Revision of the Neotropical Exoristini (Diptera, Tachinidae): The status of the genera Epiplagiops and Tetragrapha

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ABSTRACT. The monotypic genera Epiplagiops Blanchard, 1943 and Tetragrapha Brauer and Bergenstamm, 1891 are revised. Both are invalidated and synonymized with Chetogena Rondani, 1856. Their type-species, Epiplagiops littoralis Blanchard, 1943 and Tetragrapha tessellata Brauer and Bergenstamm, 1891, are studied, redescribed, illustrated, and transferred to Chetogena. A lectotype is designated for T. tessellata.

Key Words: Chetogena, Exoristinae, synonymy, combination, taxonomy

The Neotropical fauna of Tachinidae is known for being composed by many endemic, monotypic genera. The number of genera represented by only one species is difficult to estimate, and a detailed revision of them is urgently needed. Even though most of these genera are monotypic because the family is poorly studied, as evidenced by the several dozens of drawers of undescribed Neotropical species in collections around the world, it is possible that quite a few are actually represented by the only remnant of a larger ancient lineage. The artificial splitting of genera based on subtle differences, which are insignificant at any supra-specific level, may also have contributed to this situation, as very often genera are found not to be valid when their species are carefully studied and compared with species classified in allied genera.

The Neotropical tribe Exoristini includes 9 genera and 35 species. Five genera are monotypic: Austrophorocera Townsend, 1916 (06 species distributed throughout the Neotropical region), Chetogena Rondani, 1856 (22 species, widespread in the Neotropics), Epiplagiops Blanchard, 1943 (monotypic, Argentina/Uruguay), Macrohoughiopsis Townsend, 1927 (monotypic, Brazil), Metaphorocera Thompson, 1968 (monotypic, Trinidad), Parasetigena Brauer and Bergenstamm, 1891 (01 species, Chile), Stomatotachina Townsend, 1931 (monotypic, Chile), Tachinomyia Townsend, 1892 (01 species, Mexico), and Tetragrapha Brauer and Bergenstamm, 1891 (monotypic, Cuba).

In this article, I had the opportunity to study material of two of the monotypic genera classified in Exoristini: Epiplagiops and Tetragrapha. Epiplagiops was erected by Blanchard (1943) to include his new species, Epiplagiops littoralis, from material reared from Listeroderes obliquus Klug. (Cercoelyidae) and collected in Santa Fé, Argentina. Tetragrapha was erected by Brauer and Bergenstamm (1891) for the new species Tetragrapha tessellata, described based on specimens from Cuba. The species was later redescribed by Aldrich and Webber (1924), who placed it within the subgenus Parasetigena (no longer recognized) of Phorocera. However, Tetragrapha was considered valid by Townsend (1936) and also in the Neotropical Catalog of Guimarães (1971).

In this article, I present evidence based on a detailed morphological study of E. littoralis and T. tessellata that both species belong to Chetogena. I also redescribe both species (including the male terminalia, with illustrations) and discuss the status of Epiplagiops and Tetragrapha.

Results

Epiplagiops Blanchard, 1943. Epiplagiops Blanchard 1943: 450. Type-species: E. littoralis Blanchard, by original designation. Guimarães 1971: 158 (catalog); Ward et al. 1977: 35 (insect–plant catalog); Arnaud 1978: 200 (host–parasite catalog); O’Hara 2011: 23 (check list).

Status: Invalid name; junior synonym of Chetogena Rondani, 1856. Syn. nov.

Chetogena littoralis (Blanchard, 1943), comb. nov. (Figs. 1–6). E. littoralis Blanchard 1943: 451 (male and female description), 450 (host record), figs. a–e (male terminalia, abdominal sternites I–V, palpus). Syntypes, one male and three females (Museo Argentino de Ciencias Naturales “Bernardino Rivadavia,” Buenos Aires see Mulieri et al. 2013: 166) (not examined). Type locality: Argentina, Santa Fé. Distribution: Argentina, Uruguay, southern USA (introduced).

E. littoralis, Compere 1946: 671 (host record, USA); Parker et al. 1951: 13, 16, 19, 25 (immature stages, biology, host record, Argentina, Uruguay); Sabrosky and Arnaud 1965: 1053 (catalog, comments); Guimarães 1971: 158 (catalog); Guimarães 1977: 11, 95, 96, 101 (host–parasite catalog); Ward et al. 1977: 35 (catalog of insects associated to Propopis-Fabaceae); Arnaud 1978: 22, 200 (host–parasite catalog); Mulieri et al. 2013: 166 (syntypes data and location).

Redescription.

Male. Body length: 6.48 mm (6.2–6.7 mm), wing length: 4.9 mm (4.8–5.0 mm) (n = 4).

Coloration: Frontal vitta dark brown; face, parafacial, and gena blackish with silver pruinosity; fronto-orbital plate blackish with...
ferrugineous golden pruinosity. Antenna black with scape and pedicel orange to light brown. Palpus yellow, with basal third slightly darker; proboscis dark brown. Thorax dark brown with silver pruinosity; scutum with lateral margins silver pruinose from humeral to postalar callos, and three silver pruinose stripes (alternated by four dark brown stripes), two lateral on dorsocentral rows and one median on acrostichal rows; median stripe golden pruinose after suture and toward scutellum; scutellum dark brown but becoming lighter and then reddish at apex. Wing hyaline; calypters white; halter brown, knob dark brown. Legs dark brown, with silver pruinosity on coxa and femora. Abdomen dark brown with lateral margins of tergites 1 + 2 and 3 reddish; with silver pruinosity on basal half of tergites 3 and 4, rather weak laterally and with dark brown median line on all tergites; tergite 5 dark brown with golden pruinosity on basal half (Fig. 1).

Head: Eye densely setulose, setulae slightly longer than width of arista. Six pairs of frontal setae, three below base of antenna. Two reclinate frontal setae, anterior seta stronger. Inner vertical setae strong, parallel, and slightly reclinate; outer vertical setae divergent, very weak and eventually undistinguishable from adjacent postocular setae. Fronto-orbital plate with fine pale-colored setulae from vertex (more densely) almost reaching lowermost frontal seta. Fronto-orbital plate as wide as parafacial and frontal vitta. Facial ridge with stout and erect setae almost reaching level of insertion of arista. Parafacial bare. Postpedicel 3.5X longer than pedicel, almost reaching level of vibrissa, and with margins parallel with the same width from base to apex; arista about 1.1–1.2X length of postpedicel and abruptly narrowing at the middle. Lower facial margin weakly warped forwards. Oral margin axis about 0.6 length of antennal axis. Vibrissa strong, inserted at the level of the lower facial margin. Gena height about 1/4 eye height. Genal dilation covered by fine black setulae. No black setulae posterior to gena height about 0.6 length of antennal axis. Vibrissa strong, inserted at the level of vertex almost to lowermost frontal seta. Fronto-orbital plate wider than parafacial and as wide as frontal vitta. Postpedicel 3X the length of pedicel.

Material examined: URUGUAY, 1 male and 1 female, 5.xi.1957, Frank Wilson leg. (BMNH). ARGENTINA, Santa Fé, 1 male and 1 female, 3.xi.1943, Parker & Silvera leg. (ex. Listroderes, in Montevideo, Paras. Lab) (BMNH); Santa Fé, 1 female, 29.x.1942, no collector (MZSP); Buenos Aires, Moreno, 3 males, xii.1970, M. Fritz leg. (MZSP); “Argentina, S.A.” 1 male, x.1943, F. Parker leg. (MZSP).

Hosts: Coleoptera-Curculionidae: L. obliquus Klug. (Blanchard, 1843), Conotrachelus submelanosus (Parkar et al. 1951, Guimaraes 1977), Listroderes costrostriatus obliquus (Compere 1946, Parker et al. 1951, Guimaraes 1977, Arnaud 1978), Listroderes sp. (Parkar et al. 1951, Guimaraes 1977); Coleoptera-Chrysomelidae: Calligrapha polymorpha (Parkar et al. 1951, Guimaraes 1977).

Tetragrapha Brauer and Bergenstamm, 1891. Tetragrapha Brauer and Bergenstamm 1891: 351 (1891: 47). Type-species: T. tessellata Brauer and Bergenstamm, by monotypy. Coquillet 1910: 613 (list); Aldrich and Webber 1924: 61 (redescription of tesselata); Townsend 1936: 120 (key to Exoristini genera); Townsend 1940: 171 (diagnosis); Guimaraes 1977: 160 (catalog); O’Hara 2011: 62 (check-list).

Status: Invalid name; junior synonym of Chetogena Rondani, 1856. Syn. nov.

Chetogena tessellata (Brauer and Bergenstamm, 1891), comb. nov. (Figs. 7–11). T. tessellata Brauer and Bergenstamm 1891: 351 (1891: 47) (male description). Lectotype male (NMW) (designated here). Type-locality: Cuba. Distribution: Cuba.

Phorocera (Parasetigena) tessellata; Aldrich and Webber 1924: 47, 51, 61 (key, examination of type, redescription of male).

T. tessellata; Aldrich 1905: 471 (catalog); Coquillet 1910: 613 (list); Townsend 1931: 172 (data on type), Guimaraes 1971: 160 (catalog).

Redescription.

Male. Body length: 8.2 mm, wing length: 6.6 mm (lectotype)

Coloration: Frontal vitta dark brown to black; face and parafacial silver pruinose; fronto-orbital plate faint golden pruinose. Antenna black. Palpus yellow, with basal third dark brown; proboscis dark brown. Thorax dark brown to black with silver pruinosity; scutum with lateral margins silver pruinose from humeral to postalar callos, and three silver pruinose stripes alternated by black stripes (faint golden pruinose in paraleptotype), two lateral on dorsocentral rows and one median on acrostichal rows. Wing hyaline; calypters white; halter brown, knob dark brown. Legs dark brown. Abdomen dark brown but reddish on lateral margins of tergites 1 + 2 with remarkable black median band at middle of abdomen, and conspicuous pattern of silver pruinosity (Fig. 7).

Head: Eye densely short setulose. Six to seven pairs of frontal setae, three below base of antenna. Two reclinate frontal setae. Fronto-orbital plate with sparse fine and short setulae starting on vertex and hardly...
Figs. 1–11. *Chetogena littoralis* (Blanchard): 1, female abdomen, dorsal view; 2, female mid tibia right, anterior view; 3, male sternite 5, dorsal view; 4, male terminalia, lateral view; 5, male terminalia, posterior view; 6, aedeagus, lateral view. *Chetogena tessellata* (Brauer and Bergenstamm): 7, male abdomen, dorsal view; 8, male sternite 5, dorsal view; 9, male terminalia, lateral view; 10, male terminalia, posterior view; 11, aedeagus, lateral view (Figs. 7–11 from male paralectotype). (Scale bars: Figs. 1, 2, 7: 1 mm; Figs. 3–6, 8–11: 0.5 mm.)
reaching level of lunula. Fronto-orbital plate as wide as parafacial and fronto vitta (paralecotype with fronto-orbital plate slightly wider than vitta). No black setulae behind postocular setae, only the usual white setulae. Facial ridge with stout and erect setae almost reaching level of insertion of arista. Parafacial bare. Postpedicel 2.6x longer than pedicel, and rather slender, very slightly wider at apex than at base; arista elongated and slender, abruptly narrowing at middle and about 1.3x length of postpedicel. Lower facial margin weakly warped forwards. Oral margin axis about 0.8 length of antennal axis. Vibrissa strong, inserted at the level of lower facial margin. Gena height about 1/5 eye height. Genal dilation covered by fine black setulae. Palpus filiform, curved but not enlarged to apex; labella developed, half length of prementum, the latter subequal to palpus in length.

Thorax: A. Acrostichals 3 + 3. Dorsocentraals 3 + 4. Postthorumerals 2, aligned with intralar row, posterior seta stronger and anterior located lateral to humerals. Presuturals 2, one inner and more anterior, another outer (aligned with supra-alars) and stronger. Humerals 4, three aligned lateral to humerals. Presutural one 2, one inner and more anterior, another aligned with intralar row, posterior seta stronger and anterior located two lateral and one apical pairs of setae; no discals. Katepimeron (barette) setulose anteriorly. Scutellum with one basal, Cu A1 shorter than half of preceding section; and preceding section of vein with fold on membrane beyond the bend; posterior section of Cu A1 as long as section of M from base until to the bend.

Legs: (Fore legs of lectotype missing, examined in the paralecotype) Fore tibia with anterodorsal row of short setae, basal setae stronger; 2 posterior setae, submedian stronger. Mid femur with 3 anterior setae on median third; row of anteroventral fine setae, longer at basal half and with very long submedian seta; 3 oblique preapical setae on posterior-posterodorsal surface; posteroventral row of fine setae, longer on basal 1/2. Mid tibia with 2 strong anterodorsal (the lower one longer), 2 postero- dorsals (the lower one longer), and one strong subventral ventral seta. Hind tibia bearing anterodorsal row of short setae (of variable sizes) but two strong medial setae on midsection and on basal third; with 3–4 anteroventral setae (the lowermost longer); and one posterodorsal row on basal 2/3, with two strong setae on median third (the lowermost longer).

Abdomen: Tergite 1 + 2 with pair of median marginal setae and two or three lateral marginal pairs. Tergite 3 with one median and two lateral marginal pairs of setae. Tergite 4 bearing marginal row of setae. Tergite 5 with discal and marginal rows. Tergites covering sternites. Terminalia (Figs. 8–11): Sternite 5 M-shaped, posterior processes well developed (Fig. 8). Cercal plate elongate and well attached to each other along midline, tapering toward apex (Fig. 10), in profile curved inward (Fig. 9), basal two-thirds with dense fine and long setulae. Surstyli with broad and robust base that contrasts with reduced, delicate apex (Figs. 9 and 10). Pregonite directed posteriorly and strongly setulose; postgonite curved downward and pointed apically (Fig. 11). Distiphallus robust, anterior plate with spinulae on apex (Fig. 11). Epiphallus curved ventrally (Fig. 11).

Female: Unknown
Hosts: No records

Type-material examined: Lectotype male (NMW), by present designation, labeled “Cuba,” “tessellata/det. B. B.”; “Tetragrapha/tessellata Br. Bgst./Type”; “LECTOTYPE 5/Tetragrapha/tessellata B & B/designed 1982/D. M. Wood”; “LECTOTYPE 5/Tetragrapha tessellata/Brauer & Bergenstamm/S.S. Nihei des. 2006” (added herewith). The lectotype missing the forelegs, whereas the parlectotype missing right foreleg and right hind tibia and tarsus, and thorax damaged around the pinned portion. The paralecotype was dissected and the terminalia was illustrated.

Lectotype designation. The two type specimens examined here are labeled by D.M. Wood as lectotype and paralecotype (labels dated by 1982); that designation possibly follows Townsend (1931: 172), who considered the specimen from Cuba as the “holotype” [sic]. Aldrich and Webber (1924) mentioned that the “type” had been deposited at the USNM but Townsend (1931) corrected the location of the type as being the NMW. I herein designate the Cuban specimen formerly labeled by Wood as the lectotype.

Comments. Townsend (1927: 261) mentioned the occurrence of Tetragrapha in Brazil but did not give an exact locality for it. I have not found Tetragrapha among insect material collected in Brazil or throughout South America.

Discussion

Previous authors had already questioned the generic status of Epiplagioptes and Tetragrapha. According to Sabrosky and Arnaud (1965: 1053), it is possible that Epiplagioptes is synonym with the “Euphorocera-Stomatomyia complex,” which is currently included in Chetogena. Aldrich and Weber (1924: 61) redescribed T. tessellata in Phorocera, subgenus Parasethigena, and observed that the species resembles Phorocera claripennis Macquart (now in Chetogena), whereas Aldrich (1924: 215) argued that it could not possibly be in a separated genus from that species.

The detailed morphological study of material representative of both E. littoralis and T. tessellata revealed that they belong to Chetogena. Several characters support this nomenclatural proposal, as follows: facial ridge with stout and erect setae almost reaching the level of insertion of the arista; lower facial margin only weakly warped forwards; palpus filiform; without black setulae behind the postocular setae, only the usual white setulae; M vein with a fold on membrane beyond the bend; posterior section of Cu A1 shorter than half of the preceding section; preceding section of Cu A1 as long as section of M from base until to the bend; and shape of cercal plate and surstyli.

Recently, Prospalaea Aldrich, 1925, formerly placed in the Exoristini, was transferred to Erycini (Nihei 2006). With the present contribution, three monotypic genera still remain to be studied: Macrohoughiopsis, Metaphorocera, and Stomatotachina.

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