1963

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New Species and Records of Little-known Species of Melissodes from North America (Hymenoptera: Anthophoridae)

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_New Species and Records of Little-known Species of Melissodes from North America (Hymenoptera: Anthophoridae)_,

_BULLETIN OF The University of Nebraska State Museum: Volume 4, Number 10_  
_AUGUST 1963_
New Species and Records of Little-known Species of Melissodes from North America
(Hymenoptera: Anthophoridae)

WALLACE E. LAERGE

Two new species from Mexico, Melissodes (Tachymelissodes) sonorensis and M. (Melissodes) tescorum, are described in this paper. The previously undescribed males of M. cerussata LaBerge and M. baileyi Cockerell are described. Notes concerning the key to species of the subgenus Callimelissodes are given. New records of the following poorly known species of Melissodes are included: M. opuntiella, M. sphaeralcea, M. fimbriata, M. baileyi, M. apicata, M. mitchelli, M. intorta, M. sanks, M. maesta, M. cerussata, M. expolita, M. fasciella, M. florula, M. hymenoxidis, M. perpolita, M. relucens, M. sapoellus, and M. submenuacha.

CONTRIBUTION OF the Department of Entomology (No. 230), College of Agriculture, and the Division of Entomology of the University of Nebraska State Museum. This paper is published with the approval of the Director of the Nebraska Agricultural Experiment Station as paper No. 1520 of the Journal Series of the Station.
New Species and Records of Little-known Species
of Melissodes from North America
(Hymenoptera: Anthophoridae)

Since the publication of a revision of the genus *Melissodes* (LaBerge, 1956a, 1956b, 1961), several thousand specimens of the genus have become available to the author for study. Among these are many new records of poorly known species of *Melissodes*, representatives of two undescribed species, and the hitherto unknown males of *M. cerussata* LaBerge and *M. baileyi* Cockerell. In addition, a serious error of omission in the last part of the revision of the genus *Melissodes* published by the author (LaBerge, 1961) is corrected in this paper. The last part of the key to the males of the subgenus *Callimelissodes* (ibid, p. 297) was omitted. The omitted portion of the key follows:

9(2). Small bees; wing membranes slightly or not at all infumate; metasomal tergum 2 with pale pubescent band complete or interrupted medially by no more than one-third width of tergum; penultimate flagellar segment half as broad as long or only slightly longer

........................................................................... *tuckeri* Cockerell.

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1 Associate Professor of Entomology, and Research and Field Associate in Entomology of the University of Nebraska State Museum.
Medium to large bees; wing membranes deeply infumate; metasomal tergum 2 with distal pale pubescent band interrupted medially by more than half width of tergum or completely absent; penultimate flagellar segment almost 8 times as long as broad...coloradensis Cockerell.

10(4). Metasomal terga 2 and 3 with apical areas with suberect hairs, often with small punctures; galeae usually densely shagreened, dull; first flagellar segment with minimum length usually less than one-fifth maximum length of second segment....................... lupa Cresson.

Metasomal terga 2 and 3 with apical areas bare and impunctate; galeae shiny or dulled by shagreening; minimum length of first flagellar segment usually equals one-fifth or less of maximum length of second segment..................................................... glenwoodensis Cockerell.

11(6). Metasomal terga 6 and 7 with hairs largely brown; terga 3 to 5 each with basal half with brown hairs ................................................................. ablusa Cockerell.

Metasomal terga 6 and 7 with hairs white or golden; terga 5 to 5 each with basal half with hairs ochraceous to pale brown.............................. minuscula LaBerge.

12(7). Galeae shiny above, unshagreened or extremely delicately so on apical half or less; sterna 2, 3 and 4 shiny medially, with delicate reticular shagreening; clypeus with coarse punctures basally....................... metensia Cockerell.

Galeae somewhat dulled above by delicate but distinct shagreening; sterna 2, 3 and 4 shagreened medially, only moderately shiny; clypeus with small round punctures basally........................................ plumosa LaBerge.

Melissodes (Tachymelissodes) opuntiella Cockerell


Ten additional specimens of this relatively rare species have been studied. The records for these are given below.

TEXAS: Hidalgo County, 1 δ, March 28, 1954, D. J. and J. N. Knull. UTAH: Hatton (3 miles west): 5 δ, June 2, 1959, on Erigeron compositus and 1 δ on Tetradygium canescens. MÉXICO: Tlalnepantla: 1 δ, September 1908, W. L. Tower. ZACATECAS: Fresnillo (9 miles south): 1 9, August 10, 1954, on Phacelia sp., Ray F. Smith, and 1 9, August 10, 1954, R. F. Smith, E. G. Linsley, and J. W. MacSwain. These specimens are in the collections of Ohio State University at Columbus, Utah State Uni-
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Melissodes (Tachymelissodes) sphaeralceae Cockerell


A total of nine additional specimens of this rare species have recently come into the hands of the author. The locality data for these are listed below:


Melissodes (Tachymelissodes) sonorensis, new species

This small species is unique among the Tachymelissodes in that the male first flagellar segment is short, being only one-fourth to one-fifth (minimum length) as long as the second segment. In this respect M. sonorensis is very similar to M. monoensis LaBerge of the subgenus Eumelissodes. However, the form of the terminalia, especially of the seventh sternum, and the metasomal fasciae of both sexes places sonorensis among the Tachymelissodes. M. sonorensis is most closely allied to M. opuntiella Cockerell from which it can be distinguished readily by the short first flagellar segment and the yellow labrum of the male and by the smaller size and more densely punctate terga of the female.

Female. Measurements and ratios: N, 2; length, 9 mm.; width, 2.5 mm.; wing length, 13.5 mm.; hooks in hamulus, 11; flagellar segment 1/segment 2, 1.85.
Structure and color: Integument black except as follows: eyes gray; flagellar segments 2–10 red below; tegulae testaceous, reddish; wing membranes hyaline, only slightly infumate, veins dark brown; tergum 1 hyaline and yellowish apically; terga 2–4 narrowly hyaline apically; tibial spurs testaceous.

Clypeus with coarse, round, regular punctures separated mostly by half a puncture width, slightly elongate near apical margin, surface shiny, unshagreened; face below ocelli with small round punctures separated mostly by one puncture width, surface shiny; compound eye in lateral view about twice as wide as gena; maxillary palpal segments in ratio of about 5:5:4:1. Mesoscutum with postero-median area punctures round, irregular in size, separated mostly by one-half to one puncture width, surface shiny; scutellum similar but punctures smaller and more crowded; propodeum with dorsal surface medially impunctate and slightly depressed. Metasomal tergum 1 with apical third impunctate, basal area with small to minute punctures separated mostly by one-half to one puncture width, surface dull by fine transversely reticulate shagreening but moderately shiny; tergum 2 with apical area with minute punctures, interband zone with small round punctures separated mostly by one puncture width or less, surface as in tergum 1; terga 3 and 4 similar to tergum 2; pygidial plate V-shaped with rounded apex.

Hair: Head white, sparse on clypeus and vertex. Mesoscutal hairs sparse, white anteriorly, brown posteromedially; scutellar hairs brown except peripherally white; pleural and propodeal hairs white. Metasomal tergum 1 with long, erect, white hairs on basal fourth, with short, appressed, brown, inconspicuous hairs medially, glabrous apically; tergum 2 with basal tomentum white, distal pale fascia white, interband zone hairs short, appressed to subappressed, brown; terga 3 and 4 similar to 2; terga 5 and 6 dark brown to black except small white lateral tufts; sterna brown except pale laterally. Legs white except inner surfaces hind basitarsi dark reddish brown, inner surfaces fore and middle tarsi and hind distitarsi red.

Male. Measurements and ratios: N, 6; length, 8.9 mm.; width, 2.0-2.5 mm.; wing length, M = 2.47 ± 0.057 mm.; hooks in hamulus, M = 10.33 ± 0.366; flagellar segment 2/segment 1, M = 4.97 ± 0.942.

Structure and color: Integumental color as in female except as follows: clypeus, labrum (except narrow apical margin), and base of mandible pale yellow; terga 2-5 with apical areas hyaline, colorless; distitarsi rufescent. Maxillary palpi and eye width as in female; penultimate flagellar segment less than three times as long as broad, flagellum in repose not reaching prestigma; sculpturing as in female.

Terminalia much as in M. dagosa (LaBerge, 1956a, p. 1193, figs.
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118-121) except as follows: gonostylus with only 6 or 7, short, pointed spicules near base on dorsolateral surface; sternum 7 with median plate bare, with a distinct neck; sternum 8 with medioventral tubercle acute, extending to or beyond apical margin, with few exceedingly minute hairs along apical margin.

Type Material. Holotype male and five male paratypes were collected by Mr. P. H. Timberlake five miles south of Navojoa, Sonora, México, September 21, 1957, on Kallstroemia grandiflora. The allotype female and one female paratype were taken by Mr. Timberlake 45 miles south of Navojoa, Sonora, México, September 22, 1957, on Kallstroemia grandiflora. The holotype and allotype are the property of P. H. Timberlake, Citrus Experiment Station, Riverside, California. Paratypes are in the collections of P. H. Timberlake and the University of Nebraska State Museum.

Melissodes (Aptomelissodes) fimbriata Cresson


Two new records of this relatively rare species have come to the attention of the author. These are as follows: TEXAS: Bexar County: 1 ♂, no other data. Laraca County: 1 ♀, April 12, 1956, on Oenothera sp., A. H. Alex. These specimens are in the collection of Texas Agriculture and Mechanical Arts College at College Station.

Melissodes (Aptomelissodes) baileyi Cockerell


Melissodes baileyi is a peculiar species in which the female scopal hairs are simple, that is, without branches. There is only one other species in the genus Melissodes which has simple scopal hairs—M. fimbriata Cresson, also an Aptomelissodes. M. baileyi was placed in the subgenus Aptomelissodes because of this resemblance to M. fimbriata and also because the pale distal tergal fasciae are apical and the clypeus is at least somewhat protuberant in the female.

Two males which belong to M. baileyi were collected in Texas by Lucille D. Beamer. A description of the male is given below. These males would be placed in the subgenus Eumelissodes, according to the key to subgenera given by LaBerge (1956 and 1961). However, this species should be retained in Aptomelissodes on the
basis of the female characters cited above and on the basis of the male terminalia. Also, the male does have apical or subapical pale tergal fasciae and a slightly protuberant clypeus which help to place it in the *Apomelissodes*, although these characters are not so well developed in the male of *baileyi* as it is in other species of the subgenus.

The male of *baileyi* resembles somewhat the male of *M. intorta* Cresson in the weak vestiture and the relatively short antennae. Perhaps *intorta*, which has been placed in the monotypic subgenus *Psilomelissodes* (LaBerge, 1956a), is merely a more differentiated *Apomelissodes*. The author does not feel it is necessary to eliminate the subgenus *Psilomelissodes* on this basis.

**Male.** Measurements and ratios: N, 2; length, 10-11 mm.; width, 3.5-4.0 mm.; wing length, 3.57-3.67 mm.; hooks in hamulus, 13; flagellar segment 2/segment 1, 5.13-5.38.

Structure and color: Integument black except as follows: clypeus yellow except brown apical margin; labrum with mediobasal white macula equal to about one-third of labrum; mandibles without basal pale maculae; flagellar segments 2-11 yellow to red below, dark brown above; eyes green; wing membranes somewhat infumate, yellowish, veins dark reddish brown; tergal apices hyaline, somewhat infumate; tibial spurs reddish brown; tarsi rufescens.

Antennae short, in repose not reaching prestigma, penultimate flagellar segment less than three times as long as broad, ultimate segment about three times as long as broad at base; head rounded in outline, with vertex between ocelli and compound eye sloping up to ocelli, not depressed below level of compound eye; maxillary palpal segments in ratio of about 1.6:1.8:1.5:0.5. Sculpturing much as in female but tergal interband zones with punctures sparser, separated mostly by one or more puncture widths. Pygidial plate deeply incised laterally, but basal portion not elevated above apical portion. Sternal with punctures coarse, sparse, surface highly shiny, unshagreened.

Terminalia essentially as in *M. fimbriata* (LaBerge, 1956a, p. 1192, figs. 111-113) except as follows: penis valve with distinct lateral process directed dorsolaterally; sternum 7 with median plate with numerous long, rather stout hairs on neck region and at base of neck, plate with sparse exceedingly minute spicules; sternum 8 with apicoventral tubercle rather blunt, apical margin with hairs less numerous but longer.

Hair: Head white to very pale ochraceous. Thorax white below to pale ochraceous above with sparse, long, weak, brown hairs, posteromedially on mesoscutum and medially on scutellum. Tergum 1 with long, weak, erect to suberect, pale ochraceous to white hairs
almost to apical margin; tergum 2 with basal tomentum white, sparse, interband zone hairs white, suberect, long, sparse, distal pale band composed of long, weak, silky, white hairs, apical or subapical; terga 3-5 similar to 2; terga 6 and 7 white; sternal hairs sparse, pale brown medially to white apically and laterally. Legs white except inner surfaces tarsi yellow to orange.

New locality records. TEXAS: Harper: 1 ♂, April 17, 1953, on Gaillardia suavis, L. D. Beamer. Lexington: 1 ♂, April 14, 1953, on Callirhoe sp., L. D. Beamer. Lincoln (6 miles east): 1 ♀, April 14, 1953, on Callirhoe sp., R. H. Beamer. Taylor: 1 ♂, April 6, 1908, J. E. Gilaspy. These specimens are in the collections of the Snow Entomological Museum, University of Kansas at Lawrence and the University of Nebraska State Museum.

Melissodes (Apomelissodes) apicata Lovell and Cockerell


This poorly known species has been collected several times since the publication of its redescription by LaBerge (1956, p. 551). Melissodes apicata has been presumed to be an oligolege of plants of the genus Pontederia. The new material available to the author upholds this assumption, although a few females and several males have been collected from a number of other plants. Most female specimens and many of the males of these collections were taken from Pontederia flowers. Other plants, such as Melilotus alba and Stachys floridana, probably serve as sources of nectar. This is indicated by the fact that most specimens collected on the flowers of these plants are males. New locality records are listed below:

Melissodes (Apomelissodes) mitchelli LaBerge

This species was known previously only from the type material. Three additional females have been examined by the author. The data for these are listed below:

**FLORIDA:** Crescent City: 1 ♀, April 30, 1955, H. E. and M. A. Evans. **NORTH CAROLINA:** White Lake: 2 ♂ ♀, May 20, 1934, on *Opuntia* sp., T. B. Mitchell. The specimens are in the collections of Cornell University, Ithaca, New York, North Carolina State College at Raleigh, and the University of Nebraska State Museum at Lincoln.

Melissodes (Psilomelissodes) intorta Cresson

Two additional specimens of this rare vernal or early summer oligolege of *Callirhoe* have been examined by the author. The data for these are as follows: **TEXAS:** Brazos County: 1 ♀, May 1, 1955, on *Callirhoe involucrata*, A. H. Alex. College Station: 1 ♂, May 12, 1955, on *Callirhoe involucrata*, A. H. Alex. These specimens are in the collection of Texas Agriculture and Mechanical Arts College at College Station.

Melissodes (Melissodes) colliciata Cockerell


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This Mexican species of the subgenus *Melissodes* has been collected several times in recent years. A total of 23 additional specimens have been studied by the author. The data for these are given below. The known range is extended to the south into Guatemala.


*Melissodes (Melissodes) flexa* LaBerge


A single male of this rare species has been studied since the original description was published. This male does not differ from the holotype except in being very slightly smaller. The locality data is as follows: MÉXICO: Chapingo, D. F.: 1 ♂, September 8, 1960, F. Pacheco. This specimen is in the P. H. Timberlake collection, Riverside, California.

*Melissodes (Melissodes) maesta* LaBerge


In the original description of this species only eight specimens were available for study. Three additional females have become available and these extend the known range of this species to the south in Mexico. The locality records are as follows:
COAHUILA: Serrino, Buena Vista del Carmen: 1 9, July 18, 1938, R. H. Baker. SAN LUIS POTOSI: Ciudad del Maíz (5 miles east): 1 9, August 22-23, 1954, Univ. of Kansas Entomological Expedition. ZACATECAS: Fresnillo (1 mile south): 1 9, August 20, 1956, on Phacelia sp., J. W. MacSwain. These specimens are in the collections of the Snow Entomological Museum of the University of Kansas at Lawrence, and the University of California at Berkeley.

*Melissodes (Melissodes) tescorum*, new species

*Melissodes tescorum* is unique among species of the subgenus *Melissodes* in having the galeae of both sexes regularly and densely tessellate. It seems to be most closely related to *M. tepida* Cresson which it resembles in the color of the vestiture, the tergal punctuation, the width of the fascia of the second tergum, and the male terminalia. It is most similar to *M. tepida yumensis* LaBerge from which it differs by the tessellate galeae and the pale hairs of the inner surfaces of the hind basitarsi of the female.

**Female.** Measurements and ratios: N, 3; length, 12-13 mm.; width, 4.0-4.5 mm.; wing length, 3.06-3.50 mm.; hooks in hamulus, 16-17; flagellar segment 1/segment 2, 1.60-1.92.

Structure and color: Integument black except as follows: eyes greenish gray, flagellar segments 3-10 red below; wing membranes infumate, yellowish brown. Clypeus with regular, round punctures separated mostly by about one-half puncture width, becoming smaller apically, surface slightly dulled by sparse irregular shagreening; galeae opaque, dulled by dense, regular tessellation; supra-clypeal area with deep round punctures; vertex between ocelli and compound eye with small round punctures, shiny. Mesoscutum regularly punctate, punctures round, separated by half to one puncture width, surface shiny, with sparse, irregular shagreening; scutellum similar to mesoscutum but punctures slightly smaller and more crowded; propodeum with dorsal surface with crowded coarse punctures, surface tessellate. Metasomal tergum 1 with basal two-thirds with round punctures of about same diameter as mesoscutal punctures, separated mostly by half a puncture width, apical third impunctate, surface moderately dulled by fine transversely reticulate shagreening; tergum 2 with interband zone with small, regularly spaced, round punctures separated mostly by one-half to one puncture width, apical area similarly punctate but punctures half as large and more crowded, surfaces as in tergum 1; terga 3 and 4 similar to 2 but punctures more crowded; pygidial plate V-shaped with rounded apex.

Hair: Head white to very pale ochraceous except dark brown on
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vertex. Thorax white below to pale ochraceous above with scutellar hairs dark brown and fringed with ochraceous and mesoscutal posteromedian patch of dark brown hairs reaching transverse line at anterior margins of tegulae. Metasomal tergum 1 with long pale ochraceous hairs basally, glabrous apically; tergum 2 with basal tomentum white to pale ochraceous, distal pale fascia complete, almost as broad as apical area medially, somewhat arched, not reaching apex laterally, of about the same length throughout, interband zone with abundant, subpressed to suberect, short, dark brown to black hairs, apical area with abundant, appressed to subpressed, dark brown to black hairs; tergum 3 similar to 2 but basal tomentum dark brown, distal pale fascia extended onto interband zone and more than twice as long as apical area medially; tergum 4 similar to 3 but distal pale fascia is apical; terga 5 and 6 black except pale lateral tufts (in one female tergum 5 has a pale fascia on the right half of the tergum—this thought to be a mosaic, the right half of tergum 5 being male tissue); sternal hairs reddish brown except white laterally and golden to white along apical margins. Legs pale ochraceous except inner surfaces tarsi red.

Male. Measurements and ratios: N, 1; length, 13 mm.; width, 3.5 mm.; wing length, 3.22 mm.; hooks in hamulus, 13; flagellar segment 1/segment 2, 5.21.

Structure and color: Integument black except as follows: base of mandible, labrum and clypeus pale yellow; eye yellowish gray; flagellar segments 2-11 red below; wing membranes slightly infumate, yellowish; tarsi rufescent. Structure as in female with the following differences: tergum 1 with apical area punctate; terga 3-5 with sculpturing as in tergum 2.

Terminalia essentially as in M. tepida. Sternum 7 with median plates oblique, not at all flattened; median carinae well developed, forming a Y-shaped structure. Sternum 8 broadly emarginate medially; ventral carina strong, well sclerotized, reaching margin medially.

Hair: Vestiture as in female except as follows: vertex without dark hairs; mesoscutum with few dark hairs posteromedially; scutellar dark patch reduced to less than half of surface; tergum 1 with apical area with abundant, suberect, relatively short, dark brown to black hairs; tergum 2 with distal pale fascia slightly shorter than apical area medially; terga 3 and 4 similar to 2 but distal pale fascia longer than apical areas medially; tergum 5 similar to 4 but distal pale fascia meeting apical margin laterally and apical area much reduced; terga 6 and 7 entirely black to dark brown.
Type Material. Holotype female, allotype male and two female paratypes were collected by J. Powell at Boca de Santa María, Baja California, México, August 12, 1951. The type material is in the collection of the University of California at Berkeley with the exception of one female paratype which is in the collection of the University of Nebraska State Museum.

Melissodes (Eumelissodes) cerussata, LaBerge


Melissodes cerussata was described from three females from San Bernardino County, California (LaBerge, 1961, p. 436). Four additional specimens, including two males, have been discovered. The male keys to the first alternative of couplet 73 in the key to species of Eumelissodes given by LaBerge (1961, p. 368) and is very much like submenauachus Cockerell which terminates that alternative. The male of cerussata can be distinguished from that of submenauachus by its narrower hyaline apical margins on terga 2-5 and by the tergal interband zones being moderately shiny and more distinctly punctate. A description of the male is given here with the new locality records following.

Male. Measurements and ratios: N, 2; length, 11-12 mm.; width, 3.5 mm.; wing length, 3.62-3.65 mm.; hooks in hamulus, 14; flagellar segment 2/segment 1, 7.74-7.91.

Structure and color: Integument black except as follows: clypeus pale yellow except dark apical margin; mandibles and labrum without pale macule; eyes yellowish gray; flagella yellow below, dark red above; tegulae dark testaceous; wing membranes hyaline, colorless; veins dark reddish brown; tergal apices hyaline, colorless or slightly milky, less than three-eighths of terga hyaline; tibial spurs hyaline; tarsi rufescent. Structure and sculpturing as in female except as follows: maxillary palpal segments in ratio of about 1.7:1.1:1.0:0.4; galeae shiny, unshagreened; metasomal tergum 1 with basal area equal to about four-fifths of tergum; terga 2-5 with apical area punctures exceedingly minute and obscure.

Terminalia essentially as in M. agilis. Sternum 7 with median plates with apical margins oblique, diverging outward. Sternum 8 with apicomedian emargination strong; ventral protuberance weak, scarcely visible; apical hairs short and weak.

Hair: Vestiture entirely white to pale ochraceous except inner surfaces tarsi yellow to orange. Tergum 1 with distinct band of dense appressed long hairs obscuring apical margin (as in submenauachus).
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New Locality Records. One female and two males were collected by J. W. MacSwain and J. A. Chemsak 20 miles west of Blythe, Riverside County, California, September 17, 1959, on *Hoffmanseggia* sp. One female was collected by J. W. MacSwain at Hopkins Well, Riverside County, California, October 11, 1958. These specimens are in the collections of the University of California at Berkeley and the University of Nebraska State Museum at Lincoln.

*Melissodes (Eumelissodes) expolita* LaBerge


A single female specimen of this rare species has become available since it was originally described. This female provides the following data: ARIZONA: Gila Bend (19.8 miles east): 1 ♀, August 15, 1955, on *Sphaeralcea emoryi*, P. H. Timberlake. It is the property of P. H. Timberlake, Riverside, California.

*Melissodes (Eumelissodes) fasciatella* LaBerge


This poorly known species has been collected several times since the original description was published. Unfortunately, the male of the species remains unknown. New locality records and data are as follows:

ARIZONA: Onion Saddle (9 miles west), Chiricahua Mountains: 2 ♀♂, September 23, 1955, on *Haplopappus gracilis*, P. H. Timberlake. Portal, Cochise County: 1 ♀, August 19, 1958, on *Heterotheca subaxillaris*, P. D. Hurd; 1 ♀, September 6, 1959, on *Haplopappus gracilis*, J. R. Powers. Southwestern Research Station (5 miles west of Portal): 1 ♀, August 17, 1958, on *Heterotheca subaxillaris*, E. G. Linsley; 1 ♀, August 24, 1958, on *H. subaxillaris*, P. D. Hurd; 1 ♀, September 6, 1959, on *H. subaxillaris*, J. R. Powers. NEW MEXICO: Carlsbad (5 miles north): 1 ♀, September 28, 1956, J. W. MacSwain; 13 ♀♂, September 21, 1956, on *Chrysothamnus* sp., J. W. MacSwain. The specimens are in the collections of the University of California at Berkeley, P. H. Timberlake of Riverside, California, and the University of Nebraska State Museum at Lincoln.

*Melissodes (Eumelissodes) floris* Cockerell


author in numbers. The known range of the species has been extended from New Mexico north into Colorado by one of these new records. The new records are as follows:


COLORADO: Villagrove, Saguache County: 1 δ, July 10, 1959, E. G. Linsley. NEW MEXICO: Carrizozo: 2 ♀ ♀, 4 δ δ, September 10, 1961, on Helianthus petiolaris, P. D. Hurd; 1 δ, September 10, 1961, on Verbesina sp., P. H. Timberlake. Mesilla Park, Dona Ana County: 1 ♀, 12 δ δ, September 5, 1961, on Verbesina oreophila, P. D. Hurd; 1 δ, September 5, 1961, on Helianthus annuus, P. D. Hurd; 2 ♀ ♀, 4 δ δ, September 7, 1961, on Verbesina oreophila, P. D. Hurd. Three Rivers (2 miles south), Otero County: 5 ♀ ♀, 28 δ δ, September 9, 1961, on Verbesina oreophila, P. D. Hurd. Tularosa, Otero County: 1 δ, September 9, 1961 on V. oreophila, P. D. Hurd. These specimens are in the collections of Utah State University at Logan, the American Museum of Natural History, New York City, the University of California at Berkeley, P. H. Timberlake of Riverside, California, and the University of Nebraska State Museum at Lincoln.

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