

A new species of *Morellia* ROBINEAU-DESVOIDY, 1830 from the Seychelles Islands (Insecta, Diptera: Muscidae)

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Abstract. - A new species, *Morellia insularis* sp. nov., is described. It is a member of the family Muscidae and is endemic to the Seychelles Islands.

Keywords. - Diptera, Muscidae, Morellia, Seychelles, new species, check list

INTRODUCTION

Our knowledge of the muscid fauna of the Seychelles is largely based on the report by STEIN (1910) on material collected by the PERCY SLADEN expedition. STEIN listed 17 species which are assigned to the Muscidae as currently defined (plus 1 Anthomyiidae and 1 Fanniidae). BEZZI (1923) discussed STEIN's list, updated some of the nomenclature, and added one further species. Since then four further species have been recorded from the Seychelles so that the total number of known species, including the one described below, is now 23.

The Seychelles Muscidae include five endemic species (*Myospila compressipalpis* (STEIN, 1910), *Helina mediana* (STEIN, 1910), *Dichaetomyia fasciculifera* (STEIN, 1910), *Atherigona maculipennis* (STEIN, 1910), and *Atherigona basitarsalis* DEEMING, 1987) (see PONT 1980). The remaining 16 are found elsewhere in the Malagasy subregion or are widespread Afrotropical, Palaeotropical or Pantropical species.

This paper reports on a new, endemic species of the genus *Morellia* ROBINEAU-DESVOIDY, 1830. This genus contains some 60 species, and has representatives in all zoogeographic regions. It is most speciose in the Afrotropical, Oriental and Neotropical regions. So far as is known, all the species breed in the dung of ungulates, especially of cattle, and the larvae are coprophagous (SKIDMORE 1985). The adults of many species are sweat flies.

MATERIALS AND METHODS

The following abbreviations are used for the museums where the type-series of the new species is deposited:

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| BMNH | The Natural History Museum, London, U.K. |
| MNHNP | Muséum National d'Histoire Naturelle, Paris, France. |
| NMP | Natal Museum, Pietermaritzburg, South Africa. |

MM = male

FF = female

Morellia insularis sp. nov.

Figs 1-2

Holotype

MM, SEYCHELLES: Praslin, G'Anse, 30.v.1906 (P.R.DUPONT), BMNH.

Paratypes

13MM 17FF, SEYCHELLES: data as for holotype, 4FF, BMNH; Praslin, 29.v.1906 (P.R.DUPONT), 1MM, BMNH; Mahé, 11.xi.1977 (J.DAVID & L.TSACAS), 1MM, MNHNP; Mahé, La Mare aux Cochons, 7.xi.1977 (J.DAVID & L.TSACAS), 2MM, MNHNP; Mahé, La Mare aux Cochons, 14.xi.1977 (J.DAVID & L.TSACAS), 1MM 1FF, MNHNP; Mahé, Cascade, 10.iii.1965 (TAMS & NYE), 2FF, BMNH; Mahé, Beau Vallon, 20.ii.1965 (TAMS & NYE), 2MM 1FF, BMNH; Mahé, Beau Vallon, 24.iii.1965 (TAMS & NYE), 1MM 1FF, NMP, and 2MM 6FF, BMNH; Mahé, Beau Vallon, 26-27.iii.1965 (TAMS & NYE), 2MM 1FF, BMNH; Mahé, Beau Vallon, 9.iv.1965 (TAMS & NYE), 1MM 1FF, BMNH.

Description

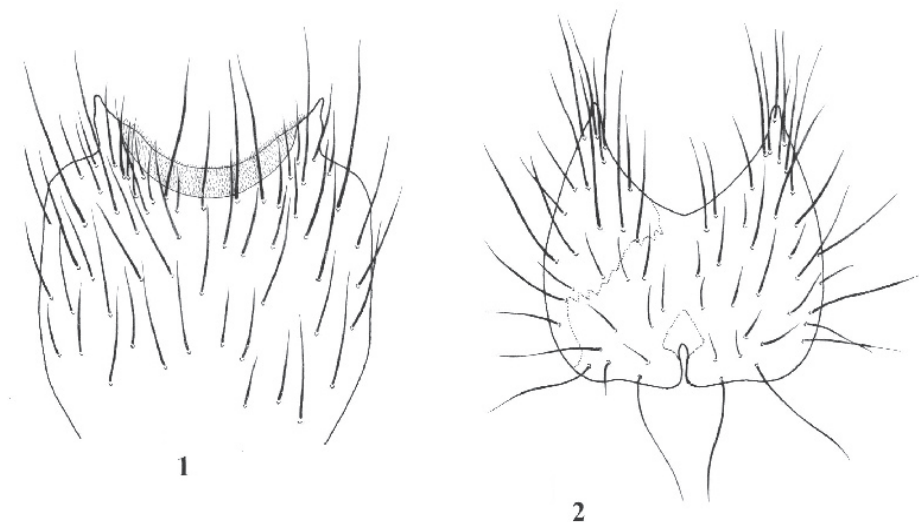
MM. *Head*. Ground-colour black. Frons at narrowest point slightly broader than diameter of anterior ocellus. Eyes virtually bare, with only the usual microscopic pubescence; upper inner facets enlarged as usual but not strikingly so. Fronto-orbital plates silvery-white pruinose on lower third, brownish above this and subshining at vertex; parafacial silvery-white, genae and lower occiput light grey. Fronto-orbital plates very narrow, at lunula a plate not quite half width of antennal flagellomere. Frontal vitta linear, visible on half of frons only as a seam where the fronto-orbital plates touch. 12-15 pairs of moderate frontal setae, extending from lunula to anterior ocellus, those on upper two-thirds proclinate, only those on lower third inclinate; orbitals absent. Antennae black, flagellomere 2.5 times as long as broad; arista long-plumose, the longest combined plumosity equal to length of antennal flagellomere. Parafacial slender, at middle not quite half width of antennal flagellomere, hardly narrowed below. Vibrissal angle below level of profrons. Setulae on facial ridges ascending half the distance from vibrissa to base of antennal flagellomere. Gena moderate, the depth below lowest eye-margin equal to width of antennal flagellomere. Peristomal setae short but quite dense; beard black. Proboscis not elongated, prementum thinly dusted; palpi dark brown, slim. - *Thorax*. Ground-colour

black, spiracles dark brown. Scutum with light grey dust, tinged with yellow behind, as follows: a median vitta beginning at neck and occupying the acrostichal space, narrowed slightly behind suture, broadening before scutellum to cover the prescutellar dorsocentral setae; a broad patch over postpronotal lobes and notopleura; a small postsutural vitta between intra-alar and supra-alar setae; the scutum thus appearing to have two broad black vittae from neck to scutellum. Pleura thinly light grey dusted. Scutellum in posterior view undusted except on ventral edge from base almost to apex and on a pair of lateral patches between sub-basal lateral and subapical discal setae. Ground-setulae quite short and dense on scutum. Acrostichals 0+1. Dorsocentrals 2+5, the presutural and anterior two postsutural pairs short and fine. 1 postsutural intra-alar. Prealar short, less than half length of 2nd notopleural seta. Prosternum and proepisternal depression bare. Anepisternum usually with a fine setula in upper anterior corner. Notopleuron with only a few setulae at the base of the setae, these sometimes absent. Katepisternals 1+2. Greater ampulla bare. Meron usually with 1-3 setulae on beret (katapimeron), rarely bare, haired below spiracle and on metakatepisternum, rarely bare. Posterior spiracle with a few setae on posterior margin. Katatergite and anatergite bare. Scutellum setulose all over disc and lateral margins, and at ventral angle of lateral margins with fine setulose hairs. With strong sub-basal lateral, subapical discal and apical setae. - *Legs*. Black. Without striking modifications. Fore femur without anteroventral setae, with a complete posteroventral row. Fore tibia in apical half with erect setulae on posterior to posteroventral surfaces, and 3-4 posteroventral setae. Mid femur normal in shape, without preapical notches or tubercles; anteroventral surface with several short setae in basal two-fifths, and posteroventral surface with a row of moderate setae from base to just beyond middle; a strong anterior seta at middle; 0 anterior and 3 posterodorsal to posterior preapical setae. Mid tibia without basal notches or tubercles, and without erect anterior setulae; without setae except for 4-5 posterior setae. Hind femur with a few short posteroventral setae in basal third; with a complete anteroventral row, the setae short in basal half. Hind tibia with a strong calcar, without further setae on this surface; anterodorsal surface with a row of short setae, 2-3 of them stronger; without posteroventrals; 3-4 short anteroventral setae; dorsal apical seta present and longer than tibial depth, an anterodorsal and a posterodorsal apical also present, shorter than the dorsal. - *Wing*. Brownish costally and basally, otherwise without markings; veins yellow. Basicosta and tegula dark brown. Wing-membrane entirely covered with microtrichia, without any bare patches. Stem-vein with a few short setulae in basal part, before humeral cross-vein, on upper and lower surfaces, those on upper surface sometimes absent. Vein R1 bare. Vein R4+5 with a few setulae at base on upper and lower surfaces, not extending as far as cross-vein r-m. Vein M curved forward towards vein R4+5 in apical part, cell r4+5 at wing-tip slightly shorter than cross-vein r-m. Lower calypter brownish, with white margin and fringe, upper calypter white. Halteres yellow. - *Abdomen*. Ground-colour black. Tergites covered with rather dense grey dust, without any shifting chequered patches, in dorsal and posterior views with the following areas black and undusted: all of syntergite 1+2; a median vitta and a hind-marginal band on tergites 3-5, these both narrow on tergite 5. Sides of tergites 3-5 dusted, except on hind-margins, and sternites 2-5 dusted except around edges. Tergites without any striking setae. Sternite 1 setulose. - *Genitalia*. Sternite 5 (Fig. 1) with a rather pointed projection at the tip of each lobe. Cercal plate (Fig. 2) with

the apex simple, rounded. - *Measurements*. Length of body, 4.5 - 6.0 mm. Length of wing, 4.0 - 5.5 mm.

FF. Differs from the MM as follows. *Head*. Frons broad but at middle much less than an eye-width; frons parallel-sided, only broadening just before lunula. Fronto-orbital plates subshining black on upper two-thirds, silvery-white pruinose on lower third; parafacial, gena and lower occiput also silvery-white pruinose. Frontal vitta matt black, frontal triangle subshining and reaching halfway from anterior ocellus to lunula. Inner vertical seta long and strong, outer vertical hardly distinct from the adjacent post-ocular setulae. Fronto-orbital plates broadening slightly from vertex to lunula, and frontal vitta consequently narrowing; at middle a fronto-orbital plate one-third width of frontal vitta. 9-10 pairs of inclinate frontal setae, with a few interstitials; 2 pairs of short reclinate and 2 pairs of well-developed proclinate orbital setae; fronto-orbital plates with only a few setulae outside the setae. Frontal vitta bare. Parafacial slightly broader. - *Thorax*. The median dusted vitta very constricted behind suture, actually or almost separated from the prescutellar patch. Presutural and anterior postsutural dorsocentrals shorter and finer. - *Legs*. Fore tibia without any posterior or posteroventral setae. Mid femur with the anteroventral and posteroventral setae shorter, the posteroventrals virtually absent. Hind tibia with the anterodorsal row setulose, with 1-2 setae. - *Wings*. Vein R4+5 with the setulae usually reaching to cross-vein r-m but at most only 1 setula beyond this point. Lower calypter yellowish, sometimes rather dirty outside. - *Abdomen*. Dusting yellowish-grey, with some shifting chequered patches on tergites 4 and 5. - *Ovipositor*. Not examined. - *Measurements*. Length of body, 4.0 - 5.5 mm. Length of wing, 3.5 - 5.0 mm.

Several of the TAMS & NYE specimens appear to be freshly emerged: they are not fully hardened, the heads are rather shrunken, and the legs are twisted.



Figs. 1-2. *Morellia insularis* sp.nov. (Praslin, 29.v.1906) - 1: MM sternite 5. - 2: MM cercal plate.

Etymology

The species name is formed from the Latin word “insula”, meaning “island”, and refers to the geographic isolation of the species.

Differential diagnosis

This species does not agree with any of the described Afrotropical and Oriental species of *Morellia*, and can be recognised by the following combination of characters: prosternum bare; presutural dorsocentral setae short but distinct; discal cell of wing completely haired; MM fore tibia with 2-3 short fine posteroventral setae, mid tibia simple, hind tibia with short anteroventral setae; FF fore tibia without a posterior seta. The MM cercal plate (Fig. 2) is quite unlike that of any of the known Afrotropical species as illustrated by ZIELKE (1971: fig. 10).

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APPENDIX: CHECK LIST OF SEYCHELLES MUSCIDAE

I append below a list of the species of Muscidae now known from the Seychelles, together with a general comment on their distribution. The genera are listed alphabetically, and the species alphabetically within each genus.

Alluaudinella bivittata (MACQUART, 1843)

(GIGLIO-TOS, 1896: 363; STEIN, 1910: 151) Afrotropical, including Malagasy subregion

Atherigona basitarsalis DEEMING, 1987

(DEEMING, 1987: 22) Seychelles, endemic

Atherigona bimaculata STEIN, 1910

(STEIN, 1910: 157) Afrotropical, including Malagasy subregion

Atherigona laevigata (LOEW, 1852)

(STEIN, 1910: 158, as *scutellaris* STEIN) Afrotropical, including Malagasy subregion

Atherigona maculipennis (STEIN, 1910)

(STEIN, 1910: 158) Seychelles, endemic

Atherigona orientalis SCHINER, 1868

(STEIN, 1910: 159, as *trilineata* STEIN) Pantropical (Old and New World)

Coenosia exigua STEIN, 1910

(STEIN, 1910: 161) Palaeotropical

Dichaetomyia fasciculifera (STEIN, 1910)

(STEIN, 1910: 153) Seychelles, endemic

Haematobia exigua DE MEIJERE, 1903

(PONT, 1980: 759) Oriental-Australasian

- Helina mediana* (STEIN, 1910)
(STEIN, 1910: 152) Seychelles, endemic
- Hydrotaea chalcogaster* (WIEDEMANN, 1824)
(STEIN, 1910: 155) Pantropical
- Hydrotaea nigrisquama* (STEIN, 1910)
(STEIN, 1910: 154) Malagasy subregion
- Limnophora fasciolata* STEIN, 1910
(STEIN, 1910: 155) Malagasy subregion
- Morellia insularis* sp.nov.
Seychelles, endemic
- Musca confiscata* SPEISER, 1924
(STEIN, 1910: 149, as *fasciata* STEIN, preocc.) Palaetropical
- Musca domestica* LINNAEUS, 1758
(GIGLIO-TOS, 1895: 362) Cosmopolitan
- Musca sorbens* WIEDEMANN, 1830
(STEIN, 1910: 149, as *niveisquama* THOMSON) Palaetropical
- Myospila compressipalpis* (STEIN, 1910)
(STEIN, 1910: 151) Seychelles, endemic
- Pygophora pallipalpis* (STEIN, 1910)
(STEIN, 1910: 160) Malagasy subregion
- Pygophora respondens* (WALKER, 1859)
(STEIN, 1910: 162, as *lobata* STEIN) Palaetropical
- Stomoxys calcitrans* (LINNAEUS, 1758)
(JAMES, 1947: 133) Cosmopolitan
- Stomoxys niger* MACQUART, 1851
(STEIN, 1910: 150, as *glauca* GRÜNBERG) Afrotropical, including Malagasy subregion
- Synthesiomyia nudiseta* (WULF, 1883)
(BEZZI, 1923: 81) Pantropical (Old and New World)

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