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AFRICAN MUSCIDAE.—III

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The present contribution includes genera composed almost entirely of metallic blue or green muscids. An effort has been made to bring together all the available information dealing with the groups under discussion and it is hoped that this will lead to the proper recognition of some of the older described species through an examination of the types.

PYRELLIA Desvoidy

DESVOIDY, 1830, Mem. Acad. Roy. Sci. Inst. France, II, p. 462. (Type.—*cadaverina* Linnaeus).

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 505.

This genus, until 1923, was a composite group to which almost any metallic green muscid was referred, but especially those in which the apical section of the fourth vein was not concave on the outer side. In 1923 Malloch limited the genus to those species having a strong ventral bristle beyond the middle of the middle tibiae, haired pteropleura, bare infra-alar bulla, bare suprasquamal ridge, rather triangular posterior thoracal spiracles, and broad squamae, using, however, only some of these characters, all of which are possessed by the genotype. Most of the species placed in this genus by Stein in his catalogue belong to *Orthellia* Desvoidy.

It is impossible to say how many African species belong here, but the number is not large. For this reason the synonymic catalogue following the remarks on the known species is large and no doubt includes many species belonging elsewhere. Some of these names will possibly replace names proposed more recently, when the types have been examined, as the descriptions published prior to Malloch's characterization of the genus are mostly so poor as to prevent accurate determination.

The following key includes only those species assigned to the genus by Malloch, or known to me.

TABLE OF SPECIES

- | | |
|--|-------------------------------|
| 1.—Eyes bare..... | 3. |
| Eyes pilose..... | 2. |
| 2.—Apex of the abdomen reddish; lower squamal lobe narrow..... | <i>anorufa</i> Villeneuve. |
| Abdomen wholly metallic..... | <i>albocuprea</i> Villeneuve. |

- 3.—Mesonotum with a white median vitta in front. *bonnarius* Curran.
 Mesonotum without anterior pollinose spot. 4.
 4.—Anterior spiracle of the thorax brown. *nana* Curran.
 Anterior spiracle white. *mitis* Curran.

***Pyrellia anorufa* Villeneuve**

VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 147.

MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 366.

According to Malloch this species, known only from Natal, has the lower squamal lobe narrow. It should probably be placed in a distinct genus.

***Pyrellia albocuprea* Villeneuve**

VILLENEUVE, 1914, Bull. Soc. Ent. France, p. 205.

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 509.

This species is recorded only from Kenya Colony.

***Pyrellia bonnarius* Curran**

CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 356.

I have seen only the type specimen from Congo.

***Pyrellia nana* Curran**

CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 357.

Only the type series, from the Belgian Congo, has been seen by me.

***Pyrellia mitis* Curran**

CURRAN, 1927, Ann. Mag. Nat. Hist., XIX, p. 530.

I have seen no additional specimens of this species. It was described from Transvaal.

CATALOGUE AND SYNONYMY

Pyrellia aethiopis Corti, 1895, Ann. Mus. Genova, XXXV, p. 140 (Abyssinia).

Pyrellia albofasciata Macquart, 1843, 'Dipt. Exot.', II, part 3, p. 149 (Canaries).

This species is probably not a muscid.

Pyrellia arctifrons Stein. See *Orthellia*.

Pyrellia aurantiaca Villeneuve. See *Orthellia*.

Pyrellia bequaerti Villeneuve. See *Orthellia*.

Pyrellia desjardinsii Macquart, 1843, 'Dipt. Exot.', II, part 3, p. 149 (Mauritius).

Pyrellia distincta Villeneuve. See *Orthellia*.

Musca distincta Walker, 1856, 'Dipt. Saunders,' p. 346 (Senegal).

Pyrellia ditissima Villeneuve = *Orthellia splendida* Adams.

Cryptolucilia hirticeps Stein, 1918, Ann. Mus. Nat. Hung., XVI, p. 188 (Natal, Cape). *Orthellia*?

Pyrellia laxifrons Villeneuve, 1916, Ann. Soc. Ent. France, p. 148 (Tanganyika). *Orthellia*?

Pyrellia limbata Villeneuve. See *Orthellia*.

Pyrellia maculisquama Villeneuve, 1916, Ann. Soc. Ent. France, p. 147 (E. Africa). *Orthellia*?

Pseudopyrellia nuda Hough = *Orthellia nudissima* Loew.

Pyrellia nudissima Loew. See *Orthellia*.

Musca obscura Walker, 1856, 'Dipt. Saunders,' p. 346 (Senegal).

Pyrellia orbitalis Stein. See *Orthellia*.

Pyrellia rhingiaeformis Villeneuve. See *Orthellia*.

Pyrellia scintilans Bigot, 1887, Bull. Soc. Zool. France, p. 616 (Cape).

Pyrellia spinthera Bigot, 1878, Ann. Soc. Ent. France, p. 35 (Natal). This species has been identified as an *Orthellia* but the identification is doubtful.

Lucilia spekei Jaenke, 1867, Abh. Senckenb. Gessel., VI, p. 374 (Erytrea).

Pyrellia torpida Walker, 1858, Trans. Ent. Soc. London, IV, p. 214 (Cape).

Pyrellia versatilis Villeneuve. See *Pyrellina*.

Pyrellia viola Bigot, 1878, Ann. Soc. Ent. France, p. 34. (Natal.).

PYRELLINA Malloch

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 525.

Pyrellina is related to *Pyrellia* Desvoidy, being distinguished by having the first vein setulose dorsally. The infra-alar bulla is bare and the posterior spiracle of the thorax is rather triangular and always moderately large; prosternum and pteropleura haired, the hypopleura below the spiracle and above the posterior coxae with some short, fine hairs. The lower lobe of the squamae is small and strongly narrowed toward the apex.

Up to the present time five African species have been placed in the genus, the type of which is *Lucilia inventrix* Walker.

TABLE OF SPECIES

- | | |
|--|-------------------------------|
| 1.—Femora black..... | 2. |
| Femora and tibiae reddish..... | 4. |
| 2.—Abdomen partly yellowish or reddish..... | 3. |
| Abdomen wholly bluish..... | <i>unicolor</i> Malloch. |
| 3.—Abdomen reddish yellow..... | <i>inventrix</i> Walker. |
| Abdomen blue, the fourth segment partly or wholly reddish..... | <i>ruficauda</i> Malloch. |
| 4.—Second abdominal segment blue; mesonotum densely pale pollinose in front of the suture..... | <i>versatilis</i> Villeneuve. |
| Second segment yellow basally; mesonotum with a median white spot in front. | <i>rhodesi</i> Malloch. |

Pyrellina inventrix Walker

Lucilia inventrix WALKER, 1861, Trans. Ent. Soc. London, V, p. 312.

Ochromyia hemichlora BIGOT, 1877, Ann. Soc. Ent. France, p. 38.

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 526.

The specimens described by Walker and Bigot came from Natal. I have not seen the species.

***Pyrellina rhodesi* Malloch**

MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 87.

Described from a single male from Southern Rhodesia.

***Pyrellina ruficauda* Malloch**

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 526.

Female, Barberton, Transvaal, farm Stentor, June 9, 1925 (H. K. Munro).

This specimen may not be *ruficauda* although it agrees in all respects except for the color of the fourth abdominal segment. This segment is very broadly reddish on its whole length in the middle. Malloch described the fourth segment as reddish with the base more or less violaceous. Malloch described the species from Kenya.

***Pyrellina unicolor* Malloch**

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 526.

Three males, Du River Camp No. 3, Liberia; male, Gbanga, Liberia, September, 1926; male, Memeh Town, Liberia, August 29, 1926 (J. Bequaert); male, Eden, Cameroon (J. A. Reis).

***Pyrellina versatilis* Villeneuve**

Pyrellia versatilis VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 145.

MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 367.

Described from Ruwenzori and recorded from there by Malloch. I have seen the following specimens: male, Burunga, Congo; female, Behungi, Uganda, April 4, 1927 (J. Bequaert).

► This species evidently has the thorax variable in color. My specimens have indications of broad, reddish median and lateral vittae on the mesonotum, and when seen from behind with four dark vittae, but these are not conspicuous. The scutellum is brownish yellow with blue reflections and may appear bluish in some lights. The abdomen has the first segment yellow with the broad apex green and bears conspicuous cinereous pollen.

***Orthellia* Desvoidy**

Euphoria DESVOIDY, 1863, 'Hist. Nat. Dipt.,' II, p. 799 (not Burmeister, 1843). (Type.—*cornicina*).

Orthellia DESVOIDY, 1863, 'Hist. Nat. Dipt.,' II, p. 837. (Type.—*cornicina*).

Pseudopyrellia GIRSCHNER, 1893, Berl. Ent. Zeitschr., XXXVIII, p. 306 (Type.—*cornicina*).

Pseudogymnosoma TOWNSEND, 1916, Ins. Ins. Mens., IV, p. 150 (Type.—*inflata*).

Pseudorthellia TOWNSEND, 1916, Ins. Ins. Mens., IV, p. 44 (Type.—*Lucilia viridiceps* Macquart).

Orthellia MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 505.

Until the discovery by Malloch that the suprasquamal ridge is setulose in the type of this genus, *Musca cornicina* Fabricius, the genus was not properly differentiated from *Pyrellia* Desvoidy, the character used being the course of the fourth wing vein beyond the bend. This is variable even in the genotype and, as a result, Desvoidy based two genera upon the same species. In addition to this character I find that in all but two of the species known to me the infra-alar bulla (a round, knoblike protuberance between the mesopleura and pteropleura) bears short black hairs such as are found in the genus *Panaga* Curran. The two species of *Orthellia* lacking these hairs also have the interfrontal triangle shining black and extending more than halfway to the antennae, so it is possible that they should be removed from the genus. However, some of the species have the bullae haired only posteriorly, so I retain the two species with wholly bare bullae in *Orthellia*.

Several characters in the genus are variable. Many of the species have strong ocellars in the females and in this sex, as well as in some males, there may be at least one strong orbital bristle. One species possesses two or three setulae on the dorsal surface of the median third of the first vein but this is unimportant, as is the extent of the hairing of the third vein; almost all the species have two or three setulae on the origin of the second vein just beyond the humeral cross-vein on the under side. The dorsocentrals, intra-alars, and sternopleurals vary in number and may not be the same in the two sexes. As already indicated the course of the fourth vein is not to be relied upon to too great an extent even for specific purposes, although the vein always ends before the tip of the wing.

The genotype was designated by Coquillett in 1910.

TABLE OF SPECIES

1.—Eyes haired.....	2.
Eyes bare.....	4.
2.—Costal border deep brown.....	2a.
Wings not strongly bicolored.....	3.
2a.—At most two pairs of postsutural dorsocentrals.....	<i>lasiophthalma</i> Malloch.
Four pairs of postsutural dorsocentrals (<i>Pyrellia</i>).....	<i>hirticeps</i> Stein.
3.—No presutural dorsocentrals.....	<i>peronii</i> Desvoidy.
Dorsocentrals 2-3.....	<i>bequaerti</i> Villeneuve.
4.—Costal border partly or wholly brown.....	5.
Wings almost unicolorous, the costal border not strikingly darker.....	8.

- 5.—Abdomen reddish *aurantiaca* Villeneuve.
 Abdomen green or blue 6.
- 6.—Costal border brown on the entire length 7.
 Brown of the costal border interrupted at the apex of the first vein.
bimaculata Stein.
- 7.—Abdomen with coarse, setigerous punctures and with very short hair.
limbata Villeneuve.
 Abdomen with fine punctures and with many erect hairs 7a.
- 7a.—Mesonotum with a white pollinose median spot in front . . . *marginipennis* Stein.
 Mesonotum without white pollinose spot *intacta*, n. sp.
- 8.—Face strongly produced below, the lower edge of the head longer than the head-height *rhingiaeformis* Villeneuve.
 Face normal, the head decidedly higher than long 9.
- 9.—No well-developed presutural dorsocentrals 24.
 One or two pairs of well-developed or quite evident presutural dorsocentrals 10.
- 10.—Only one pair of well-developed presutural dorsocentrals 11.
 Two pairs of presutural dorsocentrals, both equally strong or nearly so . . . 12.
- 11.—Squamae brown; posterior tibiae with two anteroventral bristles; front of male as wide as third antennal segment, without a series of hairs on the parafrontals *pura* Curran.
 Squamae white in female, darkened in male; one anteroventral on the posterior tibiae; front of male twice as wide as third antennal segment; parafrontals with a series of short hairs *abnormis* Malloch
- 12.—Halteres black or brown 13.
 Halteres yellow or reddish 15.
- 13.—Front of the female shining except on the lowest fifth; lower lobe of squamae in male brown on apical half, without white border *boersiana* Bigot.
 Front of female pollinose on almost the lower half; squamae of male with white border 14.
- 14.—Parafrontals of female thinly pollinose on the upper half, greenish in ground color; middle femora with a strong median bristle in front, terminating the row of short bristles *indica* Desvoidy.
 Parafrontals shining violaceous on the upper half; middle femora without a strong median bristle in front *scatophaga* Malloch.
- 15.—Mesonotum with three pairs of postsutural dorsocentrals, the anterior two pairs of almost the same length 16.
 Mesonotum with one to four pairs of postsutural dorsocentrals, the anterior ones very much weaker than the posterior two pairs 17.
- 16.—Femora violaceous or green *nigrocincta* Bigot.
 Femora black 16a.
- 16a.—Fourth abdominal segment thickly white pollinose from dorsal view.
 analis, n. sp.
 Fourth abdominal segment without evident pollen *macrops*, n. sp.
- 17.—Infra-alar bulla with black or yellow hairs 18.
 Infra-alar bulla bare 23.
- 18.—Fourth abdominal segment with erect black hairs 19.
 Fourth segment with only fine, short yellow hair *nudissima* Loew.

- 19.—Mesonotum strongly cinereous pollinose in front of the suture, the fourth abdominal segment whitish pollinose. *analis*, n. sp.
 Mesonotum and fourth abdominal segment not conspicuously pollinose. 20.
- 20.—Eyes of male separated by about twice the width of the third antennal segment; female unknown (*Pyrellia*?) *laxifrons* Villeneuve.
 Eyes of male closely approximate or only separated by a distance equal to about the width of the third antennal segment. 21.
- 21.—Eyes of male closely approximated; fourth segment of abdomen not brassy and strongly contrasting with the preceding segment. 22.
 Eyes of male separated by a distance equal to the width of the third antennal segment; abdomen blue with the fourth segment brassy green.
 *aureopyga* Malloch.
- 22.—Upper facets of the eyes of male strongly enlarged; four pairs of strong postsutural dorsocentrals. (*Pyrellia*?) *arctifrons* Stein.
 Upper facets but little enlarged; anterior two pairs of postsutural dorsocentrals weak. *spinthera* Bigot.
- 23.—First vein with two or three bristles above and below on the median third (*arctifrons* Stein ?) *prima*, n. sp.
 First vein bare except below, just beyond the humeral cross-vein where there are two or three setae (these are present also in *prima*) (*arctifrons* Stein ?).
 *distincta* Villeneuve.
- 24.—Both sexes with a strong, proclinate orbital bristle on either side. *orbitalis* Stein.
 No proclinate orbitals. 25.
- 25.—Mesonotum and abdomen without erect hairs, the hair quite short and appressed; abdomen reddish yellow. *inflata* Townsend.
 Abdomen with erect hairs or bristles at least on the fourth segment; abdomen metallic. 26.
- 26.—Palpi, face, and antennae reddish. *rubrifacies* Malloch.
 Palpi, face, and antennae blackish or brown. 27.
- 27.—Femora violaceous or greenish at least on the basal half, or the intra-alars absent. 28.
 Femora black; intra-alar long. *vera* Curran.
- 28.—Knob of halteres bright yellow. *prenes*, n. sp.
 Knob of halteres brown, the tip sometimes reddish. 29.
- 29.—Mesonotum with a median whitish patch in front visible from some views.
 *splendida* Adams.
 Mesonotum unicolorous, not white pollinose anteriorly. *dubia* Malloch.

***Orthellia peronii* Desvoidy**

Lucilia peronii DESVOIDY, 1830, Mem. Acad. Roy. Sci., France, II, p. 460.

Musca cyanea WIEDEMANN, 1830, 'Aussereur. Zweifl.,' II, p. 397.

Musca sarsina WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, p. 882.

Musca phara WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, p. 889.

Musca mazaca WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, p. 889.

Musca braesia WALKER, 1849, 'List Dipt. Brit. Mus.,' IV, p. 891.

Musca cyanea MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 510.

Male and female, Burunga, Congo (J. Bequaert).

***Orthellia* ? *hirticeps* Stein**

Cryptolucilia hirticeps STEIN, 1913, Ann. Mus. Nat. Hung., XVI, p. 188.

Described from Natal and Cape Province, South Africa.

There is nothing in Stein's description to indicate the generic position of this species and it may belong to *Pyrellia* Desvoidy. However, several species apparently allied to *hirticeps* properly belong to *Orthellia*, and the probability is that this species also does.

***Orthellia lasiophthalma* Malloch**

MALLOCH, 1928, Ann. Mag. Nat. Hist., I, p. 473.

Described from Kenya Colony.

O. lasiophthalma is evidently closely related to *hirticeps* Stein, having a broad blackish costal border but differing in the bristles on the mesonotum, the postsutural dorsocentrals being reduced to two pairs, whereas there are four in *hirticeps*.

***Orthellia bequaerti* Villeneuve**

Pyrellia bequaerti VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 147.

I have seen one specimen from the Belgian Congo, from whence the species was originally described.

This species is related to the form identified by Malloch as *cyanea* Fabricius, differing in possessing two pairs of presutural dorsocentrals. The eyes are pilose and the wings hyaline.

***Orthellia nudissima* Loew**

Pyrellia nudissima LOEW, 1852, Ber. K. P. Acad. Wiss., Berlin, p. 660 (Mozambique).

Pyrellia nudissima LOEW, 1862, 'Reise nach Mozamb.', p. 23.

Pseudopyrellia nuda HOUGH, 1898, Proc. Acad. Nat. Sci. Phila., p. 173 (Somaliland).

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 506.

Eleven males and twelve females, Lenga Town, Liberia, August 15, 1926, on human excrement; two males and two females, Kaka Town, Liberia, August 18, 1926; male and four females, Gbanga, Liberia, September, 1926; male and four females, Reppo's Town, Liberia, September 1, 1926; male and two females, Du River Camp No. 3, Liberia; six females, Memeh Town, Liberia, August 29, 1926; female, Banga, Liberia, October, 1926 (J. Bequaert).

In addition to the specimens recorded above the Museum possesses a paratype of *Pseudopyrellia nuda* Hough from Somaliland.

O. nudissima may be readily distinguished from all the known species, with the exception of *inflata* Townsend, by the absence of erect hairs on the abdomen, and from *inflata* by the presence of two pairs of short but distinct presutural dorsocentral bristles and the rather uniform size of the eye facets.

***Orthellia inflata* Townsend**

Pseudogymnosoma inflata TOWNSEND, 1916, Ins. Ins. Mens., VI, p. 151.

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 507.

I have not seen this species, described from Angola, but it is very much like *aurantiaca* Villeneuve, differing in having the wings almost unicolorous and in lacking the anterior sternopleural bristle. According to Malloch one male belonging to the type series possesses the characters of *aurantiaca* but evidently has the legs black. Should the two forms prove to be identical, Townsend's name would have priority as his article appeared more than a month before Villeneuve's.

***Orthellia aurantiaca* Villeneuve**

Pyrellia nudissima aurantiaca VILLENEUVE, 1916 (December 8), Ann. South African Mus., XV, p. 512.

I have not seen this species which was described from a single female from Natal.

Judging by the description the specimen from which this species was described is teneral and it is possible that the coloration, at least of the legs, is due to this fact. Among the type series of *inflata* Townsend (Oct. 30, 1916) is a male that agrees with Villeneuve's description except that it has black legs (Malloch, 1923, Ann. Mag. Nat. Hist., XII, p. 507). *O. aurantiaca* apparently possesses an anterior sternopleural bristle, as in *nudissima* Loew, but this is lacking in *inflata* Townsend. *O. bimaculata* Stein has the wings colored as in *aurantiaca* but has the abdomen green.

***Orthellia bimaculata* Stein**

Pyrellia bimaculata STEIN, 1918, Ann. Mus. Nat. Hung., XVI, p. 187.

The single female from which this species was described came from Tanganyika.

The brown costal border is broadly interrupted at the apex of the first vein, thus distinguishing this form from the others with brown costal border and metallic abdomen. The only other described species that has similar wing markings is *aurantiaca* Villeneuve, and I suspect that both names apply to the same species.

***Orthellia limbata* Villeneuve**

Pyrellia nudissima limbata VILLENEUVE, 1916, Ann. South African Mus., XV, p. 512.

Female, Burunga, Congo; four females from Lenga Town, August 15, 1926, and four from Du River Camp No. 3, Liberia (J. Bequaert); three females, Stanleyville, Congo (Lang and Chapin).

This species was originally described as a variety of *nudissima* Loew. It is distinguished by the broadly brown costal border and the absence of white pile on the venter and apical tergite. The specimens from Lenga Town were taken "on human excrement."

***Orthellia marginipennis* Stein**

Cryptolucilia marginipennis STEIN, 1918, Ann. Mus. Nat. Hung., XVI, p. 188. MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 510.

Originally described from Tanganyika and recorded by Malloch from Uganda.

***Orthellia intacta*, new species**

Blue-green, the abdomen rather brassy; wings pale brown with the costal border broadly dark brown; dorsocentrals 2-4. Length, 7 mm.

MALE.—Head black in ground color, the face, posterior orbits, and parafrontals on the lower half, rather thinly cinereous pollinose. Eyes closely approximate; frontals hairlike except below, numerous; ocellars not differentiated; verticals strong. Cheeks about one-fifth as wide as the eye-height, shining black. Parafacials narrow; facial ridges setose on the lower half. Palpi blackish. Antennae brown, the arista with very long rays.

Thorax green; pleura with thin brownish-gray pollen, the mesonotum with thin brown pollen except on the lateral and posterior borders. Dorsocentrals 2-4; acrosticals 0-1; one intra-alar; prealar moderately long, sternopleurals 1-3.

Legs blackish. Middle femora with one or two anteroventral and two posteroventral bristles on the basal half; posterior femora with an entire row of anterodorsal bristles, a row of five or six anteroventrals and one posteroventral before the middle. Anterior tibia without median bristles; middle tibiae with a row of four or five anterodorsal bristles and a very strong anteroventral; posterior tibiae with a long calcar, a row of short anterodorsals among which is a stronger one, and one anteroventral bristle.

Wings pale brownish, the costal border broadly dark brown, the dark color extending over the anal cell basally and to slightly behind the third vein apically; base of second vein with a setula at its origin; third setulose from the base to the anterior cross-vein on upper and lower surfaces; apical section of fourth vein not concave on outer side. Squamae brownish with the outer edge whitish basally. Halteres with reddish-yellow knob.

Abdomen rather brassy green, the first segment black; fourth segment with erect bristly hairs.

TYPE.—Male, Reppo's Town, Liberia, September, 1926 (J. Bequaert).

Orthellia pura Curran

CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 358.

Male, Kisenje, Congo, February, 1927; male, Monrovia, Liberia; male, Du River Camp No. 3, Liberia, 1926; male, Memeh Town, Liberia, August 29, 1926; male, Kaka Town, Liberia, August 18, 1926 (J. Bequaert).

Orthellia abnormis Malloch

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 512.

I have not seen this species, originally described from two specimens from Natal.

Orthellia boersiana Bigot

Somomyia boersiana BIGOT, 1877, Ann. Soc. Ent. France., p. 37.

Somomyia caffra BIGOT, 1877, Ann. Soc. Ent. France, p. 37.

Pyrellia nigrohalterata STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 471.

Orthellia nigrohalterata MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 508.

Male, Nya Ngezi, Congo, February 3, 1927 (J. Bequaert); female, Buea, Cameroon.

Stein described this species from Tanganyika and Malloch recorded it from Natal. Bigot's specimens were from South Africa.

Orthellia indica Desvoidy

Lucilia indica DESVOIDY, Mem. Acad. Roy. Sci. Inst. France, II, p. 453.

Orthellia latifrons MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 508.

Described by Malloch from a single female from Natal. The type is in the Natal Museum.

Orthellia scatophaga Malloch

MALLOCH, 1924, Ann. Mag. Nat. Hist., XIV, p. 519.

Male and female, Prospect, Cape Province, March, 1924 (H. K. Munro); male and female, Transkei, Cape Province (Dr. Jordan).

The two specimens from Prospect are from the same lot as the type series, described by Malloch. I have seen several other specimens bearing the same data as those recorded above.

Orthellia nigrocincta Bigot

Lucilia nigrocincta BIGOT, 1858, in Thomson, 'Arch. Ent.', II, p. 369.

Pyrellia albigena STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 469.

Pyrellia albigena MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 508.

Female Burunga, Congo (J. Bequaert); two males, three females, Umtali, Southern Rhodesia, April, 1929 (A. Cuthbertson); male, New

Hanover, Natal, August 15, 1913 (Geo. C. Haines); female, Salisbury, Southern Rhodesia, April, 1932 (A. Cuthbertson); male and five females, Lourenco Marques, April-July, 1914; male, Waterfall, Boven, Transvaal, 3800 ft. (H. A. Junod); female, Johannesburg, February, 1905 (?); Stein described the species from Tanganyika, Madagascar and Sokotra.

***Orthellia macrops*, new species**

Green, more or less brassy; dorsocentrals 2-3. Length, 8 mm.

MALE.—Head black in ground color, occiput greenish; cheeks violaceous; face and front rather thinly cinereous pollinose. Eyes almost touching for almost half the length of the front, the facets on the upper half greatly enlarged. Frontals hairlike, about five pairs anteriorly and five or six pairs in front of the ocelli; ocellars not developed. Cheeks one-sixth as wide as the eye-height. Parafacials narrow. Facial ridges setulose on lower half. Palpi brown. Antennae brown, the basal two segments reddish.

Thorax green, the pleura with very thin whitish pollen; mesonotum with brownish-gray pollen except on the broad posterior and lateral margins, best seen from posterior view. Dorsocentrals 2-3, all strong; one intra-alar; pre-alar half as long as the following bristle; acrosticals 0-1; sternopleurals 1-2.

Legs blackish. Middle femora with two anteroventral and one posteroventral bristle on the basal third; posterior femora with three anteroventral bristles on the apical third, one posteroventral before the middle and a row of anterodorsals. Anterior tibiae without median bristles; middle tibiae with a row of posterior bristles and a strong posteroventral; posterior tibiae with a strong calcar, a row of weak anterodorsal bristles ending in a stronger one beyond the middle and an anteroventral bristle beyond the middle.

Wings hyaline; base of second vein with three setulae a little beyond the humeral cross-vein on the under surface; third vein setulose almost to the anterior cross-vein on its upper side and on most of its length on the lower side. Bend of fourth vein rounded. Squamae brown, the base white on the outer part. Halteres missing.

Abdomen brilliant green; fourth segment with erect, bristly hairs.

TYPE.—Male, Lukugo, Congo, December 23, 1926 (J. Bequaert).

***Orthellia analis*, new species**

Thorax violaceous; abdomen blue-green, the fourth segment appearing white from anterodorsal view; three or four pairs of postsutural dorsocentrals, the anterior pair weak or absent; eye facets not enlarged in male. Length, 7.5 to 8.5 mm.

MALE.—Face and front black, cinereous pollinose; occiput and cheeks violaceous, the latter sometimes more blackish, thinly pollinose. Eyes separated by about the width of the third antennal segment, the black frontal vitta narrow; frontals hairlike; parafrontals evidently bare on the upper half; ocellars absent. Cheeks about one-sixth as wide as the eye-height. Palpi blackish. Antennae brown.

Thorax violaceous; pleura obscurely pale pollinose; mesonotum, from posterior view, cinereous-white pollinose except laterally and from dorsal view with three dull whitish spots on the anterior border. Dorsocentrals 2-3 or 4, the posterior three pairs strong; one intra-alar; prealar long; sternopleurals 1-3.

Legs black; middle femora with erect or suberect hair below and a postero-ventral bristle near the middle, a hair on either surface near the base bristlelike; posterior femora with a row of five strong anteroventral bristles on the apical half and two weak ones on the basal third, one posteroventral before the middle and an entire anterodorsal row of bristles. Anterior tibiae without bristles, the middle pair with about five behind and a very strong ventral; posterior tibiae with the calcar, one or two anterodorsal and two or three anteroventral bristles.

Wings cinereous hyaline; apical section of fourth vein not concave on the outer side; third vein with setulae above and below from the base to the anterior cross-vein; origin of second vein with two setulae. Squamae pale brownish, the outer border broadly white basally. Halteres with reddish yellow knobs.

Abdomen blue-green; fourth segment, from anterodorsal view, white except on the narrow base, its hair erect and partly bristle-like.

FEMALE.—Front narrower than either eye; face and lower half of the front cinereous-white pollinose, rather silvery white in some views; parafrontals violaceous above; eight to ten pairs of frontals, the upper pair reclinate; one strong proclinate orbital situated above the middle of the front and several proclinate hairs; ocellars and outer verticals long. Squamae white. Fourth abdominal segment inclined to be violaceous.

TYPES.—Holotype, male, allotype, female, and paratype, female, Burunga, Congo (J. Bequaert).

***Orthellia ? laxifrons* Villeneuve**

Pyrellia laxifrons VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 148.

This species, described from Tanganyika, probably belongs to *Orthellia*. The front is described as about twice as wide as the third antennal segment.

***Orthellia aureopyga* Malloch**

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 510.

Described from Kenya. I have not seen the species.

***Orthellia ? arctifrons* Stein**

Pyrellia arctifrons STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 472.

Described from Tanganyika. The eyes have the facets greatly enlarged on the upper half except posteriorly.

***Orthellia spinthera* Bigot**

Pyrellia spinthera BIGOT, 1878, Ann. Soc. Ent. France, p. 35 (Natal).

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 513.

Orthellia distincta CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 358.

Male and six females, Lenga Town, Liberia, August 15, 1926; male and three females, Memeh Town, Liberia, August 29, 1926 (J. Bequaert); male, Stanleyville, Congo, March, 1915 (Lang and Chapin).

In his identification of this species Malloch followed Bezzi, but it is by no means certain that the identification is correct.

***Orthellia orbitalis* Stein**

Pyrellia orbitalis STEIN, 1913, Ann. Mus. Nat. Hung., XI, p. 470.

Stein described this species from Tanganyika and in 1928 I recorded a female from Congo.

***Orthellia rubrifacies* Malloch**

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 511.

Described from Kenya and quite easily recognizable by the reddish palpi, face, and antennae.

***Orthellia vera* Curran**

CURRAN, 1928, Bull. Amer. Mus. Nat. Hist., LVII, p. 358.

This species was described from the Congo and I have seen no additional material.

***Orthellia splendida* Adams**

Paracompsomyia splendida ADAMS, 1904, Kansas Univ. Sci. Bull., III, p. 202.

Pyrellia ditissima VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 146.

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 513.

Two males and two females Salisbury, Southern Rhodesia (F. L. Snow), cotypes; two males and one female, Salisbury, February and April, 1929 (A. Cuthbertson); male, Djibuti to Addis Abbaba Rail Road, Abyssinia, September 14-17, 1920 (B. Brown); male and female, Balla Balla, Southern Rhodesia, March, April, 1931 (A. Cuthbertson).

***Orthellia dubia* Malloch**

MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 511.

Described from East Africa and Nyassaland.

I have been unable to identify this species in the material before me and am not certain that it is distinct from *splendida* Adams. The only difference is in the absence of a whitish median spot on the front of the mesonotum; and in some specimens of *splendida* this is not at all conspicuous and it is sometimes more grayish, or even brownish gray, than white. Malloch separates the two species also by the number of dorso-centrals, *dubia* having but one pair. In some specimens of *splendida* the anterior pair is so small as to be overlooked and sometimes there is only one on one side and two on the other. Both species have the knob of the halteres brownish although there is a tendency for the knob to be reddish apically in *splendida*.

***Orthellia prenes*, new species**

Evidently related to *splendida* Adams but with two or three pairs of dorsocentrals, bright yellow halteres, narrower frontal vitta, and less extensively pollinose parafrontals. Length, about 9.5 mm.

FEMALE.—Head violaceous, the occiput green behind; face and lowest fourth of the parafrontals black in ground color and densely silvery-white pollinose. Frontal vitta blackish, white pollinose, much narrower than either parafrontal; six or seven pairs of frontals on the anterior half, the shining part of the parafrontals rather thickly haired; ocellars scarcely developed; outer verticals rather weak. Cheeks almost one-fifth as wide as the eye-height, very thinly pollinose, black-haired. Parafacials wide. Oral margin produced. Palpi long, black. Antennae black. The front is broader than either eye.

Thorax violaceous, with green reflections; mesonotum with a broad, obscure cinereous-white stripe in front of the suture which is conspicuous in front. Dorsocentrals 0-2 or 3, only the posterior pair strong; intra-alar strong; prealar half as long as the following bristle; sternopleurals 1-3.

Legs black; femora violaceous; middle femora with a row of fine anteroventral bristles on the basal third and evidently with two or three posteroventrals on the basal fourth; posterior femora with entire rows on the anterodorsal and anteroventral surfaces and a single ventral bristle near the basal third. Anterior tibiae without bristles near the middle, the middle pair with about five posterior bristles and a strong posteroventral near the apical third; posterior tibiae with one (perhaps two) anterodorsal and one anteroventral bristle.

Wing hyaline; outer edge of last section of fourth vein not concave; third vein bristled above and below about halfway to the small cross-vein. Squamae white. Knob of halteres bright yellowish.

Abdomen violaceous with green reflections, or wholly green; fourth segment with erect black hair.

MALE.—Front decidedly wider than the third antennal segment, violaceous on the upper half or more of the orbits, the frontal vitta white from anterior view; frontals all hairlike; occiput violaceous, rather thinly pale pollinose; ocellars and verticals absent.

TYPES.—Holotype, female, Johannesburg, August; allotype, male, Basutoland. Paratypes: male and six females, Johannesburg, July, 1895; four males and three females, Johannesburg, 1899; male, Johannesburg, 1904 (J. P. Cregor); male and two females, Basutoland.

This species is evidently most closely related to *rhingiaeformis* Villeneuve, but the face is much less produced and truncate apically. It forms a connecting link between that species and *splendida* Adams in the shape of the head, and, like both these species, lacks ocellar bristles in both sexes, most of the species lacking them in the male but possessing them in the female. However, this character is by no means a generic one in this case as there is a gradual intergradation.

***Orthellia rhingiaeformis* Villeneuve**

Pyrellia rhingiaeformis VILLENEUVE, 1914, Bull. Soc. Ent. France, p. 204.
MALLOCH, 1923, Ann. Mag. Nat. Hist., XII, p. 507.

Two males and seven females, Burunga, Congo (J. Bequaert); numerous specimens from Addis Abbaba, Abyssinia, July and August (B. Brown).

This easily recognized species varies in color from green to violaceous. The strongly produced face, which is not, however, at all like that of *Rhingia* Scopoli, as suggested by the name, is characteristic, and I know of no species approaching it in this regard.

***Orthellia distincta* Villeneuve**

Pyrellia distincta VILLENEUVE, 1916, Ann. Soc. Ent. France, p. 148.

Male and two females from Cameroon. Villeneuve described the species from the Congo.

This species, if I have correctly identified it, is readily distinguished from all others in the genus by the absence of hairs on the infra-alar bullae and non-setulose first wing vein. In the male before me the basal segment of the posterior tarsi lacks the usual row of black bristly setulae on the anteroventral surface and thus agrees with Villeneuve's description. The females possess the row of setulae but may be recognized by the bare bullae. This species may prove to be the same as *arctifrons* Stein.

The absence of hairs on the infra-alar bullae might be considered of sufficient importance for the erection of a genus, but a few species have the hairs limited to the posterior portion and thus form a link with the typical forms in which the bulla is wholly haired.

***Orthellia prima*, new species**

A readily recognized species because of the bare infra-alar bullae and presence of two or three setulae on the upper surface of the median third of the first vein. Length, 6 to 9 mm.

MALE.—Head black; face and lowest fourth of the front silvery-white pollinose, the cheeks and occiput with thin brownish pollen. Eyes almost touching for about one-fourth the length of the front, the frontal hairs extending the whole length, two or three of the anterior pairs developed as bristles; ocellars absent. Cheeks about one-eighth as wide as the eye-height; eyes with enlarged facets in front. Palpi black. Antennae brownish.

Thorax bluish, obscurely pollinose, the mesonotum appearing brown from anterior view except on the broad lateral margins. Dorsocentrals 2-4; anterior intra-alar weak; prealar strong; sternopleurals 1-3.

Legs black; middle femora with a ventral bristle near the middle; posterior femora with a medianly interrupted row of seven or eight anteroventral bristles, a

single posteroventral situated before the middle and an entire row of anterodorsal bristles. Anterior tibiae without median bristles; middle tibiae with five or six posterior bristles and a strong posteroventral; posterior tibiae with the calcar, a row of four or five short anterodorsal bristles ending in a longer one near the middle and two anteroventral bristles. Posterior tarsi with a row of short, black setulae on the anteroventral surface.

Wings cinereous hyaline; bend of fourth vein broadly rounded; base of second vein ventrally with three setulae at its origin; first vein dorsally with two or three setulae on the median third; third vein setulose above and below between the base and the anterior cross-vein. Squamae brownish, broadly white on the outer portion basally. Halteres reddish yellow.

Abdomen bright green; fourth segment with subappressed hair and several erect hairs toward either side.

FEMALE.—Mesonotum usually rather violaceous, the abdomen often bluish. Parafrontals shining black except on the anterior fifth; ten pairs of frontals, the upper pair reclinate; frontal triangle shining black, reaching to beyond the middle of the front; ocellars and outer verticals strong. Three intra-alar bristles.

TYPES.—Holotype, male, Memeh Town, Liberia, August 29, 1926; allotype, female, Reppo's Town, Liberia, September 1, 1926. Paratypes: three females, Reppo's Town, September 1, 1926; female, Memeh Town, August 29, 1926; and nine females, Lenga Town, Liberia, August 15, 1926; (J. Bequaert).

CATALOGUE AND SYNONYMY

albigena Stein = *nigrocincta* Bigot.

? (*Lucilia*) *barthii* Jaennicke, 1866, 'Neue Exot. Dipt.,' p. 374 (Erytrea).

braesia Walker = *peronii* Desvoidy.

cyanea Malloch (not Fabricius) = *peronii* Desvoidy.

? (*Cosmina*) *diademata* Bigot, 1877, Ann. Soc. Ent. France, p. 37 (Cape).

ditissima Villeneuve = *splendida* Adams.

latifrons Malloch = *indica* Desvoidy.

mazaca Walker = *peronii* Desvoidy.

nuda Hough = *nudissima* Loew.

phara Walker = *peronii* Desvoidy.

(*Musca*) *racilia* Walker, 1849, 'List. Dipt. Brit. Mus.,' IV, p. 884 (Sierra Leone).

sarsina Walker = *peronii* Desvoidy.

