

On the identity of *Drosophila immatura* Walker and *Drosophila remota* Walker (Diptera, Drosophilidae)

Autor(en): **Bächli, Gerhard / Vilela, Carlos R.**

Objektyp: **Article**

Zeitschrift: **Mitteilungen der Schweizerischen Entomologischen Gesellschaft = Bulletin de la Société Entomologique Suisse = Journal of the Swiss Entomological Society**

Band (Jahr): **64 (1991)**

Heft 1-2

PDF erstellt am: **22.07.2024**

Persistenter Link: <https://doi.org/10.5169/seals-402427>

Nutzungsbedingungen

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern.

Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden.

Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

Haftungsausschluss

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

On the identity of *Drosophila immatura* WALKER and *Drosophila remota* WALKER (Diptera, Drosophilidae)

GERHARD BÄCHLI¹ & CARLOS R. VILELA²

¹ Zoologisches Museum, Universität Zürich-Irchel, Winterthurerstrasse 190,
CH-8057 Zürich, Switzerland.

² Departamento de Biologia, Instituto de Biociências, Universidade de São Paulo, C. P. 11461;
05499 São Paulo SP, Brazil

The types of two species of *Drosophila* described by WALKER in 1849 are revised and the following new synonymies are established: *Drosophila immatura* WALKER is a junior synonym of *Drosophila melanogaster* MEIGEN, and *Scaptomyza altissima* (FREY) is a junior synonym of *Scaptomyza remota* (WALKER), new comb.

INTRODUCTION

In his list of Diptera from the British Museum collections, WALKER (1849) described 6 species of drosophilids from different parts of the world. The status and affiliation of 3 of these species are well known whereas the identities of 3 of them, namely *Drosophila debilis*, *D. immatura* and *D. remota*, are still obscure probably due to their ambiguous descriptions or even because their type specimens have never been checked. While studying the type material of several species of Neotropical Drosophilidae deposited in the British Museum (VILELA & BÄCHLI 1990) we also took the opportunity to revise the types of *Drosophila immatura* and *Drosophila remota*. Both species are cited in the most recent catalog of species of Drosophilidae (WHEELER 1981) as species of uncertain affinity.

MATERIAL & METHODS

WALKER (1849) did not state the number of specimens on which he based the descriptions of *Drosophila immatura* and *D. remota* but the two extant type specimens, which are housed in the collections of the British Museum, were considered to be holotypes. Unless otherwise stated, the abbreviations, terminology and indices are used as mentioned by VILELA & BÄCHLI (1990), and the illustrations were drawn to the same scale.

Drosophila (Sophophora) melanogaster MEIGEN, 1830 (Figs. 1, 12)

Drosophila melanogaster MEIGEN, 1830:85.

Drosophila (Sophophora) melanogaster MEIGEN; WHEELER, 1981:61 (list of synonyms).

Drosophila immatura WALKER, 1849:1108. NEW SYNONYM.

Material examined. Holotype ♀ (dissected) of the junior synonym *Drosophila immatura*, labelled "TYPE/LOCALITY UNKNOWN/*Drosophila immatura* Walk./One of Walker's series so named EaW (sic)/*Drosophila melanogaster*

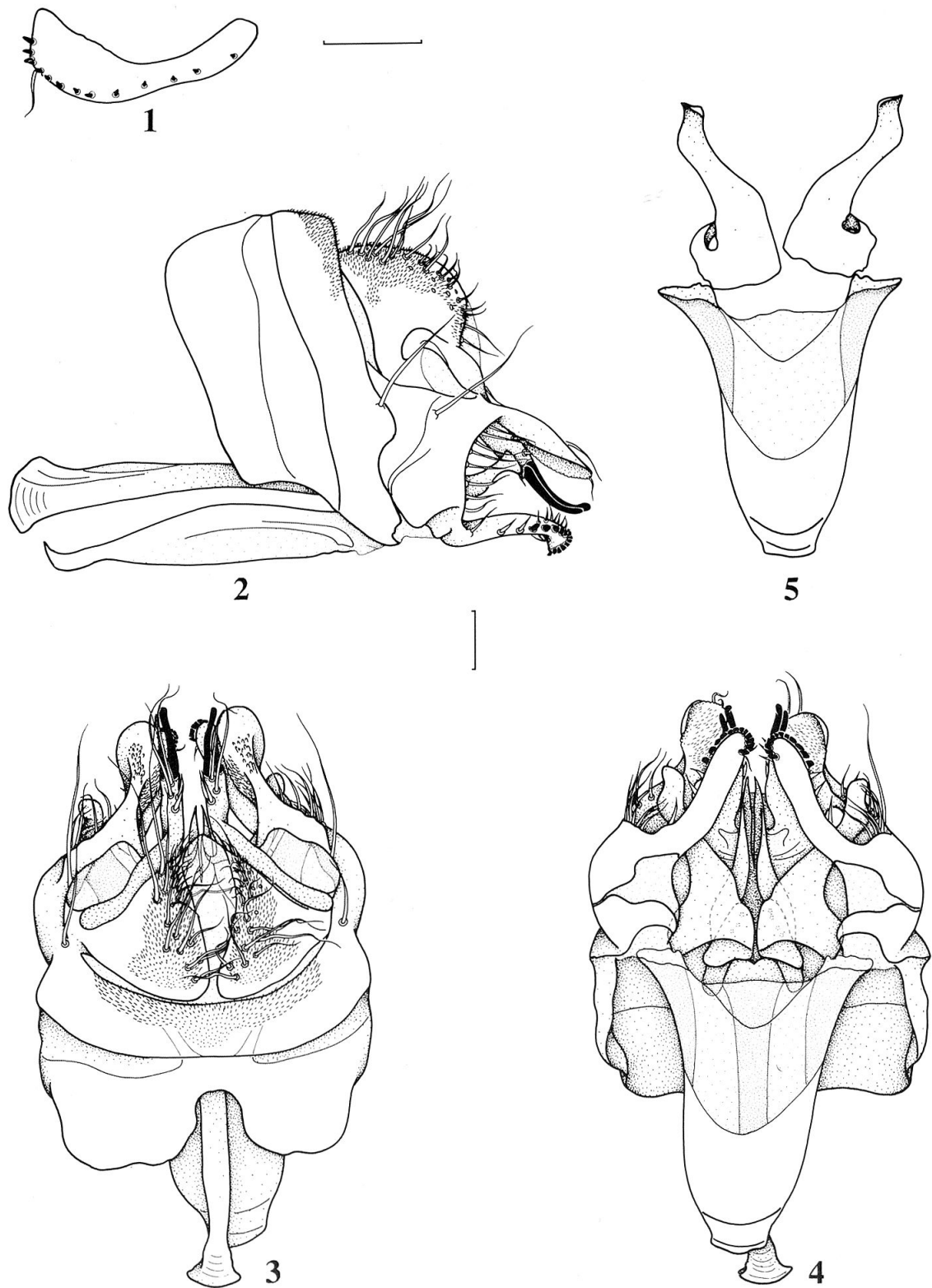
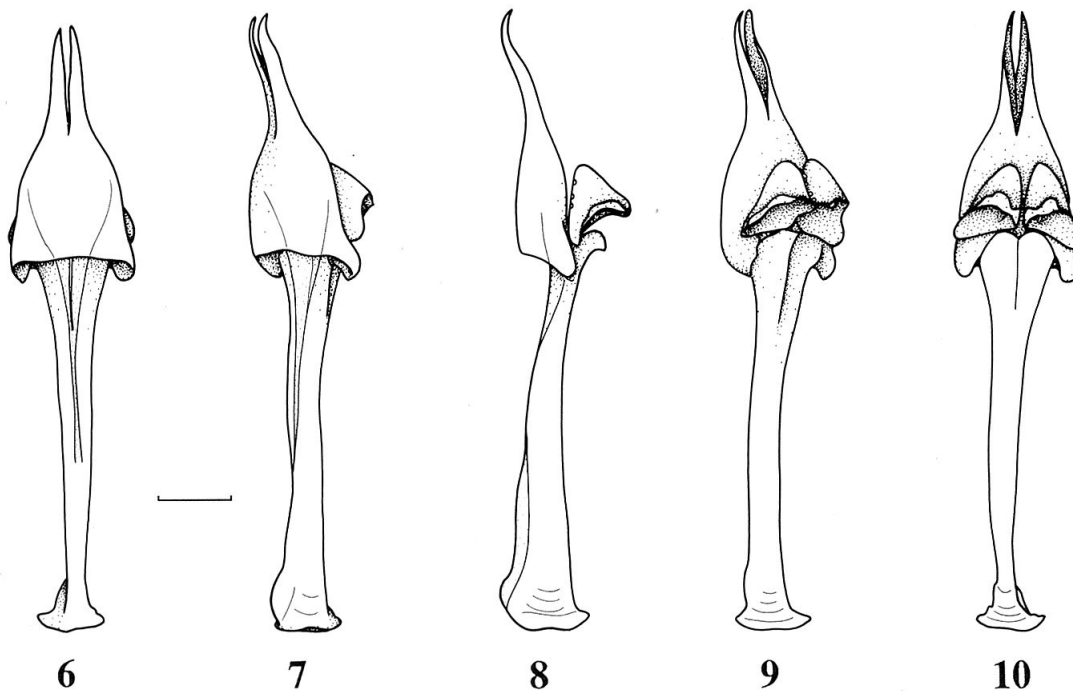


Fig. 1. *Drosophila melanogaster* (holotype ♀ of junior synonym *D. immatura* WALKER), right ovipositor plate. 2–5. *Scaptomyza remota* (WALKER), comb. nov., holotype ♂; 2, epandrium, hypandrium, aedeagus and associated structures, lateral view; 3, *idem*, dorsal view; 4, *idem*, ventral view; 5, hypandrium and gonopods, posterior view. Bars = 100 μm (1 = horizontal; 2–5 = vertical).

ter Meig. Vilela & Bächli det. 1990”, deposited in British Museum (Natural History).

Redescription. *Terminalia* ♀ (figs. 1, 12). Ovipositor plate apically rounded, with about 14 teeth. Spermatheca small, sclerotized, mushroom-shaped; duct medially invaginated.

Note. The type specimen is obviously a teneral female with faint coloration. The external morphology corresponds well with that of *D. melanogaster*, especially in having a cheek index of about 5. The shape of both ovipositor plates (fig. 1) and spermathecae (fig. 12) also agree with that of the latter species.



Figs. 6–10. *Scaptomyza remota* (WALKER), comb. nov., holotype ♂, aedeagus, aedeagal apodeme and parameres, several views (from dorsal through ventral). Bar = 100 μ m.

Scaptomyza (Macrosaptomyza) remota (WALKER, 1849), comb. nov. (Figs. 2–11)

Drosophila remota WALKER, 1849:1111.

Parasaptomyza (Macrosaptomyza) altissima FREY, 1954:27.

Scaptomyza (Macrosaptomyza) altissima (FREY); HACKMAN, 1959:12, 41 (proposed new combination). NEW SYNONYM.

Material examined. Holotype ♂ (dissected), labelled “Type/Tristram (sic) da Cunha/*Drosophila remota* Walk./One of Walker’s series so named EaW (sic)/*Scaptomyza remota* (Walker) Bächli & Vilela det. 1990”, deposited in British Museum (Natural History).

Redescription. Head mainly blackish brown. Frons with numerous, dense, interfrontal and lower orbital bristles; frontal length 0.5 mm, frontal index 0.91, top to bottom width ratio 1.33. Frontal triangle not very distinct, about 90% frontal length; ocellar triangle slightly shiny, about 40% frontal length. Frontorbital

plates relatively narrow, somewhat shiny, diverging from eye margin, about $\frac{3}{4}$ frontal length. Mid orbital near to anterior one, in a line, anterior orbital atypically reclined, weak, distance of posterior orbital to anterior one $\frac{5}{6}$ of that to inner vertical. Length ratio of anterior to posterior orbital 0.87, of mid to anterior orbital 0.77; postverticals 73%, oc 67% of frontal length. Face velvety black. Carina broad, flat, noselike. Cheek broad, with 3 irregular rows of orals, index about 5. Eye index 1.21. Occiput convex. Pedicel and flagellomere I black; length to width ratio 1.38. Arista with 3 upper and apically 1 lower, short branches. Palpi broad, black.

Thorax mainly blackish brown, length about 1.7 mm. Scutum pollinose; humeral index 3.7; 2 rows of relatively long acrostichals; 5 dorsocentral bristles, 2 of them anterior to the suture; scut position index about 0.8; sterno index 0.53; mid katapisternal about 90% of the anterior one. Halteres and legs yellow, coxae and femora brown, knees lighter.

Wing slightly brownish tinged along costal margin, costal section I with 5–6 long marginal and 2 strong terminal bristles; length 4.0 mm; length to width ratio 2.18. Indices: C, 4.0; ac, 2.63; hb, 0.38; 4c, 0.51; 4v, 1.12; 5x, 0.92; M, 0.27; prox. x, 0.44.

Abdomen subshiny blackish.



Fig. 11. *Scaptomyza remota* (WALKER), comb. nov., holotype ♂, aedeagus, aedeagal apodeme and parameres, left lateral view. 12. *Drosophila melanogaster* (holotype ♀ of junior synonym *D. immatura* WALKER), spermathecae. Bar = 200 μ m.

Terminalia ♂ (figs. 2–11). Epandrium with one median bristle, micropubescent at upper posterior region. Cerci slightly fused to epandrium, ventrally partially fused to a pair of paralobes (FREY, 1954:28; HACKMAN, 1959:29) which distally bear a pair of long, stout, blunt, heavily sclerotized, rod-shaped bristles, preceded by a pair of short bristles plus a pair of longer bristles. Surstylus not micropubescent, crescent-shaped, dorsally wrinkled, laterally bearing 1 long bristle on upper surface, medially with about 11 short bristles on distal margin, ventrally with about 12 stout, incisor-shaped teeth, plus about 8 marginal bristles.

Hypandrium as long as epandrium; bow absent; gonopod glabrous, slightly sinuous, proximally expanded laterally, distally pointed, linked to hypandrium by membranous tissue. Aedeagus dolphin-head-shaped, distally bifid. Aedeagal apodeme longer than aedeagus, rod-shaped. Ventral rod as in fig. 8. Paramere triangle-shaped, with about 4 dorsal sensilla, linked to gonopod by membranous tissue.

Note. This species differs from *Scaptomyza helvola* (FREY, 1954), mainly by size and body color.

ACKNOWLEDGEMENTS

We thank Dr. BRIAN R. PITKIN, British Museum (Natural History), for arranging the loan of the two type specimens, the "Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)" for the grant (Proc. 88/4155-5) which allowed the visit of the junior author to the "Universität Zürich", and Mrs. B. ANDREW for revising the manuscript.

REFERENCES

- FREY, R. 1954. Diptera brachycera und Sciaridae von Tristan da Cunha. Results Norw. scient. Exp. Tristan da Cunha 1937–1938. 26: 1–55.
- HACKMAN, W. 1959. On the genus *Scaptomyza* Hardy (Dipt., Drosophilidae) with descriptions of new species from various parts of the World. Acta zool. fenn. 97: 1–73.
- MEIGEN, J. W. 1830. Systematische Beschreibung der bekannten europäischen zweiflügeligen Insekten. Sechster Theil. Hamm, Schulzische Buchhandlung, 401 pp.
- VILELA, C. R. & G. BÄCHLI. 1990. Taxonomic studies on Neotropical species of seven genera of Drosophilidae (Diptera). Mitt. Schweiz. Ent. Ges. 63 (Suppl.): 1–332.
- WALKER, F. 1849. List of the specimens of dipterous insects of the collection of the British Museum. Part 4, pp. 689–1172. London, British Museum (N. H.).
- WHEELER, M. R. 1981. The Drosophilidae: A Taxonomic Overview. In: M. ASHBURNER, H. L. CARSON and J. N. THOMSON, jr., (eds.), The Genetics and Biology of *Drosophila*. Vol. 3a, pp. 1–97.