pointing pairs of posterior fasciae on tergite 2 and 3 are merged together, and there is a median vitta on tergite 2 connecting the merged posterior fasciae to anterior edge. This may be a melanic form of the male *E.* cf. *cinereus* mentioned above. Further investigation is necessary to confirm the conspecificity of these species with *E. cinereus*.

**Distribution** (from Evenhuis and Pape, 2024) for *E. cinereus*: Sumatra.

**Figure 13.** *Eristalinus* cf. *nigroscutatus* male. Photo by author.

**Figure 14.** *Eristalinus* cf. *nigroscutatus* female. Photo by author.

**Figure 15.** Habitus photo of *Eristalinus nigroscutatus* male type specimen. Photo courtesy of Naturalis Biodiversity Center, the Netherlands.

**Figure 16.** Habitus photo of *Eristalinus nigroscutatus* female type specimen. Photo courtesy of Naturalis Biodiversity Center, the Netherlands.

**Figure 17.** *Eristalinus nitidus* female. Photo by author.

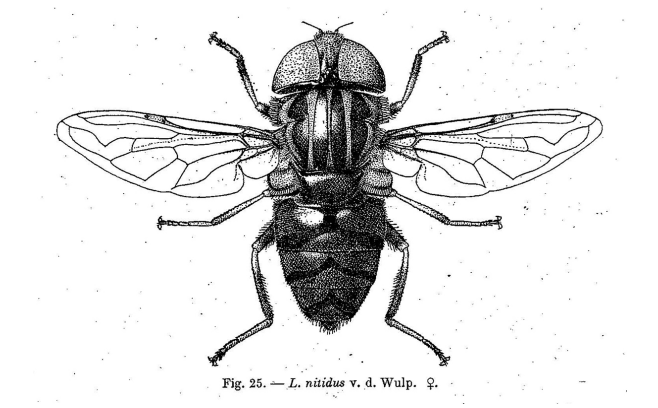


**Figure 18.** Illustration of *Eristalinus nitidus* female in Hervé-Bazin (1923).

***Eristalinus* cf. *nigroscutatus* (Meijere, 1911)** (Figs. 13-16)

This species has only been recorded in the northwest part of Hong Kong near Mai Po and Inner Deep Bay Ramsar site with large pieces of mangroves. Adults are sometimes found on the flowers of mangroves (e.g. *Aegiceras corniculatum*) and hide under leaves when disturbed. The medial creamy yellow longitudinal vitta on the scutum is narrower than other vittae, and there is a wider creamy yellow margin in the middle part of the posterior edge on the scutum, spanning over the end of three longitudinal vittae. The scutellum is blackish brown in males and black in females. The black bands on tergites 2 and 3 in males are in a dull blackish brown chevron shape. In females, tergites 2 and 3 are orange while the remaining tergites are shiny blackish grey, with posterior black fasciae extending forward medially. These are close to the original descriptions of *E. nigroscutatus* and the type specimens. The chevron band pattern is also unique among local *Eristalinus* species.

**Distribution** (from Evenhuis and Pape, 2024) for *E. nigroscutatus*: Borneo, Indochina, Java, Simeulue Island.

***Eristalinus nitidus* (Wulp, 1885)** (Figs. 17-18)

In the vicinity and around the same time of occurrence of the above *E.* cf. *nigroscutatus*, female individuals of an *Eristalinus* species with a shiny bluish grey abdomen and arcuate black fasciae on tergites 2 to 4 are usually found. It matches with the illustration of *E. nitidus* in Hervé-Bazin (1923) (see Fig. 18) as well as the original description by Wulp (1885). However, the type specimen of *E. nigroscutatus* deposited in Naturalis Biodiversity Center (see Fig. 16) looks very similar to *E. nitidus* in Hervé-Bazin (1923). Further studies are required to determine whether *E. nigroscutatus* and *E. nitidus* are synonyms.

**Distribution** (from Evenhuis and Pape, 2024) for *E. nitidus*: Java.

**Category 4: *Eristalinus* species not yet observed in the field by the author**

***Eristalinus sepulchralis* (Linnaeus, 1758)**

Lau (2019) recorded this species but I have not encountered it in the wild. It is not sure whether *E. sepulcharlis* identified in Lau (2019) refers to other similar-looking, shiny black species such as *E. nitidus* and *E. tarsalis*, or melanic forms of other species.

**Distribution** (from Evenhuis and Pape, 2024) for *E. sepulchralis*: China, India, Europe.

An identification key to the Hong Kong *Eristalinus* species is included in Appendix 1.

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## APPENDIX

**Key to Hong Kong *Eristalinus* species (Fig. 19):**

**1.** Maculation on eyes randomly distributed. **2**
**-** Maculation on each eye distributed in stripes. . . . . *E. fasciatus*

**2.** Scutum with prominent creamy white longitudinal vittae on dark background. . . **3**
**-** Scutum with no creamy white longitudinal vitta. **11**

**3.** Tergites with creamy white / creamy yellow fasciae or spots. . . . . **4**
**-** Tergites without creamy white / creamy yellow fasciae or spots. .. . . **13**

**4.** Tergite 4 and / or 5 with a pair of creamy white / creamy yellow spots. . . . **5**
**-** Tergites with creamy white fasciae only (no spots). **8**

**5.** A pair of creamy white spots on tergite 4 only, no fasciae or spots on other tergites. . **6**
**-** Creamy white / creamy yellow fasciae on tergites 2 to 4. . . . . **7**

**6.** Creamy white spots on tergite 4 in horizontal elongated oval shape; yellow median vitta on scutum with the same width as the other vittae. . . . . *E. arvorum* male
**-** Creamy white spots on tergite 4 in oblique comma shape; yellow median vitta on scutum narrower than the other four vittae. . *E. obliquus* male

**7.** A pair of oblique creamy yellow spots on tergite 5; tergites 2 to 4 with creamy yellow fasciae curved forward medially on brown background. . . . . *E. arvorum* female
**-** Pairs of oblique commas shape spots on each of tergites 3 to 5; posterior edge with near semi-circular black maculae extending forward medially. . . . . *E. obliquus* female

**8.** All creamy white fasciae nearly extend to the lateral sides of tergites. . . . **9**
**-** Foremost creamy white fasciae very short, just wider than median black vitta. . . **10**

**9.** Tergite 2 without creamy white fascia. . . . . *E. megacephalus* male
**-** Tergites 2 to 4 with wide creamy white fascia. . . . . *E. megacephalus* female

**10.** Foremost short creamy white fasciae at tergite 3. . . . . *E. quinquestriatus* male
**-** Foremost short creamy white fasciae at tergite 2. . . . *E. quinquestriatus* female

**11.** Scutum and nearly whole abdomen yellowish orange. . . . . *E. flavus*
**-** Scutum black or greyish brown. . . **12**

**12.** Scutum wholly black (male) or black with two thin vittae (female); abdomen black with pairs of creamy white maculae at least on tergites 3 to 4. . . . . *E. tarsalis*
**-** Scutum greyish brown with (female) or without (male) vague vittae; abdomen orange with broken black fasciae at the posterior edges of tergites 2 to 4. . . . . *E.* cf. *cinereus*

**13.** Scutum with four creamy white vittae of uniform width on the sides without a median vitta; posterior black fasciae of tergites with straight edges. . . . . *E. tristriatus*
**-** Scutum with five creamy white vittae, the median one being the thinnest. . . . **14**

**14.** Scutellum blackish brown; abdomen orange, with dull blackish brown chevron-like fasciae on tergites 2 and 3. . . . *E.* cf. *nigroscutatus* male
**-** Scutellum black. . . . **15**

**15.** Tergites 2 and 3 with orange maculae; posterior black fasciae and median black vittae on tergites 2 to 4. . . *E.* cf. *nigroscutatus* female
**-** Abdomen shiny bluish grey; tergites 2 to 4 with arcuate black fasciae. . . *E. nitidus*

**Appendix 1**. Key to Hong Kong *Eristalinus* species.

 


**Figure 19**. Illustrations for the key to Hong Kong *Eristalinus* species.