

The new faunistic data on Calliphoridae and Sarcophagidae (Diptera) of the Republic of Seychelles

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Abstract: The new faunistic data on 5 calliphorid and 7 sarcophagid species of Seychelles Republic are given. *Cosmina fuscipennis*, *Ihosyia nomita*, and *Asceloctella malgache* are firstly recorded for Seychelles Republic. One new combination of the specific names is presented: *Asceloctella (s. str.) malgache* (Zumpt, 1964), comb. nov.

Key words: Seychelles, fauna, Calliphoridae, Sarcophagidae.

INTRODUCTION

In previous article (Verves, 2003) I tried to generalize all faunistic and taxonomic literature data about Seychelles calliphorids and sarcophagids and published some new faunistic records. The new original results of identification of the flies collected by J. Gerlach and others members of Indian Ocean Biodiversity Assessment 2000-2005 and by R. Prys-Jones in 1974-1976 are published for the first time.

List of species

FAMILY CALLIPHORIDAE
SUBFAMILY CALLIPHORINAE
TRIBE LUCILIINI

Hemipyrellia fernandica (Macquart 1855).

Lucilia fernandica Macquart 1855: 132 [112].

Hemipyrellia fernandica: Pont 1980: 793; Verves, 2003: 2; Zumpt 1962: 61.

Lucilia taeniops Bigot 1860: 542.

Hemipyrellia taeniops: Aubertin 1931: 500; Zumpt 1962: 61.

Material examined: Seychelles: Aride Island, 07.2000 (J. Bowler), female; North Island, 30.07.2000 (J. Gerlach), 2 females.

Distribution: widely distributed in Madagascan and Afrotropical Regions. Seychelles: Aride*, Cousine, Silhouette, North*.

Bionomics: unknown.

Hemipyrellia germana (Robineau-Desvoidy 1830).

Lucilia germana Robineau-Desvoidy 1830: 455.

Hemipyrellia germana: Pont 1980: 793; Verves 1986: 548, 2003: 2.

Lucilia brunnipes Macquart 1843: 295 [138].

Hemipyrellia brunnipes: Zumpt 1956: 65; 1962: 63.
Lucilia argenticeps Macquart 1851: 219 [246].
Lucilia madagascariensis Macquart 1851: 219 [246];
Lucilia madagascariensis: Villeneuve 1916: 205; 1918: 507.
Lucilia borbonensis Macquart 1851: 220 [247].
Lucilia smaragdosaphira Bigot 1860: 543.
Hemipyrellia pseudofabriciana Enderlein 1935: 246.

Material examined: Seychelles: Aride Island, 2000 (J. Gerlach), 4 males; Aldabra Archipelago, Picard Island, 1974-1976 (R. Prys-Jones), 2 males, 25 females.

Distribution: widely distributed in Madagascan region. Seychelles: Aride*; Aldabra.

Bionomics: unknown.

SUBFAMILY CHRYSOMYINAE

Chrysomya albiceps (Wiedemann 1819).

musca albiceps Wiedemann 1819: 38.

Chrysomya albiceps: Bezzi, 1923: 83; James 1977: 541; Pont 1980: 788; Schumann 1986: 39; Senior-White et al. 1940: 143; Verves 1986: 548, 2003: 3; 2005: 257; Zumpt 1956: 182; 1962: 68.

Compsomyia mascarenhasi Seguy 1928: 11, as var. of *Musca albiceps* Wiedemann, 1819: 38

Material examined: Aldabra Archipelago: Picard Island*, 1974-1976 (R. Prys-Jones), 2 females.

Distribution: Afrotropical and Madagascan Regions, southern part of Palaearctic, Hindustan; introduced to Latin America. Seychelles: Mahe, Silhouette, Dennis, Cosmoledo, Amirantes, Farquhar, Aldabra.

Bionomics: larvae develop in dead animals and faeces. 1st stage larvae feed on the exudates of decomposing matter in which they are laid as eggs; 2nd and 3rd stage maggots become predatory on the larvae of other dipterans. Larvae produced facultative primary and secondary cutaneous myiasis in humans and different mammals. Flies of both sexes feed at faeces, corpses, and on fruits; synanthropic species (Adham et al. 2001; Bartholo et al. 2002; Del Bianco et al. 1999; Erzinclioglu & Whitcombe 1983; Gomez & Von Zuben 2003; Grassberger et al. 2003; Madeira 2001; Marchenko 1985; Omar 1995; Peris 1987; Povolny 2002; Queiroz 1996; Queiroz et al. 1996, 1997; Rognes 2002; Trofimov 1969; Verves 2004; Zumpt 1965).

Chrysomya megacephala (Fabricius 1794).

Musca megacephala Fabricius 1794: 317.

Chrysomya megacephala: Bezzi 1927: 235; James 1977: 542; Pont 1980: 789; Schumann 1986: 39; Verves 1986: 548; 2003: 4; 2005: 258; Zumpt 1962: 67.

Somomyia pfefferi Bigot 1877: 257.

Material examined: Seychelles: Silhouette Island, La Passe, 14.06.2004 (J. Gerlach), 1 male, 1 female.

Distribution: widely distributed in Madagascan, Afrotropical, Oriental, Australasian/Oceanian Regions and south Palaearctic; introduced in USA since 1988 (now known from Alabama, California, Florida, Georgia, New Mexico, Texas), and Latin America (Argentina – since 1980, Brazil - since 1970, Colombia – since 2002, Costa Rica – since 2001, Ecuador – since 1978; Mexico – since 1987, Honduras – since 1994, Nicaragua – since 1994, Paraguay – since 1983, Peru – since 2002, Puerto Rico – since 1995, Venezuela – since 1985). Seychelles: Mahe, Silhouette, La Digue, Bird, Aldabra.

Bionomics: Scavenger species, larvae essentially saprophagous, breeding in decomposing animal matter; occasionally a causative agent of cutaneous myiasis of different mammals & man; usual forensic indicators. Flies are distributed in native and secondary forests, synanthropic inhabitants and along sea coasts at elevations from sea level to 2000 m. Adults swarm on meat, feces, sweets, flowers; prefer eusynanthropic and hemisynanthropic habitats, rare in forests. This synanthropic species is among the most pestiferous filth flies known, and is likely to mechanically transmit enteric pathogens and parasites under unsanitary conditions. This species is important for forensic entomology (Catts & Goff 1992; Esser 1991; Goff & Odum 1987; Gomes et al. 2003; Greenberg 1971, 1973, 1988; Herman, 1990; James 1962; Kurahashi 1982, 1987; Kurahashi & Chowanadisai 2001; Martinez-Sanchez et al. 2000; Monzon et al. 1991; Olsen et al. 1993; Senior-White et al. 1940: 138; Wallman 1997; Wells 1991; Zuben et al. 2001; Zumpt, 1965).

SUBFAMILY RHINIINAE

Cosmina fuscipennis Robineau-Desvoidy 1830

Cosmina fuscipennis Robineau-Desvoidy 1830: 423; Deeming 1996: 267; Pont 1980: 780.

Musca punctulata Wiedemann 1819: 30 [Junior primary homonym of *Musca punctulata* Scopoli 1763].

Cosmina punctulata: Peris 1952: 131; Zumpt 1958: 76; 1962: 84.

Cosmina cuprina Bigot 1860: 539.

Cosmina aethiopissa Seguy 1958: 176.

Material examined: Seychelles: Aldabra Archipelago: Picard Island, 1974-1976 (R. Prys-Jones), 1 male, 7 females.

Distribution: MADAGASCAN REGION: Madagascar; Seychelles*: Aldabra. AFROTROPICAL REGION: Botswana; Ghana; Guinea; Kenya; Mozambique; Oman; Tanzania; South Africa (Eastern Cape, Gauteng, Northern Cape, Western Cape).

Bionomics: unknown.

FAMILY SARCOPHAGIDAE

SUBFAMILY SARCOPHAGINAE

TRIBE SARCOPHAGINI

SUBTRIBE PHYTOSARCOPHAGINA

Ihosyia nomita (Zumpt, 1964)

Sarcophaga nomita Zumpt, 1964: 63.

Sarcophaga (Curanea) nomita: Reed, 1974: 193, 199.
Sarcophaga (Ihosyia) nomita: Pape, 1996: 337.
Heteronychia (Afrohelicobia) nomita: Dear, 1980: 808.
Ihosyia nomita: Lehrer, 2002: 46; 2003: 221; Verves, 1989: 35.

Material examined: Seychelles: Aldabra Archipelago: Picard Island, 1974-1976 (R. Prys-Jones), 3 males, 4 females.

Distribution: MADAGASCAN REGION: Madagascar; Seychelles*: Aldabra.
Bionomics: unknown.

SUBTRIBE PHALLANTHINA

***Asceloctella* (s. str.) *malgache* (Zumpt, 1964) – comb. nov.**

Sarcophaga malgache Zumpt, 1964: 59.
Sarcophaga (Uroxanthisca) malgache: Pape, 1996: 413.
Helicobia (Uroxanthisca) malgache: Reed, 1974: 209.
Heteronychia (Uroxanthisca) malgache: Dear, 1980: 809.
Nesbittia malgache: Lehrer, 2006: 22.

Material examined: Seychelles: North Island, *Calophyllum inophyllum* woodland, 30.07.-1.08.2000 (J. Gerlach & J. Willi), 1 female; Silhouette, Grande Barbe, 06.2001 (J. Gerlach), 1 female.

Distribution: MADAGASCAN REGION: Madagascar (Fianarantsoa, Tamatave, Tananarive); Seychelles*: Silhouette, North Island.

***Seselvana aldabraise* (Zumpt 1973).**

Sarcophaga aldabraise Zumpt 1973: 3.
Sarcophaga (Afrothyrsoncema) aldabraise: Dear 1980: 811; Reed 1974: 200.
Sarcophaga (Transvaalomyia) aldabraise: Pape 1996: 412.
Afrothyrsoncema aldabraise: Verves 1986: 547.
Transvaalomyia aldabraise: Lehrer & Lehrer 1992: 328; Verves 2003.
***Seselvana aldabraise*: Lehrer 2003: 424.**

Material examined: Seychelles: Aldabra Archipelago: Picard Island, 1974-1976 (R. Prys-Jones), 1 male.

Distribution: MADAGASCAN REGION: Seychelles: Aldabra Arch. (Picard*, South Island).
Bionomics: unknown.

SUBTRIBE PARASARCOPHAGINA

***Bercaea inaequalis* (Austen 1909).**

Sarcophaga inaequalis Austen 1909: 99; Shinonaga, 2001: 215; Zumpt 1951b: 78; 1964: 69.
Sarcophaga (Bercea) inaequalis: Dear, 1980: 811; Pape 1996: 304; Reed, 1974: 198; Zumpt 1972: 106.
Bercaea inaequalis: Lehrer, 2003: 81; 2006: 20; Rohdendorf, 1963: 11; Verves 1986: 547; 2003: 7.

Material examined: Seychelles: D'Arros, 21.06.2003, 1 female.

Distribution: widely distributed in Madagascan and Afrotropical regions; PALAEARCTIC REGION: [North] Yemen. Seychelles: La Digue, D'Arros*, Farquhar.

Bionomics: bred from feces; adults attracted to excrements, corpses and other decomposed animal matters (Cuthbertson 1937).

Liosarcophaga* (s. str.) *metallescens (Bezzi 1923), comb. nov.

Sarcophaga metallescens Bezzi 1923: 86.

Sarcophaga (Liosarcophaga) metallescens: Pape 1996: 355.

Parasarcophaga (Liosarcophaga) voluptus Verves 1986: 543.

Liosarcophaga metallescens: Lehrer, 2003: 280.

Liosarcophaga (s. str.) metallescens: Verves 2003: 9.

Material examined: Seychelles: Silhouette, Grande Barbe, 06.2001, 1 female.

Distribution: MADAGASCAN REGION: Seychelles (Mahe, Silhouette).

Bionomics: unknown.

Liosarcophaga* (s. str.) *tibialis (Macquart 1851).

Sarcophaga tibialis Macquart 1851: 232 [205]; Abasa, 1972: 400; Shinonaga, 2001: 216; Zumpt 1951a: 179; 1964: 70.

Sarcophaga (Curranea) tibialis: Reed, 1974: 194, 199; Zumpt 1972: 111.

Sarcophaga (Liosarcophaga) tibialis: Pape 1996: 359.

Parasarcophaga (Curranea) tibialis: Verves 1986: 545.

Curramea tibialis: Lehrer, 2003: 152; 2006: 20.

Liosarcophaga (s. str.) tibialis: Verves 2003: 9.

Sarcophaga albofasciata Macquart 1851: 232 [205].

Material examined: Seychelles: Aride, 2002 (J. Gerlach), 2 females; Aldabra Archipelago: Picard Island, 1974-1976 (R. Prys-Jones), 2 males; D'Arros, 21.06.2003, 1 female.

Distribution: widely distributed in Madagascan and Afrotropical Regions, Eastern Palaearctic (Mediterranean area), Oriental (Chagos Is.) and Australasian/Oceanian (Society Is., Tuamotu, New Caledonia) Regions. Seychelles: Mahe, Silhouette, North, Aride, Aldabra Atoll (Picard Island)*.

Bionomics: A thermophilic and heliophilic species tending towards culturophily and synanthropy. Larvae develop in carcasses of vertebrate and invertebrate animals; facultative parasites of locusts, some may participate in man and mammal myiasis; bred from eggs of loggerhead (Beaver 1986; Disney 1973; Greenberg 1971; Povolny & Verves 1997; Zumpt 1965, 1972).

SUBTRIBE BOETTCHERISCINA

Boettcherisca peregrina (Robineau-Desvoidy, 1830).

Sarcophaga peregrina Robineau-Desvoidy 1830: 356; Zumpt 1964: 57, 61.

Sarcophaga (Prionophalla) peregrina: Reed, 1974: 193, 195.

Sarcophaga (Boettcherisca) peregrina: Pape 1996: 310.

Boettcherisca peregrina: Lehrer, 2003: 126; Rohdendorf, 1963: 10; Verves 1986: 547; 2003: 10.

Sarcophaga meriani Zumpt, 1951a: 182.

Material examined: Seychelles: Silhouette, La Passe, malaise trap in *Asystasia* sp. above Dauban mausoleum, 1-4.07.2000 (J. Gerlach & J. Willi), 2 females; Aride, 2002 (J. Gerlach), 1 male, 1 female; North Island, marsh edge, 1-21.08.2005 (E. O'Shea), 1 female.

Distribution: MADAGASCAN REGION: Mauritius; Reunion; Seychelles: Silhouette, Poivre, North*. Widely distributed in Oriental and Australasian/Oceanian Regions, and eastern Palaearctic.

Bionomics: larvae bred from dead vertebrate and invertebrate (insects, snails) animals, garbage, animal dung and human feces; from living earthworms and locusts; facultative predator of lepidopteran pupae; produced cutaneous myiasis of men and mammals. Flies extensively distributed in the eusynanthropic as well as the semisynanthropic and asynanthropic zones; known as disease vector (Das & Dasgupta, 1986; Greenberg, 1971, 1973; Kano et al., 1967; Kurahashi & Kano 1984; Zumpt 1965).

DISCUSSION

Despite of the relatively great number of publications about calliphorids and sarcophagids of Seychelles, the fauna of those flies is not studied completely. The occasional collections are not illustrated a real species composition. The modern influence of some synanthropic species in Seychelles (*Chrysomya albiceps*, *C. megacephala*, *Berceaia inaequalis*, *Liosarcophaga tibialis*, *Boettcherisca peregrina* and some others), which are vector diseases and myiasis producers, can be the potential danger of epidemics and of the development of tourism in Seychellie Republic in future.

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