Revision of the Neotropical Neurigoninae (Diptera: Dolichopodidae) II: *Argentinia* PARENT, *Dactylomyia* ALDRICH, *Macrodactylomyia* gen. nov., and *Systenoides* gen. nov., with the definition of a new tribe Dactylomyiini

[Revision der neotropischen Neurigoninae (Diptera: Dolichopodidae) II: *Argentinia* PARENT, *Dactylomyia* ALDRICH, *Macrodactylomyia* gen. nov. und *Systenoides* gen. nov. mit der Definition einer neuen Tribus Dactylomyiini]

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Abstract The Neotropical species of the new tribe Dactylomyiini comprising the genera *Argentinia* PARENT, *Dactylomyia* ALDRICH, ***Macrodactylomyia* gen. nov.**, and ***Systenoides* gen. nov** (Diptera: Dolichopodidae) are revised. Diagnoses and keys to genera and species are given. The species ***Argentinia bickeli* spec. nov.**, ***Dactylomyia mexicana* spec. nov.**, ***Macrodactylomyia magnicauda* spec. nov.**, and ***Systenoides paraguayensis* spec. nov.** are described as new. The following species are transferred to the genus *Dactylomyia*: *Neurigona bicolor* VAN DUZEE, *Neurigona coruscans* PARENT, and *Neurigona decora* ALDRICH. *Coelinium unicolor* PARENT is transferred to *Argentinia*. *Dactylomyia parenti* **nom. nov.** is proposed as a new name for *Dactylomyia bicolor* (PARENT). Neotypes are designated for *Dactylomyia decora* (ALDRICH) and *Dactylomyia lateralis* (SAY). The genus *Notobothrus* PARENT is transferred to the subfamily Peloropeodinae. A phylogenetic analysis of the included genera is presented. The new tribe Dactylomyiini forms a monophyletic group. The genera *Dactylomyia*, *Macrodactylomyia*, and *Systenoides* are closely related, whereas *Argentinia* forms the more ancestral clade within the tribe.

Key words Dolichopodidae, Neurigoninae, *Argentinia*, *Dactylomyia*, *Macrodactylomyia*, *Systenoides*, revision, new tribe, new genera, new species, Neotropical Region

Zusammenfassung Die neotropischen Arten der neuen Tribus Dactylomyiini, welche die Gattungen *Argentinia* PARENT, *Dactylomyia* ALDRICH, ***Macrodactylomyia* gen. nov.** und ***Systenoides* gen. nov** (Diptera: Dolichopodidae) umfasst, werden revidiert. Diagnosen und Schlüssel für die Gattungen und Arten werden gegeben. Die Arten ***Argentinia bickeli* spec. nov.**, ***Dactylomyia mexicana* spec. nov.**, ***Macrodactylomyia magnicauda* spec. nov.** und ***Systenoides paraguayensis* spec. nov** werden neu beschrieben. Die folgenden Arten werden zur Gattung *Dactylomyia* gestellt: *Neurigona bicolor* VAN DUZEE, *Neurigona coruscans* PARENT und *Neurigona decora* ALDRICH. *Coelinium unicolor* PARENT wird zur Gattung *Argentinia* transferiert. *Dactylomyia parenti* **nom. nov.** wird als neuer Name für *Dactylomyia bicolor* (PARENT) vorgeschlagen. Neotypen für *Dactylomyia decora* (ALDRICH) und *Dactylomyia lateralis* (SAY) werden festgelegt. Die Gattung *Notobothrus* PARENT wird in die Unterfamilie Peloropeodinae gestellt. Eine phylogenetische Analyse der behandelten Gattungen wird vorgestellt. Die neue Tribus Dactylomyiini bildet eine monophyletische Gruppe. Die Gattungen *Dactylomyia*, *Macrodactylomyia* und *Systenoides* sind näher verwandt, während *Argentinia* die ursprünglichere Gruppe innerhalb der Tribus darstellt.

Stichwörter Dolichopodidae, Neurigoninae, *Argentinia*, *Dactylomyia*, *Macrodactylomyia*, *Systenoides*, Revision, neue Tribus, neue Gattungen, neue Arten, Neotropische Region

Introduction

This is the second part, dealing with the new tribe Dactylomyiini, of a planned revision of the Neotropical Neurigoninae. The first part dealt with the tribe Coeloglutini (NAGLIS 2001). For a general introduction, see the first part. The genus *Dactylomyia* was established by

ALDRICH (1894) for the single species *Dactylomyia gracilipes* ALDRICH which he collected on tree trunks. WHEELER (1899) synonymized *D. gracilipes* with *Saucropus superbiens* LOEW and placed the species in the genus *Neurigona*. ALDRICH (1905), in his catalogue of the North American Diptera, synonymized *N. superbiens* (LOEW) and *N. gracilipes* (ALDRICH) with *Medeterus lateralis* SAY and placed *lateralis* in the genus *Neurigona*. In the subsequent catalogues of North American Diptera (FOOTE et al. 1965) and South American Diptera (ROBINSON 1970) these assignments were followed. BICKEL (1998) recognized the special taxonomic features of the group and re-established the genus *Dactylomyia* ALDRICH, including in it the species *Coelinium bicolor* PARENT, *Neurigona lateralis* (SAY) and *Dactylomyia vockerothi* BICKEL. He also gave a diagnosis of *Dactylomyia* and other related genera, and synonymized *Coelinium* PARENT with *Dactylomyia*. The tribe Dactylomyiini that is newly recognised and defined in this paper contains the genera *Argentinia* PARENT, *Dactylomyia* ALDRICH, *Macrodactylomyia* gen. nov., and *Systenoides* gen. nov., and forms a monophyletic group. These genera are endemic in the Neotropical region, except for *Dactylomyia* which is also known from the Nearctic region (USA, Canada), and from the Australasian and Oceanian region (Hawaii) where it is probably an accidental introduction (BICKEL pers. comm.). Three species, *Neurigona bicolor* VAN DUZEE, *Neurigona coruscans* PARENT, and *Neurigona decora* ALDRICH, are transferred to the genus *Dactylomyia*. The result of this revision shows that the genus *Neurigona* is a heterogeneous assemblage of species with neurigonine-like characters, and further taxonomic studies are necessary to clarify the phylogenetic relationships within this genus.

Material and methods

This revision is based on material belonging to the following institutions: The American Museum of Natural History, New York (AMNH); The Natural History Museum, London (BMNH); California Academy of Sciences, San Francisco (CAS); Biosystematics Research Institute, Agriculture Canada, Ottawa (CNC); Deutsches Entomologisches Institut, Eberswalde (DEI); Essig Museum of Entomology, University of California, Berkeley (EMEC); Instituto Nacional de Biodiversidad, Costa Rica (INBio); Instituto Nacional de Pesquisas da Amazonia, Manaus (INPA); Museum of Comparative Zoology, Harvard University, Massachusetts (MCZ); Martin-Luther-Universität, Halle a. S. (MLUH); Zoological Museum, University of Helsinki, Helsinki (MZHF); Museu de Zoologia, Universidade de Sao Paulo, Sao Paulo (MZSP); Naturhistorisches Museum, Vienna (NMW); Staatliches Museum für Tierkunde, Dresden (SMTD); Texas A&M University, College Station, Texas (TAMU); National Museum of Natural History, Smithsonian Institution, Washington D.C. (USNM); The James Entomological Collection, Washington State University, Pullman (WSU); Museum für Naturkunde der Humboldt-Universität, Berlin (ZMHB). Type material of all the species dealt with here has been examined and redescribed, except for the types of *Neurigona coruscans* PARENT from the Zoologisches Museum, Hamburg, which have been destroyed, *Neurigona decora* ALDRICH and *Dactylomyia lateralis* (SAY) which are lost. The original label text of all the specimens examined is given, and multiple labels are separated by a slash (/). The following measurements are used and are in millimeters: Body length is measured from the base of the antennae to the tip of the sixth or seventh abdominal segment; thorax length from the prothorax to the posterior border of the postnotum; abdomen length from the base of segment 1 to the tip of segment 7; wing length from the wing base to the wing apex. The following ratios are used: ratio of length of ocellar setae to vertical setae; ratio of narrowest distance of eyes on face to distance between ocellar setae; ratio of length of arista to length of first flagellomere; ratio of narrowest/widest distance between eyes on frons (measured

below ocellar tubercle and above base of antennae); ratio of narrowest/widest distance between eyes on face; ratio of narrowest/widest distance between eyes on clypeus; ratio of length of ac setae to distance between ac rows; ratio of length of lateral scutellar setae to medians; ratio of podomeres in the format: femur, tibia, tarsomere 1/2/3/4/5; ratio of length of cross-vein (m-cu) to distance between R_{4+5} and M at wing apex; ratio of length of cross-vein (m-cu) to distal section of CuA [= CuAx ratio according to BICKEL (1998)]. The morphological terminology follows MCALPINE (1981) and the hypopygial terminology BICKEL (1998), which refers to the position prior to deflection and rotation of the hypopygium: this means that dorsal is on the bottom and ventral on the top of the figure. Common features are listed in the generic diagnosis and are usually not repeated in the species descriptions. The following abbreviations are used: MSSC = male secondary sexual character; I = prothoracic leg; II = mesothoracic leg; III = metathoracic leg; ac = acrostichal setae; ad = anterodorsal; av = anteroventral; C = coxa; dc = dorsocentral setae; DSur = dorsal surstylar lobe; dv = dorsoventral; F = femur; hm = postpronotal setae; LEp = lateral epandrial lobe; MEp = median epandrial lobe; np = notopleural setae; pa = postalar setae; pd = posterodorsal; pm = presutural supra-alar setae; ppl = proepisternal setae; pv = posteroventral; sa = postsutural supra-alar setae; sr = presutural intra-alar setae; T = tibia; t = tarsus; t_1-t_5 = tarsomeres 1 to 5; VSur = ventral surstylar lobe.

Systematic account

Dactylomyiini new tribe

Definition. The tribe is defined by the following characters: thorax and abdomen metallic green; dc usually consisting of 2-3 strong setae and short reduced setae anteriad (except *Argentinia*, which has 6-7 dc); legs devoid of major setae (apomorphy); male fore tarsomeres often modified with special chaetotaxy, expansions, or appendages; male claws of fore leg sometimes modified or reduced; wing vein M s-shaped and joining costa distinctly anteriad of apex close to vein R_{4+5} (apomorphy); distance between veins M and R_{4+5} at wing margin at most half as long as cross-vein m-cu (apomorphy); male hypopygium entirely or mainly yellow (apomorphy); female oviscapt with terga 9+10 blunt and dorsally separated and with cercus free and rounded (apomorphy).

Type genus: *Dactylomyia* ALDRICH, 1894: 151.

Included genera: *Argentinia* PARENT, 1931
Dactylomyia ALDRICH, 1894
Macrodactylomyia **gen. nov.**
Systenoides **gen. nov.**

Notes on related genera. PARENT (1939) established the genus *Coelinium* with the type species *Coelinium bicolor* PARENT, 1939, and also included *Coelinium unicolor* PARENT, 1939 in this genus. BICKEL (1998) synonymized the genus *Coelinium* with *Dactylomyia*, transferred *Coelinium bicolor* to *Dactylomyia*, and treated *Coelinium unicolor* as a species incertae sedis (see *Dactylomyia parenti* nom. nov.). *Coelinium unicolor* has the typical wing venation of the tribe Dactylomyiini and, moreover, has female genitalia and thoracic chaetotaxy similar to that of *Argentinia*. I therefore provisionally include *Coelinium unicolor* in the genus *Argentinia*.

The monotypic genus *Notobothrus* PARENT, 1931 was established for the species *longilamellatus* PARENT, 1931. I have examined the type specimen from SMTD, which is in very

bad condition (wings, abdomen, middle and hind legs missing) but still has several characters that exclude it from the Neurigoninae: middle and hind femora with a strong subapical seta, mesonotal depression only weak and not distinct (restricted to posterior 1/5), and, according to PARENT'S figures [PARENT (1931): Fig. 72-74], the hypopygium is not pedunculate. All these characters can be found in peloropeodine genera and I therefore transfer the genus to the subfamily Peloropeodinae.

Key to genera of Dactylomyiini

This key includes the genera of the tribe Dactylomyiini. A key to genera of the tribe Coeloglutini is provided in NAGLIS (2001). Keys to the remaining genera of Neurigoninae will be included in future parts of this revision.

1 Thorax strongly elongated; abdomen about as long as thorax and dorsoventrally flattened; vertex excavated dorsally between vertical seta and ocellar tubercle; male It_5 with a ventral comb of short blunt spines; arista subapical; hypopygium partially hidden under segment 5 or 6, surstylus fused into a single lobe ..... **Coeloglutini**

– Thorax not elongated; abdomen usually longer than thorax and cylindrical; vertex not excavated; male fore tarsomeres not or otherwise modified; arista usually dorsal; hypopygium external, surstylus divided into dorsal and ventral lobes **2**

2 Thorax entirely metallic green; wing (Fig. 7b) with vein M s-shaped, joining costa anteriad of apex close to vein R_{4+5}, with distance between M and R_{4+5} at wing margin at most half length of cross-vein m-cu; legs devoid of major setae; male hypopygium usually yellow; female oviscapt (Fig. 7d) with terga 9+10 blunt and rounded and with cercus free from terga 9+10 and rounded ..... **Dactylomyiini** ... **3**

– Thorax metallic green or yellow; wing vein M straight or bent, usually joining costa at apex or posteriad of apex, with distance between R_{4+5} and M at costa usually more than half length of cross-vein m-cu; legs usually with major setae on IIT and/or IIIT; male hypopygium varying in colour; female oviscapt with terga 9+10 prolonged and tapering, and with cercus fused with terga 9+10 and digitiform ..... **other Neurigoninae**

3 Dc consisting of 6-7 pairs of strong setae (Fig. 2a), decreasing in size anteriad and extending anteriad of mesonotal suture; male hypopygium with a long median cercal appendage (hypoproct) (Fig. 1c, 2c) ..... ***Argentinia***

– Dc consisting of 2 or 3 pairs of strong setae and 0-3 smaller reduced setae anteriad restricted posteriad of mesonotal suture (Fig. 9a); male hypopygium without a median cercal appendage (hypoproct) **4**

4 Male abdominal segment 7 forming a long peduncle which is about as long as epandrium; first flagellomere at least twice as long as basal width in both sexes (Fig. 10a); male cerci fused on basal 1/3 ..... ***Systenoides***

– Male abdominal segment 7 forming a short peduncle which is distinctly shorter than epandrium; first flagellomere about as long as basal width (Fig. 6a); male cerci basally free **5**

5 Lower proepisternum with 2 strong setae; hypopygium (Fig. 6c) small, reaching forward to at most abdominal segment 4; LEp fused basally to VSur; cercus short and rounded; smaller species with body length less than 4 mm ..... ***Dactylomyia***

– Lower proepisternum with 4-5 strong setae; hypopygium (Fig. 9d) greatly enlarged, reaching forward to abdominal segment 2 (Fig. 9a); LEp distinctly separated from VSur; cercus broad, subtriangular, and projecting forward (Fig. 9d); larger species with body length more than 4 mm ..... ***Macrodactylomyia***

Genus *Argentinia* PARENT, 1931

Argentinia PARENT, 1931 – PARENT 1931: 17.

Type species: *Argentinia annulitarsis* PARENT, 1931 (monotypy) – PARENT 1931: 17

Diagnosis. Head: Eyes distinctly separated on face, narrowest distance on face equal to about distance between ocellar setae. Antennal scape short and bare; pedicel short and truncate with first flagellomere; first flagellomere short and roundish; arista dorsal to almost subapical, bare; vertex straight dorsally between vertical seta and ocellar tubercle; dorsal postcranium flat or slightly concave; postocular setae uniseriate; ventral postcranium with long setae.

Thorax: Thorax entirely metallic green; posterior slope of mesonotum flattened; ac in 2 rows ending at mesonotal depression; dc consisting of 6-7 strong setae slightly decreasing anteriad, posteriormost 2 pairs distinctly longer and bordering mesonotal depression, dc rows extending anteriad of mesonotal suture; a field of irregular setulae present anteriad of dc and anterolaterad of mesonotum; median scutellar setae long, laterals reduced to tiny hairs; lower proepisternum with 2 strong pale setae. **Legs**: All legs yellow and devoid of major setae, IT in males sometimes with a strong apical spine-like seta, IIIC with a strong lateral seta; male It sometimes modified. **Wing**: Hyaline, with a yellowish tinge; M straight and slightly converging with R_{4+5}, and distally curved posteriad, both veins joining costa anteriad of wing apex; cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing apex; CuA weak and present as a vestige on membrane in distal part; A as a vestige on membrane, parallel with wing margin and not reaching wing margin.

Male abdomen: Longer than thorax; all segments metallic green; apical setae of tergum 1 distinctly longer; segments 4 and 5 slightly extended ventrally and forming a ventral wrinkle for partially embedding the hypopygium; epandrium globose; hypandrium basally fused with epandrium and with distal 1/3 free; cercus ribbon-like and with long setae; median cercal appendage (hypoproct) present and forming a long projection.

Female abdomen: Apically blunt; sternum 8 short and rounded, setose; terga 9+10 dorsally separated, short and rounded, with long setae, basally fused; cercus short and separated from terga 9+10, curved upwards and with strong ventral setae.

Remarks. The type species *Argentinia annulitarsis* PARENT has the typical wing venation of the tribe Dactylomyiini, but it has an almost subapical arista and not a dorsal arista as typical for the tribe. The genus can be separated from all other genera of the tribe by the presence of 6-7 strong dc extending anteriad of the mesonotal suture, and by the presence of a long median cercal appendage (hypoproct).

Species list of *Argentinia*:

annulitarsis PARENT, 1931: 17. Argentina.
bickeli **spec. nov.** Central Chile.
unicolor PARENT, 1939: 150. Argentina [female only].

Key to Neotropical species of *Argentinia* (males)

1 IT with a long apical spine-like seta (Fig. 1a); It_{1-4} with short erect ventral hairs, $1t_5$ with long dorsal setae and a curved apical spine (Fig. 1a); arista nearly subapical; cercus bifurcate (Fig. 1c); median cercal appendage (hypoproct) fused into a single anchor-like projection ..... ***annulitarsis* PARENT**

– IT without apical spine-like seta; It_{1-5} unmodified; arista distinctly dorsal; cercus not furcate (Fig. 2c); median cercal appendage (hypoproct) divided into two separated club-like projections ..... ***bickeli* spec. nov.**

Argentinia annulitarsis PARENT, 1931

(Fig. 1a-d)

Argentinia annulitarsis PARENT, 1931 – PARENT 1931: 17.

Material: Syntype male: ARGENTINA: Argentinien Corrientes 23.XII.07 / [red label] Typus *Argentinia annulitarsis* PAR. / *Argentinia annulitarsis* n. sp. O. PARENT / Coll. W. SCHNUSE 1911 – 3 / Syntypus des. U. KALLWEIT 1993. [SMTD]. **Additional material:** 5 males, 1 female: Argentina, Cat. c. 2 km N. of Santa Maria, c. 1,800 m, Malaise trap, 21.iii.1974, C. R. VARDY, B. M. 1974-204 / Gen. Prep. No. SN2001-1, St. NAGLIS 2001 / Gen. Prep. No. SN2001-2, St. NAGLIS 2001. [BMNH]. All specimens have an additional label: *Argentinia annulitarsis* PARENT, St. NAGLIS det 2001.

Redescription

Male. Length: male specimen: body length 2.5 mm, wing length 2.7 mm; thorax 1.15 mm, abdomen (segment 1-6) 1.34 mm. Additional material: body length: 2.7-3.1 mm.

Head: Frons and occiput metallic green with bronze reflections, and with dense greyish-white pruinosity. A pair of black vertical setae; a pair of long black diverging ocellar setae, 1.5 times as long as verticals; and a pair of short pale postvertical setae, 0.6 times as long as verticals present; without postocellars. Postocular setae pale white, uppermost not longer. Face and clypeus with dense greyish-white pruinosity. Palp ovate and yellow, with 1 small brown apical seta ; proboscis dark brown. Antenna: scape and pedicel yellow, pedicel with a circlet of short yellow setae; first flagellomere dark brown but basal 1/4 yellowish, about as long as wide; arista nearly subapical, about 5.5 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 30/38; ratio of narrowest/widest distance between eyes on face: 10/17; ratio of narrowest/widest distance between eyes on clypeus: 14/19.

Thorax: Mesonotum, scutellum and postnotum metallic green, with bronze reflections and with more or less dense greyish pruinosity; a bronze stripe present on area of ac rows and laterad of dc rows. Pleura concolorous with mesonotum and with dense greyish pruinosity, metepimeron concolorous with pleura. All thoracic setae dark brown: ac with 2 rows of 10-12 short setulae, length about equal to distance between rows; dc consisting of 6-7 strong setae. Additional strong setae include: 1 pa, 2 sa, 2 sr, 2 np, 1 hm, and 1 pm. **Legs**: All legs yellow, IIC and IIIC dark brown with slightly metallic green reflections and with greyish pruinosity, It_5 and tip of It_{1-4} dark brown. **I**: IC with 3-4 strong yellow apical and 2 anterolateral setae; IT slightly broadened with 1 short yellow anterior apical, and 1 strong spine-like posterior apical seta (MSSC); It_{1-5} slightly broadened, It_{1-4} ventrally with dense short erect hairs (Fig. 1a); It_5 dorsally with long sinuous hairs, and with a long curved spine dorsally between the claws (all MSSC). **II**: IIC with several pale anterior and 2 anterolateral setae; IIT with small brown ad setae at 1/4 and 3/4, and 3 apical setae. **III**: IIIC with a strong yellow lateral seta at 1/5; IIIF with a dorsal biseriate row of short yellow setae; IIIT with a strong yellow dorsal seta at 2/3, with a row of small dorsal setulae, and with short apical setae. Relative podomere ratios: I: 53, 65, 40/15/13/11/6; II: 55, 73, 54/26/17/9/6; III: 64, 90, 34/34/21/11/6. **Wing**: (Fig. 1b) R_{2+3} running straight to wing margin; R_{4+5} distinctly curved posteriad distally; M straight and running toward R_{4+5}, curved posteriad before wing margin; R_{4+5} and M joining costa anteriad of apex and very closely approximated at wing margin; posterior cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin, and 0.3 times as long as distal section of CuA. Lower calypter pale yellow, with fan of pale yellow setae; halter yellow.

Abdomen: Setae and hairs yellow; tergum 1-6 metallic green and shiny, with bronze reflections; segment 5 without ventral projection, but segments 4 and 5 slightly extended ventrally and forming a ventral wrinkle for partially embedding the hypopygium; segment 7 and sternum 8 dark brown; epandrium and cercal base dark brown; epandrial lobes, surstylar lobes,

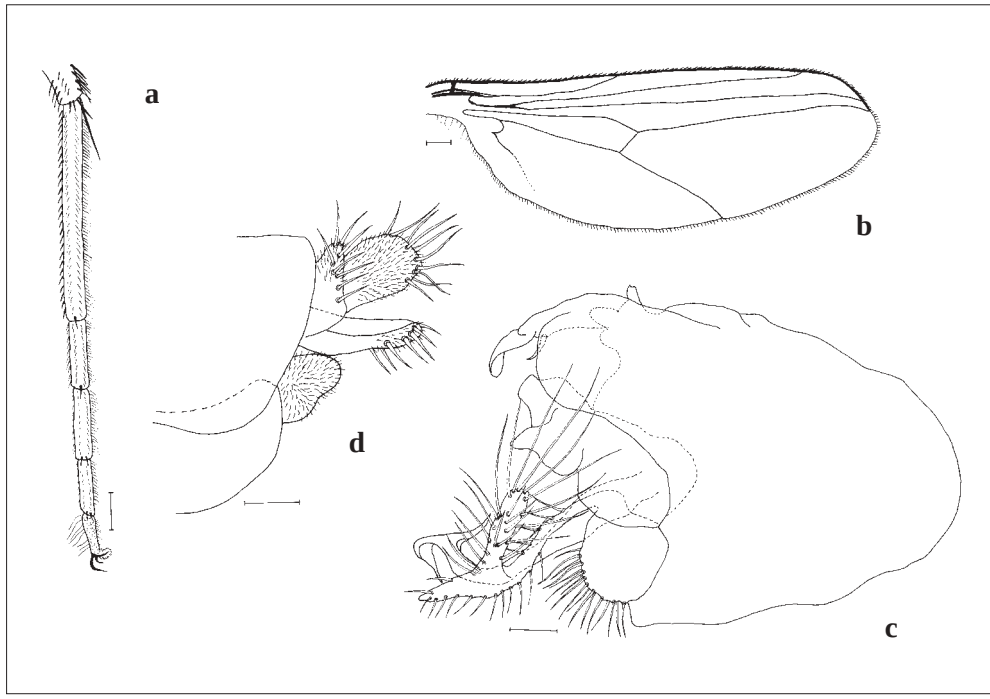


Fig. 1a-d: *Argentinia annulitarsis* PARENT. **– a**: male fore tarsomeres, anterior view; **– b**: male wing; **– c**: male hypopygium, left lateral view; **– d**: female oviscapt, left lateral view. Scale bars = 0.1 mm.

and cerci yellow. Hypopygium (Fig. 1c): epandrium globose, basally narrower; MEp short and ovate; VSur broad, with an apical narrow lobe bearing a strong seta; DSur short and elliptical; cercus with a long L-shaped bifurcate projection bearing long apical setae; in addition a long anchor-like median cercal appendage (hypoproct) present.

Female. Similar to male but without MSSC and as noted: face slightly broader. Strong seta on IIIT smaller. Podomere ratios as: I: 48, 62, 39/21/14/9/6; II: 55, 70, 51/26/16/8/6; III: 62, 89, 30/32/19/10/6. Metallic green colour of terga 1-6 less shiny. Postabdomen (Fig. 1d).

Distribution: Argentina.

Remarks. I have examined the male type specimen [SMTD] which is in bad condition (both antennae broken off, and abdomen missing). The genitalia preparation of the type specimen was partially destroyed and insufficient for accurate examination. Fortunately, I found specimens of *A. annulitarsis* among unidentified material from BMNH which could be used for a detailed description.

Argentinia bickeli spec. nov.

(Fig. 2a-d)

Material: Holotype male: CHILE: Valle Los Piuquenes, Aconcagua, Chile, 7-12.II.64, Pena / [red label] Holotype *Argentinia bickeli* n. sp., St. NAGLIS det. 2000. [CNC]. **Paratypes**: 1 male: same data / Gen. Prep. SN2000-29, St. NAGLIS 2000. 1 male: same data / Gen. Prep. SN2000-30, St. NAGLIS 2000. 2 males: same data. 1 female: same data / Gen. Prep. SN2000-31, St. NAGLIS 2000. All specimens have an additional red label: Paratype *Argentinia bickeli* n. sp., St. NAGLIS det. 2000. [all CNC]. **Additional material**: CHILE: 2 males: Chile, Santiago Prov., El Canelo, I-9-

1967, 33º 35'S. – 70º 27' W, M. E. IRWIN. 1 male: Chile, Coquimbo Prov., 10 km E. Fray Jo[?]ge Natl, Pk XII-28-1966 dry wash, M. E. ERWIN. [all EMEC]. 1 female: Bosque de los Conservadores Graneros, 1100 m, O'Higgins, Chile, 1-4 III 62, Pena. [CNC]. All specimens have an additional label: *Argentinia bickeli* NAGLIS, St. NAGLIS det. 2000.

Description

Male. Length: holotype male: body length 3.3 mm, wing length 3.3 mm; thorax 1.25 mm, abdomen (segment 1-6) 1.85 mm. Paratypes: male body length 2.7-2.9 mm, wing length 2.7-3.1 mm. Male habitus (Fig. 2a).

Head: Frons and occiput metallic green with bronze reflections, and with dense greyish pruinosity especially laterally along eye margins. A pair of black vertical setae; a pair of long black diverging ocellar setae, 1.3 times as long as verticals; and a pair of short pale postvertical setae, 0.5 times as long as verticals; 1 pair of tiny postocellars. Postocular setae pale white, uppermost not distinctly longer. Narrowest distance of eyes on face about 1/2 distance between ocellar setae. Face and clypeus with dense silvery-white pruinosity. Palp yellow, with 2 small brown apical setae; proboscis dark brown, with a pair of short yellow ventral hairs and a strong but short basoventral seta on each side. Antenna: scape and pedicel yellow, pedicel with a circlet of short yellow setae; first flagellomere entirely dark brown, 1.3 times as long as wide; arista about 5.0 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 30/38; ratio of narrowest/widest distance between eyes on face: 5/18; ratio of narrowest/widest distance between eyes on clypeus: 8/16.

Thorax: Mesonotum, scutellum and postnotum metallic green, with bronze reflections and with greyish pruinosity, especially on area of mesonotal depression; a bronze stripe present on ac rows and on area laterad of dc rows. Pleura concolorous with mesonotum, metepimeron concolorous with pleura. All thoracic setae brown except as noted: ac with 2 rows of 12-14 short setulae, length equal to about distance between rows; dc consisting of 6 strong setae. Additional strong setae include: 1 pa, 2 sa, 2 small sr, 2 np, 1 hm, and 1 pm. **Legs**: All legs yellow, IIC and IIIC dark brown with slightly metallic green reflections and with greyish pruinosity. **I**: IC with 3-4 strong yellow apical and 1 anterolateral setae; IT with 1 yellow posterior seta apically. **II**: IIC with several pale anterior and 1 anterolateral setae; IIT slightly flattened dorsoventrally (males and females), with 1 small anterior seta at 2/3 and 2 anterior setae apically. **III**: IIIC with a strong yellow lateral seta at 1/5; IIIF with a dorsal biseriate row of short yellow setae; IIIT slightly flattened laterally and broadened apically, with an irregular row of short yellow dorsal and ventral setae and 2 apicoventral setae. Relative podomere ratios: I: 42, 47, 38/19/12/8/5; II: 45, 66, 54/24/13/8/5; III: 53, 91, 36/28/16/9/5.

Wing: (Fig. 2b) R_{2+3} running straight to wing margin; R_{4+5} distinctly curved posteriad distally; M first curved anteriad and than curved posteriad before wing margin (S-shaped); R_{4+5} and M joining wing margin anteriad of apex and very closely approximated at margin; posterior cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin, and 0.3 times as long as distal section of CuA. Lower calypter pale yellow, with fan of yellowish-white setae; halter yellow.

Abdomen: Setae and hairs yellow; tergum 1-6 metallic green and highly shiny, segments 2-6 with bronze reflections dorso-posteriorly and laterally; segment 5 without ventral projection, but segments 4 and 5 slightly extended ventrally and forming a ventral wrinkle for partially embedding the hypopygium; segment 7 and sternum 8 dark brown with metallic green and bronze reflections; epandrium and cercal base dark brown; epandrial lobes, surstylar lobes, and cerci yellow. Hypopygium (Fig. 2c): epandrium subtriangular, basally narrower; MEp narrow and projecting forward, with an apical curved tip and with a short basal seta; LEp narrow and u-shaped, as long as and covered by the VSur, with 3 strong apical setae; VSur broad and subrectangular; DSur tapering distally, with a dark median and apical tip, and

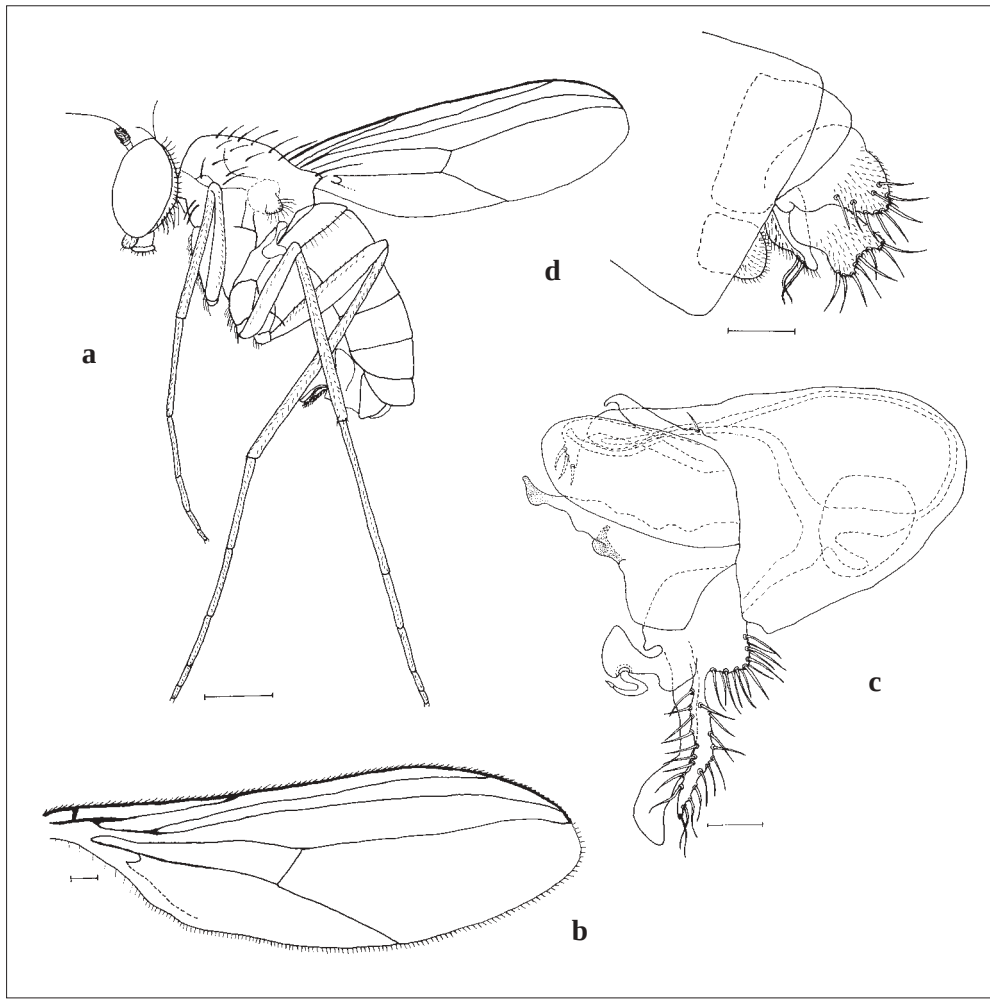


Fig. 2a-d: *Argentinia bickeli* spec. nov. – **a**: male habitus, left lateral view (left wing removed); – **b**: male wing; – **c**: male hypopygium, left lateral view; – **d**: female oviscapt, left lateral view. Scale bars: fig. a = 0.5 mm; others = 0.1 mm.

with a subrectangular margin; cercus ribbon-like and narrow, with long setae; in addition a pair of long median cercal appendages (hypoproct) and with short lateral cercal appendages (bacilliform sclerite): median cercal appendage slightly longer than cercus, club-like and bare; lateral cercal appendage short, subrectangular and with a strong u-shaped spine.

Female. Similar to male but without MSSC and as noted: face broader, narrowest distance between eyes on face as wide as distance between ocellar setae. Ratio of narrowest/widest distance between eyes on frons: 27/38; ratio of narrowest/widest distance between eyes on face: 12/17; ratio of narrowest/widest distance between eyes on clypeus: 16/20. IIT with 3 small anterior setae at 1/5, 1/2 and 3/4 and with 3 strong apical setae; IIIT with 4 strong apical setae. Podomere ratios as: I: 45, 46, 32/18/10/?/?; II: 48, 62, 44/19/11/6/4; III: 52, 84, 26/24/13/8/4. Metallic green colour of terga 1-6 with more bronze reflections. All setae on abdomen brown. Postabdomen (Fig. 2d): cercus with 2 curved long setae.

Distribution: Central Chile.

Etymology: The species is dedicated to Daniel J. BICKEL, the eminent specialist on the Dolichopodidae, who provided me valuable suggestions.

Argentinia unicolor (PARENT, 1939) comb. nov.

(Fig. 3)

Coelinium unicolor PARENT, 1939 – PARENT 1939: 150.

Material: Holotype female: Mendoza [Argentina] / coll. OLDENBERG / [red label] Typus / *Coelinium unicolor* n. sp. Type O. PARENT / Holotypus [red label] / Gen. Prep. No. SN2000-13, Apr. 2000, St. NAGLIS. [DEI].

Redescription

Female. Length: holotype: body length 3.0 mm, wing length 3.1 mm; thorax 1.1 mm, abdomen (segment 1-6) 1.63 mm.

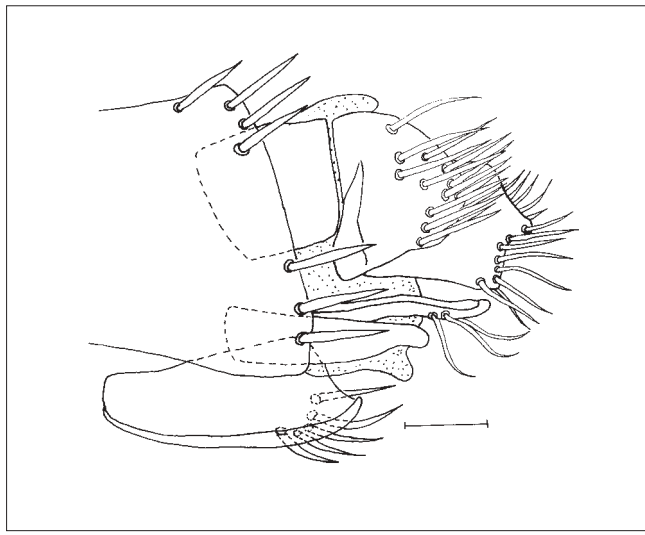
Head: Frons relatively narrow, 2.5 times as broad as face, metallic green with weak greyish pruinosity. A pair of black vertical setae, a pair of black diverging ocellar setae (broken off), and a pair of short pale postvertical setae. Postocular setae pale yellow, lowermost setae longer, about 3 times as long as upper ones. Eyes well separated on face, narrowest distance on face about 1.5 times the distance between ocellar setae. Face and clypeus dark metallic green with weak greyish pruinosity. Palp about as long as clypeus, yellow, with a strong spine-like black apical seta, 2/3 times as long as palp; proboscis dark brown. Antenna: scape and pedicel yellow, pedicel with a circlet of short microscopic brown setae; first flagellomere (broken off). Ratio of narrowest/widest distance between eyes on frons: 28/32; ratio of narrowest/widest distance between eyes on face: 12/17; ratio of narrowest/widest distance between eyes on clypeus: 18/23.

Thorax: Mesonotum and scutellum dark metallic green with weak purple and golden reflections, and with greyish pruinosity. Pleura dark metallic green with greyish pruinosity. Thoracic setae black with brown reflections: ac with 2 rows of short setulae, length greater than distance between rows; dc consisting of 6 strong setae, posterior 2 pairs long, with 3 smaller pairs equally long anteriad, and 1 pair anteriormost short. Additional strong black setae include: 1 pa, 2 sa, 1 sr, 2 np, 1 hm and 1 pm. Scutellum with 2 strong black median setae and 2 short pale lateral setae 1/4 as long as medians. **Legs**: Legs yellow, IIC and IIIC dark metallic green; all setae on legs and coxae black, except as noted. **I**: IC with 4-5 strong pale apical setae. **II**: IIC with some pale anterior setae; IIT with 2 strong anterior setae at 1/5 and 2/3, with 2 pairs of short av/pv setae at 1/3 and 3/4, and with 3 strong apical setae. **III**: IIIC with a strong yellow lateral seta very near to base at about 1/6; IIIF with a serration of small pale dorsal setae, IIIT with strong dorsal setae at 1/5 and 2/3, with a row of small dorsal and pv setae, and 3 strong apical setae. Relative podomere ratios: I: 48, 46, 36/18/11/8/6; II: 55, 68, 46/21/18/7/6; III: 67, 92, 37/35/22/13/6. **Wing**: Relatively broad in apical part; R_{2+3} running straight to wing margin; R_{2+3} and R_{4+5} slightly diverging; R_{4+5} slightly curved posteriad near wing margin; M converging to R_{4+5} from cross-vein m-cu, and becoming parallel with R_{4+5} in distal 1/4; R_{4+5} and M joining costa anteriad of apex; cross-vein m-cu bowed, about 2.5 times as long as distance between R_{4+5} and M at wing apex, and 0.4 times as long as distal section of CuA. Lower calypter dark yellow, with a fan of pale setae; halter brownish-yellow.

Abdomen: Stout, slightly longer than thorax; all setae and hairs yellow; all terga metallic green with bronze reflections and with weak greyish pruinosity. Postabdomen (Fig. 3).

Male. Unknown.

Distribution. Argentina.



Remarks. This species has a conspicuous strong apical spine on the palp and strong setae on IIT and IIIT. But since other important characters such as the wing venation, the thoracic chaetotaxy with 6 strong dc, and the female genitalia are very similar to *Argentinia*, I provisionally include it in this genus.

Fig. 3: *Argentinia unicolor* PARENT; female oviscapt, left lateral view. Scale bar = 0.1 mm.

Genus *Dactylomyia* ALDRICH

Dactylomyia ALDRICH, 1894 – ALDRICH 1894: 151.
Coelinium PARENT, 1939 – PARENT 1939: 148; BICKEL 1998: 50.

Type species: *Dactylomyia gracilipes* ALDRICH, 1894 (monotypy).

Diagnosis

Head: Male face narrow, eyes almost contiguous, female face slightly broader. Antennal scape short and bare; pedicel short and truncate with first flagellomere; first flagellomere short and triangular; arista dorsal and bare. Vertex straight dorsally between vertical seta and ocellar tubercle; dorsal postcranium flat or slightly concave; postocular setae uniseriate; postvertical setae present; ventral postcranium with long setae; proboscis with a strong basoventral seta on each side.

Thorax: Entirely metallic green; posterior slope of mesonotum flattened; ac with 2 rows ending at mesonotal depression; dc consisting of 2-3 strong setae and 0-3 reduced small setae anteriad, posteriormost 2 pairs longer and bordering mesonotal depression, dc rows restricted posteriad of mesonotal suture; a field of irregular setulae anteriad of dc and anterolaterad of mesonotum; median scutellar setae long, laterals reduced to a short seta or hair or absent. Lower proepisternum with 2 strong pale setae. **Legs**: All legs mostly yellow and devoid of major setae; IIIC with a strong lateral seta; male It modified with special hairs or setae, flattening or expansion; male claws of It_5 broadened or reduced; male IIT often flattened or broadened (all MSSC). **Wing**: Hyaline, with yellowish tinge; M distinctly bent anteriad close to R_{4+5} and both veins joining wing margin anteriad of apex; cross-vein m-cu at least twice as long as distance between R_{4+5} and M at wing margin; CuA weak and present as a vestige on membrane in distal part; A as a vestige on membrane and not reaching wing margin.

Male abdomen: Slightly longer than thorax; segments 1-3 partially yellow and remaining segments metallic green; postmarginal setae of terga much longer; hypopygium yellow and semipedunculate (short segment 7 attached to sternum 8); epandrium ovate; hypandrium basally fused to epandrium and distal 1/3 free; MEp and LEp present, LEp more or less fused basally with VSur, forming a narrow curved projection; surstylus divided into dorsal

and ventral lobes: VSur broad and subrectangular, DSur with apical and/or median dark appendages; cercus short und rounded.

Female abdomen: Blunt apically; sternum 8 short and rounded, setose; terga 9+10 short and rounded, with long setae, fused; cercus short and triangular, separated from terga 9+10, curved upwards, with one or more long downcurved ventral setae.

Remarks. *Dactylomyia* was originally established by ALDRICH (1894) for the single species *D. gracilipes*, but was later synonymized by WHEELER (1899) with *Neurigona*. BICKEL (1998) re-established the genus *Dactylomyia* while describing a new species *D. vockerothi* from Hawaii, and gave a diagnosis for the genus. BICKEL (1998) also synonymized the genus *Coelinium* PARENT with *Dactylomyia*, transferred *Coelinium bicolor* PARENT to the genus *Dactylomyia* and placed *Coelinium unicolor* PARENT as a species incertae sedis. The genus *Dactylomyia* is defined by the following characters: eyes very close and almost contiguous; 2-3 pairs of strong dc and 0-3 smaller reduced setae anteriad restricted posteriad of mesonotal suture; male hypopygium with LEp more or less fused basally to, and strongly arched anteriad of, VSur; cercus short and rounded.

Species list of *Dactylomyia*: *bicolor* (VAN DUZEE, 1933: 9) **comb. nov.** (*Neurigona*).
Guatemala. [Female only].
coruscans (PARENT, 1928: 161) **comb. nov.** (*Neurigona*).
Costa Rica. [Female only]. Types lost.
decora (ALDRICH, 1902: 83) **comb. nov.** (*Neurigona*).
Lesser Antilles (Grenada, St. Vincent, Barbados). Types lost.
lateralis (SAY, 1829: 169) (*Medeterus*).
Eastern North America (USA and Canada). Types lost.
= *superbiens* (LOEW, 1861: 76) (*Saucropus*). USA (Florida).
= *gracilipes* ALDRICH, 1894: 151. USA (South Dakota, Florida).
mexicana **spec. nov.** Mexico.
parenti **nom. nov.** for *Dactylomyia bicolor* (PARENT, 1939) (*Coelinium*). Costa Rica. [Female only].
vockerothi BICKEL, 1998. Hawaiian Islands.

Key to World species of *Dactylomyia* (males)

Males of *Dactylomyia* can be easily identified by their distinctive MSSC. Although females can be assigned to the genus, they do not have such diagnostic features and can not be reliably identified without associated males collected together at the same collecting site. The key given below includes all known males of *Dactylomyia*. The key is based on male secondary sexual characters and male genitalic features. Unfortunately, the three species *D. bicolor*, *D. coruscans*, and *D. parenti* were described from females only and may well be conspecific with some of the other four species for which males are known.

1 It_2 modified with special hairs, setae or appendages **2**
– It_2 unmodified **3**
2 IT not broadened; It_2 apically with 2 long erect posterior hairs (Fig. 5a); It_3 longer than It_4; cross-vein m-cu twice as long as distance between veins R_{4+5} and M at wing margin ..... ***decora* ALDRICH**
– IT broadened, diameter at middle twice its diameter at base; It_2 with an apical appendage projecting forward parallel with It_3 (Fig. 7a); It_3 shorter than It_4; cross-vein m-cu 4 times as long as distance between veins R_{4+5} and M at wing margin (Fig. 7b) .... ***mexicana* spec. nov.**

3 It_3 shorter than It_4, white with pale ventral hairs; LEp projecting forward to dorsal border of VSur and with 1 strong and 1 small apical setae ..... ***vockerothi*** **BICKEL**

– It_3 twice as long as It_4, with a posterior row of short black spine-like setulae (Fig. 6b); LEp projecting forward to middle of VSur and with 3 equally long apical setae (Fig. 6c) ..... ***lateralis*** **SAY**

Dactylomyia bicolor (VAN DUZEE, 1933) comb. nov.

(Fig. 4)

Neurigona bicolor VAN DUZEE, 1933: 9

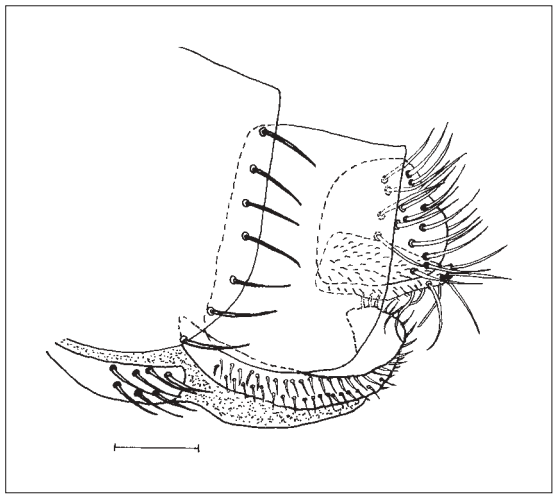
Material: Holotype female (originally described as male): GUATEMALA: Sa Emilia, Pochuta, 1,000 m., Feb. Mar. 31; Guatemala, J. BEQUAERT. *Medetera bicolor*, Holotype, VAN DUZEE / This is *Neurigona bicolor* V. D., not *Medetera bicolor*, Label incorrect / Gen. Prep., No. SN2000-2, Jan. 2000, St. NAGLIS / *Dactylomyia bicolor* VAN DUZEE, n. comb. (*Neurigona*), St. NAGLIS det., 1.2000. [AMNH].

Redescription

Female. Length: holotype: body length 2.8 mm, wing length 3.1 mm; thorax 1.2 mm, abdomen (segment 1-6) 1.4 mm.

Head: Frons broad, with dense greyish pruinosity, metallic green ground colour barely visible. A pair of black vertical setae; a pair of long black diverging ocellar setae; a pair of short black postvertical setae present. Postocular setae with first 6 setae near vertex brown, remaining setae pale yellow, lowermost setae very long, length about half eye height. Narrowest distance of eyes on face about 2/3 distance between ocellar setae. Face and clypeus with dense greyish-white pruinosity, clypeus free from eye margin. Palp yellow, with an apical brown seta; proboscis yellow, with a strong black basolateral seta. Antenna: scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere dark brown, with a small basal yellow stripe, 1.5 times as long as wide; arista about 3 times as long as antenna. Ratio of narrowest/widest distance between eyes on frons: 30/45; ratio of narrowest/widest distance between eyes on face: 9/13; ratio of narrowest/widest distance between eyes on clypeus: 12/20.

Thorax: Mesonotum and scutellum dark metallic blue-green with bronze and violet reflections, and with greyish-white pruinosity, more intensively on mesonotal depression. Pleura concolorous with mesonotum. Ac with 2 rows of short brown setulae, length about equal to distance between rows; dc consisting of 2 strong black setae bordering mesonotal depression, with 3 shorter black setae anteriad, decreasing in size. Additional strong black setae include: 1 pa, 2 sa, 2 np, 1 hm, and 1 pm. Lateral scutellar setae absent, but two tiny marginal hairs inside of scutellars present. **Legs**: Legs yellow, IIC and IIIC brown with faint metallic gloss, all tarsomeres slightly infuscated. All setae on legs and coxae black, except as noted: **I**: IC with few yellow anterior setae apically; It_1 with 2 tiny ventral setae. **II**: IIC with few brown anterior setae apically; IIT with small anterior setae at 1/3 and 3/4, and with 3-4 short ventral setae; IIt_2 with small ventral setae. **III**: IIIC with a strong brown lateral seta at 1/5; IIIT with a serration of small brown dorsal setae; $IIIt_1$ with a stronger dorsal and posterior seta basally. Relative podomere ratios: I: 46, 55, 37/19/11/5/4; II: 48, 62, 61/23/12/5/4; III: 57, 87, 34/25/14/8/4. **Wing**: R_{2+3} running straight toward wing margin; R_{4+5} with gentle bend posteriad; M with smooth s-shaped curve toward R_{4+5}, and joining wing margin close to R_{4+5}; R_{4+5} and M joining wing margin anteriad of apex; cross-vein m-cu about 3.5 times as long as distance between R_{4+5} and M at wing margin, and 0.5 times as long as distal section of CuA. Lower calypter pale yellow, with fan of yellow setae; halter yellow.



Abdomen: Tergum 1 ochreous with metallic green reflections; terga 2-6 dark brown with metallic green and blue reflections, tergum 2 with a yellow basal band, terga 3 and 4 with lateral band of greyish pruinosity basally; all terga with short black setae, and with longer marginal setae; all sterna yellow, with yellow setae; tergum 7 and cercus dark brown. Postabdomen (Fig. 4).

Male. Unknown.

Distribution. Guatemala.

Fig. 4: *Dactylomyia bicolor* VAN DUZEE; female oviscapt, left lateral view. Scale bar = 0.1 mm.

Remarks. *Neurigona bicolor* VAN DUZEE was originally described as a male. Examination of the genitalia has revealed that it is in fact a female, and the structure of the genitalia is typical for *Dactylomyia*. VAN DUZEE (1933: 12) stated that *N. bicolor* resembles *N. lateralis* SAY in general appearance. I am here transferring *Neurigona bicolor* VAN DUZEE to the genus *Dactylomyia* and consequently a new name is required for *Dactylomyia bicolor* PARENT, as a junior secondary homonym (see remarks under *Dactylomyia parenti*).

Dactylomyia decora (ALDRICH, 1902) comb. nov.

(Fig. 5a-b)

Neurigona decora ALDRICH, 1902: 83

Material: Neotype male: LESSER ANTILLES: Barbados, Christ Church, Rockley Beach, 13° 04.3' N, 59°35.2 W, 18 Sep 1996, W. MATHIS / [bar code label] / Gen. Prep. No. SN2000-27 St. NAGLIS 2000 / [red label] Neotype *Neurigona decora* ALDRICH, St. NAGLIS det. 2000. [USNM].

Redescription

Male. Length: Neotype male: body length 2.6 mm, wing length 2.6 mm; thorax 1.15 mm, abdomen (segment 1-6) 1.3 mm.

Head: Frons and occiput metallic blue-green, with brownish pruinosity, especially laterally along eye margins. A pair of black vertical setae; a pair of black long diverging ocellar setae, 2.0 times as long as verticals; and a pair of short brown postvertical setae present. Postocular setae with upper setae brown and lower setae pale yellow. Narrowest distance between eyes on face equal to diameter of adjacent anterior facets. Face and clypeus with dense dark grey pruinosity. Palp yellow, with 1 small brown apical seta; proboscis yellowish, with a pair of short yellow ventral hairs, and a curved yellow basoventral seta on each side. Antenna: scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere yellow, distal half brownish, 1.5 times as long as wide; arista about 5.5 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 31/40; ratio of narrowest/widest distance between eyes on face: 1/12; ratio of narrowest/widest distance between eyes on clypeus: 7/15.

Thorax: Mesonotum, scutellum and postnotum metallic green, with partially blue and violet reflections and with greyish-brownish pruinosity, especially on area of mesonotal depression; a short yellow posterolateral stripe on border of mesonotum above wing base present. Pleura

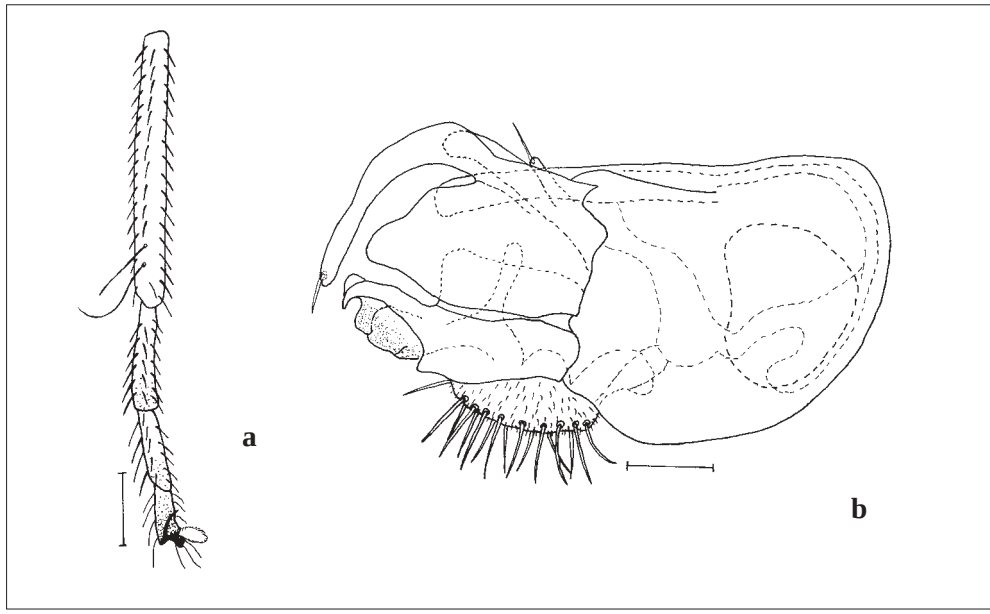


Fig. 5a-b: *Dactylomyia decora* ALDRICH. **– a**: male left fore tarsomeres 2-5, posteroventral view; **– b**: male hypopygium, left lateral view. Scale bars = 0.1 mm.

concolorous with mesonotum, metepimeron yellow. All thoracic setae black with brownish reflections: ac with 2 rows of 12-14 short setulae, length equal to about distance between rows; dc consisting of 3 strong setae, with posteriormost 2 setae longer, reduced dc setae anteriad not differentiated from other setulae. Additional strong setae include: 1 pa, 2 sa (anterior smaller), 0 sr, 2 np, 1 hm, and 1 pm. **Legs**: All legs yellow, except IIC at extreme base concolorous with pleura; It_{4-5}, IIt_5, and $IIIt_5$ dark brown; all tarsomeres more or less infuscated distally. **I**: IC with pale setae, and 5-7 strong yellowish-brown setae apically; It_{1-3} with a dense ventral row of short setae about as long as diameter of tarsomeres; It_2 apically with 2 posterior long erect pale hairs (Fig. 5a), more distal hair sinuate and the other hair straight (MSSC); It_{4-5} with short erect hairs; anterior claw of It_5 reduced to a short spine (MSSC). **II**: IIC with several anterior pale setae; IIT with a short anterior seta at 1/4, 2-3 short ventral setae, and 4 short apical setae. **III**: IIIC with a strong yellow lateral seta; IIIT with 2-3 short apical setae; $IIIt_1$ with 2 short curved posterior setae basally, and 1-2 short posterior setae distally. Relative podomere ratios: I: 58, 66, 42/23/12/7/6; II: 64, 72, 62/25/14/6/6; III: 66, 93, 31/34/18/8/7. **Wing**: R_{2+3} slightly bent at midlength; R_{4+5} distinctly curved posteriad before wing margin; M with a gentle curve at 3/4 from posterior cross-vein (m-cu); R_{4+5} and M joining wing margin anteriad of apex and closely approximated at wing margin; posterior cross-vein m-cu about 2 times as long as distance between R_{4+5} and M at wing margin, and 0.5 times as long as distal section of CuA. Lower calypter pale yellow, with a fan of yellow setae; halter yellow.

Abdomen: Setae on dorsum brown and on venter yellow; terga 1 and 2 and basal half of tergum 3 yellow; distal half of tergum 3 and entire terga 4-6 metallic green and highly shiny, with blue and violet reflections; segment 5 without ventral projection; segment 7 brown, sternum 8 yellow with long yellow setae; epandrium, epandrial lobes, surstylar lobes and cerci yellow, except apical part of DSur which is black. Hypopygium (Fig. 5b): MEp bifurcate apically, projected forward with a basal seta; LEp fused with VSur, narrow and U-shaped, and project-

ing forward anteriad of VSur, with 1 apical seta; VSur broad and subtriangular; DSur short, tapering apically with a curved and pointed tip; cercus short and rounded with setae.

Female. Unknown.

Distribution. Lesser Antilles (Grenada, St. Vincent, Barbados).

Remarks. According to ALDRICH's description, *Neurigona decora* clearly belongs to *Dactylomyia*. However, I was unable to find the types of *N. decora*, nor could VAN DUZEE (1913) in his revision of north American *Neurigona*, which is why he only reproduced ALDRICH's original description. The types must therefore be treated as lost. ALDRICH's description is very concise and contains no figures, but I was able to find a *Dactylomyia* species from the Lesser Antilles (Barbados) in the USNM collection which matches ALDRICH's description. I herewith designate this specimen as neotype in order to clarify the uncertain taxonomic status of this species.

Dactylomyia lateralis (SAY, 1829)

(Fig. 6a-d)

Medeterus lateralis SAY, 1829 – SAY 1829: 169.
Saucropus superbiens LOEW, 1861 – LOEW, 1861: 76.
Dactylomyia gracilipes ALDRICH, 1894 – ALDRICH, 1894: 151.
Dactylomyia lateralis (SAY, 1829) – BICKEL 1998: 50.

Material: Neotype: male: U.S.A., INDIANA: La Fayette, Ind., June 16 1916 / J. M. ALDRICH coll. / Neotype *Medeterus lateralis* SAY, des. St. NAGLIS 2000. [USNM]. **Syntypes *Dactylomyia gracilipes***: U.S.A: SOUTH DAKOTA: 1 male: Brookings SD [South Dakota] / J M ALDRICH coll. / [red label] Cotype No. 50288 U.S.N.M. / Gen. Prep. No. SN2000-24 St. NAGLIS 2000. 1 female: same data / Gen. Prep. No. SN2000-25 St. NAGLIS 2000. 1 male: same data. 1 female: same data / Gen. Prep. No. SN2000-25 St. NAGLIS 2000. [all USNM]. **Additional material:** U.S.A., MASSACHUSETTS: 1 male: Mass. Middlesex Co., Lincoln 29 August, 1982 E. T. ARMSTRONG, Malaise trap / N. E. WOODLEY Collection, donated 2000 / *Neurigona lateralis* (SAY) det. WOODLEY 1982 / Gen. Prep. SN2000-26 St. NAGLIS 2000. 2 males: same data but 20 July, and 25 August. 3 females: same data but 13 June, 29 June, and 19 July. U.S.A. INDIANA: 1 male, 2 females: La Fayette, Ind, 16 June – 23 July 1916 / J. M. ALDRICH coll. [all USNM]. All specimens have an additional label: *Dactylomyia lateralis* (SAY), St. NAGLIS det. 2000.

Redescription

Male. Length: male body length 2.5-2.7 mm, wing length 2.9-3.0 mm; thorax 1.1-1-3 mm, abdomen (segment 1-6) 1.2-1.3 mm.

Head: Frons and occiput metallic green, with dense whitish pruinosity; all setae black with brownish reflections except as noted: a pair of vertical setae; a pair of black long diverging ocellar setae, 1.6 times as long as verticals; and a pair of short pale postvertical setae present. Postocular setae pale white, uppermost not distinctly longer. Eyes separated on face, narrowest distance on face about 2/3 distance between ocellar setae. Face and clypeus with dense silvery-white pruinosity. Palp yellow, with 1 small brown apical seta; proboscis yellowish, with a pair of short yellow ventral hairs, and a strong curved basoventral seta on each side. Antenna (Fig. 6a): scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere yellow, distal half brownish, 1.5 times as long as wide; arista about 4.5 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 27/42; ratio of narrowest/widest distance between eyes on face: 5/13; ratio of narrowest/widest distance between eyes on clypeus: 5/12.

Thorax: Mesonotum, scutellum and postnotum metallic green, with bronze reflections and with silvery-white pruinosity, especially on area of mesonotal depression. Pleura concolorous with mesonotum, metepimeron yellow. All thoracic setae brown except as noted: ac with 2 rows of 12-15 short brownish-yellowish setulae, length equal to about distance between rows; dc consisting of 2-3 strong setae, and 2-3 reduced smaller setulae anteriad (variable); with a

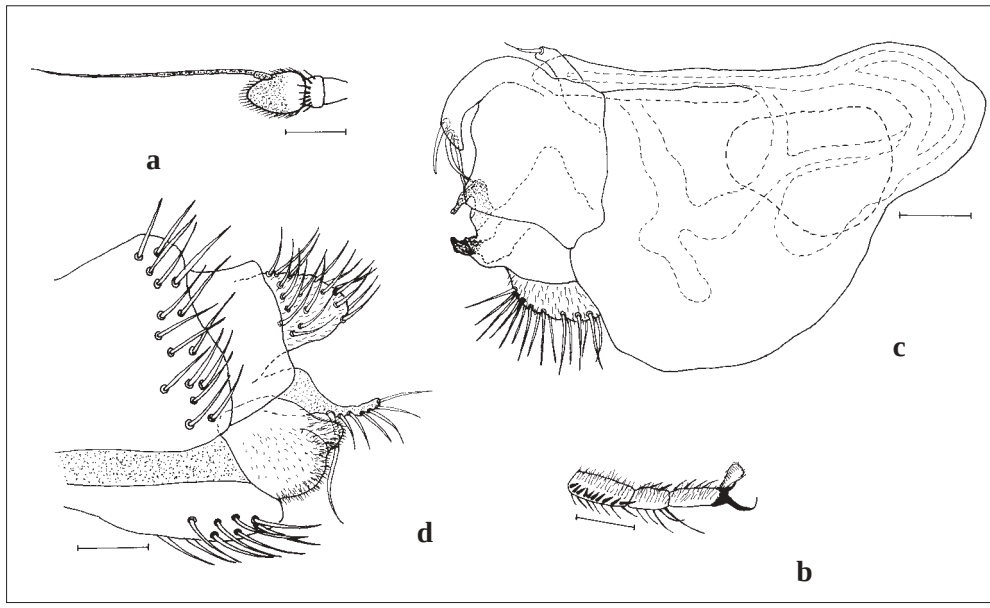


Fig. 6a-d: *Dactylomyia lateralis* SAY. – **a**: male first flagellomere, lateral view; – **b**: male left fore tarsomeres 3-5, posteroventral view; – **c**: male hypopygium, left lateral view; – **d**: female oviscapt, left lateral view. Scale bars = 0.1 mm.

field of short brownish-yellowish irregular setulae anteriad of dc and anterolaterad of mesonotum. Additional strong setae include: 1 pa, 2 sa (anterior smaller), 2 small sr, 1 np, 1 hm, and 1 pm. **Legs**: All legs yellow, IIC at extreme base concolorous with pleura. **I**: IC with pale setae, and 2-3 strong brown anterolateral setae apically; It_{3-5} very short and dorsoventrally flattened, It_3 with a posterior row of short black minute spine-like setulae (Fig. 6b), It_4 with a long posterior seta apically, It_5 with posterior claw basally slightly broadened and black (all MSSC). **II**: IIC with several anterior pale setae; IIT slightly flattened dorsoventrally (MSSC), with 2-4 small anterior setae. **III**: IIIC with a strong brown lateral seta at 1/4; IIIT with a row of short dorsal and ventral setae, and 2 apicoventral setae. Relative podomere ratios: I: 56, 59, 39/24/6/3/4; II: 50, 70, 65/27/14/6/5; III: 60, 92, 45/32/17/8/5. **Wing**: R_{2+3} running straight to wing margin; R_{4+5} distinctly curved posteriad before wing margin; M with a gentle curve at 1/3 from posterior cross-vein (m-cu); R_{4+5} and M joining wing margin anteriad of apex and very closely approximated at wing margin; posterior cross-vein m-cu about 4 times as long as distance between R_{4+5} and M at wing margin, and 0.4 times as long as distal section of CuA. Lower calypter pale yellow, with fan of pale yellow setae; halter yellow.

Abdomen: Setae and hairs brown-yellowish; terga 1-6 metallic green and highly shiny, but ventrally and partially laterally yellow; terga 1 and 2 more or less yellow dorsally and posteriorly (variable); segment 5 without ventral projection; segment 7 and sternum 8 yellowish-brown; epandrium, epandrial lobes, surstylar lobes and cerci yellow, except apical part of DSur which is black. Hypopygium (Fig. 6c): epandrium subtriangular, basally narrow, with a cap-like bulge; MEp narrow, projected forward with an apical seta; LEp fused with VSur, narrow and U-shaped, and projecting forward anteriad of VSur, with 3 strong apical setae; VSur broad and subrectangular; DSur short, with two black spine-like appendages; cercus short and rounded, with setae.

Female. Similar to male but without MSSC and as noted: face broader, but narrowest distance between eyes on face about 3/4 distance between ocellar setae (as in male). Ratio of narrowest/widest distance between eyes on frons: 36/49; ratio of narrowest/widest distance between eyes on face: 10/19; ratio of narrowest/widest distance between eyes on clypeus: 12/15. IIT with 2-3 small ventral setae; IIIT with a dorsal row of short setae and with a strong dorsal seta at about middle. Podomere ratios as: I: 47, 56, 38/24/11/6/5; II: 52, 66, 59/28/14/6/5; III: 60, 86, 39/33/19/8/5. Metallic green colour of terga 1-6 with more bronze reflections. All setae on abdomen brown. Postabdomen (Fig. 6d): cercus with a long curved ventral seta.

Distribution. USA (South Dakota, Indiana, Massachusetts, New York, New Jersey, Colorado, Florida), Canada (Quebec, Ontario) (BICKEL pers. comm).

Remarks. SAY's types are known to have been destroyed (WOODLEY, pers. comm.) and so the types of *Medeterus lateralis* SAY must be treated as lost. Since SAY's description is old and very vague and there are two junior synonyms, I designate here a neotype from the original type locality of Indiana, from the collection of the USNM, in order to clarify the taxonomic status of the species and to conserve the name *lateralis* SAY in the combination *Dactylomyia lateralis* (SAY).

Dactylomyia mexicana spec. nov.

(Fig. 7a-d)

Material: Holotype male: MEXICO: Campeche Camp., 30 June 1968 / M. W. FADDEN, Malaise trap / [red label] Holotype *Dactylomyia mexicana* n. sp., St. NAGLIS det. 2000. [WSU]. **Paratypes:** MEXICO: 1 male: same data / Gen. Prep. No. SN2000-32, St. NAGLIS 2000. 1 male: same data / Gen. Prep. No. SN2000-33, St. NAGLIS 2000. 3 males: same data. 1 female: same data / Gen. Prep. No. SN2000-34, St. NAGLIS 2000. 3 females same data. [all WSU]. All specimens have an additional red label: Paratype *Dactylomyia mexicana* n. sp., St. NAGLIS det. 2000. **Additional material**: MEXICO: 1 male: MEX. Itzimna, Yucatan, IX-II 1964 / Collectors: J. C. & D. PALLISTER. 1 male: same data, but VIII-30 1964. 1 male: same data, but IX-4 1964. [all AMNH]. 1 female Monterrey, N. L. 5 mi. S., 9 May 1968/ Malaise trap, M. W. FADDEN. [WSU]. All specimens have an additional label: *Dactylomyia mexicana* NAGLIS, St. NAGLIS det. 2000.

Description

Male. Length: male: body length 2.7-3.1 mm, wing length 2.7 mm (wings of most specimens destroyed); thorax 1.2 mm, abdomen (segment 1-6) 1.5 mm.

Head: Frons and occiput metallic green, with dense greyish pruinosity. A pair of black vertical setae; a pair of long black diverging ocellar setae; and a pair of short pale postvertical setae present. Postocular setae pale yellow. Narrowest distance of eyes on face equal to diameter of adjacent anterior facets. Face and clypeus with dense grey pruinosity. Palp yellow, with 1 strong brown apical seta; proboscis brownish-yellow, with a curved brown basoventral seta on each side. Antenna: scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere yellow, distal half infuscated, 1.5 times as long as wide; arista about 5 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 30/45; ratio of narrowest/widest distance between eyes on face: 1/10; ratio of narrowest/widest distance between eyes on clypeus: 4/9.

Thorax: Mesonotum, scutellum and postnotum metallic green, with blue and bronze reflections and with greyish pruinosity, especially on area of mesonotal depression. Pleura concolorous with mesonotum; metepimeron yellow. All thoracic setae black with brownish reflections: ac with 2 rows of 12-14 short setulae, length equal to about distance between rows; dc consisting of 3 strong setae and 1-3 smaller reduced setulae anteriad. Additional strong setae include: 1

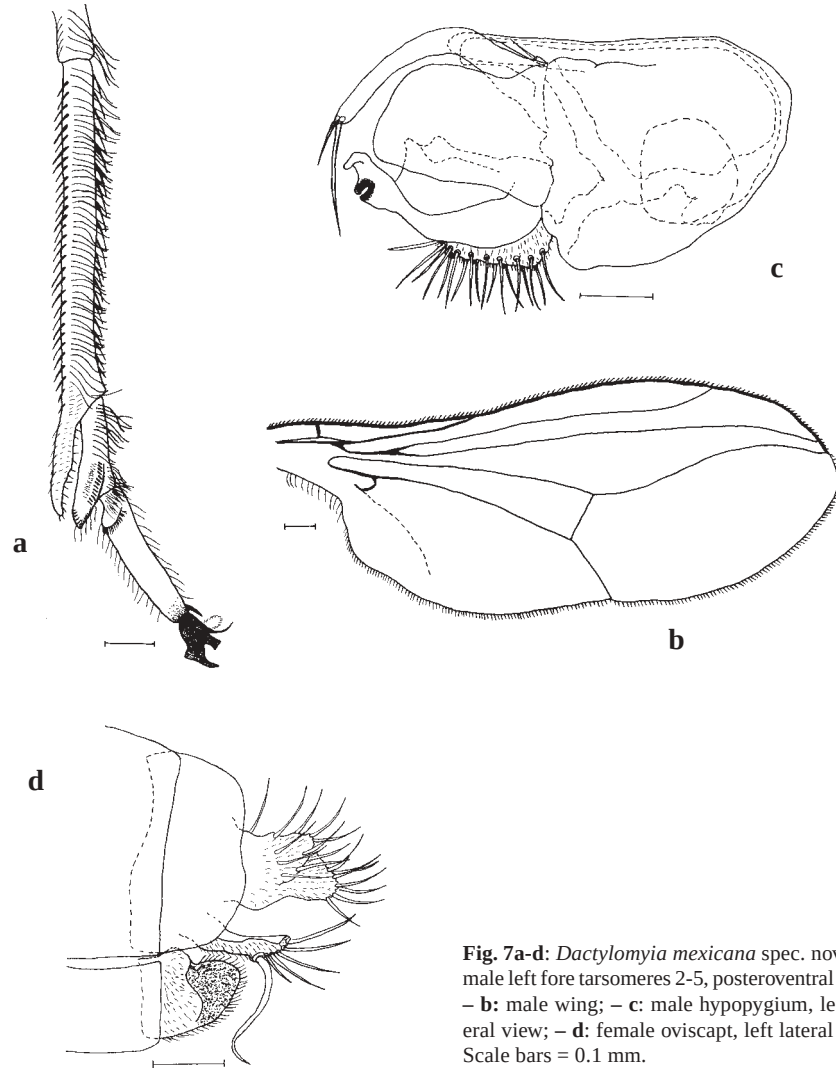


Fig. 7a-d: *Dactylomyia mexicana* spec. nov. – **a**: male left fore tarsomeres 2-5, posteroventral view; **– b:** male wing; **– c**: male hypopygium, left lateral view; **– d**: female oviscapt, left lateral view. Scale bars = 0.1 mm.

pa, 2 sa, 0 sr, 2 np, 1 hm, and 1 pm. Lateral scutellar setae present as short setae 1/3 as long as medians. Proepisternum with 2 strong lower and 1 small upper pale ppl. **Legs**: All legs yellow, except IIC which is slightly infuscated laterally and at extreme base concolorous with pleura; It_5 dark brown, IIIt infuscated. **I**: IC with several strong yellowish-brown apical and 2 anterolateral setae; IT broadened, diameter at middle twice as diameter at base, with several rows of short erect setulae; It_{1-2} with dense pv row of long curved hairs about 2 times as long as diameter of tarsomeres; It_2 with av setal serration and an apical projection parallel with and as long as It_3 (Fig. 7a); It_3 broadened apically with a posterior row of 12-15 minute black spine-like setulae, with erect fine pale hairs, and with a short apical projection; It_4 longer than It_3, dorsoventrally flattened and curved, with fine erect hairs, and a short apical spine; posterior claw of It_5 basally strongly flattened and broadened to a rectangular lobe (all MSSC).

II: IIC with several anterior pale setae; IIT slightly flattened dorsoventrally, with 1 minute anterior seta at 2/3, and 4 short apical setae. III: IIIC with a strong yellow lateral seta at 1/4. Relative podomere ratios: I: 44, 57, 15/37/9/13/4; II: 52, 68, 77/25/12/5/4; **III**: 57, 94, 46/28/15/8/5. **Wing**: (Fig. 7b) R_{2+3} straight and slightly bent anteriad near costa; R_{4+5} distinctly curved posteriad before wing margin; M with distinct curve at 1/4 from posterior cross-vein (m-cu); R_{4+5} and M joining wing margin anteriad of apex and closely approximated at apex; posterior cross-vein m-cu about 4 times as long as distance between R_{4+5} and M at wing margin, and 0.6 times as long as distal section of CuA. Lower calypter pale yellow, with a fan of yellow setae; halter pale yellow.

Abdomen: Setae on dorsum brown and on venter yellow; terga 1 and 2 yellow, distal half of tergum 2 and entire terga 3-6 dark metallic green and highly shiny, with bronze reflections; segment 5 without ventral projection; segment 7 brown, sternum 8 yellow with yellow setae; epandrium, epandrial lobes, surstylar lobes and cerci yellow, except apical part of DSur which is black. Hypopygium (Fig. 7c): MEp narrow and projecting forward with a basal seta; LEp basally fused with VSur but with a distinct suture basally, narrow and U-shaped, and projecting forward anteriad of VSur, with 1 strong and 1 smaller apical setae; VSur broad and subrectangular; DSur tapering apically, with a curved tip; cercus short and rounded, with setae.

Female. Similar to male but without MSSC and as noted: face broader, narrowest distance between eyes 3 times as diameter of adjacent anterior facets. Ratio of narrowest/widest distance between eyes on frons: 30/48; ratio of narrowest/widest distance between eyes on face: 6/18; ratio of narrowest/widest distance between eyes on clypeus: 8/22. First flagellomere slightly shorter. All tarsomeres more or less infuscated; IIT with 2-3 small ventral setae; IIIT with a dorsal row of short setae; $IIIt_1$ with a posterior seta basally. Podomere ratios as: I: 48, 59, 41/24/12/9/5; II: 56, 67, 67/24/14/7/4; III: 62, 96, 35/29/16/8/5. Abdomen: tergum 1 entirely yellow, terga 2 and 3 partially yellow (variable) especially on dorsum, terga 2-6 metallic green with bronze reflections. Postabdomen (Fig. 7d): cercus with a strong curved ventral seta.

Distribution: Mexico.

Etymology. The name is derived from Mexico, the country where the type specimens were collected.

Remarks. The species is characterized and can be distinguished from its congeners by the obviously modified male fore tarsal segments.

Dactylomyia parenti nom. nov.

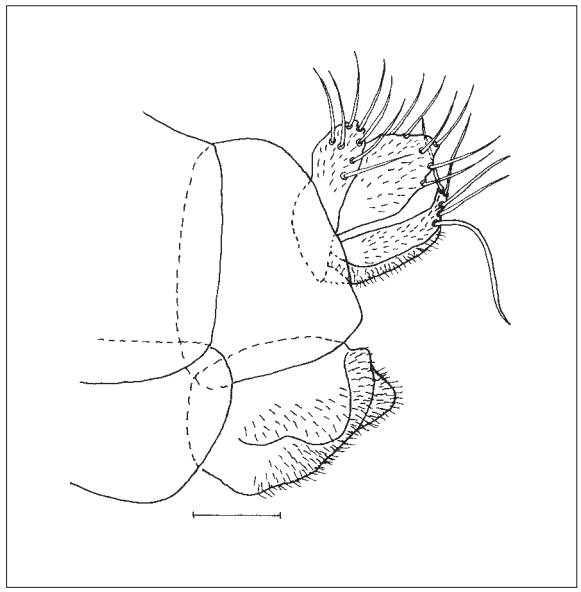
(Fig. 8)

Coelinium bicolor PARENT, 1939 – PARENT 1939: 149.
Dactylomyia bicolor (PARENT, 1939) – BICKEL 1998: 50.

Material: Syntype female: COSTA RICA: La Caja: 8 kil. w. San José C R., SCHMIDT 1930 / *Coelinium bicolor* O. PARENT / Typus [red label] / Syntypus [red label] , 1979 [underside] / Coll. DEI Eberswalde / Gen. Prep., No. SN2000-10, Mar. 2000, St. NAGLIS / *Dactylomyia parenti* nom. nov. for *Coelinium bicolor* PAR., St. NAGLIS det., 3.2000. [DEI]. The second Syntype [only genitalia preparation present]: female: La Caja: 8 kil. w. San José C R., SCHMIDT 1930 / *Coelinium bicolor* n. sp. Type O. PARENT / Typus [red label] / Syntypus [red label], 1979 [underside] / Coll. DEI Eberswalde. [DEI].

Redescription

Female. Length: Syntype: body length 3.3 mm, wing length 3.5 mm; thorax 1.38 mm, abdomen 1.67 mm.



Head: Frons (strongly shrunken during drying) broad, metallic green, with dense greyish pruinosity. A pair of long brown vertical setae; 1 pair of long brown diverging ocellar setae; and 1 pair of short yellowish-brown postvertical setae present. Postocular setae yellow, with uppermost 3-4 setae near vertex yellowish-brown, lowermost setae very long, length about half eye height. Narrowest distance of eyes on face about 2/3 distance between ocellar setae. Face and clypeus with dense greyish-white pruinosity.

Fig. 8: *Dactylomyia parenti* nom. nov.; female oviscapt, left lateral view. Scale bar = 0.1 mm.

Palp yellow, *without* apical seta; proboscis yellow, with a pair of strong brown basolateral setae, and with a pair of fine long yellow basoventral hairs. Antenna: scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere with basal part yellow, apical part dark brown, as long as wide; arista about 3 times as long as antenna. Ratio of narrowest/widest distance between eyes on frons: (not visible); ratio of narrowest/widest distance between eyes on face: 7/12; ratio of narrowest/widest distance between eyes on clypeus: 7/14.

Thorax: Mesonotum and scutellum dark metallic green with bronze reflections, and with greyish-white pruinosity, 2 light green parallel stripes laterad of ac rows. Pleura concolorous with mesonotum. Ac with 2 rows of 12-14 short brown setulae, length equal to about distance between rows; dc (all broken off but one) consisting of 2 strong brown setae bordering mesonotal depression, with 2-3 ?? shorter setae anteriad. Additional strong brown setae include: 1 pa, 2 sa ?, 2 np, 1 hm, and 1 pm. Lateral scutellar setae 1/3 as long as medians. **Legs**: (fore tarsomeres, middle tarsomeres, and hind tibia and tarsomeres broken off) All legs yellow, IIC and IIIC brown with faint metallic gloss and greyish pruinosity; all setae on legs and coxae brownish-yellow: **I**: IC with some anterior setae apically (It_{1-5} broken off). **II**: IIC with few anterior setae apically; IIT with 1 small anterior seta at 3/4, and with 3-4 short ventral setae (IIt_{1-5} broken off). **III**: IIIC with a strong lateral seta at 1/5, and with 1 strong downcurved anterior seta; femur with a row of small dorsal setae (IIIT and $IIIt_{1-5}$ broken off). Relative podomere ratios: I: 60, 70, ?/?/?/?/; II: 65, 82, ?/?/?/?/; III: 64, ?, ?/?/?/?/. **Wing**: R_{2+3} running traight to wing margin; R_{4+5} straight, with gentle curve posteriad on distal 1/5; M with smooth S-shaped curve toward R_{4+5}, and joining wing margin close to R_{4+5}; R_{4+5} and M joining costa anteriad of apex; crossvein m-cu straight, about 3.5 times as long as distance between R_{4+5} and M at wing apex, and 0.5 times as long as distal section of CuA. Lower calypter pale yellow, with fan of yellow setae; halter yellow.

Abdomen: Setae and hairs brown; tergum 1 wholly yellow; tergum 2 yellow, with a metallic green-bronze band posteriorly and a very small yellow anterior margin; terga 3-5 entirely metallic green-bronze, tergum 3 with a small yellow basal band; tergum 6 pale yellow. Postabdomen (Fig. 8).

Male. Unknown.

Distribution. Costa Rica.

Remarks. PARENT (1939) described *Coelinium bicolor* as a male and as the type species of the new genus *Coelinium*. BICKEL (1998) found that the specimen described was a female and transferred it to the newly re-established genus *Dactylomyia*. This action can now be confirmed by examination of the genitalia. Since *Neurigona bicolor* VAN DUZEE also has to be transferred to the genus *Dactylomyia*, the name *bicolor* PARENT becomes a junior secondary homonym. As a result, a replacement name is required for *Dactylomyia bicolor* PARENT and I propose as new name *Dactylomyia parenti* nom. nov.

Genus *Macrodactylomyia* gen. nov.

Type species: *Macrodactylomyia magnicauda* spec. nov. (by present designation)

Diagnosis

Head: Eyes closely approximated on face, almost contiguous; antennal scape short and bare; pedicel short and truncate with first flagellomere; first flagellomere short and triangular; arista dorsal and bare. Vertex straight dorsally between vertical seta and ocellar tubercle; dorsal postcranium flat or slightly concave; postocular setae uniseriate; postvertical setae present; ventral postcranium with long setae; proboscis with a short basoventral seta on each side.
Thorax: Thorax entirely metallic green; posterior slope of mesonotum flattened; ac with 2 rows ending at mesonotal depression; dc consisting of 3 strong setae and 1-2 small reduced setae anteriad, posteriormost 2 pairs longer and bordering mesonotal depression, dc rows restricted posteriad of mesonotal suture; a field of irregular setulae anteriad of dc and anterolaterad of mesonotum; median scutellar setae long and laterals reduced to short setae; lower proepisternum with 4-5 strong setae. **Legs**: All legs mostly yellow and devoid of major setae; male IF modified with a ventral bulbous protrusion; It modified with special hairs or setae, flattening, broadening or projection; claws of It_5 broadened and prolonged; male IIT dorsoventrally flattened; $IIIt_5$ dorsoventrally flattened (all MSSC). **Wing**: Hyaline, with a yellowish tinge; M distinctly bent anteriad close to R_{4+5} and both veins joining wing margin anteriad of wing apex; cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin; CuA weak and present as a vestige on membrane in distal part; A as a vestige on membrane and not reaching wing margin.
Male abdomen: Distinctly longer than thorax; all segments metallic green; apical setae of tergum 1 longer; segment 5 with a short ventral lobe; hypopygium yellow, but base of epandrium brown, semipedunculate (short segment 7 attached to sternum 8); epandrium subtriangular; hypandrium fused basally with epandrium and distal 1/4 free; MEp short, LEp long and broad, projecting forward, with strong setae; VSur broad and partially covering epandrial lobes; DSur with complex apical and median processes; cercus broad and long, projecting forward, with strong setae.

Etymology. *Macrodactylomyia* is a combination of the Greek word 'macros', meaning 'large', and 'dactylomyia'. The gender is feminine.

Remarks. The genus is closely related to *Dactylomyia* through the reduction of dc and the closely approximated eyes on face. However, it is obviously distinct through its large size and the following characters: lower proepisternum with 4-5 strong setae; male hypopygium strongly enlarged with a rectangular projecting cercus bearing strong setae; male IF with a

ventral protrusion. The unknown female can probably be recognised by the group of strong setae on the lower proepisternum.

Macrodactylomyia magnicauda spec. nov.

(Fig. 9a-d)

Material: Holotype male: BRAZIL: Nova Teutonia, 27° 11' S, 52° 23' W, Brazil, 300-500 m, XI.1964, Fritz PLAUMANN / Gen. Prep. SN2000-28, St. NAGLIS 2000 / [red label] *Macrodactylomyia* n. gen. *magnicauda* n. sp., St. NAGLIS 2000. [CNC].

Description

Male. Length: male body length 4.8 mm, wing length 4.5 mm; thorax 1.8 mm, abdomen (segment 1-6) 2.5 mm. Male habitus (Fig. 9a).

Head: Frons and occiput metallic green with bronze and blue reflections, and with dense greyish-brown pruinosity especially laterally along eye margins. A pair of black vertical setae; a pair of long black diverging ocellar setae, 2.0 times as long as verticals; and a pair of short black postvertical setae, 0.5 times as long as verticals; without postocellars. Postocular setae pale yellow, uppermost 5-6 setae black and equal in length to the others. Eyes closely approximated and almost contiguous on face, narrowest distance on face about 1/3 distance between ocellar setae, or 1.5 times the diameter of adjacent anterior facets. Face and clypeus with dense silvery-white pruinosity; frontoclypeal suture distinct. Palp yellow, with a small brown apical seta; proboscis yellow, with a pair of short yellow ventral hairs and a strong brown basoventral seta on each side. Antenna: scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere entirely dark brown, with a yellow stripe at extreme base, 1.6 times as long as wide; arista about 6.0 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: 40/52; ratio of narrowest/widest distance between eyes on face: 4/18; ratio of narrowest/widest distance between eyes on clypeus: 12/22.

Thorax: Mesonotum, scutellum and postnotum metallic green, with bronze reflections and with silvery-white pruinosity, especially on area of mesonotal depression. Pleura concolorous with mesonotum; metepimeron concolorous with pleura. All thoracic setae black with brownish reflections except as noted: ac with 2 rows of 14-16 short brownish setulae, length about equal to distance between rows; dc consisting of 3 strong setae and 1-2 small reduced setae anteriad. Additional strong setae include: 1 pa, 2 sa (anterior smaller), 1 small sr, 2 np, 1 hm, and 1 pm. Lateral scutellar setae about 1/5 length of medians. Lower proepisternum with 4-5 strong pale ppl. **Legs**: Legs mostly yellow; basal 1/10 of IC, entire IIC and basal 1/2 of IIIC, and It_5 dark brown; IIt_{3-5} and IIIT slightly infuscated, and $IIIt_{1-5}$ distinctly infuscated. **I**: IC with 6-8 strong brownish-yellow apical setae and an irregular row of short anterolateral setae; IF with a strong ventral bulbous protrusion at 1/3 bearing several rows of strong av setae, dorsal ones long becoming smaller ventrad, and basal ones yellow becoming black distally, with a field of minute curved spine-like setulae ventrally, and with a posterior row of short setulae; a row of 4-5 fine but distinct posterior subapical setae present (all MSSC); IT slightly broadened and curved; It_1 about as long as It_{2-4}; It_2 broadened with a narrow apical projection reaching forward until middle of It_4 (Fig. 9b), bearing long dense posterior setae, and two long, curved, basally broadened and flattened apical setae; It_3 bulbous; It_4 dorsoventrally flattened with short erect black ventral setae and with a strong black apicoventral spine; It_5 black and dorsoventrally flattened, posterior claw broadened and forming a straight stalk (all MSSC). **II**: IIC with several yellow anterior setae; IIT dorsoventrally flattened, with 3-4 small anterior seta, with 4-5 small posterior setae, and 4 small apical setae. **III**: IIIC with a strong black lateral seta at 1/4; IIIF with a dorsal biseriate row of short yellow setae; IIIT with an irregular row of short brown dorsal setae and with 2 strong downcurved brown apicoventral setae; $IIIt_5$ slightly flat-

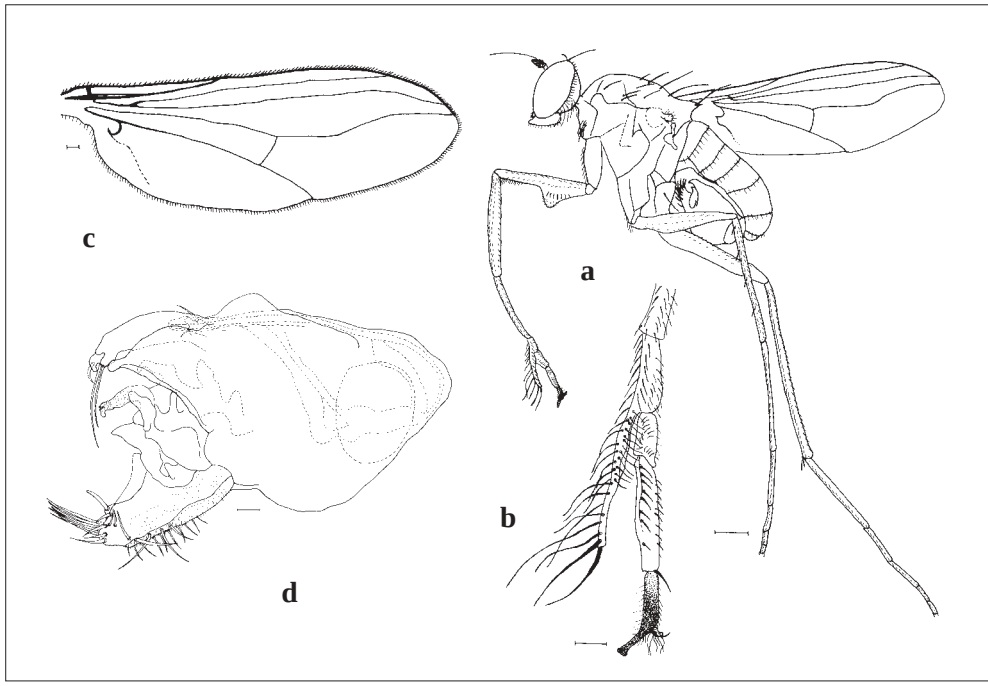


Fig. 9a-d: *Macrodactylomyia magnicauda* spec. nov. **– a**: male habitus, left lateral view (left wing removed); **– b**: male left fore tarsomeres 2-5, posteroventral view; **– c**: male wing; **– d**: male hypopygium, left lateral view. Scale bars: fig. a = 0.5 mm; others = 0.1 mm.

tened dorsoventrally. Relative podomere ratios: I: 55, 61, 36/9(31)/7/15/8; II: 53, 75, 70/25/11/6/5; III: 65, 102, 48/32/17/8/6. **Wing**: (Fig. 9c) R_{2+3} running straight to wing margin; R_{2+3} and R_{4+5} subparallel; R_{4+5} distinctly curved posteriad distally; M straight to 1/3 from cross-vein m-cu, than curved anteriad and becoming straight before wing margin; R_{4+5} and M joining wing margin anteriad of apex and closely approximated at wing margin; posterior cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin, and 0.5 times as long as distal section of CuA. Lower calypter dark brown, with fan of brown setae; halter yellow.
Abdomen: Setae and hairs on dorsum brown or black and on venter yellow; terga 1-6 metallic green with bronze reflections, terga 2 and 3 yellow laterally and ventrally, and terga 2-4 with a lateral spot of white pruinosity; segment 5 with a short ventral lobe bearing short setae; segment 7 and sternum 8 dark brown; base of epandrium dark brown, epandrial lobes, surstylar lobes, and cerci yellow. Hypopygium (Fig. 9d): epandrium subtriangular, basally narrower and laterally compressed; MEp short, with a ventral and an apical seta; LEp broad and long, divided into two apical lobes, median lobe with a strong curved seta and lateral lobe with 2 long slender setae; VSur broad and subtriangular; DSur with a slender u-shaped tapering projection; cercus broad basally, subtriangular, and projecting forward, about half as long as epandrium, with strong setae and a cluster of strong apical setae.

Female. Unknown.

Distribution. Brazil.

Etymology. The name is a combination of the Latin words ‘magnus’ meaning ‘large’ and ‘cauda’ meaning ‘tail’.

Genus *Systenoides* gen. nov.

Type species: *Systenoides paraguayensis* spec. nov. (by present designation)

Diagnosis

Head: Male face broad, eyes distinctly separated on face, female face slightly broader; antennal scape short and bare; pedicel short and truncate with first flagellomere; first flagellomere prolonged, 2.5 times as long as basal width (in both sexes); arista dorsal, inserted at apical 2/3; vertex straight dorsally between vertical seta and ocellar tubercle; dorsal postcranium flat; postocular setae uniseriate; postvertical setae present; ventral postcranium with long setae; proboscis with a basoventral seta on each side.

Thorax: Thorax entirely metallic green; posterior slope of mesonotum flattened; ac with 2 rows ending at mesonotal depression; dc consisting of 2 strong setae and 2-3 reduced setae anteriad, posteriormost 2 pairs bordering mesonotal depression, dc rows restricted posteriad of mesonotal suture; with a field of irregular setulae anteriad of dc and anterolaterad of mesonotum; median scutellar setae long, laterals reduced to a tiny hair: lower proepisternum with 2 strong setae. **Legs**: All legs yellow and devoid of major setae; male It unmodified.

Wing: Hyaline, with a yellowish tinge; M distinctly bent anteriad close to R_{4+5} and both veins joining costa anteriad of apex; cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin; CuA weak and present as a vestige on membrane in distal part; A as a vestige on membrane and not reaching wing margin.

Male abdomen: Longer than thorax; all segments metallic green; apical setae of tergum 1 much longer; segment 7 forming a long peduncle which is about as long as epandrium; hypopygium yellow; epandrium ovate; hypandrium fused basally to epandrium and distal 1/5 free; MEp and LEp present; surstylus divided into dorsal and ventral lobes, VSur triangular, DSur tapering; cercus strongly elongated; both cerci fused basally.

Female abdomen: Blunt apically; sternum 8 short and rounded, setose; terga 9+10 fused, short and rounded, with long setae; cercus short and rounded, separated from terga 9+10, with several ventral setae and a long downcurved ventral seta.

Etymology. The name refers to the similarity with the genus *Systenus* LOEW.

Remarks. The habitus of *Systenoides* shows great similarity to the medeterine genus *Systenus*, but it differs from *Systenus* by the following characters (characters of *Systenus* in brackets): first flagellomere prolonged in males and females (dimorphically prolonged in males only); arista dorsal (apical); 2 strong dc and 2-3 short reduced dc anteriad present (6 strong dc present); male hypopygium with surstylus divided into dorsal and ventral lobes (surstylus not divided); female oviscapt with terga 9+10 with short hairs (terga 9+10 with 4 spines). *Systenoides* clearly belongs to the tribe Dactylomyiini and is separated from the other genera of the tribe by the striking male segment 7, which forms an elongated peduncle, and by the obviously prolonged first flagellomere in both sexes.

Systenoides paraguayensis spec. nov.

(Fig. 10a-c)

Material: Holotype male: PARAGUAY: Paraguay, Asuncion, 7-14. Oct. 1980, D. C. LOWRIE / Gen. Prep. No. SN2001-3, St. NAGLIS / [red label] Holotype *Systenoides* n. gen. *paraguayensis* n. sp., St. NAGLIS det. 2001. [USNM]. **Paratypes:** PARAGUAY: 1 female: Paraguay, Aregua, 20 mi. E. of Asuncion, 24 Sept. 1980, D. C. LOWRIE / Gen. Prep. No. SN2001-4, St. NAGLIS 2001. 1 female: Paraguay, Asuncion, 3-7. Oct. 1980, D. C. LOWRIE. [all USNM]. All specimens have an additional red label: Paratype *Systenoides* n. gen. *paraguayensis* n. sp., St. NAGLIS det. 2001.

Description

Male. Length: male: holotype body length 2.3 mm, wing length 2.3 mm; thorax 0.92 mm, abdomen (segment 1-6) 1.23 mm. Paratypes females: body length: 2.7-3.1 mm.

Head: Frons and occiput metallic green, with greyish pruinosity. A pair of short brown vertical setae; a pair of brown long diverging ocellar setae, 3.0 times as long as verticals; and a pair of short pale postvertical setae as long as verticals present. Postocular setae pale yellow. Eyes distinctly separated on face, narrowest distance equal to distance between ocellar setae. Face and clypeus with dense greyish pruinosity. Palp yellow, with a strong brown apical seta; proboscis brownish-yellow. Antenna (Fig. 10a): scape and pedicel yellow, pedicel with a circlet of short brown setae; first flagellomere dark brown with a yellow basal stripe, broad and prolonged, 2.5 times as long as basal width (in both sexes); arista almost subapical, about 2 times as long as first flagellomere. Ratio of narrowest/widest distance between eyes on frons: ??/?? (shrunken during drying); ratio of narrowest/widest distance between eyes on face: 10/12; ratio of narrowest/widest distance between eyes on clypeus: 12/16.

Thorax: Mesonotum, scutellum and postnotum metallic green with bronze reflections and with greyish pruinosity. Pleura concolorous with mesonotum; metepimeron yellow. All thoracic setae brownish yellow: ac with 2 rows of 12-14 short setulae, length equal to about distance between rows; dc consisting of 2 strong setae and 2-3 smaller reduced setae anteriad. Additional strong setae include: 1 pa, 2 sa, 1 small sr, 2 np, 1 hm, and 1 pm. **Legs**: All legs yellow, except IIC which is slightly infuscated at extreme base where it is concolorous with pleura. **I**: IC with several strong brown apical and 3 anterolateral setae; IT and It_{1-5} devoid of setae or modifications. **II**: IIC with several anterior brown setae; IIT slightly flattened dorsoventrally (MSSC), with short ad setulae at 1/5, 1/3, and 2/3, and with short apical setulae. **III**: IIIC with a strong brown lateral seta at 1/5; IIIT with several short dorsal setulae. Relative podomere ratios: I: 55, 59, 41/26/14/10/7; II: 56, 66, 63/30/15/10/7; III: 64, 89, 42/38/21/14/7.

Wing: R_{2+3} straight to costa; R_{4+5} weakly curved posteriad before wing margin; M s-shaped and curved posteriad near wing margin; R_{4+5} and M joining costa anteriad of apex and closely approximated at wing margin; posterior cross-vein m-cu about 3 times as long as distance between R_{4+5} and M at wing margin, and 0.3 times as long as distal section of CuA. Lower calypter pale yellow, with fan of pale yellow setae; halter yellow.

Abdomen: Setae on dorsum brown and on venter yellow; terga 1-7 dark metallic bronze green and highly glossy, tergum 2 with a yellow posterior band, sternum 8 entirely yellow; segment 5 without ventral projection; segment 7 forming an unusual long peduncle which is about as long as epandrium; hypopygium wholly yellow, except tip of epandrial lobes and tip of cercus which are black. Hypopygium (Fig. 10b): epandrium ovate; hypandrium very short and narrow; MEp short with a strong seta; LEp long and broad, with a strong short and a strong very long dorsoapical seta; VSur narrow and triangular; DSur elliptical and tapering apically; cerci fused in basal 1/3, subtriangular, strongly elongated apically and as long as surstyli, ventral setae consisting of one very long and one apically furcate seta.

Female. Similar to male but without MSSC and as noted: face distinctly broader, narrowest distance between eyes about 2 times the distance between ocellar setae. Ratio of narrowest/widest distance between eyes on frons: 38/47; ratio of narrowest/widest distance between eyes on face: 20/27; ratio of narrowest/widest distance between eyes on clypeus: 22/34. First flagellomere also 2.5 times as long as basal width; arista 2.5 times as long as first flagellomere. Podomere ratios as: I: 49, 52, 33/20/12/7/6; II: 53, 60, 49/24/15/10/6; III: 58, 82, 30/30/18/10/6. Abdomen: terga 1-6 dark metallic bronze shiny, venter yellow; tergum 1 laterally and on anterior border yellow; tergum 2 with a broad middorsal yellow spot; tergum 3 with a small posterior yellow spot. Postabdomen (Fig. 10c).

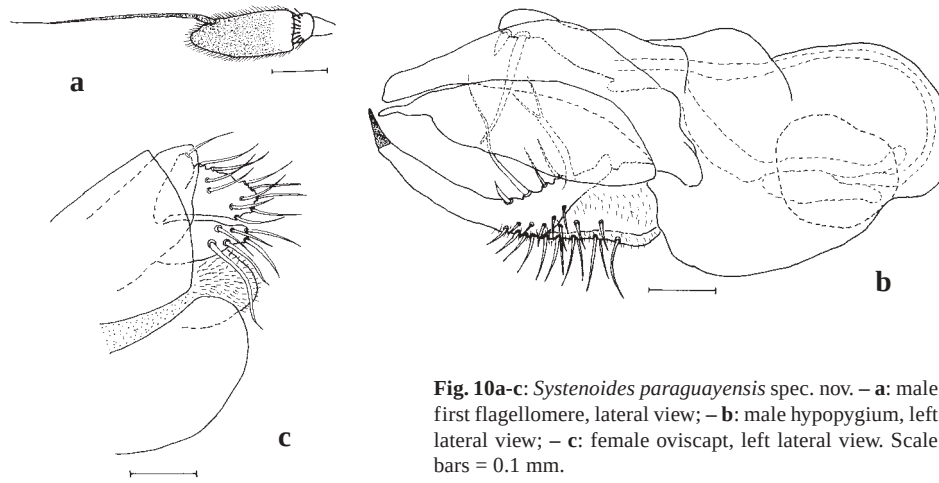


Fig. 10a-c: *Systenoides paraguayensis* spec. nov. **– a**: male first flagellomere, lateral view; **– b**: male hypopygium, left lateral view; **– c**: female oviscapt, left lateral view. Scale bars = 0.1 mm.

Distribution. Paraguay.

Etymology. The name is derived from Paraguay, the country where the type specimens were collected.

Phylogenetic Analysis of the Genera

The tribe Dactylomyiini as here defined comprises the genera *Argentinia*, *Dactylomyia*, *Macrodactylomyia* and *Systenoides*, and forms a monophyletic group within the Neurigoninae. The characters used for the phylogenetic analysis of the tribe are described below.

Character states used for phylogenetic analysis and their polarity for the genera of the Dactylomyiini

The following list includes the apomorphic character states used for the phylogenetic analysis of the tribe Dactylomyiini. The plesiomorphic character states have been used to define a hypothetical ancestral ground-plan of the Neurigoninae.
The phylogenetic characters are defined in the following format:
n) *character*: plesiomorphic (ancestral) state / **apomorphic (derived) state**

Head:
1) *shape of first flagellomere*: as long as basal width / **prolonged and 2.5 times as long as basal width**

Thorax:
2) *dorsocentral setae (dc)*: consisting of 6-7 pairs of strong setae, decreasing in size anteriad and extended anteriad of mesonotal suture / **consisting of 2 or 3 pairs strong setae and 0-3 smaller reduced setae anteriad, restricted posteriad of mesonotal suture**
3) *lower proepisternum*: with 2 strong setae / **with 4-5 strong setae**

Legs:
4) *chaetotaxy of IIT and IIIT*: bearing major setae / **major setae lost**
5) *male IF*: of normal shape / **with a strong ventral bulbous protrusion bearing special setae**
6) *male It*: unmodified / **modified with special hairs, setae, appendages or expansions (MSSC)**

7) *male claws of fore leg*: normal and both equal in length / **anterior or posterior claw modified or reduced (MSSC)**

Wing: 8) *wing vein M*: straight or with a weak flexion in distal half, joining costa posteriad of apex or at apex / **s-shaped and joining costa anteriad of apex close to vein R_{4+5}**

9) *distance between wing veins R_{4+5} and M at wing margin*: more than half length of cross-vein (m-cu) / **at most half length of cross-vein (m-cu)**

Abdomen: 10) *shape of male abdominal segment 7*: a short peduncle / **an elongate peduncle**

11) *colour of male hypopygium*: brown or black / **mainly yellow**

12) *shape of male hypopygium*: relatively small and reaching forward to at most abdominal segment 4 / **greatly enlarged and reaching forward to abdominal segment 2**

13) *male cercus*: without median cercal appendage / **with a median cercal appendage (hypoproct)**

14) *male cerci*: basally free / **basally fused**

15) *shape of male cercus*: short and rounded / **narrow and ribbon-like**

16) *shape of male cercus*: short and rounded / **subtriangular, broad, and projecting forward**

17) *male epandrial lobes*: free from surstylus / **LEp basally fused to VSur**

18) *female terga 9+10*: prolonged and tapering / **blunt and rounded**

19) *female cercus:* fused to terga 9+10 and digitiform / **free from terga 9+10 and rounded**

Discussion

A cladogram of the tribe Dactylomyiini is given in Fig. 11. The tribe forms a monophyletic group and is considered here as derived from a hypothetical phylogenetic ground plan of the Neurigoninae. The characters 4) 8) 9) 11) 18) and 19) are apomorphic conditions of the Dactylomyiini which define the monophyly of the tribe. The apomorphies 6) and 7) are present in all genera except *Argentinia* and *Systenoides* where they were probably lost, but these characters are also homoplastic with other neurigonine genera. The close relationship of *Dactylomyia*, *Macrodactylomyia* and *Systenoides* is indicated by synapomorphy 2). This condition, the reduction of the anterior dc, has evolved independently in the tribe Coeloglutini (NAGLIS 2001) and in other neurigonine genera (NAGLIS, in prep.) and seems to be a general tendency within

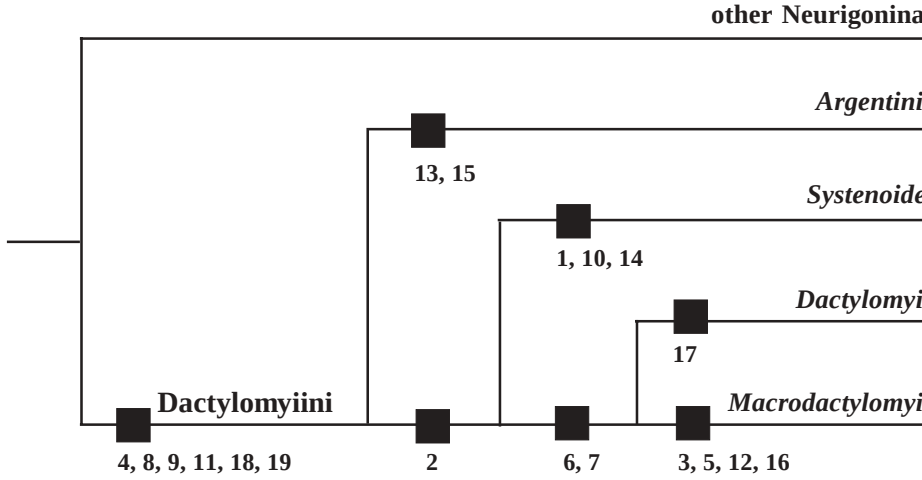


Fig. 11: Cladogram of the tribe Dactylomyiini. The numbers refer to the apomorphic character states discussed in the Phylogenetic Analysis. ■ = autapomorphic character.

the Neurigoninae. *Dactylomyia* has the strong apomorphy 17). *Macrodactylomyia* is defined by the autapomorphies 3) 5) 12) and 16). *Argentinia* is regarded here as the more ancestral clade as it lacks the strong apomorphy 2), and it is defined by the autapomorphies 13) and 15). *Systenoides* has the strong autapomorphic character states 1) 10 and 14), of which character state 10), the elongated abdominal segment 7, is unique within the Dactylomyiini and probably represents a reversal, but it is also present in other Neurigoninae and in the Medeterinae.

Summary of new taxa

Dactylomyiini new tribe
Macrodactylomyia gen. nov.
Systenoides gen. nov.
Argentinia bickeli spec. nov.
Dactylomyia mexicana spec. nov.
Macrodactylomyia magnicauda spec. nov.
Systenoides paraguayensis spec. nov.

Summary of taxonomic chances

Dactylomyia bicolor (VAN DUZEE, 1933) comb. nov. (*Neurigona*)
Dactylomyia coruscans (PARENT, 1928) comb. nov. (*Neurigona*)
Dactylomyia decora (ALDRICH, 1902) comb. nov. (*Neurigona),* neotype designated
Dactylomyia lateralis (SAY, 1829) (*Medeterus*), neotype designated
Dactylomyia parenti nom. nov. for *Dactylomyia bicolor* (PARENT, 1939) (*Coelinium*)
Argentinia unicolor (PARENT, 1939) comb. nov. (*Coelinium*)
Notobothrus PARENT, 1931 transferred to Peloropeodinae

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