A NEW SPECIES OF SPHECOMYIELLA (DIPTERA: PYRGOTIDAE)
FROM NORTH AMERICA

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Abstract.—Sphecomyiella nelsoni n. sp. is described from Arizona, and is distinguished from S. valida (Harris) by the shape of the epandrium of the male and the apex of the ovipositor of the female; both species are illustrated for comparison. A holotype male and 40 paratypes are designated.

Key Words: Diptera, Pyrgotidae, Sphecomyiella, new species, Arizona

The Pyrgotidae are a lineage of Tephritoidae, containing approximately 330 species worldwide, in which the larvae have evolved as internal parasitoids of adult scarabaeid beetles (Steyskal 1987). Females of these flies are reported to oviposit directly onto the abdomen of the adult beetle in flight. Adults of most Pyrgotidae species apparently are nocturnally active, and some genera such as Sphecomyiella and Pyrgota can often be collected at lights.

A review of the North American Pyrgotidae was given by Steyskal (1978). He recognized eight species in five genera north of Mexico. All of these genera are included in the Pyrgotinae.

Sphecomyiella Hendel (1933) has been most recently considered monotypic, including only S. valida (Harris). This species has been considered to have a wide geographic range, including much of eastern North America, west to Arizona (Steyskal 1987).

The recent discovery of this genus in Colorado stimulated a review of Sphecomyiella. Comparison of the type of S. valida, and the type of Pyrgota millepunctata Loew, a previously recognized junior subjective synonym, with material from throughout eastern and central North America, and especially Arizona and Colorado, indicated the presence of an undescribed species.

The genus Stirothrinax Enderlein (1942) which presently includes two described species, S. cribratus Enderlein (Mexico) and S. knudseni Mayer (1953) (Costa Rica) is probably a synonym of Sphecomyiella. Specimens of both species have been examined and are separable from S. valida and the new species described herein. However, a thorough revision of all Neotropical genera is necessary before a formal synonymy is proposed.

The terminology follows Steyskal (1987). Acronyms for the depositories of specimens listed in the text are as follows: Brigham Young University, Monte L. Bean Life Science Museum (BYU); Colorado State University, C. P. Gillette Museum of Arthropod Diversity (CSU); Harvard University, Museum of Comparative Zoology (MCZ); Illinois Natural History Survey (INHS); and National Museum of Natural History, Smithsonian Institution (USNM).

Sphecomyiella nelsoni
Kondratieff and Fitzgerald,
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Figs. 3, 4, 6
Holotype male: (USNM), Santa Cruz Co., Arizona, 1 August 1960. S. L. Wood, J. B.

Karren, and H. Shurtleff, Madera Canyon, Paratypes, same data as holotype, 1 male, 1 female (CSU), 5 males, 9 females (BYU); Cochise Co., 18 July 1930 Leonora K. Gloyd, Huachuca Mts., 1 female (USNM); 1 August 1991, P. A. Opler, Harshaw Canyon, 7 miles SE of Patagonia, MVL, 2 males (CSU); Gila Co., 5 August, F. H. Parker, Pinal Mts., 2 females (USNM); same data but 12 July 1945, 1 male, 1 female (USNM); Gila Co., Globe, 23 July 1948, F. G. Werner and W. L. Nuttling, at light, 2 males (USNM); Graham Co., 17 July 1917, R. C. Shannon, Fort Grant, 1 male (USNM); Pima Co., 18 July 1938, J. Russell, Vail, 2 females (USNM); Santa Cruz Co., July 1919,
Sphecomyiella valida varies remarkably in size. Larger individuals are generally from eastern and central North America. A comparison of the terminalia of the smallest males and females, measuring 6.5–7.5 mm wing length (Colorado) to specimens measuring 10–14 mm wing length (eastern and central North America) indicated no important taxonomic differences. Sphecomyiella valida is a relatively common species throughout eastern and central North America and also occurs in northern Mexico, and the following records are representative of many specimens examined.
Canada: Ontario, 7 May 1895, Port Hope, 1 female (USNM); Arkansas: Washington Co., 11 May 1927, D. G. Hall, 1 male (USNM); Colorado: Delta County, 16 July 1992, E. E. Nelson, Paonia, light trap, 7 males, 5 females (CSU); Connecticut: Lyme, 29 May 1910, W. R. Walton, 1 male, 1 female (USNM); Florida: Duval Co., 17 April 1960, P. H. Thompson, Jacksonville, 1 male (USNM); Santa Rosa Co., 23 June 1973, W. W. Wirth, Blackwater R. St. Forest, 1 male (USNM); Indiana: Tippecanoe Co., 11 May 1916, J. M. Aldrich, La Fayette, 1 male (USNM); Iowa: Johnson Co., 6 June 1937, J. P. Morrison, Iowa City, 1 male (USNM); Kansas: Pottawatomie Co., fall 1895, F. F. Crevecoeuer, Onaga, 2 males (CSU); Sumner Co., no date E. G. Kelly, Wellington, 1 male (USNM); Shawnee Co., no date, Popenoe, Topeka, 1 male (USNM); Illinois: Champaign Co., 11 June 1909, Urbana, 1 male (INHS); same data but 11 May 1915, 1 female (INHS); Massachusetts: Holotype male, Sphecomyia valida, MCZ type #26402; Essex Co., no date, Burgess, Beverly, 2 males (USNM); Maryland: Montgomery Co., Plummer's Island, 18 June 1905, W. L. McAtee, 1 female (USNM); same data but 12 June 1909, A. K. Fisher, 1 female (USNM); Camp Meade, 5 June 1919, R. C. Shannon, 1 male (USNM); Michigan: Livingston Co., 5 June 1943, C. Sabrosky, E. S. George Reserve, 1 male (USNM); Missouri: Chauvin Co., June 1966, E. A. Richmond, Horn Island, 1 male (USNM); Missouri: Newton County, 27 June 1989, B. Kondratieff and M. Harris, George Washington Carver National Monument, 1 male (CSU); Nebraska: Otoe Co., 19 June 1969, W. W. Wirth, Dunbar, 1 male (USNM); North Carolina: Macon Co., 3–8 June 1961, O. S. Flint, Jr., Highlands, 1 male (USNM); New Jersey: Mercer Co., 7 April 1958, C. Fluck, 1 female (USNM); New York: Orange Co., 1 June 1908, W. Robinson, West Point, 1 male (USNM); Suffolk Co., 16 June 1911, A. Busck, Long Island, 1 male (USNM); Tompkins Co., 4 May 1961, D. Ferguson, Ithaca, 6 females (USNM); South Carolina: Barnwell Co., 15 June 1984, Kondratieff, SRS, 1 female (CSU); Tennessee: Montgomery Co., 25 May 1918, Clarksville, 1 male (USNM); Texas: Brazos Co., 2 March 1929, H. J. Reinhard, College Station, 1 male (USNM); Bexar Co., no date, W. William and N. M. McGuire, Camp Bullis Rd, 1 male, 1 female (USNM); Hemphill Co., 11–12 July 1974, E. L. Todd, Canadian Wildlife Mgt. Area, 1 male, 1 female (USNM); "Carolina:" Holotype female, Pyrgota millepunctata, MCZ type #13237. Mexico: Coahuila, 17 July 1969, J. M. Mathieu, M. V. Sanderson and E. Friezer, Rancho la Encantada, Sierra de la Encantada, 1 male (INHS).

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Literature Cited


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