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ADDITIONS TO THE PHORID FAUNA
(DIPTERA: PHORIDAE)
OF NORTH AMERICA NORTH OF MEXICO

JEFFREY K. BARNES
Biological Survey
New York State Museum
The State Education Department
Albany, New York 12230

ABSTRACT

The phorid genus *Melaloncha* Brues and the species *Beckerina setifrons* Borgmeier, *Coniceromyia latimana* (Malloch), *Megaselia lanceata* Borgmeier, *Megaselia luteicauda* (Borgmeier), and *Melaloncha nigricorpus* Borgmeier are reported for the first time from North America north of Mexico. *Megaselia seclusa* Beyer is synonymized with *M. lanceata* [NEW SYNONYMY]. New locality records are given for *Dohrniphora divaricata* (Aldrich). Alterations to existing keys are suggested that will allow identification of these taxa.

RESUMEN

Se reporta por primera vez en Norte America al norte de Mexico, el genero phorid *Melaloncha* Brues y las especies *Beckerina setifrons* Borgmeier, *Coniceromyia latimana* (Malloch), *Megaselia lanceata* Borgmeier, *Megaselia luteicauda* (Borgmeier), and *Melaloncha nigricorpus* Borgmeier. *Megaselia seclusa* es sinonimo de *M. lanceata*

[Nuevo Sinonimo]. Se publican nuevos registros de localidades para *Dohrniphora divaricata* (Aldrich). Se sugieren alteraciones para las claves actuales, lo cual permitirá la identificación de este taxon.

I recently identified over 7000 specimens of phorid flies from the Florida State Collection of Arthropods, Gainesville (FSCA), the Mississippi Entomological Museum, Mississippi State (MEMM), the Snow Entomological Museum, University of Kansas, Lawrence (SEMK), and the collection of Texas A & M University, College Station (TAMC). The following distribution records are significant because they represent species not previously reported, or only recently reported, from North America north of Mexico. Most of the species reported here from the southeastern United States were known previously only from the West Indies and were identified with the aid of Borgmeier's (1969a) study of the Phoridae of Dominica. Some of the specimens are deposited in the New York State Museum, Albany (NYSM).

Beckerina setifrons Borgmeier

Beckerina setifrons Borgmeier, 1969b: 62.

Borgmeier (1969b) described this species from a female collected on a beach in Cuba. It can be distinguished from other species of *Beckerina* by the two to four pairs of setulae lateral to the supra-antennal bristles on the anterior edge of the frons, the presence of wing vein R_{2+3} , the yellow halteres, and the single hair seam on the hind tibia. It keys easily in Borgmeier's (1971) improved key to the world species of *Beckerina*.

Beckerina setifrons and *B. aliena* Malloch are the only known North American species in the genus that have a dorsal hair seam on the hind tibia. The type (and only known specimen) of the latter species apparently has been lost (Borgmeier 1963). Nevertheless, Malloch (1924b) made no mention of supernumerary bristles lateral to the supra-antennals in *B. aliena*. Therefore, it seems that these bristles are the best character for distinguishing the two species.

Males of *B. setifrons* possess a small, circular, raised area, about 0.05 mm in diameter, on the notopleuron just posterior to the lateral edge of the postpronotal lobe. A similar structure in males of *B. luteola* Malloch is generally darker and bears a stout central peg. No such structure exists in males of *B. orphnephiloides* Malloch. These areas are morphologically distinct from the notopleural cleft found in males of *Woodiphora*, some *Megaselia*, and both sexes of *Gymnophora* (Disney 1989).

MATERIAL EXAMINED. FLORIDA: Gadsden County, Quincy, D. E. Hardy, 10.VII.1939 (1 ♂, SEMK); Liberty County, Torreya State Park, H. V. Weems, Jr., 5.VII.1965 (1 ♀, FSCA); H. V. Weems, Jr. and C. R. Artaud, 30.IV-5.V.1973 (1 ♂, FSCA); Highlands County, Archbold Biological Station, H. V. Weems, Jr. and F. E. Lohrer (1 ♂, FSCA); Alachua County, Gainesville, Doyle Conner Building, H. V. Weems and C. R. Artaud, 6.X.71 (1 ♀, NYSM), 15.XI.1971 (1 ♂, FSCA), 13.XII.1971 (1 ♂, FSCA); west of Gainesville, Pierce's homestead, W. H. Pierce, 20.XI.1973 (1 ♂, FSCA), 1.XI.1975 (2 ♂♂, NYSM), 2.XI.1975 (2 ♂♂, FSCA; 1 ♂, NYSM), 3.XI.1975 (3 ♂♂, FSCA; 3 ♂♂, NYSM), 10.XI.1975 (1 ♂, FSCA; 1 ♂, NYSM), 11.XI.1975 (2 ♂♂, FSCA; 1 ♂, 1 ♀, NYSM), 15.XI.1975 (1 ♂, FSCA; 1 ♂, NYSM), 26.XI-1.XII.1975 (1 ♂, FSCA; 1 ♂, NYSM), 24-28.XII.1975 (1 ♂, 1 ♀, FSCA; 2 ♂♂, NYSM), 31.XII.1975 (6 ♂♂, FSCA; 6 ♂♂, NYSM), 4.I.76 (2 ♂♂, FSCA; 1 ♂, 1 ♀, NYSM).

Coniceromyia latimana (Malloch)

Conicera latimana Malloch, 1924a: 73.

Coniceromyia latimana (Malloch) [Schmitz, 1927: 66].

This species was known previously only from the West Indies. It is the only known North American species of *Coniceromyia* with a bare anepisternum. Males are recognized easily by the especially broad first tarsomere and dark apical tarsomere of the foreleg (see Borgmeier 1969a, Fig. 11).

MATERIAL EXAMINED. FLORIDA: Monroe County, No Name Key, W. H. Pierce, 3.II.1972 (1 ♀, FSCA), 10.II.1972 (1 ♂, FSCA). JAMAICA: Parish St. Catherine, Worth Park, 2.2 mi. N. on Camper-down Rd., R. E. Woodruff, 11.V.1969 (1 ♂, FSCA). DOMINICA: Clarke Hall, W. W. Wirth, 21-31.I.1965 (1 ♂, NYSM), 11-20.III.1965 (1 ♀, NYSM).

Dohrniphora divaricata (Aldrich)

Phora divaricata Aldrich, 1896: 437.

Dohrniphora divaricata (Aldrich) [Borgmeier, 1961: 111].

Dohrniphora diffusa Borgmeier, 1960: 281 [Borgmeier, 1961: 111].

This species was originally described from specimens collected on St. Vincent in the Lesser Antilles, and Borgmeier (1968) reported it from Argentina and Brazil. Khalaf (1971) first reported it in North America from several coastal sites in Mississippi. Males are readily distinguished from other North American *Dohrniphora* by the configuration of the "stimulatory patches" (Barnes 1990) on the posterobasal surface of the hind femur (see Borgmeier 1969a, Fig. 3). Females are confused easily with those of *D. perplexa* (Malloch).

MATERIAL EXAMINED. KANSAS: Douglas County, Lawrence, University of Kansas, L. R. Ertle, 1.VII.1965 (1 ♂, SEMK). MISSISSIPPI: Pontotoc County, 1 mile southeast of Ecu, W. H. Cross, 19.VI.1980 (1 ♂, MEMM), 15.VIII.1980 (1 ♂, MEMM); G. L. Snodgrass, 7.VII.1980 (1 ♂, NYSM); Panola County, 3 miles west-south-west of Sardis, W. H. Cross, 13.IX.1979 (1 ♂, MEMM). OKLAHOMA: Latimer County, K. Stephan, VI.1986 (1 ♂, FSCA).

Megaselia lanceata Borgmeier

Parametopina lanceolata Schmitz, 1928: 40 (preocc. Brues, 1924: 220 [*Aphiochaeta*]).

Megaselia lanceata Borgmeier 1962: 338 (replacement name).

Megaselia seclusa Beyer, 1966: 190. NEW SYNONYMY.

I recently identified a single male specimen from a locality in Kansas as *Megaselia lanceata*, a species previously known only from Mexico. This distinctive species has an extremely short, thick costa and lacks wing vein R_{2+3} . Subsequently, a series of 9 females collected at exactly the same locality at about the same time came to my attention. Although the costa is more slender, and the specimens match Beyer's (1966) description of *M. seclusa*, which was based on a single female from Arizona, these female specimens are otherwise nearly identical with the male. In the only similar species for which the female is known, *M. tumidula* Borgmeier (1962), the costa of the male is considerably thicker than that of the female. I therefore conclude that *M. lanceata* is sexually dimorphic, and *M. seclusa* is in fact the female of this species, and therefore this name is a synonym of the former. Attempts to locate and borrow holotypes of these nominal species to check my conclusions yielded no results.

Megaselia lanceata can be distinguished from all other species listed in Borgmeier's (1964) key to *Megaselia* Group III by the lack of wing vein R_{2+3} .

MATERIAL EXAMINED. KANSAS: Douglas County, Lawrence, University of Kansas, Coll. #8, Malaise Trap, L. R. Ertle, 30.VI.1965 (1 ♀, SEMK), 1.VII.1965 (1 ♀, SEMK), 2.VII.1965 (1 ♀, NYSM; 1 ♀, SEMK), 6.VII.1965 (1 ♀, NYSM; 1 ♀, SEMK), 7.VII.1965 (1 ♀, NYSM; 1 ♀, SEMK), 22.VII.1965 (1 ♂, SEMK); University of Kansas Natural History Reserve, Malaise Trap #1, L. R. Ertle, 27.V.1965 (1 ♀, SEMK). TEXAS: Zavala County, Nueces River, 4 miles east of La Pryor, Byers and Thornhill, 9.IX.1972 (1 ♂, NYSM); Brazos County, College Station, pan trap, R. Wharton and M. Hrcir, 19-26.III.1982 (1 ♂, TAMC).

Megaselia luteicauda (Borgmeier)

Aphiochaeta luteicauda Borgmeier, 1925: 145.

Megaselia luteicauda (Borgmeier) [Borgmeier, 1962: 293].

This species was previously known only from Argentina, Brazil, Costa Rica, and Dominica. Females are readily recognized by the brown abdominal tergites 1-3, which contrast sharply with yellow and membranous segments 4-6. Males key to couplet 6, *Megaselia relictata* Borgmeier, in Borgmeier's (1964) key to North American Group I *Megaselia*. However, they differ from males of that species by their yellow halteres and the contrast between dark abdominal tergites 1-3 and lighter tergites 4-6, which is less striking than in the female.

MATERIAL EXAMINED. FLORIDA: Alachua County, Pierce's homestead, S9-T10S-R18E, W. H. Pierce, 4.X.1973 (3 ♂♂, 6 ♀♀, FSCA; 3 ♂♂, 6 ♀♀, NYSM), 21.XII.1973 (2 ♀♀, FSCA), 1.I.1974 (2 ♀♀, FSCA), 3.I.1974 (1 ♀, FSCA), 28.X.1974 (1 ♀, FSCA); Gainesville, Pierce's homestead, W. H. Pierce, 10.XI.1975 (1 ♀, FSCA), 15.XI.1975 (1 ♀, FSCA), 31.XII.1975 (2 ♂♂, FSCA); Gainesville, Doyle Conner Building, H. V. Weems and C. R. Artaud, 16.IX.1971 (1 ♀, FSCA), 23.IX.1971 (1 ♂, FSCA), 30.IX.1971 (1 ♀, FSCA), 4.X.1971 (1 ♂, FSCA), 12-15.X.1971 (1 ♂, 3 ♀♀, FSCA; 1 ♂, 1 ♀, NYSM), 18-20.X.1971 (1 ♂, 1 ♀, FSCA), 29.X.1971 (1 ♀, FSCA), 1-3.XI.1971 (1 ♂, 1 ♀, FSCA); 1 ♂, 2 ♀♀, NYSM), 12.XI.1971 (2 ♂♂, FSCA; 1 ♂, NYSM), 18.XI.1971 (1 ♂, 1 ♀, FSCA), 30.XI.1971 (1 ♀, FSCA); H. V. Weems, Jr., 4-6.IX.1973 (2 ♀♀, FSCA), 14-17.IX.1973 (3 ♀♀, FSCA); Gainesville, DPI, L. A. Stange, 25.II.1982 (1 ♂, 1 ♀, FSCA); Gainesville, Beville Heights, L. A. Stange, 16-31.V.1986 (1 ♀, FSCA), 9 miles northwest of Gainesville, University of Florida horticulture unit, SR 232, H. N. Greenbaum and H. V. Weems, Jr., 13-16.IV.1977 (1 ♀, FSCA). MISSISSIPPI: Oktibbeha County, 6 miles southwest of Starkville, R. L. and B. B. Brown, 14.VIII.1984 (1 ♀, MEMM), 30.VIII.1984 (1 ♂, MEMM; 1 ♂, NYSM), 2.IX.1984 (1 ♂, MEMM), 17.X.1984 (1 ♂, MEMM).

Melaloncha nigricorpus Borgmeier

Melaloncha nigricorpus Borgmeier, 1934: 183.

A single specimen from Texas keys to *Melaloncha piliapex* Borgmeier in Borgmeier's (1971) key to females of this genus, and it matches well with Borgmeier's (1938) original description of that species. However, the ovipositor of the specimen from Texas is not parallel sided in dorsal view, but rather attenuated toward the apex due to lateral compression. The ovipositor of *M. piliapex* is dorsoventrally flattened at the apex. To settle the question of the specimen's true identity, I borrowed the types of *M. piliapex*, its synonym, *M. simillima* Borgmeier, and some related species for comparison. I

discovered that the sixth couplet of Borgmeier's (1971) key is incorrect, and the second branch should read, "Ovipositor bare or with very fine, short, erect pubescence." The specimen from Texas will then key to couplet 7, and the species is identified as *M. nigricorpus* Borgmeier, which is also known from Bolivia and Brazil. It fits the original description and matches the holotype of *M. nigricorpus*, except that it is smaller (only 1.48 mm long to the apex of the sixth tergite, as opposed to 2.40 mm for *M. nigricorpus*), and its antennae and palpi are yellow instead of orange.

In Peterson's (1987) key to the genera of Nearctic Phoridae, *Melaloncha piliapex* will key to couplet 52, which in turn leads to the second branch of couplet 76 of Brown's (1988) additions to that key. That branch indicates that the keyed specimen belongs to the genus *Styletta*, but more recent findings show that the Holarctic species should be transferred to a new genus, which at the present time does not bear a published name (Brown, in press). The single known Nearctic species, *camponoti* Brown, possesses two pairs of supra-antennal bristles, a brown flagellomere 1, a frontal ratio of about 1.0, a short costa (only 0.29 to 0.36 of wing length), and a mean costal sector ratio (humeral crossvein to $R_1:R_1$ to R_{4+5}) of 2.7. *M. piliapex* differs by the lack of supra-antennals and the presence of a yellow flagellomere 1, a narrow frons (about twice as long as wide), a long costa (0.52 of wing length), and a small costal sector ratio of 1.2. MATERIAL EXAMINED. TEXAS: Cameron County, L. D. Beamer, "8-3-28" (1 ♀, SEMK). BOLIVIA: Mapiri, Saramponi, 700 meters (1 ♀, holotype, Museu de Zoologia, Universidade de São Paulo [MZSP]).

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