TWO IMMIGRANT SYNANTHROPIC FLOWER FLIES (DIPTERA: SYRPHIDAE) NEW TO NORTH AMERICA[1]

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ABSTRACT: Two flower flies are recorded from North America for the first time: *Eristalinus (Eristalodes) taeniops* - Florida; and *Syritta flaviventris* - Texas and Mexico. Diagnostic characters are given for these species, along with biological data.

Two flower flies are recorded from North America for the first time: *Eristalinus (Eristalodes) taeniops* (Wiedemann) - Florida; and *Syritta flaviventris* Macquart - Texas and Mexico. Both are hemisynanthropes, close associates of human ecosystems, and common filth flies in the Old World. Diagnostic characters are given for these species, along with biological data.

Two synanthropic flower flies, one presently unknown in the New World and the other unknown from North America, were recently collected for the first time in the United States. *Syritta flaviventris* Macquart was collected in southern Texas and Mexico, and *Eristalinus taeniops* (Wiedemann) was collected in southern Florida. Both belong to predominantly Old World tropic groups and are properly hemisynanthropes (Povolny, 1971).

Key to the New World species of *Syritta*

1. Face silvery white pollinose; antenna extensively dark, from all black in most males to basoflagellomere more than 2/3r dark brown in females and some males; fore and midlegs entirely orange; wing without spurious vein (fig. 4) and with orange veins, almost completely bare, only sparsely microtrichose on apical margins; male hind femur with a large basoposterior ventral tubercle (fig. 5); male hind tibia expanded apically; male abdomen with orange areas on 2nd and 3rd segments much more extensive and only narrowly separated medially (female similar, figs. 6-7); male 4th sternum deeply excavated (depth much greater than breadth) and with strong yellow bristles ..... *flaviventris* Macquart

— Face golden pollinose; antenna entirely or more than 2/3rd pale orange; fore and midlegs not brownish black posteriorly on femora and apically on tibiae and on tarsi; wing with spurious vein (fig. 3) and brownish black veins, more extensively microtrichose, microtrichose areas extending into apical cells; male hind femur without tubercle; male hind tibia slender; male abdomen with orange areas on 2nd and 3rd segments reduced and broadly separated medially (female similar, figs. 8-9); male 4th sternum shallowly excavated (breadth much greater than depth) and with only few fine hairs ..... *pipiens* Linnaeus

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Syritta flaviventris Macquart

Syritta flaviventris Macquart, 1842: 135. Type locality: Senegal. Type depository: Male, MNHN, Paris.

Syritta spinigera Loew, 1848: 331. Type localities: Greek islands, Sicily & Turkey. Type depository: syntypes, males & females, ZMHU, Berlin.

Syritta flaviventris and *pipiens* are so similar that no description is given. The above key serves as a differential diagnosis for these species.

North American Records: MEXICO, NUEVO LEON, Apodaca, "E. L. Mezquital", 26 May 1984 (C. Alvarez Pereyra; IIBIII lot # 84-07029.) USA, TEXAS, Hidalgo County, Bentsen-Rio Grand Valley State Park, 21 October 1984 (F. D. Fee), 1 female, Relampago, 15-19 October 1986 (F. D. Fee), 6 males, 1 female. The material from Texas was collected in a locality about 48 miles east on the Mexican specimen (initial record). The specimens from Relampago were all collected in or along the banks of an abandoned drainage ditch or canal. The males were patrolling and visiting flowers of *Schinus, Serjania* and *Polygonum*. The female was taken on *Polygonum*. Voucher specimens deposited in the National Museum of Natural History, Smithsonian Institution, Washington; other specimens retained in Fee Collection.

Syritta flaviventris is readily distinguished from *pipiens*, the only other New World species of the genus, by the absence of a spurious vein (fig. 4) and the presence of a strong basoposterior ventral spur on the male hind femur (fig. 5); and from other Old World congeners by male genitalic characters (Thompson, 1972: 170, fig. 69).

Syritta is not indigenous to the New World but has been introduced with Man. The larvae of *Syritta* breed in almost any kind of waste, and *pipiens* has been frequently reported to breed in human feces (Farrar 1987: 361, Henning 1952: 189). *Flaviventris* was first recorded from the New World by Fluke (1960), who recorded the species from Brazil, Sao Paulo, collected in 1954. Marnef (1967) recorded it from Chile as *Austrosyritta cortesi* Marnef (synonymy by Thompson 1971), and Argentina was added to its New World distribution by Thompson, *et at.* (1976: 119). In the Old World, *S. flaviventris* ranges from the Mediterranean (Spain to Bulgaria and Turkey), south to South Africa (Cape of Good Hope), and is found on Saint Helena. Campos and Pena (1973: 225; Smith and Vockeroth (1980: 507)) recorded it from Easter Island. *Syritta pipiens* is found throughout northern North America and is recorded as far south as central Mexico (Durango and Chihuahua) (Thompson, *et al.* 1976: 119).

Key to the New World Species of *Eristalinus*

1. Eye with large brown fasciae in addition to smaller brown puncta (fig. 1) ..... *taeniops* (Wiedemann)

— Eye with only small brown puncta (fig. 2) ..... *aeneus* (Scopoli)

Eristalinus (Eristalodes) taeniops (Wiedemann)

Eristalis taeniops Wiedemann, 1818: 42. Type locality: South Africa, Cape of Good Hope. Type depository: Males & females, NM, Vienna.

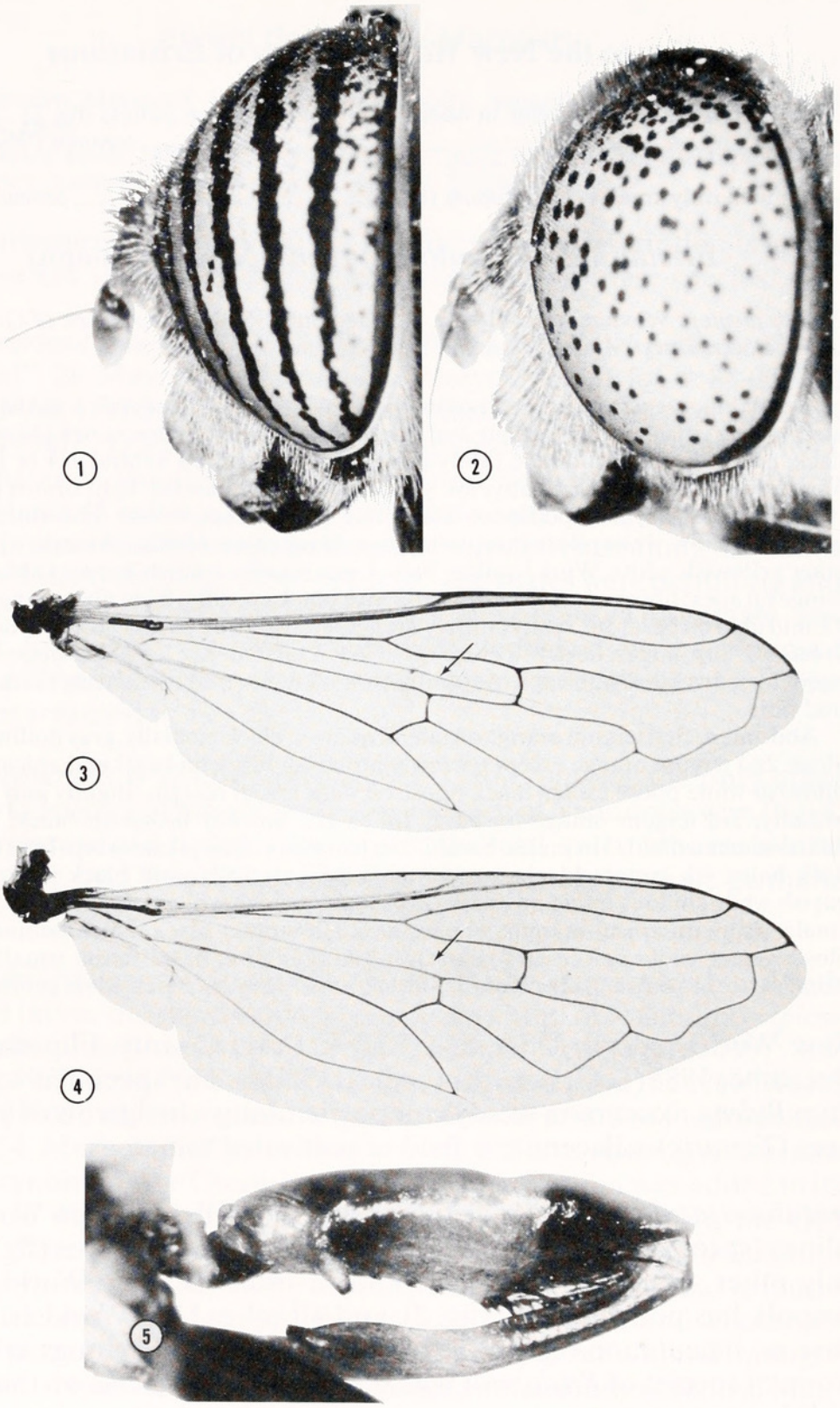
Head: black, extensively gray pollinose and white pilose; face with a medial and sublateral shiny vittae; frontal triangle and front partially black pilose; vertex shiny; antenna black, except basoflagellomere rarely orange basally and on ventral 1/4 or less, arista orange becoming brown apically; eye yellow with brown fasciae, light brown pilose.

Thorax: black, gray pollinose and white pilose; mesonotum indistinctly vittate; scutellum yellow, white pilose except with some black pile medially; plumula, squama and halter yellowish white. Wing hyaline, bare. Legs: femora reddish brown to black except orange on apex; tibiae orange basally, brownish black apically; front tibia orange on basal 2/3, mid tibia on basal 3/4, rarely entirely orange, hind tibia on basal 1/4 or less; tarsi orange on basal 2 tarsomeres, dark brownish on apical 3 tarsomeres; leg pilose yellowish white except for a few black hairs apicoventrally on hind femur and extensively black pilose on hind tibia.

Abdomen: first tergum orange on lateral quarter, black medially, gray pollinose, white pilose; 2nd tergum orange except narrowly brownish black on basal and apical margins, yellowish white pilose except black pilose on dark apical margin, slightly gray pollinose medially; 3rd tergum orange on basal 1/4 to 1/2, apically brownish black, dull, gray pollinose on medial 1/3 in males, basal 1/3 in females, yellow pilose except for a few apical black hairs; 4th tergum black, rarely orange basomedially, dull black pollinose, with grayish white sinuous fascia on basal 1/2 in male, grayish white pollinose on basal 1/3 in female, shiny on apical margin, white pilose; 5th tergum black, black pollinose, white pilose; venter white polose and sparsely white pollinose, basal sterna usually orange, except rarely brownish black medially, 4th sternum brownish black. Male genitalia black.

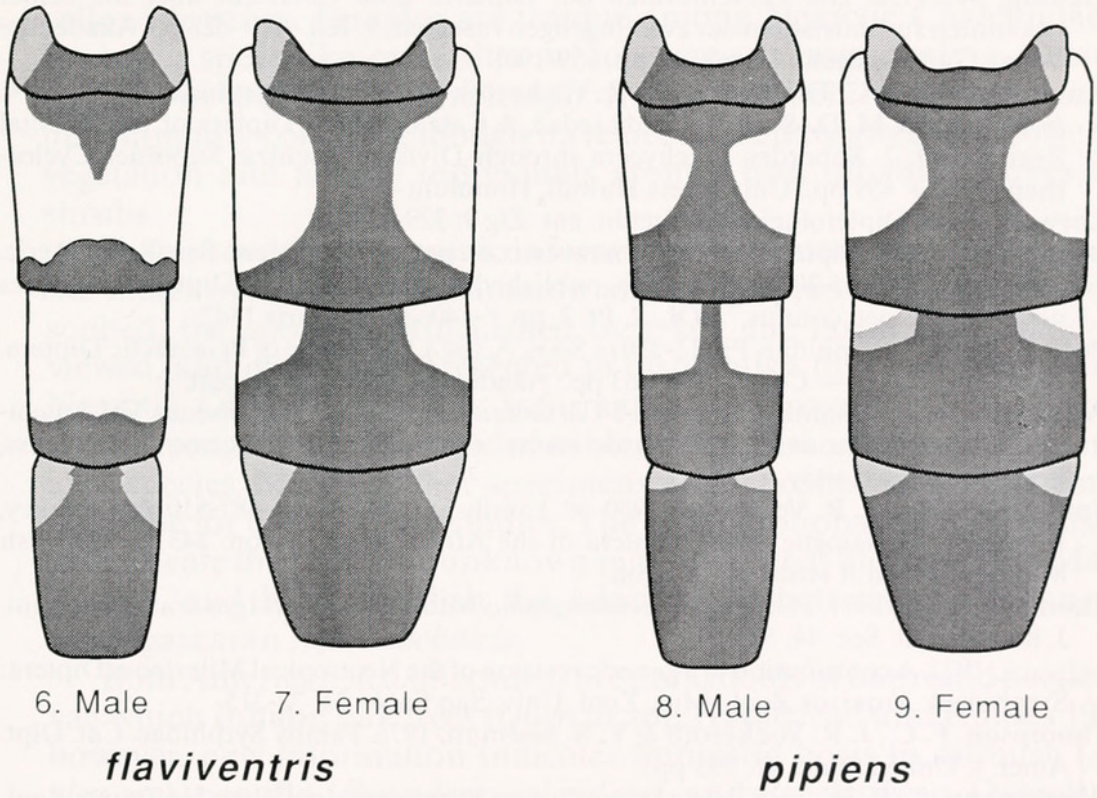
New World record: USA, FLORIDA, Dade County, Florida City, 7 December 1985 (L. G. Bezark) 1 male (USNM). The specimen was swept from *Bidens*, a common weedy composite, along a hedgerow of tamarisk trees (*Tamarix*) adjacent to a field of cultivated tomatoes.

Eristalinus taeniops is easily distinguished from all other New World eristalines (species with sinuate R 4+5 vein) by its fasciate eyes (fig. 1). The only other species of *Eristalinus* known from the New World, *aeneus* Scopoli, has punctate eyes (fig. 2), and all other New World eristalines have no maculation on the eyes. *Eristalinus taeniops* belongs to a small group of species of *Eristalinus* which have distinct fasciae on the eyes in addition to puncta.



Figs. 1-5. 1-2. Heads of *Eristalinus* species, lateral view. 1. *E. taeniops* (Wiedemann). 2. *E. aeneus* Scopoli. 3-4. Wings of *Syritta,* dorsal view. 3. S. *pipiens* Linnaeus. 4. *S. flaviventris* Macquart. 5. Hind leg of *Syritta flaviventris* Macquart, lateral view.

Eristalinus is not indigenous to the New World, but two species have now been introduced. *Eristalinus* larvae, commonly called rat-tailed maggots, have been recorded to breed in putrid waters associated with man, such as sewers, privies, etc (Ferrar 1987: 359-360, Hennig 1952: 184-185). *Eristalinus taeniops* has never previously been recorded from the New World. In the Old World, the species ranges from the Mediterranean (Spain to Greece and Bulgaria), east to Pakistan, and south to South Africa (Cape of Good Hope). *Eristalinus aeneus* Scopoli ranges from California to Ontario and New Hampshire, south to Texas and Georgia; and in the Old World *aeneus* ranges throughout the Palaearctic Region (Peck 1988: 182, Knutson *et alia* 1975:347) and has been introduced into Tanzania in Africa (Smith and Vockeroth 1980: 501) and Wake Island, the Hawaiian and Gilbert Islands in the Pacific Ocean.



Figs. 6-9. Abdominal patterns of *Syritta* species, dorsal view. 6. *S. flaviventris,* male. 7. *S. flaviventris,* female. 8. *S. pipiens,* male. 9. *S. pipiens*, female.

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