

## **New *Mesochria* species (Diptera: Anisopodidae) from Fiji, with notes on the classification of the family**

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**Abstract.** Two new species of *Mesochria* from Fiji are described and illustrated: *M. schlingeri* Thompson, **n. sp.** and *M. vulgaris* Thompson, **n. sp.** A key to genera of Anisopodidae and key to the species of *Mesochria* species are provided, along with notes on the classification of the family.

### **INTRODUCTION**

Wood gnats (family Anisopodidae) are common flies in forests as their name implies (*Sylvicola* Harris, the type genus, means “lover of woods” in Latin). They are found on all continents except Antarctica and on most major islands (Indonesia, Madagascar, New Zealand, Philippines, West Indies), but are less numerous on smaller, “oceanic” islands, with species only being recorded from the Canaries, Lord Howe, Maderia, New Caledonia, Samoa, Seychelles, and now Fiji. One species has been introduced into the Hawaiian Islands (Thompson & Rogers 1992). In the Pacific, only the genera *Sylvicola* (introduced into Hawai‘i, otherwise in Australia and New Zealand), *Mycetobia* Meigen (New Caledonia) and *Mesochria* Enderlein (Samoa, Fiji) occur.

Only 10 specimens of *Mesochria* representing 9 species have been reported since the group was described about a hundred years ago. In the first years of the current Fiji biological survey, 73 specimens representing two new species were collected. The difference is the use of modern collecting techniques like Malaise fly traps along with an organizational structure to get the material to specialists for study rather than leaving samples to accumulate in some museum backlog.

Unfortunately, there is little published information on the biology of *Mesochria* and not much more on its sister-group, *Mycetobia*. One species of *Mesochria* was reared from “a pupa found in rotting banana fibre” in Ghana, western Africa (Keilin & Tate 1940). The biology of a number of species of *Mycetobia* are now known. They are saprophagous and live in fermenting saps runs or slime fluxes from wounds in trees or in tree holes (Keilin 1919, Keilin & Tate 1940, Krivosheina 1997b).

### **MATERIALS AND METHODS**

Material was seen in, borrowed from, or deposited in the following institutions: American Museum of Natural History, New York (AMNH); the Natural History Museum, London

(BMNH); Bishop Museum, Honolulu (BPBM); Departamento de Biologia, Universidade de São Paulo, Ribeirão Preto (DBUSP); Fiji National Insect Collection, Suva (FNIC); Institut Recherche Scientifique de Madagascar, Tananarive (IRSM); Musee Royal de l'Afrique Centrale, Tervueren (MRAC); Muzeum i Instytut Zoologii, Polska Akademia Nauk, Warsaw (PAN); National Museum of Natural History, Smithsonian Institution, Washington, D.C. (USNM); Zoölogisch Museum, Amsterdam (ZMAN).

Morphological terminology and abbreviations follows McAlpine (1981) as modified by Thompson (1999). In the material examined section, the use of ellipses (...) follows standard English practice and merely indicates that the missing information is the same as that in the preceding record. For measurements, the number of specimens measured is given within parentheses, followed by the range with the average within parentheses; the measurements are in millimeters.

## SYSTEMATICS

### Classification of Anisopodidae (*sensu lato*)

The classification used here is conservative and follows from Edwards' *Genera Insectorum* treatment (Edwards 1928b). As is unfortunately typical today, some workers over split the wood gnats into numerous genera, tribes, subfamilies and families. European workers split the family into two (Anisopodidae, Mycetobiidae) and split *Mycetobia* into 3 genera (*Mycetobia*, *Trichomyctobia* Mamaev, *Xeromyctobia* Mamaev) (Krivosheina 1997a,b, Mamaev 1987). Amorim & Tozoni (1994) go further and recognize 3 families (Olbiogastridae split from Anisopodidae) and 11 genera. They overlooked the work of Mamaev, so if one accepts his splitting of the Palaearctic species of *Mycetobia* into three genera, then the split classification would recognize 15 genera distributed among 3 families, 4 named subfamilies and 4 named tribes, for 155 extant species.

Amorim and Tozoni (1994) provided a cladistic analysis, which demonstrated that the traditional concepts are monophyletic. The difference between the traditional classification of Edwards and theirs is merely the splitting of genera, and, hence, elevation of the traditional generic taxa to higher ranks (*Olbiogaster* Osten Sacken = Olbiogastridae Hennig, *Anisopus* = Anisopodidae, etc.). This follows from Hennig's proposal of ranking taxa based on their age of origin. As there are no accepted scientific methods for ranking taxa and forming classifications, I justify the use of the broad based traditional arrangement of Edwards on utilitarian grounds. Broader groups are more informative and useful for general users. Specialized cladistic information can be encoded with the use of subgenera and informal groupings, such as series and species groups.

There may be more problems with the work of Amorim and Tozoni than those of ranking. A closer look at their treatment of mycetobiine wood gnats reveals a few errors. Their desire to have a classification fit their zoogeographic analysis forced them to combine the Neotropical and New Caledonia *Mycetobia* species with the Dominican amber *Mesochria* into a new genus *Neomesochria* Amorim & Tozoni. Their cladogram listed the following synapomorphies for the mycetobiine genera: *Mycetobia*, meron "reduced;" *Neomesochria*, base of M absent or "virtually absent;" *Mesochria*, eyes "fully holoptic" in both males and females and  $R_{2+3}$  fused apically with  $R_1$ . Then, in their brief diagnosis of *Neomesochria* (no description given), they declare that "it is distinct in having the base

of bM completely absent. It can also be differentiated from *Mesochria* by the eyes not in contact above the antennae and  $R_{2+3}$  near but not apically fused to  $R_1$ . *Neomesochria*, gen. n. differs from *Mycetobia* in having  $R_{2+3}$  ending at C very near  $R_1$ .<sup>\*</sup> Unfortunately, these characteristics do not agree with reality. All species of *Mycetobia* and *Mesochria* also lack vein bM. This is, in fact, the synapomorphy for the subfamily, Mycetobiinae! The termination of  $R_{2+3}$ , a) whether in the Costa distant from  $R_1$  (pleisomorphic), b) in the Costa “very near” to  $R_1$ , and c) fused to  $R_1$  (apomorphic) is the character used for the traditional separation of *Mycetobia* (states a, b) and *Mesochria* (state c). As they correctly noted, this leaves *Mycetobia sensu* Edwards *et alia* without a synapomorphy. They noted that Edwards stated that the Palaearctic species of *Mycetobia* had the meron “reduced”, and this condition was “not observed in *Neomesochria*.” This may be a possible synapomorphy for *Mycetobia*, but without an illustration or more precise definition of “reduced”, I could not evaluate it. What should also be noted is the same problem, lack of a synapomorphy, exists for their new genus, *Neomesochria*. That is, the intermediate condition of the termination of  $R_{2+3}$  (state b) is not synapomorphy. And they also included in their *Neomesochria*, the Dominican amber species (*neotropica*), which has  $R_{2+3}$  fused to  $R_1$  (state c). The last character provided for their *Neomesochria* was the condition of the eyes (dichoptic versus holoptic). The nature of the eyes does not correlate with the wing venation. The two species described here clearly have the derived condition for the termination of  $R_{2+3}$ , but one is broadly dichoptic and the other is holoptic. So, until a better analysis<sup>\*</sup> is done, I follow the traditional concepts of two sister taxa, *Mycetobia* and *Mesochria*, defined by the termination of  $R_{2+3}$ , which have been considered sister to *Valeseguya* Colless. The genera here recognized are defined in the key below, which is derived from Edwards (1928b). *Valeseguya* and *Carreraia* Correa were not known to Edwards, so they have been added to the key from the literature. *Valeseguya*, while placed in Anisopodidae by its author (Colless 1990), Amorim & Tozoni (1994), and Grimaldi (1991), is apparently now considered to represent a distinct family in the Scatopsioidea (Grimaldi & Engel 2005: 500–501, attributed to unpublished data of Amorim & Grimaldi).

KEY TO THE GENERA OF ANISOPODIDAE, *SENSU LATO*

1. Media three-branched; discal cell (dm) present ..... 4
- . Media two-branched; discal cell absent; metatibia with apical comb ..... 2
  
2.  $R_{2+3}$  ending in  $R_1$  [Afrotropical, Oriental, Oceania; fossil in Dominican amber] ....  
     ..... **Mesochria** Enderlein
- .  $R_{2+3}$  ending in Costa ..... 3

\* For example, pupal characters should be analysed. Keilin and Tate (1940) present data on the pupae of *Sylvicola*, *Mesochria*, *Mycetobia* and *Olbiogaster*, as well as *Trichocera* Meigen as an outgroup. From that data one might propose the number of stout hooks on the 8th abdominal segment is a morphocline, with 3 pairs in *Olbiogaster*, 5 pairs in *Mesochria*, 7 pairs in *Sylvicola* and 8 pairs in *Mycetobia*, and none in *Trichocera*, then 8 pairs would be a synapomorphy for *Mycetobia*.

The problem of a proper synapomorphy for *Mycetobia* remains. Hence, the status of the Neotropical and New Caledonia species of *Mycetobia* remains to be clarified. But *Mesochria neotropica* is here reconfirmed as a member of *Mesochria*, **revised status**.

3. Sc distinct, terminating in C;  $M_{1+2}$  present;  $A_1$  distinct, terminating at wing margin ... (Holarctic, New Caledonia) ..... **Mycetobia** Meigen
- Sc indistinct, not reaching C, terminating in costal cell;  $M_{1+2}$  absent,  $M_1$  and  $M_2$  arising separately from basal cell;  $A_1$  indistinct, abbreviated, not reaching wing margin ... (Australia) ..... **Valeseguya** Colless
4. Wing membrane with macrotrichia, at least apically; metatibia with apical comb ... (Cosmopolitan)..... **Sylvicola** Harris
- Wing without macrotrichia; metatibia without comb ..... 5
5.  $R_{4+5}$  ending only a little before wing apex; katepisternum bare, shiny. Eye nearly bare ... (Cosmopolitan) ..... **Olbiogaster** Osten Sacken
- $R_{4+5}$  ending well before wing apex; katepisternum pilose, pollinose ..... 6
6. Eye long, dense pilose; large, 17–18 mm ... (Chile) ..... **Lobogaster** Philippi
- Eye bare; smaller, 11–12 mm ... (Brazil) ..... **Carreraia** Correa

#### KEY TO SPECIES OF *MESOCHRIA* ENDERLEIN

The key to the species of *Mesochria* is based on the original descriptions which are in some cases very brief, especially those of Edwards. For example, Edwards's description of *medicorum* mentions only 4 characters then says "otherwise as in *scottiana*." Then the descriptions are incomplete, with de Meijere describing the coloration of the metaleg, not the mesoleg, and Edwards describing the coloration of the mesoleg only as the type lack metalegs! Also, halter color is not mentioned in 2 descriptions; number of scutellar bristles not mentioned in 3 descriptions, the last palpomere is described only in 3 descriptions, *et cetera*. Hence, while better characters are available, these could not be used as no specimens were available for study of the described species as they are only known from their respective types, which most museums will not loan.

1. Legs with dark brown to black annuli on meso- and/or metatibiae, may also be on femora ..... 8
- Legs unicolorous or at most with apical 1/5 of metatibia darkened ..... 2
2. Flagellum entirely black ..... 5
- Flagellum bicolorous, with apical flagellomere white apically ..... 3
3.  $M_2$  absent; halter capitulum dark brown ... (Madagascar) ..... **griveaudi** Stuckenberg
- $M_2$  distinct apically ..... 4
4. Apical palpomere only slightly longer than penultimate; postalar callus with 2-3 bristles. Halter capitulum pale brownish ... (Fiji) ..... **vulgaris** Thompson, **n. sp.**
- Apical palpomere 1.5 times as long as penultimate; postalar callus with only a single bristle ... (Madagascar) ..... **sylvatica** Stuckenberg
5. Dichoptic (eyes widely separated dorsally) (Fig. 2); scutellum with 2 pairs of bristles. Halter with dark capitulum ... (Fiji) ..... **schlingeri** Thompson, **n. sp.**
- Holoptic (eyes contiguous or at least touching dorsally) (as in Fig. 1); scutellum with only 1 pair of bristles ..... 6

6. Costa produced beyond junction with  $R_{4+5}$ , extending about 1/2 distance to  $M_1$ ; scutum dull, dark brown; 1st palpomere much larger than 2nd and 3rd; halter with dark capitulum ... (Borneo) ..... **intermedia** Edwards  
 — Costa not produced, ending at junction with  $R_{4+5}$ ; halter pale ..... 7
7. Scutum dull, light ochreous, with dark brown sublateral vitta; 3rd palpomere subequal to 4th ... (Ghana)..... **medicorum** Edwards  
 — Scutum subshiny, darker, and unmarked; 3rd palpomere about twice as long 4th ... (Seychelles Is) ..... **scottiana** Enderlein  
 — Scutum yellow, with black medial and sublateral vitta; 3rd palpomere about 1/2 as long as 4th ... (Zaire) ..... **congensis** Tollet
8. Scutum unicolorous, shiny brown ... (Samoa) ..... **buxtoniana** Edwards  
 — Scutum bicolorous, pale with dark markings ..... 8
9. Scutum yellow with broad sublateral black vitta ... (Fossil, Dominican amber) .....  
 ..... **neotropica** Grimaldi  
 — Scutum yellow with broad medial and lateral curved vittae ... (Java) .....  
 ..... **cinctipes** Meijere

*Mesochria schlingeri* Thompson, new species

(Figs 2, 3, 5)

**Diagnosis.** This species is readily distinguished from other extant *Mesochria* species by being dichoptic and having two pairs of scutellar bristles. The species is similar to the Dominican amber species, *neotropica*, but is easily distinguished by its leg and scutal coloration.

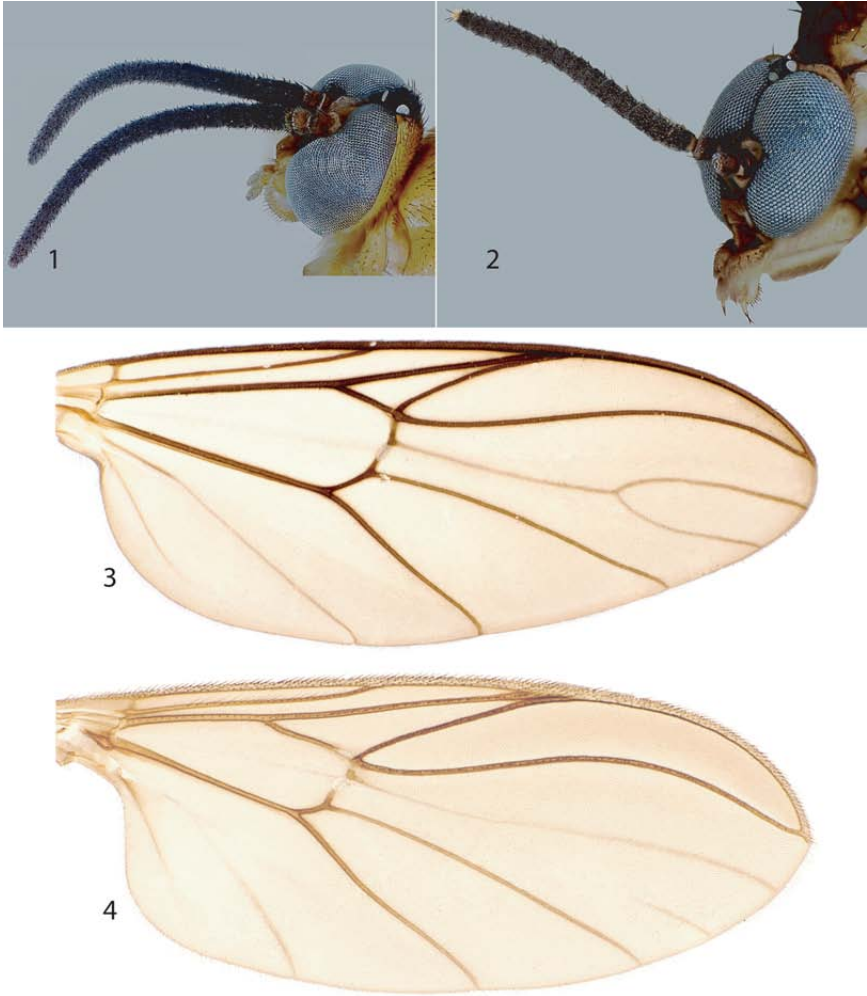
**Description.** Male. *Head.* Yellow except black vertex; face shiny, very short yellow pilose; frons sparsely yellow pollinose laterally; eyes (Fig. 1) broadly separated, separated by width of anterior ocellus; vertex black pilose; anterior ocellus about twice as large as lateral ocelli; occiput yellow pilose on ventral 1/2, mainly black pilose dorsally with some yellow pile intermixed anteriorly. Scape and pedicel orange, black pilose; flagellum black. Palps. 1st palpomere very short, about 1/3 as long as 2nd, equal to 3rd; 2nd palpomere long, about 3 times as long as 1st and 3rd; 3rd short, equal to 1st; 4th short, about twice as long as 1st and 3rd, about 2/3 as long as 2nd, blunt apically, without apical bristle.

*Thorax.* Yellow except anepisternum and postalar callus brownish orange and with broad sublateral brown vitta on scutum on medial 1/2, well separated from anterior margin and scutellum, short black pilose. Bristles weak, 2 supra-alar, 3 postalar, 2-3 dorsocentrals posteriorly, but two distinct scutellars, one basomedial and other apical. Halter white with capitulum brownish black. *Legs.* yellow, black pilose except black apical 1/5 on metatibia and black metatarsus except extreme base yellow, with pro- and mesotarsus appearing black apically due to dense black pile; tibial apical spur single on pro and metatibial, double on mesotibia, but second spur only about 1/3 as large as other. *Wing* (Fig. 3). Hyaline, microtrichose; subcostal vein bare; Rs setose;  $M_1+2$  and both  $M_1$  and  $M_2$  distinct;  $CuA$  distinctly setose, but seta only about 1/2 as long as those on radial veins;  $A_1$  distinct.

*Abdomen.* Yellow on basal 4 segments, except indistinct brownish medial macula on 4th segment, black on apical segments, black pilose; male genitalia (Fig. 5) brownish black, cercus orange.

*Length:* Body, not including antenna, 6.0 mm; antenna, 2.0; wing, 5.3 mm

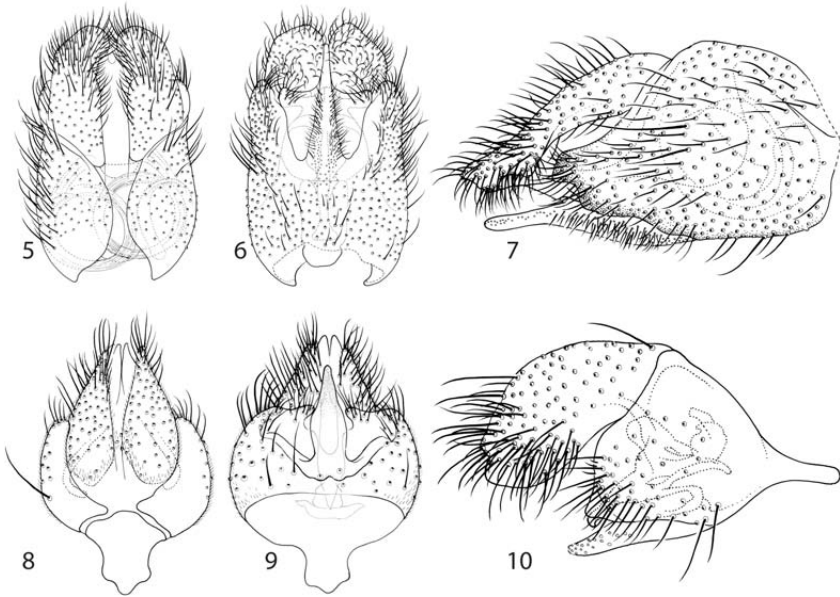
**Type.** Holotype ♂ (BPBM 16,560), FIJI: **Viti Levu:** Sigatoka Sand Dunes National Park, malaise trap in costal forest, 177°30'E, 18°10'S, 10 m., 22 Sep– 8 Oct 2002, M.E. Irwin, E.I. Schlinger & M. Tokota'a, (FBA 009142), to be deposited in Fiji National Insect Collection, current-



**Figures 1–2.** Heads of male *Mesochria*. **1.** *M. vulgaris*. **2.** *M. schlingeri*, dorsolateroblique view.  
**Figures 3–4.** Wings of *Mesochria*. **3.** *M. schlingeri*. **4.** *M. vulgaris*.

ly held at Bishop Museum, Honolulu. *Paratype*. FIJI: **Viti Levu**: 1♂, K oroyanitu Eco Park, Mt. Evans Range, 0.5 km N of Abaca Village, 177.55°E 17.667°S, 800 m, 26 Nov–3 Dec 2002, Malaise trap, E. I. Schlinger & M. Tokota'a (FBA 073018) (USNM).

**Remarks.** *Mesochria schlingeri* is a very distinctive species: Not only do the structural characters separate the species from all others, the coloration is unique and beautiful. The pale yellow abdomen with the apical segments being black, and the pale yellow scutum with dark brown sublateral vittae make an unique color pattern. So among the var-



**Figures 5–10.** Male genitalia of *Mesochria* species. **5, 6, 7.** *M. schlingeri*. **8, 9, 10.** *M. vulgaris*. **5, 8.** hypopygium, dorsal view; **6, 9.** hypopygium, ventral view. **7, 10.** hypopygium, lateral view;

ious original descriptions, this species clearly stands out, unlike *vulgaris* (see below).

**Etymology.** This species is dedicated to Evert I. Schlinger, in recognition of his effort to start the Terrestrial Arthropod Survey of Fiji.

***Mesochria vulgaris* Thompson, new species**

(Figs 1, 4, 6)

**Diagnosis.** This species is most similar to *sylvatica*, differing from that species as outlined in the key above.

**Description.** *Head.* Brownish yellow except brown frons and black vertex; face shiny, very short yellow pilose; eyes (Fig. 2) broadly contiguous for about 1.5 length of vertex; vertex black pilose; ocelli about equal in size; occiput black pilose. Antenna black except white apical 1/3 of apical flagellomere, black pilose. Palps. 1st and 3rd palpomeres short, about 1/3 as long as 2nd; 2nd palpomere long, about 3 times as long as 1st and 3rd; 4th short, slightly longer than 1st and 3rd, tapered apically, with stout apical black bristle.

*Thorax.* Brownish except yellow propleuron and more yellowish laterally on scutum, short black pilose. Bristles distinct, 2–3 supra-alar, 3 postalar, 6–8 dorsocentrals, 1 apical scutellar. Halter white with capitulum pale brownish. *Legs.* Brownish yellow, black pilose except black apical 1/5 on metatibia and black metatarsus except extreme base yellow, with pro- and mesotarsus appearing black apically due to dense black pile; tibial apical spur single on protibia, double on meso- and metatibia, but second spur only about 1/3 as large as other. *Wing* (Fig. 4). Hyaline, microtrichose;

subcostal vein setose on apical 4/5 ventrally; Rs bare;  $M_{1+2}$  absent,  $M_2$  only distinct on apical 1/3 at wing margin; CuA bare;  $A_1$  only distinctly apically, basal portion absent.

*Abdomen:* terga brownish yellow in males, brown in female, black pilose; sterna yellow, black pilose; male genitalia brownish (Fig. 6).

*Length* (5). Body, not including antenna, 3.9–5.6 (4.4) mm; antenna, 1.2–1.6 (1.4) mm; wing 4.0–5.7 (4.6) mm.

*Variation.* Femora darker in some, metatibia may also be darker basally; abdomen may be pale medially on terga in females.

**Types.** Holotype male (BPBM 16,651), FIJI: **Taveuni:** Devo Peak Radio Tower, 16°51'S, 179°58'E, 1200 m, 10–17 Oct 2002, Malaise trap in rain forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA 009143), to be deposited in FNIC, currently held at BPBM. *Paratypes:* FIJI. **Taveuni:** Devo Peak, 3–16 Jan 2003, Malaise trap, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA 038572, 1 broken spm); ..., Devo Reserve, 16°50'S 179°58'W, 800 m, 3–10 Jan 2003, Malaise trap in montane wet forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA041869, 1 ♀); ..., Devo Peak Radio Tower, 16°51'S, 179°58'E, 1200 m, 31 Oct–21 Nov 2002, Malaise trap in rain forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA009144, 1 ♀); ..., (FBA019743, 1 ♂ [in USNM]), 019745–019746, 2 ♀); Mt Devo, Tavuki village, 16.831°S, 179.98°E, 734 m, 30 Jun–14 Aug 2004, E.I. Schlinger & M. Tokota'a, Malaise trap, (FBA071288, 1 broken spm); ... Devo Peak, 5.6 km SE of Tavuki Village, 16°50'35.7"S, 179°57'56.7"E, 1187 m, Malaise trap in cloud forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA056709-056713, 2 ♂, 3 ♀); ... (FBA058130–058132, 3 broken spms); ..., 5.3 km SE of Tavuki Village, 16°50'27.4"S 179°58'4.1"W, 1064 m, Malaise trap in montane wet forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA053432–053436, 3 ♂, 1 ♀, 1 broken spm); ..., Koronibuabua, 16°51'28.3"S, 179°53'37.0"W, 212 m, 4–19 Nov 2003, Malaise trap in lowland rainforest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA046305, 1 ♀); ..., Mt Koronibuabua, 3.2 km NW Lavena Village, 16.855°S, 179.892°E, 236 m, 4–19 Sep 2003, E.I. Schlinger & M. Tokota'a, Malaise trap, (FBA074337, 1 ♀). **Kadavu:** Solodamu, 19°04'S 178°07'E, 128 m, 11 Jun–6 Jul 2003, Malaise trap in coastal limestone forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA045708, 1 ♀). **Viti Levu:** Nakobolevu, logging road behind Suva, 18°03'S, 178°25'E, 340 m, 22 Sep–9 Oct 2002, Malaise trap in rain forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA009145–0091457, 3 ♀); ..., Nakobolevu, 18°03'S, 178°25'E, 340 m, 24–29 Oct 2003, Malaise trap in rain forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA026027–026028, 2 ♀); ..., Nakobolevu, 4 km WSW Colo-i-Suva Village, 18.055°S, 178.424°E, 372 m, Malaise Trap, E.I. Schlinger & M. Tokota'a (FBA065233, 1 ♀); ..., Nakobolevu Peak, Radio Towers behind Suva, 18°03'S, 178°25'E, 460 m, 22 Sep–9 Oct 2002, Malaise trap in rain forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA009148, 1 ♀); ..., Navai, 17°37'S, 177°59'E, 700 m, 15 May–2 Jun 2003, Malaise trap in gymnosperm dominated rainforest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA041574, 1 ♀); ..., 24 Oct–8 Nov 2003, ... (FBA031660, 1 ♂); ..., 6 Jun–15 Jul 2003, ... (FBA029510–029511, 2 ♀); ..., 13–18 Feb 2003 (FBA039756–039757 2 ♀); ..., PABITRA wabu baseline survey, Delena Veikori, 17°35'S, 178°05'E, 1034 m, Malaise trap (FBA053145, 1 broken spm). **Vanua Levu:** Kilaka, 16°48'29.7"S, 178°59'11.0"E, 146 m, 3–10 Jun 2004, Malaise trap in lowland wet forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA040284–040286, 1 ♂, 2 ♀); ..., 24 Jun–21 Jul 2004, ... (FBA028298–028299, 2 ♀); ..., 16°48'41.2 "S, 178°59'01.7"E, 154 m, 28 Jun–2 Jul 2004 ... (FBA048289–048295, 2 ♂, 5 ♀); ..., 16°48'41.2"S 178°59'29.0"E, 98 m; ..., 3–10 Jul 2004, ... (FBA034818–034822, 2 ♂, 3 ♀); ..., Batigere Range, 6 km NW Kilaka, 16.7317°S, 178.9997°E, 113 m, 3–15 Jun 2004, Malaise trap, E.I. Schlinger & M. Tokota'a (FBA069147–069151, 5 ♀); ... 16.8057°S, 178.9914°E, 98 m, 15–24 Jun 2004, E.I. Schlinger & M. Tokota'a (FBA074678–074677, 074580–074581, 3 ♀, 1 ♂); ..., 16.1653°S, 178.9564°E, 140 m, 15–28 Jun 2004, E. I. Schlinger & M. Tokota'a (FBA072410–072411, 1 ♀, 1 ♂); ..., 16°31'89.1"S, 179°01'14.7"E, 105 m, Malaise trap in transition seasonal forest, M.E. Irwin, E.I. Schlinger & M. Tokota'a (FBA046796, 1 ♀); ..., 0.4 km S Rokosalase, 16.532°S, 179.019°E, 118 m, 23 Apr–8 May 2004, Malaise trap, E.I. Schlinger & M. Tokota'a (FBA066616, 1 ♀). Paratypes will be distributed to BMNH, BPBM, DBUSP, FNIC, and USNM.

**Remarks.** This is the most common *Mesochria*. Previously the most specimens collected of any *Mesochria* species was two. The species is very similar to *scottiana* and



*medicorum* and given that *medicorum* was bred from rotten banana fibre, these names all may apply to one common widespread variable species associated with banana.

*Mesochria vulgaris* with *scottiana*, *medicorum*, and *sylvatica*, forms a species group, as all are more or less uniformly brownish to yellowish, with unicolorous legs, and identical wing venation. *Mesochria sylvatica* and *vulgaris* differs from the other two by having the apical flagellomere white. Enderlein clearly described the antenna of *scottiana*, specifically mentioning the apical flagellomere, so one must assume it was dark as described. Edwards in his brief diagnosis of *medicorum* did not mention the antenna, but as he wrote “otherwise as in *scottiana*” and had access to a syntype of *scottiana*, again one must assume the antennae are entirely black. Stuckenberg does not describe the structure of the palps, merely the relative length of the last and penultimate palpomeres. Some species of *Mesochria* have the last segment tapering apically and with an apical bristle (Fig. 4). From Enderlein’s description, this is the condition in *scottiana*, and, hence, one assumes also *medicorum*. The question is the condition in *sylvatica*. In summary, as one reads the original descriptions while examining specimens of *vulgaris*, one realizes all these species are very similar and what differences that can be found between the various description may be due to error or variation. So, the association with an agricultural plant, banana, which has been widely disseminated throughout the tropical areas where these species occur does suggest alternative hypothesis, one species, not a group of them.

**Etyymology.** The epithet, *vulgaris*, an adjective, is used for this species due to its abundance.

#### CHECKLIST OF THE SPECIES OF *MESOCHRIA* ENDERLEIN

1. *Mesochria buxtoniana* Edwards, 1928a: 40. **Type-locality:** Samoa, Upolu, Malololelei. Holotype ♀ in BMNH, London.

**Distribution:** Samoa.

2. *Mesochria cinctipes* de Meijere, 1913: 322. **Type-locality:** Indonesia, Java, Djakarta. Holotype ♂ in ZMAN, Amsterdam.

**Distribution:** Java.

3. *Mesochria congoensis* Tolle, 1956: 29, fig. 11 (male genitalia, ventral view). **Type-locality:** Zaire, Kishangane [as “Stanleyville”]. Holotype ♂ MRAC, Tervueren.

**Distribution:** Zaire.

4. *Mesochria griveaudi* Stuckenberg, 1961: 128. **Type-locality:** Madagascar, Pèrinet (east-central montane forest zone). Holotype ♂ IRSM, Tananarive.

**Distribution:** Madagascar.

5. *Mesochria intermedia* Edwards, 1931: 491. **Type-locality:** Indonesia, Sabah [as “North Borneo”], Bettotan. Holotype ♀ BMNH, London.

**Distribution:** Borneo.

6. *Mesochria medicorum* Edwards, 1928b: 26, fig. 6 (habitus). **Type-locality:** Ghana [as “Gold Coast”], Aburi. Holotype ♀ BMNH, London.

**Distribution:** Ghana.

7. *Mesochria neotropica* Grimaldi, 1991: 21, fig. 47 (habitus). **Type-locality:** Dominican Republic [amber, Oligocene / Miocene]. Holotype ♀ AMNH, New York.

**Distribution:** Oligocene / Miocene. Dominican Republic [amber]

8. *Mesochria scottiana* Enderlein, 1910: 65, fig. 4 (wing). **Type-locality:** Seychelles Is.,

Mahé, Cascade Estate, 800–1500 ft. Syntypes 2 ♀ BMNH, London & PAN, Warsaw.

**Distribution:** Seychelles Is.

9. *Mesochria schlingerii* Thompson, n. sp. **Type-locality:** Fiji, Viti Levu, Sigatoka Prov., Sigatoka Sand Dunes National Park. Holotype ♂ FNIC, Suva.

**Distribution:** Fiji.

10. *Mesochria sylvatica* Stuckenberg, 1991: 126. **Type-locality:** Madagascar, Ambatolampy District, Ankaratra Massif, Vieille Forest, Manjakatomp Forest Station. Holotype ♀ IRSM, Tananarive.

**Distribution:** Madagascar.

11. *Mesochria vulgaris* Thompson, n. sp. **Type-locality:** Fiji, Taveuni, Devo Peak Radio Tower. Holotype ♂ FNIC, Suva.

**Distribution:** Fiji.

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