

STUDIES ON NORTH AMERICAN MORDELLIDAE, V¹
(Coleoptera)

BY EUGENE RAY
Chicago, Illinois

This is the fifth of a series of papers dealing with North American members of the family. Two species are described from Arizona, two from Oregon (one also from Kansas), and one each from Tennessee, Michigan and Florida. Notes have been added for ten previously known forms.

MORDELLA QUADRIPUNCTATA (Say)

Anaspis quadripunctata Say, 1824. Journ. Ac. N. S. Phila., 3:276.

One specimen: Methow, Washington, May 3, 1941, on rose buds (M. H. Hatch). This is the first West Coast record for this Eastern species. Previous records indicated its distribution from New York west to Colorado and Manitoba.

MORDELLISTENA WENZELI Liljeblad

Mordellistena wenzeli Liljeblad, 1946. Misc. Publ. Mus. Zool., Univ. Mich., 62:79.

One specimen: Charleston, South Carolina, May 2, 1945, in light trap (R. L. Wenzel). This species has hitherto been known only from Tybee Island, Georgia.

Mordellistena fenderi Ray, new species
(Figs. 1, 15)

Form elongate, moderately narrow, sides subparallel along basal two-thirds of elytra, derm black, front, maxillary palpi, four basal segments of antennae, basal angles of pronotum, a broad humeral vitta that narrows abruptly and ends before middle, legs (except posterior femora) and apical margins of abdominal segments, castaneous, anal style and hypopygium fuscous. Body densely covered with fine, recumbent, flavocinereous pubescence.

Eyes densely covered with short, fine, erect hairs. Antennae slender, filiform, 1.45 mm. long, reaching to base of abdomen, segments 1-2 robust, equal; 3 as long as 2, but much narrower; 4 one-half longer and distinctly broader than 3; 5-10 each as long as 4 but

¹Studies on North American Mordellidae, IV. Pan-Pac. Ent., 22:121, 1946.

broader, sides parallel; 11 oval, one-half longer than 10, sides and apex rounded. Terminal segment of maxillary palpi enlarged, form of a rather broad scalene triangle, inner margin but slightly longer than apical edge, sides and angles rounded.

Pronotum distinctly broader than long (1.16 x .95 mm.), anterior margin and sides rounded, broadest before base; the latter arcuate, midbasal lobe moderately long, rounded. Scutellum small, broad, triangular, rounded at tip.

Elytra more than two and one-half times as long as broad (2.7 x 1 mm.), narrower at base than pronotum, sides subparallel on basal two-thirds, thence broadly rounded to apex, apices individually rounded. Anterior and intermediate tibiae about as long as their tarsi, penultimate segment of the latter slightly broadened. Posterior tibiae with two equal, oblique, parallel ridges (excluding subapical one), each extending half way across outer face; basitarsi with two, second segment with one ridge, all near apex and strongly indicated. Anal style slender, a slight constriction before middle, attenuate to apex, two and one-third times as long as hypopygium (1.15 x .5 mm.).

Length: to apices of elytra, 3.65 mm.; to tip of anal style, 4.8 mm.

Holotype, male, PEAVINE RIDGE near McMinnville, OREGON, August 6, 1945, and allotype, female, type locality, July 29, 1945 (K. M. Fender); holotype in collection of Eugene Ray, allotype in collection of Kenneth M. Fender, to whom this species has been dedicated.

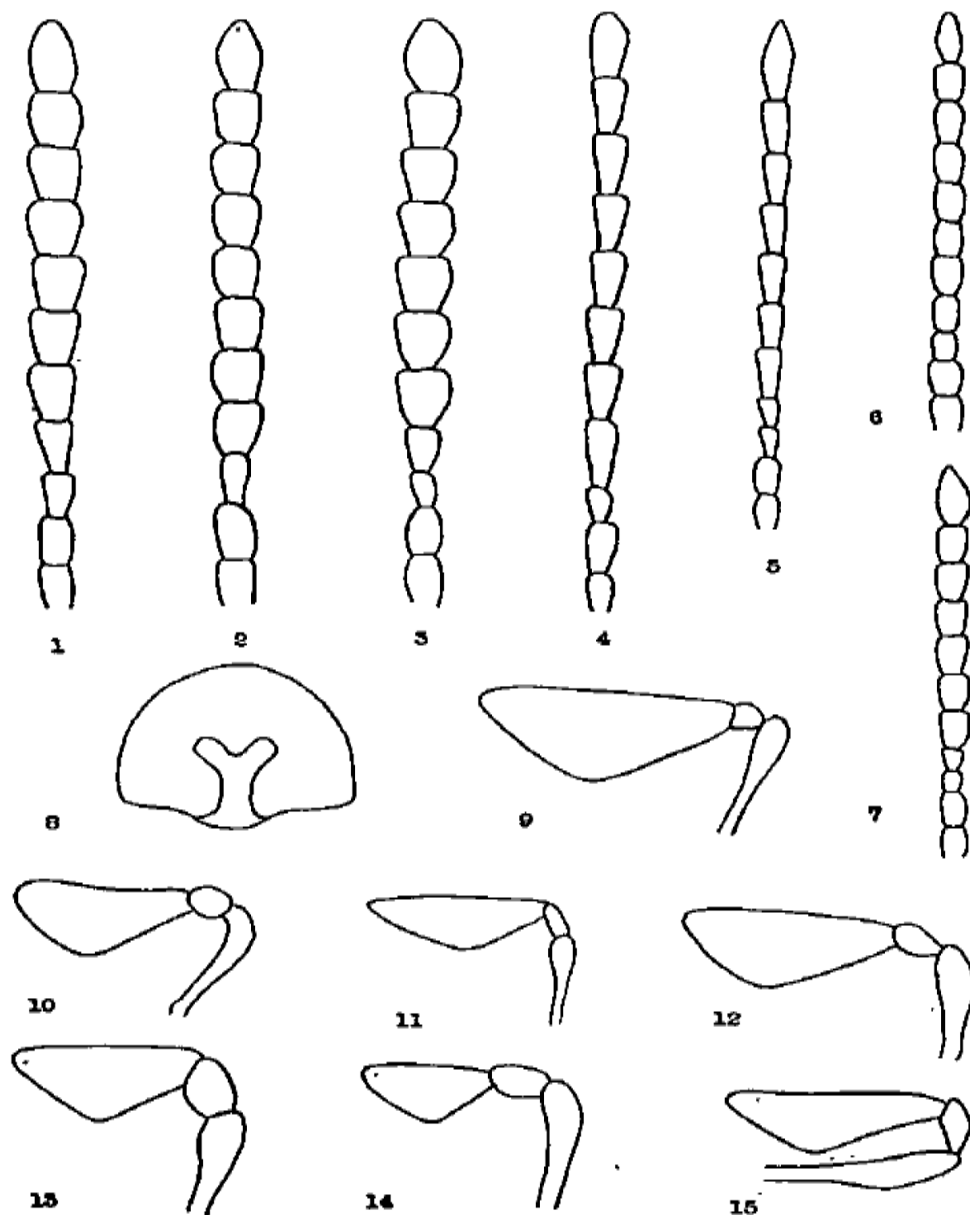
This species is allied to the eastern *limbalis* (Melsheimer)² but may be separated adequately by its different antennae, in which the fourth segment is one-half longer than the third, the

²Proc. Acad. N. S. Phila., 1846, 2:315.

Fig. 1, Antenna of *Mordellistena fenderi* Ray. Fig. 2, Antenna of *Mordellistena malkini* Ray. Fig. 3, Antenna of *Mordellistena arizonensis* Ray. Fig. 4, Antenna of *Mordellistena suturalis* Ray. Fig. 5, Antenna of *Mordellistena pilosella* Ray. Fig. 6, Antenna of *Mordellistena bihirsuta* Ray. Fig. 7, Antenna of *Mordellistena y-notata* Ray. Fig. 8, Pronotum of *Mordellistena y-notata* Ray. Fig. 9, Maxillary palpus of *Mordellistena y-notata* Ray. Fig. 10, Maxillary palpus of *Mordellistena bihirsuta* Ray. Fig. 11, Maxillary palpus of *Mordellistena pilosella* Ray. Fig. 12, Maxillary palpus of *Mordellistena arizonensis* Ray. Fig. 13, Maxillary palpus of *Mordellistena suturalis* Ray. Fig. 14, Maxillary palpus of *Mordellistena malkini* Ray. Fig. 15, Maxillary palpus of *Mordellistena fenderi* Ray.

fourth to tenth being equal in length, with no noticeable narrowing distally, by the triangular terminal segment of the maxillary palpi (in *limbalis* this segment is boat-shaped) and by the difference in the color of the pronotum.

The frontal spot of the male is absent in the female. In the latter sex the broad humeral vitta darkens gradually and ends about one-third from the tip of the elytra.



Mordellistena suturalis Ray, new species

(Figs. 4, 13)

Form, narrow, elongate, sides narrowing, but slightly cuneate. Derm fuscous or fuscopiceous, head fuscous in male with apical half of front fuscobrunneous, entirely fuscobrunneous in female with a dorsal cloud on vertex; maxillary palpi fuscobrunneous, antennae varying from fuscobrunneous at base to fuscopiceous at apex; pronotum fuscous in male, fuscous in female with basal margins and angles fuscobrunneous, the angles broadly so; elytra fuscous in male, fuscous in female with a broad fuscobrunneous vitta covering base, except narrowly along suture and margins and abruptly narrowing one-fourth from base, extending therefrom in a narrow subsutural line to within one-fifth of apex; anterior legs fuscobrunneous in male, legs completely fuscobrunneous in female except for the posterior femora, which are fuscous. Surface densely covered with fine, recumbent pubescence, partaking of ground color, except on light parts, where it is golden.

Head strongly convex, eyes entire, densely covered with short, erect hairs. Antennae 1.06-1.43 mm. long, reaching base of pronotum; segment 4 twice as long as 3 in male, one-half longer in female, and one-half broader in both sexes; 5-10 each slightly broader than 4, but slightly shorter; 11 equal in length to 10, broadest subapically, sides and apex rounded. Terminal segment of maxillary palpi enlarged, form of a scalene triangle, apical edge rounded, intermediate in length between the inner and outer sides.

Pronotum convex, distinctly broader than long (1.06-1.36 x .94-1.21 mm.), apex and sides rounded, basal angles obtuse, base arcuate, midbasal lobe broad, short, but rounded. Scutellum broad, triangular, sides and apex rounded.

Elytra two and-one-third times as long as broad (2.49-3.25 x 1.06-1.36 mm.), sides subcuneate to within one-fifth of apex, thence strongly curved, apices individually rounded. Anterior and intermediate tarsi equal in length to their tibiae. Posterior tibiae with two equal, oblique ridges, each extending across almost one-half width of outer face; basitarsi with three ridges, second segment with two. Anal style slender, acuminate to apex, three times length of hypopygium in male (1.17 x .38 mm.), three and one-half times length of hypopygium in female (1.47 x .42 mm.).

Length: to apices of elytra, 3.43-4.46 mm.; to tip of anal style, 4.64-5.93 mm.

Holotype, male, allotype, female, and two paratypes, both males, GREAT SMOKY MOUNTAINS NATIONAL PARK, GATLINBURG, TENNESSEE, June 13-19, 1942 (H. S. Dybas); holotype and allotype in the collection of Eugene Ray, paratypes in the collection of the Chicago Natural History Museum.

This species is allied to *egregia* Liljeblad³ and may be separated by the broad basal vitta of the elytra, which abruptly narrows one-fourth from base and extends in a narrow subsutural line almost to apex, by the shorter antennae with the fourth segment slightly longer than the fifth, by the uniformly fuscopiceous color of the ventral surface, by the shorter, broader maxillary palpi, by the longer, narrower posterior tibiae and by the broader form. Comparisons have been made with the types of *egregia*, as well as with *argenteola* Liljeblad⁴ and *syntaenia* Liljeblad⁵, with which this species is also allied.

Mordellistena bihirsuta Ray, new species
(Figs. 6, 10)

Form moderately slender, narrow, sides subparallel on basal half of elytra, derm black, four basal segments of antennae fuscobrunneous, front, mouthparts, anterior legs and middle femora castaneous to fuscous. Body densely covered with fine, recumbent pubescence, sericeocinereous, except on pronotum and elytra, where it is flavocinereous, with the elytral suture and apex broadly and the apical half of lateral margin narrowly covered with dark pubescence that appears to be purple in certain lights.

Eyes densely covered with short, fine, erect hairs. Antennae 1.1 mm. long, extending to base of pronotum, segments 1-2 robust, equal; 3 distinctly longer but narrower than 4; 5-10 each longer than 3 and one-half broader, subserrate; 11 slightly longer than 10, oval, sides and apex rounded. Terminal segment of maxillary palpi enlarged, form of a moderately elongate scalene triangle, distinctly longer than broad, inner and apical margins straight, angles rounded.

Pronotum one-half broader than long (1.26 x .8 mm.), anterior margin and sides broadly rounded, base arcuate, midbasal lobe moderately produced, broad, rounded. Scutellum small, broad, triangular, broadly rounded at tip.

Elytra short, slightly more than twice as long as broad (2.7 x 1.16 mm.), narrower at base than pronotum, broadest at base, sides subparallel on basal half, thence curved to apex, apices individually rounded. Anterior and intermediate tibiae shorter than their tarsi, the latter filiform, penultimate segment shortest. Posterior tibiae with two equal, oblique, parallel ridges (excluding subapical one), each short, extending no more than one-third distance across outer face; basitarsi with three, second segment with two short ridges. Anal style short, robust, attenuate to apex, but twice length of hypopygium (1.16 x .58 mm.).

Length: to apices of elytra, 3.5 mm.; to tip of anal style, 4.66 mm.

³Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:107.

⁴Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:104.

⁵Can. Ent., 1921, 53:184.

Holotype, male, MALHEUR LAKE, OREGON, June 10, 1940 (K. M. Fender); allotype, female, BOARDMAN, OREGON, June 26, 1941 (K. M. Fender); two paratypes, OTHELLO, WASHINGTON, June 18, 1932 (M. H. Hatch); one paratype, TOPEKA, KANSAS, June 10, 1941 (H. S. Dybas); holotype in the collection of Eugene Ray; allotype in the collection of Kenneth M. Fender; paratypes in the collection of the Chicago Natural History Museum, Melville H. Hatch and Eugene Ray.

This species is closest to *syntaenia* Liljeblad⁶ and has been compared with the type of the latter. It differs in its broader form, in the broad, laterally placed yellowish vitta on the elytra, which in *syntaenia* is double and medially placed on each elytron, by the antennae, which have the third segment longer than the fourth, and by the shorter anal style.

Mordellistena arizonensis Ray, new species
(Figs. 3, 12)

Form narrow, elongate, sides subparallel to middle of elytra. Derm black, except for a narrow, rufocastaneous line along caudal margins of abdominal segments, clypeus, labrum and mesal half of mandibles rufocastaneous. Surface densely covered with fine, recumbent pubescence, partaking of ground color, except for the following whitish areas: head, pronotum, scutellum, base and basal fifth of elytral margins broadly, single scattered hairs elsewhere on disc, meso- and metasternum and basal halves of abdominal segments.

Head strongly convex, but little narrower than pronotum; eyes entire, densely covered with fine, erect hairs. Antennae short, robust, 1.1 mm. long, extending only to basal third of pronotum; segments 1-2 large, equal; 3-4 equal in length, 4 distinctly broader than 3; 5-10 each one-third longer and broader than 4, subseriate, each broadest subapically, mesal edges rounded, lateral edges straight; 11 distinctly longer than 10, sides straight, angles obtuse. Terminal segment of maxillary palpi enlarged, form of a broad scalene triangle, apical edge shortest, lateral margin almost straight, angles rounded.

Pronotum moderately rounded, distinctly broader than long (1.21 x 1.02 mm.), completely and finely margined, apex, sides and basal angles rounded, the latter obtuse, base arcuate, midbasal lobe short, broad, rounded. Scutellum moderately large, broadly triangular, sides and apex rounded.

Elytra narrow, elongate, two and one-half times as long as broad

⁶Can. Ent., 1921, 53:184.

(3.02 x 1.21 mm.), sides subparallel on basal half, thence strongly curved caudad, apices individually rounded. Anterior and intermediate tarsi filiform, as long as their tibiae, penultimate segment shortest. Posterior tibiae with two short, oblique, equal, parallel ridges near the tip (excluding subapical one); basitarsi with four oblique ridges, second segment with two. Anal style but twice length of hypopygium (1.17 x .64 mm.), robust, acuminate to apex, the latter truncate.

Length: to apices of elytra, 4.04 mm.; to tip of anal style, 5.21 mm.

Holotype, female, HUACHUCA MOUNTAINS, ARIZONA, August 18, 1938 (J. N. Knull); in the collection of Ohio State University.

This species is allied to both *pullata* Liljeblad⁷ and *nigella* Liljeblad⁸. Comparison with the types of these two species reveals the following differences: a larger size, broader form, broader terminal segment of the maxillary palpi, the whitish color of the body pubescence, particularly on the meso- and metasternum and basal margins of the abdominal segments, the bicolored elytral pubescence with single, shining, whitish hairs among others of dermal color, except along base and basal half of lateral margins, where they are more numerous but not dense enough to be considered a fascia, and the shorter antennae, which reach only to basal third of pronotum.

MORDELLISTENA EGREGIA Liljeblad

Mordellistena egregia Liljeblad, Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:107.

One specimen: Seaview, Washington, July 25, 1932. This species was described from two specimens taken in Mariposa County, California.

Mordellistena pilosella Ray, new species (Figs. 5, 11)

Form narrow, linear, sides subparallel. Derm black; labrum, palpi, anterior and intermediate legs and six basal segments of antennae flavocastaneous, intermediate femora and tibiae darker, antennal segments seven to eleven fuscous. Surface covered with fine, recumbent pubescence, sericeocinereous everywhere, except on light areas, where it has a yellowish tinge.

Head strongly convex, almost as broad as the pronotum, eyes entire, densely covered with fine, erect hairs. Antennae 1.51 mm.

⁷Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:115.

⁸Ibid., 62:116.

long, reaching beyond base of pronotum; segments 1-2 large, equal; 3-4 short, equal; 5-10 equal, each two-thirds longer and slightly broader than 4, not, however, serrate, but slightly broadened to apex; 11 one-half longer than 10, flattened, broadest at apical third, sides and corners rounded. Terminal segment of maxillary palpi enlarged, moderately robust, with the form of a scalene triangle, apical edge distinctly longer than inner margin, sides and angles rounded.

Pronotum convex, slightly broader than long (.72 x .68 mm.), completely and finely margined, apex and sides rounded, basal angles obtuse, base arcuate, midbasal lobe broad, short, truncate. Scutellum large, triangular, sides rounded, apical angle broadly so.

Elytra narrow, elongate, two and seven-tenths times as long as broad (1.96 x .72 mm.), sides subparallel to within a fourth of apex, thence strongly curved, apices individually rounded. Anterior and intermediate tarsi distinctly longer than their tibiae, subfiliform, penultimate segment slightly broadened at apex. Posterior tibiae with two oblique, parallel ridges, anterior one extending entirely across outer face; basitarsi with three oblique ridges, second segment with two. Anal style distinctly more than twice length of hypopygium (.91 x .41 mm.), slender, acuminate from base to apex.

Length: to apices of elytra, 2.64 mm.; to tip of anal style, 3.55 mm.

Holotype, male, PATAGONIA MOUNTAINS, ARIZONA, August 20, 1940 (D. J. and J. N. Knull); in the collection of Ohio State University.

This species is most closely allied to *blatchleyi* Liljeblad⁹ and may be separated by the more elongate form, larger size, longer pronotum, larger, more rounded scutellum, shorter anal style, the castaneous anterior and intermediate legs, with their tarsi longer than the tibiae, the longer, bicolored antennae, with the six basal segments flavocastaneous and the remainder fuscous and the difference in the relative lengths of these segments, the fifth being two-thirds longer than the fourth.

MORDELLISTENA SUBFUCUS Liljeblad

Mordellistena subfucus Liljeblad, Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:134.

Four specimens: Forest Hill, Rapides Parish, Louisiana, September.

⁹Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:133.

MORDELLISTENA TESTACEA Blatchley

Mordellistena testacea Blatchley, Col. Ind., 1910, 1321.

One specimen: Forest Hill, Rapides Parish, Louisiana, September 17-21, 1945, light trap (R. L. Wenzel). This is an extreme southern record, the species having hitherto been recorded only from Indiana.

MORDELLISTENA NUNENMACHERI Liljeblad

Mordellistena nunenmacheri Liljeblad, Can. Ent., 1918, 50:157.

Three specimens: one, Virden, Washington, May 4, 1935 (Hatch-Wilson) and two, Metiolus River, Oregon, June 1, 1936 (H. Lanphere). This species is now known to be found in the three Pacific Coast States.

***Mordellistena y-notata* Ray, new species**

(Figs. 7, 8, 9)

Form narrow, elongate, subparallel, but slightly subcuneate. Derm black, head castaneous, vertex black; antennae black; pronotum castaneous, basal margin narrowly black, a fuscous, Y-shaped spot on posterior half of disc, the stem at the midbasal lobe and the arms extending to middle of disc. Basal two-thirds of anterior and intermediate femora castaneous, remainder black. Surface densely covered with fine, recumbent pubescence, partaking of ground color, except on head and pronotum, where it is yellowish and on ventral surface, where it is whitish.

Head strongly convex, eyes entire, densely covered with fine, erect hairs. Antenna 1.06 mm. long, reaching to middle of pronotum; segments 3-4 equal in length, the latter slightly broader; 5-10 each one-half longer and broader than 4, flattened, subserrate, broadest at apex; 11 one-third longer than 10, broadest subbasally, sides and apex rounded. Terminal segment of maxillary palpi enlarged, form of a broad isosceles triangle, sides distinctly rounded.

Pronotum convex, broader than long (1.09 x .89 mm.), apex and sides rounded, basal angles obtuse, base arcuate, midbasal lobe broad, long, strongly rounded. Scutellum small, triangular, sides and apex rounded.

Eltyra narrow, two and six-tenths times as long as broad (2.83 x 1.09 mm.), sides subparallel to beyond middle, thence strongly curved, apices individually rounded. Anterior and intermediate tarsi filiform, as long as their tibiae. Posterior tibiae with three

equal, oblique ridges, each extending about one-third across outer face; basitarsi with three ridges, second segment with two. Anal style twice length of hypopygium (1.09 x .53 mm.), broad on basal half, narrow and acuminate from middle to apex.

Length: to apices of elytra, 3.81 mm.; to tip of anal style, 4.9 mm.

Holotype, female, DECATUR, MICHIGAN, July 18, 1942 (E. Ray); in the collection of Eugene Ray.

This species is most closely allied to *tantula* Liljebblad¹⁰ and may be distinguished by the presence of a Y-shaped, fuscous area on the basal half of pronotum, the castaneous head, the black antennae, the bicolored legs and the peculiar antennae, which have segments three and four equal, five to ten much broadened and flattened and almost twice as wide as four. In *tantula* four is as long as two and three together, five to ten are not flattened and are not much broader than four.

MORDELLISTENA AMBUSTA LeConte

Mordellistena ambusta LeConte, Proc. Acad. N. S. Phila., 1862, 14:50.

One specimen: Seattle, Washington, July 16, 1927 (T. Kincaid). This is the first West Coast record for this Eastern species.

MORDELLISTENA CONFORMIS Smith

Mordellistena conformis Smith, Bull. Brook. Ent. Soc., 1883, 6:4.

Four specimens: Forest Hill, Rapides Parish, Louisiana, August 10-September 7, 1945, light trap (R. L. Wenzel). This species has hitherto been recorded only from Texas.

Mordellistena malkini Ray, new species

(Figs. 2, 14)

Form narrow, elongate, sides subparallel on basal half of elytra. Derm black, except two basal segments of antennae, which are fuscocastaneous. Surface densely covered with fine, recumbent pubescence, cinereous everywhere, except on elytra, where it is mixed with black.

Head convex, distinctly narrower than pronotum; eyes entire, densely covered with short, erect hairs. Antennae 1.38 mm. long,

¹⁰Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:159.

reaching base of pronotum; segments 1-2 large, equal; 3-4 equal in length, the latter distinctly broader; 5-10 somewhat flattened, each one-fourth longer and slightly broader than 4; 11 one-third longer than 10, broadest postmedially, sides and angles rounded. Terminal segment of maxillary palpi enlarged, form of a broad, scalene triangle, mesal margin shortest, sides and angles rounded.

Pronotum as long as broad (1.32 mm.), finely but distinctly margined, apex and sides strongly rounded, basal angles right angles, base arcuate, midbasal lobe broad, short, rounded. Scutellum small, broad, subtriangular, sides and apex rounded.

Elytra elongate, narrow, two and six-tenths times as long as broad (3.4 x 1.32 mm.), sides parallel on basal half, thence broadly rounded to apex, apices individually rounded. Anterior and intermediate tarsi longer than their tibiae, penultimate segment shortest, distinctly broader than preceding segment and emarginate on apical margin. Posterior tibiae with three oblique, parallel ridges, middle one extending completely across outer face, others extending less than half this distance; basitarsi with five oblique ridges, second segment with three. Anal style elongate, more than three times length of hypopygium (2.14 x .7 mm.), abruptly narrowing one-third from base, thence narrow and attenuate to apex, the latter acute.

Length: to apices of elytra, 4.72 mm.; to tip of anal style, 6.86 mm.

Holotype, male, allotype, female, and a paratype, female, TARPON SPRINGS, FLORIDA, April 18, 1943 (B. Malkin); holotype and allotype in the collection of Eugene Ray; paratype in the collection of Borys Malkin, to whom this striking species is dedicated.

This species is allied to *husseyi* Lilejblad¹¹, described from Michigan, but may immediately be separated by the narrower form, larger size, the larger number of ridges on the posterior tarsi, the longer anal style, the black palpi and anterior femora and the narrower terminal segment of the maxillary palpi.

NAUCLES TIBIALIS Champion

Naucles tibialis Champion, Biol. Centr. Amer. Col., 1891, 4, 2:257.

One specimen: Forest Hill, Rapides Parish, Louisiana, September 24-29, 1945, light trap (R. L. Wenzel). This species has hitherto been recorded only from Guatemala and California.

¹¹Misc. Publ. Mus. Zool., Univ. Mich., 1946, 62:176.