NEW SPECIES AND SYNONYMY OF STRATIOMYIDAE (DIPTERA) FROM JAMAICA, BASED ON THE R. E. WOODRUFF COLLECTIONS

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ABSRTACT

The Jamaican species of *Nothomyia* are reviewed and a key presented. New species are *N. flavipes, N. woodruffi,* and *N. alticola. Pareidalimus* Lindner is a junior synonym of *Gowdeyana* Curran. *Chaetohermetia insularis,* possibly a transitional link between *Chaetohermetia* and *Hermetia,* is described as new.

This paper is presented at this time to make available for publication the names of new species to be listed in a comprehensive report by Dr. Woodruff on the results of his collection expedition to Jamaica. Holotypes are being placed in the Florida State Collection of Arthropods. I am grateful to Dr. Woodruff and to Dr. Howard Weems Jr. for making this collection available to me for study.

Ganus *NOTHOMYIA* Loew

In the collection before me there are 4 species represented, unfortunately 2 of them by uniques. In all of these the scutellar spines are reduced to short tubercles which may be overlooked, the scutellum consequently being interpreted as unspined. The reduction of scutellar spines is known otherwise to occur only in the Cuban *scutellata* Loew which may be distinguished easily from the Jamaican species by its yellow scutellum. No mention of scutellar spines is made in the original description of *Nothomyia fasciatipennis* (Lindner), but it must be assumed that the scutellum of that species is 2-spined, since Lindner considered the presence of spines a generic character of the genus *Berisargus* to which *fasciatipennis* was referred.

Only 10 species of *Nothomyia* are known from the rest of the world (see James 1942 for key). All are Neotropical, if we disregard the probably adventitious record of *viridis,* and extend from southern Florida to southern Brazil. The occurrence of 4 species on a small island of varied topography is interesting but not surprising in view of the documented profuse speciation that occurs in some other insular areas, such as in Hawaii.

KEY TO KNOWN JAMAICAN SPECIES OF *Nothomyia*

1. Wing with a distinct brown cross band and apex; legs and antennae mostly yellow; scutellar spines so small that they appear completely absent (female unknown) ..... *flavipes* n. sp.
1.′ Wing hyaline; scutellar spines present but reduced to small tubercles; legs, except basal 1 or 2 tarsomeres, and antenna

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black to metallic blue 2

2. Basitarsus and most of second tarsomere of hind leg yellow; stigma pale yellow, heavier veins yellow to brownish yellow ..... *woodruffi* n. sp.

2.′ At most basitarsi except apices yellow, second tarsomere of all legs black 3

3. Stigma and heavy veins dark brown to brownish black; mesonotum of male with sparse, erect black hairs and appressed yellowish pile ..... *intensica* (Curran)

3.′ Stigma and heavy veins yellow to pale brownish yellow; mesonotum of male with abundant long erect black hairs contrasting in length with the short, though erect, black pile (female unknown) ..... *alticola* n. sp.

Nothomyia intensica (Curren)

Merosargus intensicus Curren, 1928, Bull. Agr. & Sci. Jamaica 4, suppl. 4: 18.

Described from a male from Cinchona, Jamaica. I have 1 male, Bath, Jamaica, 1-IV-1931, E. L. Bell, which agrees well with Curran's description but is somewhat smaller (5.4 rather than 6.0 mm). The female is undescribed; the following notes are based on 1 female, Holywell Forest Camp, St. Andrew Parish, 11-VIII-1971, M. Winegar, and 2 females, Worthy Park, 2.2 mi. N. on Camperdown Road, St. Catharine Parish, 12-V and 14-17-V-1969, R. E. Woodruff, Malaise trap: Frons 0.35X head width at antennal bases, narrowing to 0.18 at vertex. No black hair patches of mesonotum as described for the male, only a very few erect black hairs. Abdomen broader than in the male, its hairs less conspicuous. The hind basitarsus of the male is distinctly thicker than the remaining tarsomeres and is about 1.25x their combined lengths.

Nothomyia flavipes James, new species

MALE: Length, 5.0 mm. Head black in ground color; frons and face subshining, purplish on most of lower frons, green to coppery green on orbits and above transverse sulcus, chiefly black and more conspicuously shining on face. Eyes subcontiguous but leaving a distinct triangle between narrowest part of frons and transverse sulcus. Some pale yellow hairs on lower frons, upper face, and genae; those of lower half of face dense, black, setula-like and erect but curving upward toward their apices. Occipital orbit widened below and with appressed white hairs. Antenna (cf. Fig. 1) structurally as in *intensica*; first 3 flagellomeres combined about as long as combined lengths of scape and pedicel, next 2 short, arista bare; yellow, fourth and fifth flagellomeres and arista becoming brown to dark brown. Proboscis dark brown to black.

Mesonotum and scutellum mostly subshining, mostly dull blue to purplish blue, in places with violet reflections, more blue-green and shining toward notopleural suture and above wing bases; pleura blue-green to bluish black, shining. Scutellum practically unspined, the

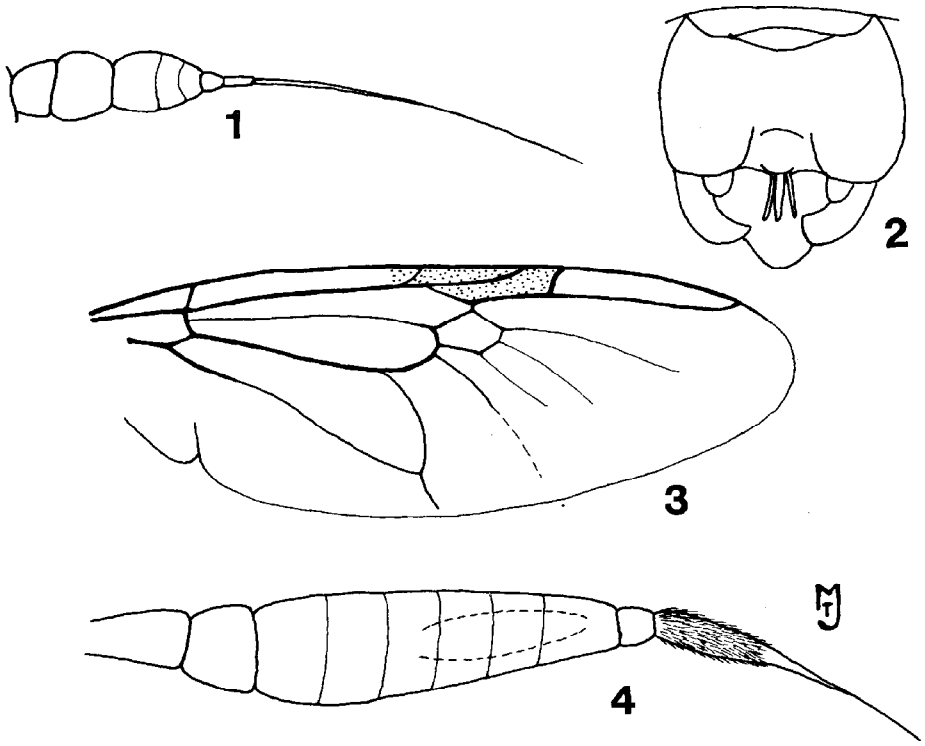

Fig. 1-4. Jamaican Strationyidae. Fig. 1. *Nothomyia intensica* (Curran), antenna. Fig. 2. *Nothomyia flavipes* James, male genitalia, ventral view. Fig. 3. *Nothomyia alticola* James, wing. Fig. 4. *Chaetohermetia insularis* James, antenna, inner view. All hairs and setulae omitted except on terminal flagellomere of *C. insularis*.

remnants of the spines barely noticeable even at magnifications of 100X. Hairs of mesonotum and scutellum mostly appressed, yellowish white, a few slender, short, erect black ones on scutellum and prescutal area. Pleural hairs yellowish white or pale yellow, mostly inconspicuous except on posterior parts of mesopleuron and sternopleuron, where they are relatively long and subappressed. Legs mostly orange yellow, coxae in part brownish yellow; front and middle tarsi becoming brown to brownish black on apical 3 tarsomeres; first and second tarsomeres of hind leg almost white but apex of each, as well as remaining tarsomeres, becoming brown to brownish black. Hairs largely black on front and mid tarsi, apices of middle and hind femora, ventral surface of middle and hind tibiae, and darkened areas of middle and hind tarsi, otherwise yellow. Hind basitarsus distinctly broader than remaining tarsomeres and about equal to their combined lengths. Wing hyaline but with a light, though distinct, brown cross band extending from stigma across discal cell to posterior margin and occupying most of cell Cu_1; wing apex, extending basad about halfway to apex of discal cell, also of that color. Stigma and heavier veins of wing brown. Halter pale brownish yellow.

Abdomen subshining black at base, becoming reddish brown to brownish black toward apex and on intermediate sterna; with green to

purplish reflections under certain lights. Hairs of terga black, short, inconspicuous, and appressed on disc, long, erect and pale yellow on sides; those of sterna mostly appressed, subappressed on 1 and 2, mostly yellow. Genitalia (Fig. 2) wholly orange yellow to brownish yellow; dististyle short, claw-like, spine-like at apex; aedeagus pale yellow, trifid, its components delicate and thin-walled.

FEMALE: Unknown.

HOLOTYPE MALE: Green Hills Institute, Portland, St. Andrews Parish, Jamaica, 17-VIII-1969, R. E. Woodruff, blacklight trap.

Nothomyia woodruffi James, new species

MALE: Length 4.7-5.1 mm, holotype 4.9 mm. Head except occiput largely metallic blue to blue green, face, however, green with coppery reflections. Eyes subcontiguous for a greater distance than in the other Jamaican species, the transverse sulcus consequently greatly reduced and the area above it small, black, and dull. Lower frons with appressed to subappressed yellow hairs; face with erect black hairs on lower part, with only scant yellow hairs above; some erect to subappressed yellowish white hairs on gena and lower occiput, lower occipital orbits with some appressed yellow hairs. Antenna as described for *flavipes* but wholly black, with black hairs on scape and pedicel. Proboscis orange yellow to brownish yellow.

Thorax shining green with coppery reflections. Scutellar spines reduced to small, rounded tubercles, inconspicuous but clearly visible at magnifications of 60X or higher. Thoracic hairs mostly yellow, largely appressed but some subappressed to suberect on anterior margin of mesonotum and on pleura; a few scattered erect hairs on mesonotum. Legs mostly black; middle basitarsus and first 2 tarsomeres of hind tarsus yellow, tarsi otherwise black, transition from yellow to black gradual on last 3 tarsomeres of hind leg. Hind basitarsus but slightly thicker than remaining tarsomeres and about 1.25X their combined lengths. Wing hyaline, stigma, costal cell, and heavier veins clear yellow. Halter yellow becoming orange-yellow toward apex of knob.

Abdomen spatulate, bright green dorsally, a more subdued green, becoming bluish green toward sides, and with coppery reflections, ventrally. Pile of terga mostly appressed, short, inconspicuous, and black with some yellow intermixed, becoming long, erect, and pale yellow laterally; that of venter short, appressed, pale yellow. Genitalia yellow; dististyle strongly curved, rounded apically; aedeagus similar to that of *flavipes* but somewhat less delicate in structure.

FEMALE: Length 4.4-4.6 mm. Frons 0.35X head width, narrowing to 0.12 at vertex; a poorly defined callus developed below transverse sulcus. Frons and upper face with short pale yellow hairs as in the male but more abundant and becoming suberect on part of upper frons; lower occipital orbit broader than in male and appressed pile more conspicuous. Abdomen slightly broader than in male. Only apical segment of ovipositor and cerci yellow. Otherwise as described for the male.

HOLOTYPE MALE: Worthy Park, 2.2 miles N. on Camperdown Road, St. Catherine Parish, Jamaica, 12-V-1969, R. E. Woodruff, Malaise

trap. Paratypes: 7 males, 4 females, same data except 10, 12, and 14-17-V; 2 females, Worthy Park Estate, 10-V-1969, R. E. Woodruff, blacklight trap.

Nothomyia alticola James, new species

MALE: Length 5.2 mm. Head except occiput largely metallic green with purplish reflections, becoming purple on frons. Eyes subcontiguous; transverse sulcus short but distinct; small triangle above sulcus dull black. Head hairs wholly black; those of frons and upper face erect or suberect but becoming gradually shorter on lower face. Antenna structurally as in *intensica,* wholly black. Proboscis dark brown.

Mesonotum and scutellum dark green to greenish blue, with strong violet reflections; pleura brighter green and lacking the violet reflections. Hairs of mesonotum and scutellum black, consisting of short, erect, abundant pile, also with long erect hairs which are much more abundant and conspicuous than in the other Jamaican species. Hairs of pleura mostly yellow. Legs mostly black; hind and middle basitarsi except extreme apices yellow; pile largely black, that of yellow parts of basitarsi to a considerable extent yellow, that on anterior and anterodorsal surfaces of hind tibia and ventrally on middle and hind femora, including a sparse ventral fringe on basal half of middle femur, pale yellow. Wing (Fig. 3) hyaline; stigma bright yellow; heavy veins bright yellow to slightly brownish yellow. Halter mostly pale yellow, becoming somewhat brownish yellow toward base of stalk.

Abdomen blue-green, shining to subshining, venter with some weak cupreous reflections. Pile of terga mostly black, short, and appressed, lateral and apical hairs long, yellow, erect to suberect; those of venter yellow and appressed. Genitalia brown; dististyle broadly oval, narrowing toward apex; aedeagus as in *flavipes* but less delicate.

FEMALE: Unknown.

HOLOTYPE MALE: Holywell Forest Camp, St. Andrew Parish, Jamaica, 4000 ft., 15-VII-1972, M. Winegar, blacklight trap.

Genus *GOWDEYANA* Curran

Gowdeyana Curran, 1928, Bull. Agr. & Sci. Jamaica 4, Suppl. 4:15.
Type species, *G. mirabilis* Curran.

Pareidalimus Lindner, 1964, Stuttgarter Beitr. zur Naturkunde 203:3.
Type species, *Eidalimus vitrisetosus* Lindner.

The above synonymy is based on the examination of a male and female of *mirabilis* from Worthy Park, St. Catharine Parish, Jamaica, and comparison with specimens of *Eidalimus vitrisetosus* Lindner from Brazil and *Eupachygaster punctifera* Malloch from North America. These 3 species are certainly congeneric and very closely related to one another; indeed, they may prove conspecific, though small differences occur among them.

Genus *CHAETOHERMETIA* Lindner

Lindner described 2 species of this genus, *apicalis* Lindner 1929, the type species, from Brazil, and *aenea* Lindner 1949. Both are rela-

tively large species, 10-11 mm in length, *Hermetia*-like but with the terminal flagellomere greatly reduced in length and the terminal portion forming a bristle-like or arista-like structure which is about as long as the broadened basal part. As in *Hermetia* the flagellum is distinctly grooved longitudinally on its inner surface. The species described here seems best referable to *Chaetohermetia*. It is much smaller than either of Lindner's species, and it differs in many respects from both of them; in addition to size it may be distinguished readily from the largely brownish yellow *apicalis* by its metallic blue head and thorax, from *aenea* by its black-haired frons and face and largely black femora. The vane-like broad portion of the last flagellomere is pilose; Lindner illustrates it as bare in *apicalis*, though no statement concerning this is made in either his description of *aenea* or *apicalis*.

Chaetohermetia insularis James, new species

FEMALE: Length 7.5 mm. Head largely bluish black; upper frons with strong blue reflections; frontal callus distinct but not strongly developed; dull yellow; frons below callus and larger part of face with variable coppery, green, or bluish green reflections, depending on light incidence; face below antennal bases with a broad, transverse, dull yellow band extending, like the similarly colored callus, from eye to eye, and producing the effect of 2 prominent parallel transverse bands interrupting a dark background. Eyes bare. Frons 0.25X head width across antennal bases, widening to 0.20 at vertex. Face from anterior view broadly rounded at oral margin, with just a trace of a median downward extension such as occurs prominently in many species of *Hermetia*. Pile of vertex, frons, and face black, at vertex as long as combined lengths of first and second segments, becoming shorter on lower frons and most of face, then somewhat longer toward oral margin; mixed black and yellow hairs on gena, black on lower occiput; other hairs of occiput inconspicuous, short, appressed. Antenna (Fig. 4) 1.60X as long as head, black with black hairs, those of flagellum very scant except on basal part of terminal flagellomere. Ratio: scape, 5; pedical, 2; flagellomeres 1-6 combined, 13; seventh flagellomere, 1; basal part of eighth, 4, its seta-like apical part, 5. Inner surface of flagellomeres 3-6 grooved longitudinally, most prominently so on 4 and 5. Proboscis bright yellow.

Thorax mostly blue-black with blue reflections; humerus and postular callus reddish brown. Pile of mesonotum and scutellum yellow, mostly short, appressed, and inconspicuous, somewhat more prominent but still inconspicuous on posthumeral and prescutellar areas, longer, subappressed, and bright yellow laterally before the suture; hairs of pleura yellow, moderately long, suberect, most conspicuous on posterior part of mesopleuron. Coxae and femora except extreme apices black with blue reflections; hind tibia black on apical half; tibiae otherwise pale yellow; tarsi almost white except apical 2 tarsomeres of hind leg brown. Wing similar in venation to *Hermetia*; stigma long and slender, ending well beyond apex of discal cell; mostly hyaline to subhyaline, becoming lightly infumated on apical part (beyond stigma) and toward posterior margin; stigma dark brown, veins dark brown to black. Microtrichia well set beyond and below discal cell, densest

at wing apex but with some bare areas at bases of cells M_1, M_2, M_3 and Cu_1; costal, discal, first and second basal, and first anal cells without microtrichia except toward veins and in scattered patches. Halter dark brown at base of stalk, merging into lemon yellow over most of knob.

Abdomen mostly black with coppery to blue reflections; apical two-fifths of tergum 2 reddish yellow, this color extending briefly onto base of tergum 3; tergum 2 also with a translucent yellow area at base, extending toward but not reaching sides and, medially, extending toward but not reaching band on posterior margin of the segment; venter more extensively yellow, sternum 2 wholly so except on anterior corners, yellow merging through brown into black on sternum 3. Hairs mostly black, appressed; some long, pale yellow ones laterally on tergum 1; those of tergum 2 on posterior one-fourth largely yellow, of 3 and 4 on posterior one-fourth largely white except medially on 4 where they give way largely to black ones; those of sterna 1 and 2 pale yellow. Ovipositor dark brown to black; cerci dark brown.

MALE: Unknown.

HOLOTYPE FEMALE: Worthy Park, 2.2 miles N on Camperdown Road, St. Catherine Parish, 18-25-II-1970, R. E. Woodruff, Malaise trap.

In general appearance this species bears considerable resemblance to the common South American *Hermetia flavipes* Wiedemann. The fact that that species has a small but distinct seta at the tip of an otherwise typical *Hermetia*-like antenna may suggest that it and the present species are transitional between the 2 genera.

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