THE AMERICAN GENERA OF ASILIDAE (DIPTERA): KEYS FOR IDENTIFICATION WITH AN ATLAS OF FEMALE SPERMATHECAE AND OTHER MORPHOLOGICAL DETAILS. IX.2. SUBFAMILY ASILINAE LEACH - EFFERIA -GROUP, WITH THE PROPOSAL OF FIVE NEW GENERA AND A CATALOGUE OF THE NEOTROPICAL SPECIES

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ABSTRACT

A key is given for the identification of the 11 American genera of the Efferia-group of Asilinae (Asilidae), also a catalogue of the neotropical species. The following genera are proposed as new: Albibarbefferia (type-species, Erax albibiwbis Macquart, 1838); Arideaferia (type-species, Erax aridus Williston, 1893); Carineferia (type-species, Erax carinatus Bellardi, 1861); Pogoniefferia (type-species, Asilus pogonias Wiedemann, 1821); and Tuberculefferia (type-species, Erax tuberculusa Coquillett, 1904).

Keywords: America, Asilidae, Efferia, Albibarbefferia, gen.n., Arideaferia, gen.n., Carineferia, gen.n., Pogoniefferia, gen.n., Tuberculefferia, gen.n., Neotropic. Taxonomy, Morphology, Catalogue.

INTRODUCTION

This is the part IX.2 of a series of papers intended as a preliminary effort to define the American genera of Asilidae, describing the new genera, preparatory to the elaboration of a catalogue of Neotropical species for inclusion in the forthcoming World Catalogue of Flies, now being prepared by the U.S. Department of Agriculture and U.S. National Museum of Natural History, Washington D.C.

Previous parts in this series (published and in press) are:

Part I (Key to subfamilies, subfamily Leptogastrinae): Gayana, Zool. 52(1-2): 95-114, 1988;
Part II (Dasypogoninae): Gayana, Zool. 52(3-4): 199-260, 1988;


Part VII.1 (Stenopogoninae, key to tribes):
Gayana, Zool. 55(2): 139-144, 1991;


Part VII.3 (Stenopogoninae, Tribes Dioctriini and Echthodopini): Gayana, Zool. 55(4):
261-266, 1992;

MATERIAL AND METHODS

The material used in this series belongs mainly to the Museu de Zoologia da Universidade de São Paulo, Brazil (MZUSP) and to the Departamento de Zoologia, Universidad de Concepción, Chile (UCC).

The methodology employed in the dissection and preservation of the male terminalia, female spermathecae and other morphological parts is the same employed by Artigas (1971).

List of abbreviations:

AMNH: American Museum of Natural History, New York
BMNH: British Museum (Natural History), London
CMNH: Field Museum of Natural History, Chicago
COR: Cornell University, Ithaca, N.Y.
FRAN: Senckenbergische Naturforschende Gesellschaft, Natur-Museum und Forschungs-institut, Frankfurt
HT: Holotype
KU: Snow Collection, Kansas University, Lawrence
MNHN: Museum National d'Histoire Naturelle, Paris
MZUSP: Museu de Zoologia, Universidade de São Paulo
NT: Neotype
OHIO: Ohio State University, Columbus, Ohio
OXF: Hope Department of Entomology, Oxford University, Oxford
SANT: Museo Nacional de Historia Natural, Santiago de Chile
ST: Synotype
TORO: Istituto e Museo di Zoologia, Università di Torino, Turin
TP: Type(s)
UCC: Colecciones Científicas, Universidad de Concepción
WASH: Washington State University, Pullman, Wash.
WIEN: Naturhistorisches Museum, Zoologische Sammlungen, Vienna

EFFERIA-GROUP

Key to the American genera:

1. Fork of R₄ and R₅ much or just before apex of discal cell. R₅ ends above wing apex. Mesonotum anteriorly either with short hairs (or, if long, not bristle-like), or with bristles or bristle-like hairs as long as or longer as scape and pedicel together. Male abdomen either greyish pollinose and frequently with long, parted hairs, or with tergites 2-5 blackish basally, without parted hairs and segments 6-7 white pollinose. Ovipositor either rounded at tip, not split in dorsal view, or pointed and split at tip in dorsal view. (Nearctic)..............Pogoniefferia, gen.n.

Fork of R₄ and R₅ opposite to or beyond apex of discal cell. R₅ ends at, below, or above, wing apex. Other combinations of characters ........................................2

2(1). Apical half of scutellum with many long, black bristles, disc with many long hairs, often similar to bristles. R₅ ends above wing apex. Male terminalia not compressed, epandria with deep apical excision, no

\[Cratolestes\] Hull, 1962

Two to twelve marginal scutellar bristles; scutellum never as above. R\(_5\) ends at, below, or above wing apex. Other combinations of characters. Not occurring in Chile......................................................3

3(2). Ocellar tubercle without bristles, only short hairs present. Male hypandrium produced. Female ovipositor conical (Figs. 9-10). Spermathecae as in Fig. 11. Length, 20-25 mm. (USA to Guatemala, Panama and Surinam to Paraguay)........

...........................................................................\[Triorla\] Parks, 1968

Ocellar tubercle with bristles. Other combinations of characters ............4

4(3). Vein R\(_4\) ends in C. far from R\(_1\), i.e., first submarginal cell open. R\(_3\) ends at, below, or above wing apex .............5

Vein R\(_4\) ends in R\(_1\), i.e., first submarginal cell closed and petiolate. R\(_3\) ends above wing apex. Anatergite bare or pilose. (Venezuela, Colombia, Peru).........................

.........................\[Diplosynapsis\] Enderlein, 1914

5(4). Anatergite bare. R\(_5\) ends above or below wing apex.................................6

Anatergite pilose. Costal section between tip of R\(_5\) and tip of M\(_1\) larger than costal section between tips of R\(_4\) and R\(_5\), i.e., R\(_3\) ends at or above wing apex (South America, but not in Chile)..........................

.................................\[Porasilus\] Curran, 1934

6(5). R\(_5\) curves backwards at the tip and meets the Costa below the apex of wing, i.e., costal section between tip of R\(_5\) and tip of M\(_1\) shorter than costal section between tips of R\(_1\) and R\(_5\) (Americas, but not in Chile)

...........................................................................\[Nerax\] Hull, 1962

R\(_5\) curved forward, meeting the Costa above the apex of wing, i.e., costal section between tip of R\(_5\) and tip of M\(_1\) larger than costal section between tips of R\(_1\) and R\(_5\)..........................................................7

7(6). Wing with only 2 submarginal cells.................8

Wing with submarginal cells, i.e., an extra vein arises in R\(_4\) near its junction with R\(_5\), which unites R\(_4\) with R\(_2\) (Narctic)..............................................................................\[Efferia\] Coquillett, 1893

8(7). Mesonotum compressed laterally and the mid-dorsal line with a narrow crest of long hairs or bristles (Narctic)..........................

.................................................................\[Carinefferia\], gen.n.

Mesonotum not compressed laterally, hairs anteriorly usually short, but if long not covering the dorsocentral as well as the central row .........................................................9

9(8). Mesonotum anteriorly with numerous erect hairs as long as scape and pedicel together. Scutellum usually with numerous marginal bristles. Tergal bristles usually white. (Narctic).............

.................................................................\[Arideaferia\], gen.n.

Mesonotum anteriorly usually with hairs shorter than scape and pedicel together. Scutellum usually with not more than 6 marginal bristles. Bristles of tarsi usually black .................................................................10

10(9). Male abdomen ventrally with prominent tubercles on segments 4-6. Rather small, slender species (Narctic)..............

.................................................................\[Tuberculaferea\], gen.n.
Male abdomen without ventral tubercles. Small to large species, the small species frequently with short stout bristles in the upper part of the mystax. (Neartic).................*Albibarbefferia*, gen. n.

Genus *Albibarbefferia*, gen. n.

*Erax, barbatous*-group of Hine, 1919

*Efferia, albibarbis*-group of Wilcox, 1966: 104

Hine (1919) defined this group as follow: “The members of this group have a broad mesothorax, quite evenly curved, short-haired all over, especially anterior to the transverse suture. Only a few prominent bristles above the attachment of the wings and posteriorly. Scutellum short-haired on the disc, and usually with not more than half a dozen bristles on the margin, although occasional specimens may have one or two more than this number, in most cases there are less. Branching of the third vein never anterior to the base of the second posterior cell, occasionally it is opposite the base of this cell, but in nearly all cases it is plainly beyond, making the second submarginal cell short. The posterior branch of the third vein bends forward, and reaches the costa distinctly before the apex of the wing (....). In some species the male has the costa thickened and expanded on the anterior margin, somewhat before the apex, but in other species this is not the case”.

Wilcox (1966: 105) added that “The short more or less recumbent hairs anteriorly on the mesonotum, subequal in length to antennal segment 2, applies to all the Neartic species except *E. willistoni* (Hine). In *E. willistoni* the mesonotal hairs are erect and anteriorly are as long as antennal segment 1 and gradually lengthen apically, has the mesonotum highly arched and compressed, has the body metallic black in color, and although it has placed in the Carinata Group in order to unify the Albibarbis Group”.

Type-species, *Erax albibarbis* Macquart, 1838

*Neotropical species:


*cinerascens* Bellardi, 1861: 139 (39), pl. 2, fig. 10 (*Erax*). Type-locality: Mexico, Veracruz, Tuxpango near Orizaba. TP: TORO.

*tricolor* Bellardi, 1861: 140 (40), pl. 2, fig. 12 (*Erax*). Type-locality: Mexico, surroundings of Mexico City. TP: TORO.

*furax* Williston, 1885: 67 (*Erax*). Type-locality: USA, Washington Territory. TP: KU.

*bicolor* (Bellardi), 1861: 147 (47) (*Erax*). Type-locality: Mexico, surroundings of Mexico City. TP: TORO. *Comb. n.*

*bimaculata* (Bellardi), 1861: 145 (45), pl. 2, fig. 11 (*Erax*). Type-locality: Mexico. Distr.-Mexico (Jalisco, Morelos, Nayarit, Veracruz). TP: TORO. *Comb. n.*

*cinctulata* (Bellardi), 1861: 142 (42) (*Erax*). Type-locality: Mexico, Cuautla. Distr.-Mexico (Morelos). TP: TORO. *Comb. n.*

*eximia* (Bellardi), 1861: 138 (38) (*Erax*). Type-locality: Mexico, surroundings of Mexico City. TP: TORO. *Comb. n.*

*grandis* (Hine), 1919: 111 (*Erax*). Type-locality: USA, California and Texas. Distr.-USA, Mexico (Nuevo León, Tamaulipas). TP: OHIO. *Comb. n.*

*?heteroptera* (Macquart), 1846: 211 (1846: 83), pl. 8, fig. 6 (*Erax*). Type-locality: Colombia (as Nouvelle Grenade, cold region) TP: OXF. *Comb. n.*

*marginata* (Bellardi), 1861: 146 (46) (*Erax*). Type-locality: Mexico, Cuautla. TP: TORO. *Comb. n.*

*quadrimaculata* (Bellardi), 1861: 144 (44), pl. 2, fig. 13 (*Erax*). Type-locality: Mexico, Veracruz, Playa Vicente and Córdoba. TP: TORO. *Comb. n.*

*sagax* (Williston), 1901: 324 (*Erax*). Type-locality: Mexico, Jalisco, Santiago Escuintla. TP: BMNH. *Comb. n.*

Additional Neartic species not occurring in Neotropical region: *armata* (Hine, 1918); *dancani* (Wilcox, 1966); *leucocoma* (Williston,
1885); *peralta* (Wilcox, 1966); *similis* (Williston, 1885); *tagax* (Williston, 1885); *vertebrata* (Bromley, 1940); *zonata* (Hine, 1919). *Comb. nn.*

Genus *Aridefferia*, gen. n.,

*Erax, aridus*-group of Hine, 1919.

Hine (1919) defined his *'aridus'-group* as follows: "A few species from the more or less arid regions of western United States are much like members of the *Stramineus*-group, but the branching of the third vein is almost exactly opposite the base of the second posterior cell".

Wilcox (1966: 138) says: "This group is more likely to be confused with the *Pogonia* Group as the males of most species have abdominal segments 1-5 blackish and 6-7 silvery white. In the *Arida* Group the mystax is composed entirely or almost entirely of hairs while in the *Pogonia* Group there is a row of strong bristles on the oral margin. Even in the females a question may develop, as it is not always easy to tell whether the cerci are split at the tip or not. In the *Arida* Group the cerci are rounded apically and tergite 9 is usually longer than the cerci. In the *Pogonia* Group the cerci are pointed apically and are longer than tergite 9 dorsally.

The males of the western species similar to males of the *Pogonia* Group can be separated by the largely white bristles of the legs, especially of the tarsi: they are black or largely so in the *Pogonia* Group. The *Arida* Group for the most part comes out in the spring while the *Pogonia* Group comes out in the fall.

The branching of the third vein may be slightly before, opposite or beyond the base of the second posterior cell (discal crossvein).

Type-species, *Erax aridus* Williston, 1893.

List of the Nearctic species: *apache* (Wilcox, 1966); *arida* (Williston, 1893); *basingeri* (Wilcox, 1966); *coulei* (Wilcox, 1966); *cuervana* (Hardy, 1943); *harveryi* (Hine, 1919); *pinali* (Wilcox, 1966) (= *subarida* Bromley, 1940, part); *pratti* (Hine, 1919); *snowi* (Hine, 1919); *subarida* (Bromley, 1940); *subpilosa* (Schaeffer, 1916); *tolandi* (Wilcox, 1966), *Comb. nn.*

Genus *Carinefferia*, gen.n.

*Erax, carinatus*-group of Hine, 1919.
*Efferia, carinata*-group of Wilcox, 1966: 151.

Hine (1919) defined this group as follows: "In Western United States and extending into Mexico and Central America there are several species of the genus *Erax* that are distinct from the others on account of the following characters:

The dorsum of the mesothorax is more convex than usual, with a distinct crest of erect hairs on the middle of the dorsum, beginning just behind the head and extending back to beyond the base of the second posterior cell; stumpy rudimentary or altogether absent in the male, present and somewhat variable in length in the female; costa in the male always thickened and expanded but much more evident in some species than the others".

Wilcox (1966: 151-152) adds the following: "The crest on the mesonotum arises from the central stripe and in most species is formed of dense hairs but in *E. cressoni*, *E. latruncula*, and *E. ordwayae* it is composed mainly of bristles or bristlelike hairs. The ground color of the body is metallic black with greenish or purplish reflections. The mesonotum appears to be more highly arched and compressed laterally than in the other groups, its height at the suture is about three-fourths its width in dorsal view.

*Efferia willistoni* has been transferred to this group from the *Albibarbisis* Group where it was placed by Hine. It shows most of the above characters plus the rudimentary stump vein and dilated costa in the males, but the mesonotal crest is not as infinete as in the other species. The anterior mesonotal hairs are subequal in length to antennal segment 1 and nearly twice as long at the suture. With this transfer all the Nearctic species in the *Albibarbisis* Group have quite short hairs anteriorly on the mesonotum".

Type-species, *Erax carinatus* Bellardi, 1861.

Neotropical species:

*aper* (Walker), 1855: 621 (Erax). Type-locality: Mexico. TP: BMNH. *Comb. n.*
*comatus* Bellardi, 1861: 134 (34) (Erax). Type-locality: Mexico. TP: TORO.
*unicolor* Bellardi, 1861: 137 (37) (Erax).
Type-locality: Mexico. Orizaba. TP: TORO.

carinata (Bellardi), 1861: 136 (36), pl. 2, fig. 9 (Erax). Type-locality: Mexico. TP: TORO. Comb. n.

cincinnata (Williston), 1901: 323 (Erax). Type-locality: Mexico, Guerrero. Acaguztla and Rincón. TP: BMNH. Comb. n.

parvula (Bellardi), 1861: 135 (35), pl. 2, fig. 8 (Erax). Type-locality: Mexico. TP: TORO. Comb. n.

prolifica (Osten Sacken), 1887: 202 (Erax). Type-locality: Mexico, northern Sonora. TP: WIEN. Comb. n.

Additional Nearctic species not occurring in Mexico: caliente (Wilcox, 1966); costalis (Williston, 1885); cressoni (Hine, 1919); jubata (Williston, 1885); latruncula (Williston, 1885); ordwayae (Wilcox, 1966); subcuprea (Schaeffer, 1916); willistoni (Hine, 1919), Comb. n.

Genus Cratoleses Hull


Genus Diplosynaspis Enderlein

Diplosynaspis Enderlein, 1914: 259. Type-species, argentinascia Enderlein (orig. des.).

argentinascia Enderlein, 1914: 259, fig. 5. Type-locality: Peru, Chanchamayo and Brazil, Pará. ST?

?cellata (Schiner), 1868: 181 (Erax). Type-locality: South America (Venezuela on ST’s labels). ST: WIEN.

halterata Enderlein, 1914: 260. Type-locality: Colombia, Hacienda Pehlke. TP?

Genus Efferia Coquillett

Efferia Coquillett, 1893: 175. Type-species, candida Coquillett (sub. des., 1910: 536).

Erax, authors (part), not Scopoli.

Erax, anomalous-group of Hine, 1919.

Efferia, anomala-group of Wilcox, 1966: 120.

Hine (1919) says: “These species belong to the group with three submarginal cells normally. They are all rather light colored and inhabitants of more or less arid regions. Coquillett has proposed the genus Efferia for the reception of these species, but usually it is considered a synonym of Erax. The furcation of the third vein occurs about midway between the base of the second posterior cell and the anterior crosseine. Costa not dilated”.

Wilcox (1966: 120) adds the following considerations: “The group as considered here contains several species with the basal segments of the abdomen brown or black and male segments 6 and 7 silvery pollinose; also in these species the third vein branches at or near the end of the discal cell. The greater number of species have the abdomen white or greyish pollinose and the males of most of them have long white parted hairs on three or more segments.

The presence of three submarginal cells is quite constant, rarely is a specimen found with three cells in one wing and two in the other, and very rare are specimens with only two cells in both wings. Bromley (1951) in a lot of 103 specimens of E. completa (Macquart) all collected at the same time, found 97 with 3 submarginal cells in both wings, 3 with only two submarginal cells in both wings (2 specimens were not accounted for). James (1941) in reference to the Anomala Group says, ‘however, three submarginal cells occur as an abnormality in occasional specimens of other species, such as E. barbatus, E. bicaudatus, and E. pallidulus’.
Neotropical species:

*anomala* (Bellardi), 1861: 132 (32), pl. 2, fig. 7 *(Erax).* Type-locality: Mexico, Cuautla. TP: TORO.

*amazonicus* (Bromley), 1934b: 359 *(Erax).* Type-locality: Brazil, Minas Gerais, Curralinho. TP: COR.

*candida* Coquillett, 1893: 176. Type-locality: USA, California, Los Angeles Co. Distr.- USA (California, Arizona). Mexico.

Additional Nearctic species not occurring in Mexico: *anacapai* (Wilcox & Martin, 1945); *antiochi* Wilcox, 1966; *azteci* Wilcox, 1966; *bryanti* Wilcox, 1966; *completa* (Macquart, 1838) (= *rava* Coquillett, 1893; = *completa* Bromley, 1951); *davisi* Wilcox, 1966; *gila* Wilcox, 1966; *kalli* Wilcox, 1966; *luna* Wilcox, 1966; *pernicis* Coquillett, 1893; *tricella* (Bromley, 1951).

Genus *Nerax* Hull


*Enerax*, authors, not Scopoli.

*Efferia*, authors, not Coquillett.

*Enerax, aestuans*-group of Hine, 1919.

*Efferia, aestuans*-group of Wilcox, 1966: 94.

With the erection of *Nerax* by Hull, in 1962, and the restriction of *Efferia* Coquillett to those species with 3 submarginal cells, and the erection of the new genera proposed in this paper, *Enerax* Scopoli is finally eliminated from the Americas, becoming restricted to the Old World. However, in *Nerax*, a great number of unrecognized species remains; the list of the nominal species given in the sequence, therefore, from the Neotropical region, may in the future, when all the types are examined, disclose that many of the species belong to entirely different genera. For the moment, we have to leave those species here, for lack of information.

Neotropical species:

*abdominalis* (Wiedemann), 1821: 432 *(Asilus).* Type-locality: South America. ST: WIEN (specimens from Brazil, São Paulo, Ipanema; there is one specimen from Sumatra mixed with the syntypic series).

*affinis* (Bellardi), 1861: 141 (41) *(Erax).* Type-locality: Mexico, Veracruz, Córdoba. TP: TORO.

*amazonicus* (Bromley), 1934b: 359 *(Erax).* Type-locality: Brazil, Minas Gerais, Curralinho. TP: COR.

*apicalis* (Wiedemann), 1821: 191 *(Asilus).* Type-locality: North America. Distr.- USA, Mexico, TP?

*viceinus* Macquart, 1846: 213 (1846: 85) *(Erax).* Type-locality: USA, Texas, Galveston. TP: MNHNP.

*candida* (Wiedemann), 1821: 186 *(Asilus).* Type-locality: Brazil, Bahia. TP?

*badiapex* (Bromley), 1928: 4 *(Erax).* Type-locality: Brazil, Mato Grosso, Chapada dos Guimarães. TP: AMNH.

*bardiullis* (Walker), 1849: 401 *(Asilus).* Type-locality: Brazil. TP: BMNH.

*bilineatus* (Wulp), 1882: 115 *(Erax).* Type-locality: Argentina. TP?

*brunnescens* (Bromley), 1929: 291, fig. 13, pl. 1, figs. 6, 9 *(Erax).* Type-locality: Cuba, Guantánamo. TP: MCZ.

*camposianus* (Curran), 1931b: 23 *(Erax).* Type-locality: Ecuador, Guayaquil. TP: AMNH.

*caudex* (Walker), 1849: 404 *(Asilus).* Type-locality: Jamaica. TP: BMNH.

*invariatus* Walker, 1851: 131 *(Asilus).* Type-locality: Jamaica. TP: BMNH.

*cazeri* (Curran), 1953: 5 *(Erax).* Type-locality: Bahama Islands, South Bimini Island. TP: BMNH.

*cockeilellum* (James), 1953: 50, fig. 3 *(Erax).* Type-locality: Honduras, Morelos, Uroca. TP: WASH.

*commiles* (Walker), 1851: 132 *(Erax).* Type-locality: South America. TP: BMNH.

*cubensis* (Bromley), 1929: 292, fig. 14 *(Erax).* Type-locality: Cuba, Soledad. TP: MCZ.

*demifasciatus* (Macquart), 1850: 390 (1850: 86) *(Erax).* Type-locality: Guiana. TP lost.

*eurytobis* (Wiedemann), 1828: 469 *(Asilus).* Type-locality: Brazil. TP?

*flavofasciatus* (Wiedemann), 1828: 470 *(Asilus).* Type-locality: Brazil. TP?

*forbesi* (Curran), 1931a: 10, fig. 3 *(Erax).* Type-locality: Puerto Rico, Coamo Springs. TP: AMNH.

*fortis* (Walker), 1855: 623 *(Erax).* Type-locality: Santo Domingo. TP: BMNH.
**Rufitibia** (Macquart, 1848): 187 (1848: 27)  
(*Erax*; in part, only his Haiti specimen, not his Rio Negro’s). TP: OXF.

**Fulvibarbis** (Macquart), 1848: 188 (1848: 28), pl. 2, fig. 13 (*Erax*). Type-locality: Haiti. TP?

**Fuscannipennis** (Macquart), 1850: 390 (1850: 86) (*Erax*). Type-locality: Guiana. TP: OXF.

**Fuscus** (Wiedemann), 1828: 465 (*Erax*). Type-locality: Brazil. TP?

**Gossei** (Farr), 1965: 31 (*Efferia*). Type-locality: Jamaica, St. Thomas, Morant Point. TP: BMNH.

**Haloesus** (Walker), 1849: 405 (*Asilus*). Type-locality: Jamaica. TP: BMNH.

**Hubbelli** (James), 1953: 51, fig. 4 (*Erax*). Type-locality: Honduras, Morazán, Mt. Calucatepe, 4200-4500 feet. TP: MICH.

**Imbuda** (Curran), 1934a: 16, fig. 1 (*Erax*). Type-locality: Ecuador, Golfo de Guayaquil, Isla Puná, Porto Grande. TP: AMNH.

**Labidophorus** (Wiedemann), 1828: 459 (*Asilus*). Type-locality: Brazil. TP?

**Lades** (Walker), 1849: 403 (*Asilus*). Type-locality: Brazil. TP lost.

**Lascivus** (Wiedemann), 1828: 474 (*Asilus*). Type-locality: Brazil. TP: WIEN.

**Loewi** (Bellardi), 1862: 218 (21), fig. 17 (*Erax*). Type-locality: Mexico, Veracruz, Tuxpango near Orizaba. TP: TORO.

**Dolichogaster** Williston, 1901: 326, pl. 6, fig. 6 (*Erax*). Type-locality: Mexico, Veracruz, Atourac, Tabasco, Teapa. ST: BMNH.

**Medianus** (Wiedemann), 1828: 473 (*Asilus*). Type-locality: Brazil. TP.

**Mexicanus** (Hine), 1919: 123 (*Erax*). Type-locality: Mexico, Chiapas, Tapachula. TP: OHIO.

**Nigrimystacarus** (Macquart), 1847: 57 (1847: 41) (*Erax*). Type-locality: Guadeloupe. TP: OXF.

**Nigrinus** (Wiedemann), 1821: 197 (*Asilus*). Type-locality: Brazil. ST: WIEN.

**Nigripes** (Macquart), 1850: 389 (1850: 85), pl. 8, fig. 6 (*Erax*). Type-locality: Bolivia. TP: MNHN.

**Nigriris** (Hine), 1919: 129 (*Erax*). Type-locality: Cuba, Havana. TP: OHIO.

**Obscurus** (Macquart), 1838: 112 (1839: 228) (*Erax*). Type-locality: Brazil. TP lost.

**Pachychaeta** (Bromley), 1928: 1 (*Erax*). Type-locality: Haiti, La Moliniere. TP: AMNH.

**Parvus** (Walker), 1855: 639 (*Erax*). Type-locality: Brazil, Pará, Santarém. ST: BMNH.

**Patagoniensis** (Macquart), 1850: 387 (1850: 83) (*Erax*). Type-locality: Argentina, Patagonia. TP: MNHN.

**Pictipennis** (Schiner), 1868: 182 (*Erax*). Type-locality: South America (Colombia). TP: WIEN.

**Pilosulus** (Bromley), 1929: 292, fig. 11 (*Erax*). Type-locality: Cuba, Sierra Maestra. TP: MCZ.

**Poecilolamprus** (James), 1953: 48, fig. 2 (*Erax*). Type-locality: Honduras, Tela. TP: MICH.

**Portoricensis** (Hine), 1919: 128 (*Erax*). Type-locality: Puerto Rico, Ensenada. TP?

**Pyrrhogonus** (Wiedemann), 1828: 472 (*Asilus*). Type-locality: Brazil. TP: WIEN.

**Rufipes** (Macquart), 1838: 112 (1839: 228) (*Erax*). Type-locality: Brazil, Rio de Janeiro, Rio de Janeiro. TP: MNHN.

**Rufithorax** (Macquart), 1846: 210 (1846: 82) (*Erax*). Type-locality: Brazil. TP: OXF (abdomen missing).

**Rufitibia** (Macquart), 1848: 187 (1848: 25), pl. 2, fig. 11 (*Erax*). Type-locality: Brazil. (His Haiti specimen is synonymous with *fortis* (Walker), q.v.; cf. Curran, 1953: 4). TP: MNHN.

**Stigmosus** (Carrera & d’Andretta), 1950: 172 (*Erax*). Type-locality: Mexico, Veracruz, Orizaba. TP: CMNH.

**Stylatus** (Fabricius), 1775: 795 (*Asilus*). Type-locality: Cuba. Distr. Cuba, Haiti. Puerto Rico, Santo Domingo, Virgin Islands, St. Thomas Island. TP?

**Haitiensis** Macquart, 1848: 188 (1848: 28) (*Erax*). Type-locality: Haiti. TP: OXF.

**Subappendiculatus** (Macquart), 1838: 114 (1839: 230) (*Erax*). Type-locality: Brazil. TP: MNHN.

**Subchalybeus** (Bromley), 1928: 2 (*Erax*). Type-locality: Brazil, Rio de Janeiro, Rio de Janeiro. TP: AMNH.

**Titan** (Bromley), 1934b: 359 (*Erax*). Type-locality: Guyana, Bartica. TP: AMNH.

**Tortola** (Curran), 1928: 23 (*Erax*). Type-locality: Virgin Islands, Tortola. TP: AMNH.

**Vauriei** (Curran), 1953: 4 (*Erax*). Type-locality: Bahama Islands, South Bimini Island. TP: AMNH.

**Velox** (Wiedemann), 1828: 468 (*Asilus*). Type-locality: Brazil, Pernambuco. TP?
Genus *Pogonioefferia*, gen.n.

This genus may be immediately recognized by the fork of \( R_4 \) and \( R_5 \), which lays much or just before the apex of the discal cell, and by \( R_5 \), which ends above the wing apex (Fig. 5). Wilcox (1966) recognized two groups of species: *pogonias*-group and *straminaea*-group, which we are merging under this genus; Wilcox himself recognized (p. 214) that in the case of *Efferia* *pilosa* "the male of this species traces to the Stamina Group while the female traces to the Pogonias Group".

Type-species, *Asilus pogonias* Wiedemann, 1821.

List of Nearctic species: *argentifrons* (Hine, 1911); *argyrosoma* (Hine, 1911); *auripila* (Hine, 1916); *basini* (Wilcox, 1966); *benedicti* (Bromley, 1940); *bexarensem* (Bromley, 1934a); *bicaudata* (Hine, 1919); *cabeza* (Wilcox, 1966); *californica* (Schaeffer, 1916); *cana* (Hine, 1916); *canella* (Bromley, 1934a); *clementi* (Wilcox & Martin, 1945); *coquillettii* (Hine, 1919); *deserti* (Wilcox, 1966); *dubia* (Williston, 1885); *ehrenbergii* (Wilcox, 1966); *frewingi* (Wilcox, 1966); *helenae* (Bromley, 1951); *inflata* (Hine, 1911); *kelloggi* (Wilcox, 1966); *knowltoni* (Bromley, 1937); *mesquite* (Bromley, 1937); *monki* (Bromley, 1951); *mortensoni* (Wilcox, 1966); *neomoralis* (Hine, 1911); *neoinflata* (Wilcox, 1966); *pallidula* (Hine, 1911); *parkeri* (Wilcox, 1966); *pilosa* (Hine, 1919); *plena* (Hine, 1916); *pogonias* (Wiedemann, 1821) (= *rafibaris* (Hine, 1919); = *barbata* (Martin, 1962)); *praienis* (Bromley, 1934a); *rapax* (Osten Sacken, 1887); *splendens* (Williston, 1901); *staminae* (Williston, 1885); *texana* (Banks in Hine, 1919); *triton* (Osten Sacken, 1887); *truncata* (Hine, 1911); *utahensis* (Bromley, 1937); *varipes* (Williston, 1885); *wilcoxi* (Bromley, 1940); *yermo* (Wilcox, 1966); *yuma* (Wilcox, 1966). *Comb. nn.*

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**Genus Porasulus** Curran

*Porasulus* Curran, 1934a: 15. Type-species, *barbiellinii* Curran (orig. des.).

*barbiellinii* Curran, 1934a: 15. Type-locality: Brazil, São Paulo. HT: AMNH.


*parphorus* (Walker), 1851: 127 (*Erax*). Type-locality: Colombia. HT: BMNH (apex of abdomen eaten away; first submarginal cell very narrowly open).


*senilis* (Wiedemann), 1828: 471 (*Asilus*). Type-locality: Uruguay, Montevideo. ST: WIEN. *Comb. n.*

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**Genus Triorla** Parks


*interrupta* (Macquart), 1834: 310 (*Asilus*). Type-locality: USA, Georgia. Distr.- USA, Mexico, Guatemala, Honduras. TP lost.

*maculatus* Macquart, 1838: 111 (1839: 227), pl. 9, figs. 6a-b (*Erax*). Type-locality: Guiana, Colombia and Guadeloupe. ST female, MNHN are synonyms of *interruptus*.

*lateralis* Macquart, 1838: 116 (1839: 232) (*Erax*). Type-locality: USA, Philadelphia. TP ?

*ambiguus* Macquart, 1846: 212 (1846: 84) (*Erax*). Type-locality: USA, Galveston;
Figs. 32-35. *Porasilus harbiellini* Curran. 32: wing; 33: apex of female abdomen, showing situation of spermathecae; 34: female ovipositor, lateral view; 35: spermathecae and details.
Figs. 50-52. *Nerax labidophorus* (Wiedemann). 50: apex of female abdomen, dorsal view; 51: do., lateral view, showing situation of spermathecae; 52: spermathecae.

Genus Tuberculefferia, gen. n.

Erax, tuberculatus-group of Hine, 1919

Hine (1919) says: "The male of this group are at once known by the presence of a tooth-like prominence on the venter of each of abdominal segments four, five and six, and costa entirely normal. Branching of the third vein distinctly beyond the base of the second posterior cell. The species are slender and of rather small size".

Wilcox (1966: 225) adds: "The tubercles on the venter of the abdomen are usually blunt on segments 4 and 5 and pointed on 6; E. tuberculata (Coquillett) has the tubercles pointed on all three segments. The females have no distinct characters which will separate them from the females of the smaller species in the Albibarbis Group. Most of the specimens in the Albibarbis Group have short, sparse, strong bristles in the upper part of the mystax which are never found in the females of the Tuberculata Group but are not always found in the Albibarbis Group. The females of E. wilcoxi (Bromley) in the Staminea Group can also be confused with females of this group, as the furcation of the third vein is opposite the end of the discal cell (base of the second posterior cell). The wings of the most males and some females have the costa slightly dilated and the subcostal cell is tinged light brown opposite the discal cell".

Type-species, Erax tuberculatus Coquillett, 1904.

List of the Nearctic species: producta (Hine, 1919); setigera (Wilcox, 1966); spiniventris (Hine, 1919); tuberculata (Coquillett, 1904); tucsoni (Wilcox, 1966), Comb. nn.

Unrecognized or unplaced species of the Efferia-group

ACKNOWLEDGEMENTS

This research was supported by the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP, Grants 85/1772-5, 86/2227-1, 87/3170-8 and 94/2344-6) and Proyecto N° 203812 de la Dirección de Investigación de la Universidad de
Concepción. NP is “Pesquisador do Conselho Nacional de Desenvolvimento Científico e Tecnológico” (CNPq, Proc. nº 30.09946/79).

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