

Family Stratiomyidae  
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Suborder **BRACHYCERA**

Antennae short (no more than 8 segments). Tarsi with 2-3 pads. Larvae with incomplete head, often retractable and with vertically biting mouthparts.

Infraorder Stratiomyomorpha  
7. Superfamily Stratiomyoidea

Family **STRATIOMYIDAE**  
Norman E. Woodley

The Stratiomyidae are a family of flies that shows a large amount of morphological diversity among its more than 2600 described species (Woodley 2001). While the greatest species richness in the family is found in tropical regions, soldier flies occur over much of the world. Larvae are found in a variety of ecological situations and are scavengers. Many are found in decaying organic matter or in soil, but some, particularly Pachygastrinae, are found under bark of fallen or dying trees, and others, primarily Stratiomyinae and Nemotelinae, are aquatic in situations ranging from lakes and rivers to more transient water sources such as tree holes and mossy seeps. Adults are generally found near larval habitats. Some, particularly Stratiomyinae, frequent flowers. Adult males of many species hover or form conspecific swarms. The stratiomyid fauna of Seychelles shows some relationship to that of Madagascar but also shows some affinity to that of the Oriental Region.

**Key to the Stratiomyidae known from Seychelles:**

1. Scutellum with two marginal spines; wing membrane very transparent, without microtrichia (subfamily Stratiomyinae) 2  
Scutellum usually without spines, occasionally with four marginal spines; wing membrane less transparent, mostly covered with microtrichia 5
2. Thorax and abdomen entirely brownish black to black; male scutum covered with very dense, appressed silvery pilosity; crossvein r-m present, vein  $R_4$  absent  
*Catantopsis clypeata*  
Thorax (especially pleura) and abdomen with at least some yellow markings; male scutum without dense silvery pilosity; crossvein r-m and vein  $R_4$  present or absent 3
3. Discal cell very small, fused to radial sector (i.e., crossvein r-m absent);  $R_4$  absent; M veins beyond discal cell virtually invisible; eyes with short hairs distinctly visible  
*Oplodontha pulchriceps*  
Discal cell larger, not fused to radial sector (i.e., crossvein r-m present); at least  $M_2$  distinctly visible beyond discal cell; eyes appearing bare 4
4. Abdomen of completely pale, without black markings, that of male black medially  
*Odontomyia* sp.  
Abdomen black with pale lateral margins, male unknown *Odontomyia aequalis*
5. Vein  $M_3$  absent beyond discal cell (subfamily Pachygastrinae) 6  
Vein  $M_3$  present beyond discal cell 11
6. Scutellum with four large marginal spines 7  
Scutellum without marginal spines, although small denticles may be present 8
7. Slender species at most 6.5mm long; legs wholly yellow; eyes short elliptical  
*Tinda javana*

- More robust species, at least 7mm in length; femur of hind leg brown; eyes roundish *Tinda indica*
8. Vein  $R_{2+3}$  arising distinctly proximal of crossvein r-m 9  
 Vein  $R_{2+3}$  arising slightly to distinctly distal to crossvein r-m 10
9. Slender, slightly elongate flies, abdomen longer than wide; antennal style with distinct black pubescence tapering distally, the individual hairs easily visible  
*Lophoteles plumula*
- Shorter flies, abdomen about as wide as long; antennal style white, not conspicuously pubescent Genus, species indet.
10. Antennal style white, very slender, cylindrical; scutellum nearly semicircular in dorsal view, the posterior margin evenly rounded *Cardopomyia robusta*  
 Antennal style black, vane-like, bilaterally flattened; scutellum nearly triangular in dorsal view, the posterior margin with a sharp, rim-like margin *Argyrobrithes albopilosus*
11. Last antennal flagellomere in form of hair-like arista 12  
 Last antennal flagellomere not modified into an arista 14
12. Small flies, less than 5mm in length; anterior part of discal cell beyond crossvein r-m with vein very much weakened, appearing absent *Microchrysa flaviventris*  
 Larger flies, much longer than 5mm; anterior part of discal cell beyond crossvein r-m with vein normal, similar to remaining edges of the cell 13
13. Origin of  $R_{2+3}$  proximal to distal edge of discal cell; scutum shiny green, finely punctate; fringe of hairs on lobe of lower calypter pale "*Sargus*" *seychellensis*  
 Origin of  $R_{2+3}$  distal to distal edge of discal cell; scutum less shiny, appearing granulate; fringe of hairs on lobe of lower calypter black *Cephalochrysa hovas*
14. Large, greater than 10 mm in length, mostly black species; last antennal flagellomere greatly elongate into a bilaterally flattened style that is longer than the remainder of the flagellum; lower part of face conically produced medially *Hermetia illucens*  
 Smaller species, less than 5mm in length, abdomen brownish to yellow; last antennal flagellomere minute, not modified in shape, at most 0.25 length of remainder of flagellum; lower part of face evenly rounded, not produced *Brachycara ventralis*

#### Subfamily PACHYGASTRINAE

##### Genus *Argyrobrithes* Grünberg

*Argyrobrithes* Grünberg, 1915: 46. Type species, *Argyrobrithes argenteus* Grünberg, by monotypy.

##### *Argyrobrithes albopilosus* (de Meijere, 1907)

*Wallacea albopilosa* de Meijere 1907: 238. Kertész 1912: 95

This species, originally described from Java, is widespread, ranging from Réunion and the Seychelles (Mahé - Cascade, Mare aux Cochons 1909; Kertész 1912), to Indonesia (Java), Sri Lanka, and Papua New Guinea (Papua New Guinea).

Specimens examined: 3m, 3f, Silhouette, Jardin Marron, 350 meters, October 2000-September 2001, Malaise trap (USNM).

##### Genus *Cardopomyia* Kertész

*Cardopomyia* Kertész, 1916: 178. Type species, *Cardopomyia robusta* Kertész, by original designation.

***Cardopomyia robusta* Kertész, 1916**

*Cardopomyia robusta* Kertész, 1916: 179.

*Cardopomyia robusta* was originally described from Madagascar but is now also known from the Comoro Islands, Réunion, Seychelles (Aldabra, Cosmoledo) as well (James 1980).

Specimens examined: 1f, Aldabra: Picard, trail to Jellyfish Pool, 22 March 1986, Wayne N. Mathis (USNM); 5 f, Aldabra: Picard, 1974, R. Prys-Jones, Malaise trap (USNM).

**Genus *Lophoteles* Loew**

*Lophoteles* Loew, 1858a: 110. Type species, *Lophoteles plumula* Loew, by original designation.

***Lophoteles plumula* Loew, 1858**

*Lophoteles plumula* Loew 1858a: 111. Kertész 1912: 95

This widespread species is known from the Afrotropical Region (Comoro Islands, Madagascar, Seychelles [Mahé, Silhouette]) and the Australian Region (Belau, Marshall Islands, Micronesia, Northern Marianas, Papua New Guinea (Bismarck Archipelago, Papua New Guinea), Solomon Islands, Vanuatu). In Seychelles, it was recorded by Kertész (1912) from Mahé (Morne Blanc, Morne Pilot, Cascade 1909) and Silhouette (Mare aux Cochons 1908).

Specimens examined: 2m, 4f, Silhouette, Jardin Marron, 350 meters, October 2000-September 2001, Malaise trap (USNM).

**Genus *Tinda* Walker**

*Tinda* Walker, 1859: 101. Type species, *Tinda modifera* Walker, [= *Beris javana* Macquart], by monotypy.

***Tinda indica* (Walker, 1851)**

*Biastes indicus* Walker 1851: 81.

This species has been recorded from Réunion, Seychelles (James 1980; Woodley 2001), but is otherwise widespread in the Oriental Region (Indonesia [Java, Sulawesi], Malaysia, Philippines, Singapore; ?India). We have not seen any recently collected specimens, and Kertész (1912) did not record the species. It is possible that this record is based on a misidentification.

***Tinda javana* (Macquart. 1838)**

*Beris javana* Macquart 1838: 188.

*Tinda modifera* Kertész 1912: 95

Kertész (1912) recorded this species from Seychelles (Mahé - Mare aux Cochons 1908) under the name *Tinda modifera* Walker, which is a synonym. It is possible that this is the only species that occurs in the Seychelles (see above). This species is also widespread in the Oriental (Indonesia [Java, Lombok, Sulawesi, Sumatra, Sumba], Philippines, Sri Lanka) and Australian (Bonin Islands, Volcano Islands) regions.

Specimens examined: 3m, Mahé: Airport, 2 and 7-8 April 1986, Wayne N. Mathis (USNM); 3m, 2f, Mahé, Bel Ombre, 04°37.0'S, 55°24.9'E, 3 May 1997, Wayne N. Mathis (USNM); 3m, 2f, Mahé, Anse aux Courbes, 04°43.3'S, 55°31.4'E, 3-6 May 1997, Wayne N. Mathis (USNM)

**Genus, species indet.**

Two specimens of a small pachygastrine have been examined that are not presently identifiable, and probably represent a new taxon. The specimens are similar to the genus *Otionigera* Lindner, but are not congeneric. Only until further material becomes available, especially males, can the identity of the specimens be resolved.

Specimens examined: 1f, Mahé: Victoria Botanical Garden, 4 April 1986, Wayne N. Mathis (USNM); 1f, Praslin: Anse Lazio, 04°17.6'S, 55°42.1'E, 8-13 May 1997, Wayne N. Mathis (USNM).

#### Subfamily HERMETIINAE

##### Genus *Hermetia* Latreille

*Hermetia* Latreille, 1804: 192. Type species, *Musca illucens* Linnaeus, by monotypy.

##### *Hermetia illucens* (Linnaeus, 1758)

*Musca illucens* Linnaeus 1758: 589.

*Hermetia illucens* is native to the New World, but has been spread virtually throughout the warmer parts of the world by man's commerce. Larvae are found in a variety of decaying organic matter.

Specimens examined: 1f, Silhouette: La Passe, 23 July 2006, feeding on sooty mold (NPTS).

#### Subfamily SARGINAE

##### Genus *Cephalochrysa* Kertész

*Cephalochrysa* Kertész, 1912: 99. Type species, *Sargus hovas* Bigot, by original designation.

##### *Cephalochrysa hovas* (Bigot, 1859)

*Sargus hovas* Bigot 1859: 133.

*Cephalochrysa hovas* Kertész 1912: 99

This species was described from Madagascar and has been recorded from Rodriguez and Seychelles (Silhouette 1908), the latter by Kertész (1912). In Kertész's paper there was a footnote by Hugh Scott stating that adults of *C. hovas* were found around fallen trees and larvae were found in the decaying parts of these trees. This is typical behavior and biology of most Sarginae, where adults assemble on or near the larval food source where they mate and females lay eggs.

Specimens examined: 1f, Silhouette, La Passe (above Dauban mausoleum), 04°28'S, 55°15'E, 1-4 July 2000, J. Gerlach (USNM); 1f, Silhouette, Jardin Marron, 350 meters, October 2000-September 2001, Malaise trap (USNM).

##### Genus *Microchrysa* Loew

*Microchrysa* Loew, 1855: 146. Type species, *Musca polita* Linnaeus, by original designation.

##### *Microchrysa flaviventris* (Wiedemann, 1824)

*Sargus flaviventris* Wiedemann 1824: 31.

*Microchrysa flaviventris* Kertész 1912: 99

*Microchrysa flaviventris* is widespread and common in the eastern Palaearctic Region (China, Japan, Russia), the Afrotropical Region (Madagascar, Comoro Islands, Réunion, Seychelles [Mahé - Victoria, Cascade 1908-9; Kertész 1912]), the Oriental Region (India, Indonesia [Java, Pulau Simeulue, Sumatra], Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan, Thailand and the Australian Region (Belau, Guam, Indonesia [Irian Jaya], Micronesia, New Caledonia, Northern Marianas, Papua New Guinea [Bougainville Island, Papua New Guinea], Solomon Islands, Vanuatu).

Specimens examined: 1m, 5f, Mahé: La Misere, 4-8 April 1986, Wayne N. Mathis (USNM); 1m, Mahé, Victoria Botanical Garden, 04°37.9'S, 55°27.2'E, 20 May 1997, Wayne N. Mathis (USNM); 1f, Mahé, Anse aux Courbes, 04°43.3'S, 55°31.4'E, 3-6 May 1997, Wayne N. Mathis (USNM); 1f, Mahé, Point Cedre (road west), 04°35.3'S, 55°26.9'E, 5 May 1997, Wayne N. Mathis (USNM); 2f, Praslin: Anse Kerlan Farm, 04°18.5'S, 55°41.2'E, 13 May 1997, Wayne N. Mathis (USNM).

**Genus *Sargus*** Fabricius

*Sargus* Fabricius, 1798: 549. Type species, *Musca cupraria* Linnaeus, by designation of Latreille (1810: 442).

***"Sargus" seychellensis*** Kertész, 1912

*Sargus seychellensis* Kertész, 1912: 98.

This species, as far as known, is endemic to the Seychelles. Although placed in *Sargus*, it is not congeneric with the type species. The genera of the Sarginae are poorly delimited, and many species, particularly in the Afrotropical Region, cannot be assigned with certainty to existing genera. *Sargus seychellensis* is more similar to species of *Cephalochrysa* than known *Sargus*. Recorded by Kertész (1912) from Mahé (Cascade 1908-9), Silhouette (Mare aux Cochons 1908) and Marianne (1908).

Specimens examined: 1f, Silhouette, Jardin Marron, 350 meters, October 2000-September 2001, Malaise trap (USNM); 1f, Silhouette: Coco de Mer, Jardin Marron, April 2005 (NPTS).

Subfamily STRATIOMYINAE

**Genus *Catataxis*** Kertész

*Catataxis* Kertész, 1912: 96. Type species, *Catataxis clypeata* Kertész, by monotypy.

***Catataxis clypeata*** Kertész, 1912

*Catataxis clypeata* Kertész 1912: 96.

This species, a small, *Odontomyia*-like fly that is mostly black in color, has not been collected since Kertész described it from Mahé (Cascade 1909). Some of the original syntype males "hover in shade under big trees" (Kertész 1912: 97).

Specimens examined: 5m syntypes, Mahé: Cascade Estate, circa 800 feet, II-III 1909, H. Scott (BMNH).

**Genus *Odontomyia*** Meigen

*Odontomyia* Meigen, 1803: 265. Type species, *Musca hydroleon* Linnaeus, by designation of Westwood (1840: 130).

***Odontomyia aequalis*** (Walker, 1861)

*Stratiomys aequalis* Walker 1861: 271.

This species was recorded by Kertész (1912: 96) from Aldabra, near Wilson's Well, November 1908 (J. C. F. Fryer). Kertész remarked that the specimens from Aldabra fit Walker's description, but he had not examined the type material (from Indonesia, Maluku, Pulau Bacan). Walker described the species, known to him only from the female, as being predominantly black with the abdomen black with pale lateral margins, the legs yellowish with black bands on the femora and tibiae. He also described the scutellum as having 4 spines, which if accurate would preclude

the species from being in the genus *Odontomyia*. It seems unlikely that the specimens Kertész saw actually are conspecific with the type material. In any event, the species Kertész recorded has not been subsequently collected in Seychelles.

### *Odontomyia* sp.

One species of *Odontomyia* has been collected recently from Aldabra, which we have not been able to identify, and it possibly represents a new species. It does not fit Walker's description of *O. aequalis*, as females of this species have an entirely pale yellowish to greenish abdomen (probably pale green in life) and the legs are entirely yellowish-orange.

Specimens examined: 2 f, Aldabra: Picard, 1974, R. Prys-Jones, Malaise trap; 1 m, 2 f, Aldabra: Picard, trail to Jellyfish Pool, 22 March 1986, Wayne N. Mathis (USNM); 5f Aldabra: Picard, trail to Bassin Labine, 20 March 1986, Wayne N. Mathis (USNM).

### Genus *Oplodontha* Rondani

*Oplodontha* Rondani, 1863: 78. Type species, *Stratiomys viridula* Fabricius, by original designation.

### *Oplodontha pulchriceps* (Loew, 1858)

*Odontomyia pulchriceps* Loew 1858b: 335

One species of *Oplodontha* has been collected in recent years from Aldabra, the widespread *O. pulchriceps* (Loew), a species that ranges from Israel south through much of Africa and Madagascar.

Specimens examined: 1f, Aldabra Atoll, 09°24'S, 46°20'E, Grove 100 yards south of Takamaka Camp, 18 February 1968, Jay C. Shaffer, black light (USNM); 25 f, Aldabra: Picard, 1974, R. Prys-Jones, Malaise trap (NPTS, USNM); 1 m, 1 f Aldabra: Picard, Settlement, 15-21 March 1986, Wayne N. Mathis (USNM); 1f Aldabra: Picard, trail to Bassin Labine, 20 March 1986, Wayne N. Mathis (USNM); 1f Aldabra: Grande Terre, Cinq Cases, 12-13 March 1986, Wayne N. Mathis (USNM).

## Subfamily NEMOTELINAE

### Genus *Brachycara* Thomson

*Brachycara* Thomson, 1869: 460. Type species, *Brachycara ventralis* Thomson, by monotypy.

### *Brachycara ventralis* Thomson, 1869

*Brachycara ventralis* Thomson 1869: 461.

This species has been recorded from the Seychelles as well as other localities in the Oriental and Australian regions. However, as pointed out by Woodley (2001), it is likely that true *B. ventralis* is confined to the Indian Ocean. Species of *Brachycara* are associated with marine beaches but little is known of their biology.

Specimens examined: 1m, Mahé, Anse Royale, 04°44.4'S, 55°31.1'E, 6 May 1997, Wayne N. Mathis (USNM); 1f, Praslin: Anse Volbert, 04°18.9'S, 55°44.7'E, 8 May 1997, Wayne N. Mathis (USNM); 2f, Praslin: Anse Consolation, 04°21.6'S, 55°45.4'E, 8-10 May 1997, Wayne N. Mathis (USNM).

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