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THE MALACHIIDAE OF NORTH CENTRAL MEXICO (COLEOPTERA)

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For 13 weeks during the summer of 1947 the David Rockefeller Mexican Expedition of the American Museum of Natural History collected insects and spiders on the high central plateau of northern Mexico, covering the states of Chihuahua, Coahuila, Durango, and Zacatecas. The present paper is based mostly on the material in the family Malachiidae collected by that expedition but includes all known Mexican records for the species collected, as well as all previous records of Malachiidae from the territory covered but not collected by the expedition. Species recorded from the adjacent states, such as Sonora or Nuevo Leon, but not collected by the expedition are not included, unless they have also been recorded from the territory covered by the expedition. An introductory account of the expedition, including a map showing the route and most localities where collections were made, was published by Spieth (1950).

Fifteen species of Malachiidae were taken, included in two genera, *Collops* and *Trophimus*, both of which are common to Mexico and the southwestern United States. Three of these species are herein described as new. Champion (1914) reported only five additional species from the area. Eleven of the species collected occur also in the United States; only one is Neotropical, extending into north central Mexico but not reaching the United States. When one considers the number of genera native to North America north of Mexico (13) and the number occurring

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in Mexico and Central America (9), the distribution of genera in north central Mexico seems to be decidedly unbalanced. Especially surprising is the apparent absence of *Attalus* from the region in question, when it is noted that 56 species of this genus occur in the United States and 52 species, according to Champion, in Mexico and Central America. Champion, however, reports only one species of the 52 as occurring in the area. A dozen or more species of *Attalus* are found in southwest Texas, just across the Rio Grande from Chihuahua, and it is almost certain that further collecting will discover some of these in the latter locality. So far as the Malachiidae are concerned, the affinities of the fauna in the area covered are definitely with the Sonoran area to the north rather than with the Neotropical region to the south.

Records not taken from the material at hand are taken from Champion (1914), unless otherwise stated, since his work includes that of Gorham (1882, 1884) in the "Biologia Centrali-Americana." Distribution maps are furnished for six species, and for the sake of uniformity the same method of recording is used as was used by P. Vaurie (1950) in her study of the Meloidae taken by the expedition, i.e., "the letters on the map correspond to the localities given in the text. The recorded distribution is shown by solid circles; new localities are indicated by crosses." The arrows show that the species occurs in Sonora, Arizona, New Mexico, or Texas. A table showing the localities at which collections were made, with the altitude and the date at which collecting was done at each locality, is given by Vaurie in the same paper, so that these data are not repeated in recording the localities under each species. The dates run from June 24 to August 25, 1947. Figure 8 showing the abdominal segments of the male of *Trophimus mexicanus* was made after the specimen had been soaked for about two hours in a solution of aerosol and water. The abdominal segments were not distended out of shape but, on the other hand, were not shrunk and distorted.

KEY TO THE GENERA

1. Antennae apparently 10-segmented, the true second segment minute and concealed in a cavity at the end of the first segment.....*Collops*
Antennae clearly 11-segmented.....2
2. Tarsi simple, the protarsi four-segmented in the male.....*Trophimus*
Male protarsi with the second segment prolonged in a lobe over the third,
all the tarsi in both sexes five-segmented.....*Attalus*

GENUS **COLLOPS** ERICHSONKEY TO THE SPECIES OF *Collops*

1. Elytra entirely blue, green, or black 2
- Elytra not unicolorous 8
2. Prothorax pale, immaculate, rarely a small central spot in *parvus* and *nigritus* 3
- Prothorax not immaculate 7
3. Elytra black, very coarsely punctured *nigritus*
- Elytra blue or green 4
4. Second antennal segment in the male without visible appendage; head and legs black; elytra coarsely punctate, violaceous *brevicollis*
- Second antennal segment in the male with a long appendage 5
5. Prothorax small, about half as wide as the elytra; species small, about 3.5 mm. *parvus*
- Prothorax larger, distinctly more than half as wide as the elytra; species medium or large 6
6. Species large, 7.5 mm.; first antennal segment of male with anterior dentiform prominence; femora red *dux*
- Species medium in size, 4.5–5.5 mm.; first antennal segment of male oblong subquadrate, without dentiform prominence; legs all black *paradoxus*
7. Prothorax with two rounded spots, which vary considerably in size; species large *bipunctatus*
- Prothorax with a large quadrate discal spot; species medium in size *bradti*
8. Elytra vittate, the vittae usually narrowed near the basal third 9
- Elytra maculate, rufous, each with a dark blue or green basal and subapical spot 14
9. Prothorax entirely black; lateral pale margin of each elytron reduced to an elongate, triangular spot at the basal third *gertschi*
- Prothorax not entirely black 10
10. Antennae of male very strongly serrate; elytral vittae broad and scarcely narrowed at anterior third; head pale anterior to the front margin of the eyes *limbellus*
- Antennae of male moderately serrate; elytral vittae distinctly narrowed at the anterior third; head mostly black 11
11. Elytra with minute tuberculiform elevations *granellus*
- Elytra not tuberculate 12
12. Prothorax pale, immaculate 13
- Prothorax with a large quadrate discal spot, sometimes divided, occasionally absent (see 13) *vittatus*
13. Lateral thirds of prothorax rugulose; punctuation of elytra coarse, surface rather dull *confluens*
- Prothorax uniformly shining; punctuation of elytra fine, surface shining *vittatus*
14. Prothorax finely alutaceous and dull throughout; form depressed; size small, 3.0–3.5 mm. *insulatus*
- Prothorax shining, not alutaceous 15
15. First antennal segment in the male sinuously excavate posteriorly 16

- First antennal segment in the male not sinuate posteriorly.....17
- 16. Elytra more coarsely punctate, shining; legs black.....*histrion*
- Elytra more finely punctate, dull; legs usually all pale.....*blandus*
- 17. Head red or testaceous in front, more broadly so in the male; second antennal segment with a very long, stout appendage.....*histrionicus*
- Head black to the front margin.....18
- 18. Basal segment of antenna in male slender, fully twice as long as wide; elytra coarsely punctate; lateral thirds of thorax rugulose.....*confluens*
- Basal segment of antenna in male thicker and shorter, barely one-half longer than wide; elytra less coarsely punctate; prothorax shining throughout.....*quadrimaculatus*

The species are considered in the order in which they appear in the above key.

***Collops nigritus* Schaeffer**

Figure 1

Collops nigritus SCHAEFFER, 1912, Canadian Ent., vol. 44, p. 185.

TYPE LOCALITY: Arizona.

RECORDED MEXICAN DISTRIBUTION: Northern Sonora.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua; San José Babicora (A), seven; Madera (B), one. Durango: Palos Colorados (C), one.

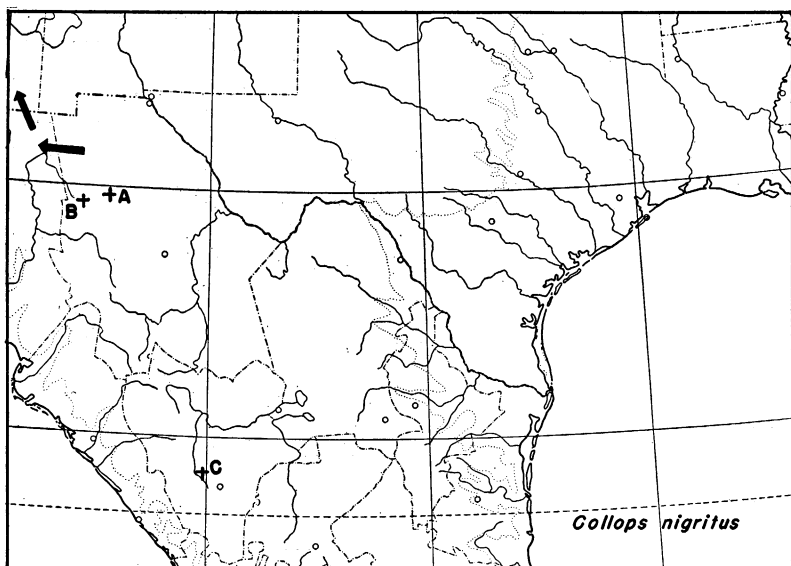


FIG. 1. Distribution of *Collops nigritus*.

These few specimens show no variation and no differences when compared with *nigritus* from southern Arizona. Champion (1914) states that the wings in this species are rudimentary and separates it from all other Mexican species of *Collops* on that basis. Neither Schaeffer nor Fall (1912) makes any such suggestion, and the shape of the specimens before me, 19 in all, does not indicate that such is the case, as it clearly does in *cribrosus* LeConte. One specimen from Arizona has the wings showing between the accidentally spread elytra, and they appear to be fully developed. I think that Champion was probably dealing with another species.

***Collops brevicollis* Champion**

Collops brevicollis CHAMPION, 1914, Trans. Ent. Soc. London, pt. 1, p. 24.

TYPE LOCALITY: Durango, Mexico.

RECORDED MEXICAN DISTRIBUTION: Durango: Ciudad Durango; Ventanas.

No specimens of this species were collected on the expedition.

***Collops parvus* Schaeffer**

Collops parvus SCHAEFFER, 1912, Canadian Ent., vol. 44, p. 185.

TYPE LOCALITY: Arizona.

RECORDED MEXICAN DISTRIBUTION: Northern Sonora.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Durango: San Juan del Rio, six.

These specimens agree perfectly with those of *C. parvus* from Arizona and Texas, except that the posterior tibiae are entirely black or piceous, whereas in the northern specimens all the tibiae and tarsi are testaceous. It undoubtedly also occurs in Chihuahua.

***Collops dux* Fall**

Figure 2

Collops dux FALL, 1912, Jour. New York Ent. Soc., vol. 20, p. 259.

Collops grandis CHAMPION, 1914, Trans. Ent. Soc. London, pt. 1, p. 20 (new synonymy).

TYPE LOCALITY: Del Rio, Texas.

RECORDED MEXICAN DISTRIBUTION: Chihuahua; Santa Clara (A), Chihuahua City (B). |

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Catarinas (C), three; 63 miles west of Santa Barbara (D), two; Las Delicias (E), one.

Grandis is the female of *dux*, which was described by Fall from a single male specimen. Champion had only females of *grandis* and states that the male is unknown. The female of *dux*, of which I have several specimens from southern Arizona and Texas, has the head black as far forward as the frontoclypeal suture, as in

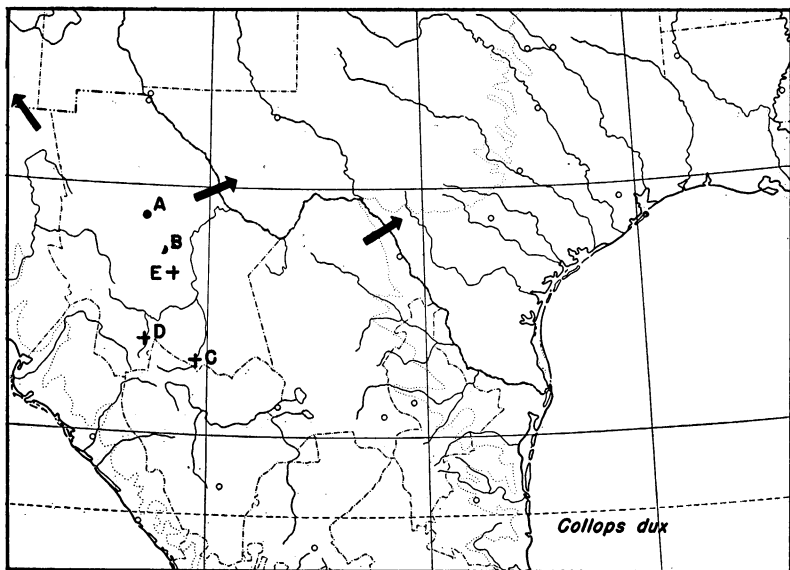


FIG. 2. Distribution of *Collops dux*.

grandis, but the male has the front yellow as far back as the anterior margin of the eyes. Fall's name has priority by two years, and the type of *grandis*, if the above synonymy holds good, becomes the allotype of *dux*.

***Collops paradoxus* Champion**

Figure 3

Collops paradoxus CHAMPION, 1914, Trans. Ent. Soc. London, pt. 1, p. 21.

TYPE LOCALITY: Oaxaca, Mexico.

RECORDED MEXICAN DISTRIBUTION: Guerrero: Mochitlan (A); Omilteme (B); Xucumanatlan (C); Oaxaca (D).

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Eight miles west of Matachic (E), one; Kilometer 36, Santa Barbara-Ojito Road (F), two. Durango: Palos Colorados (G), six.

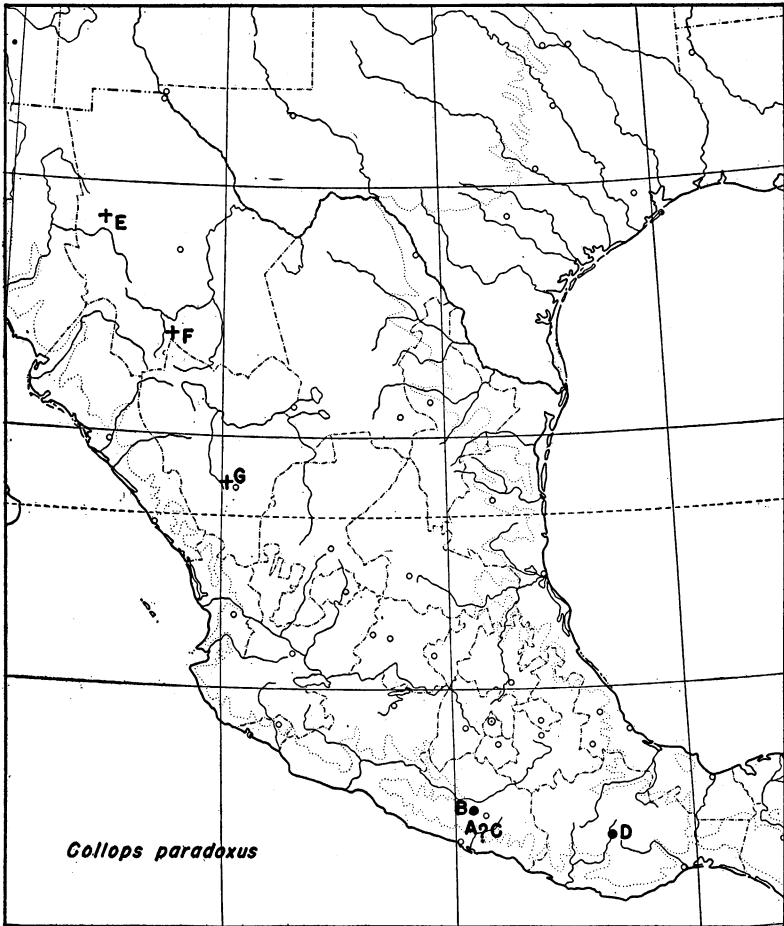


FIG. 3. Distribution of *Collops paradoxus*.

There is only one male in the lot. If it were not for this specimen, the species could not be definitely separated from *frontalis* Gorham. Champion (1914) states that the female of *paradoxus* has the first antennal joint wholly pale, but this is not true in the specimens at hand. It is one of the few species of Malachiidae

collected by the expedition which does not occur also in the United States.

***Collops bipunctatus* (Say)**

Figure 4

Malachius bipunctatus SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 185.

TYPE LOCALITY: "Arkansaw region near the Rocky Mountains."

RECORDED MEXICAN DISTRIBUTION: Durango: Durango City

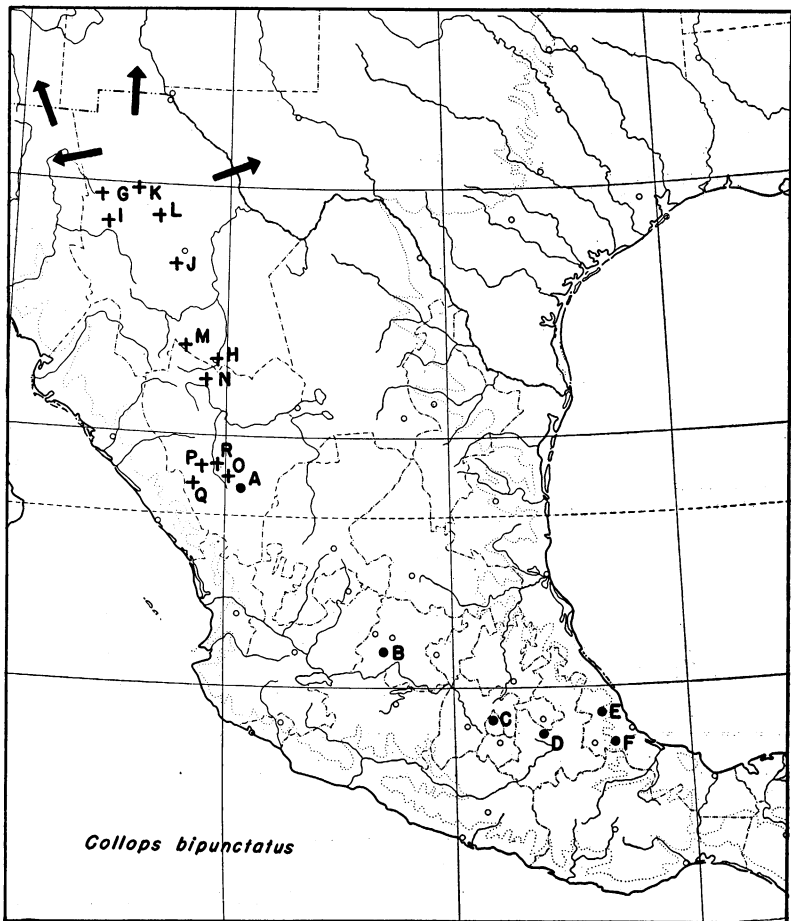


FIG. 4. Distribution of *Collops bipunctatus*.

(A). Guanajuato: Irapuato (B). Distrito Federal: Mexico City (C); Amecameca. Puebla: Puebla City (D). Vera Cruz: Jalapa (E); Orizaba (F).

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Madera (G), 139; Catarinas (H), 32; Matachic (I), 22; Charcos, Allende Dist. (J), nine; San José Babicora (K), 12; Santa Clara (L), five; Santa Barbara (M), one. Durango: Encino (N), five; Coyotes (O), five; Otinapa (P), 12; 6 miles northeast of El Salto (Q), four; Palos Colorados (R), one.

In 1951 I reported a series of seven specimens of this species, from the Distrito Federal, all of which had the thoracic spots markedly dilated and the legs and antennae entirely black. These presented such a different appearance from the United States specimens, in which the thoracic markings are reduced to two small dots, that I was tempted to describe them as a subspecies. At that time no specimens were known to me from the territory between the United States border and Mexico City, although Champion (1914) had mentioned a "long series" from Durango in the British Museum. The present series, from Chihuahua and Durango, affords the missing information but still leaves me somewhat undecided as to the advisability of separating the species into two subspecies. This series shows the thoracic spots varying in size in different specimens, all the way from the minute dots of the northern form to the widely dilated spots of the Mexico City specimens, and there does not appear to be a preponderance of either form in any locality throughout this extensive area, as would be expected if we were dealing with two subspecies. Another series of 45 specimens, from the Distrito Federal, all show the thoracic spots widely dilated, although with some variation in this respect, and one specimen has the thorax almost entirely black. Evidently the individuals with the minute thoracic dots drop out of the picture somewhere between southern Durango and Mexico City.

The series from Chihuahua and Durango also shows great variation in the color of the elytra. In the majority the elytra are blue, as in most all specimens to the north and to the south of this area, but in a considerable number the elytra are green and in a few are entirely black. In one specimen the elytra are banded; the anterior third is blue, the middle third green, and the posterior third black. In several specimens the elytra show black spots of varying size, shape, and position, on a blue or green

background, producing a mottled appearance. It would be obviously impossible to include all these variations in a key.

It would appear that the area covered by the Rockefeller expedition represents the original home of the species, where it shows marked variability in many features, and that factors associated with geography, such as light, temperature, moisture, etc., are responsible for the segregation into a pale northern and a dark southern form. However, if the species were separated into two subspecies, it would not be possible to assign the majority of specimens from this extensive territory to either one or the other subspecies, and it appears more desirable merely to state the facts in the case, as we find them.

Champion (1914) states: "According to Mead, *C. bipunctatus* is said to destroy *Doryphora*," the Colorado potato beetle. If this is true, it is one of the few malachiids known to have any economic importance.

Collops bradti, new species

MALE: Oblong, the elytra slightly widened posteriorly. Black, the elytra uniformly dark blue; the outer (posterior) border of the first two antennal segments, clypeus, and labrum (except for a central dark spot), base of the mandibles, posterior border of the abdominal segments and central membranous portion of abdomen testaceous; all the prothoracic borders and prosternum rufo-testaceous, the tibiae and tarsi piceous. Head broad, a slightly tumid, shining, glabrous area just inside each eye; the front slightly depressed, finely and densely punctured and pubescent, the pubescence white, with a few long, erect, black setae; the balance of the head sparsely and finely punctured, with similar vestiture. Antennae with the first segment rounded triangular, as wide as long (measured from the constriction at the inner end), the anterior border markedly convex; second segment quadrate, viewed from below, slightly wider than long, the tooth on the anterior face prominent, the appendage long and elbowed; the other segments shorter and heavier than usual and strongly serrate. Prothorax strongly transverse, 1.5 times wider than long, sides parallel, all the angles broadly rounded, the base broadly and shallowly sinuate; the pale anterior margin very narrow, the posterior wider and the lateral margins very wide; the surface shining, sparsely and minutely punctulate, vestiture as on the head, the erect setae more numerous and uniformly

distributed. Elytra shining, the punctures medium fine and dense, the suture elevated, the surface indistinctly and finely tuberculate in certain lights, the pubescence and setae as on the thorax. Ventral surface shining, with faint greenish tinge, the punctuation fine and sparse, the pubescence white and longer than on the dorsum. Length 3.6 mm.

FEMALE: Unknown.

Holotype, male, "30 miles west of Balleza, Chihuahua, Mex. 7900 ft. V-27-48," collected by Mr. G. M. Bradt, for whom the species is named. The unique type is in the American Museum of Natural History. Paratypes none.

This species resembles both *nigriceps* (Say) and *marginicollis* LeConte in general appearance, although it does not run definitely to either species in Fall's (1912) or Champion's (1914) key. From *nigriceps* it is distinguished by the all black head, antennae and legs (with the minor exceptions noted above), and the normal shape and size of the third antennal segment, while from *marginicollis* it is separated by the black antennae and legs and the shape of the first antennal segment, which is elongate triangular in the latter species.

***Collops gertschi*, new species**

MALE: Oblong, the elytra very slightly widened posteriorly. Black, the head and under parts with faint greenish reflections, thorax and scutellum without metallic tint; elytra violaceous blue, with elongate triangular lateral spot and broad sutural stripe, anteriorly dilated, on each, rufotestaceous; ventral segments, tibiae and tarsi piceous, the posterior margins of the segments pale; posterior (external) face of first two antennal segments, a triangular frontal spot, genae, base of mandibles, and anterior margins of clypeus and labrum testaceous. Head medium in size, the front faintly transversely impressed, uniformly, finely, and densely punctured, the pubescence white, inconspicuous, with a moderate number of long, black, erect setae. Antennae rather short, only moderately serrate, the first segment elongate, slightly more than twice as long as broad, the second smaller than usual, rounded triangular viewed from beneath, one-third longer than broad, the tooth on the anterior face large and blunt, the appendage long, curved, and conspicuous. Prothorax transverse, 1.6 times wider than long, sides subparallel, all angles rounded, base broadly shallowly emarginate, the basal

bead impressed, the surface glabrous and shining on the disc, rather strongly rugulose in the lateral thirds; pubescence sparse and inconspicuous, erect setae fairly numerous. Elytra shining, punctuation dense and medium coarse, pubescence pale, fine, and noticeable only in oblique light, erect setae rather sparse, fine, and not conspicuous. The sutural pale stripe does not reach the scutellum. Ventral surface shining, finely and rather densely punctured and pubescent.

FEMALE: Similar to the male, except for the secondary sexual characters, which are not remarkable. The head is entirely black, but the posterior surface of the first antennal segments is testaceous, as in the male.

Length, male and female, 4.0 mm.

Holotype, male, "San José Babicora, Chihuahua, Mex. 7100 ft. July 5, 1947." Allotype, female, "8 miles west of Malachic, Chihuahua, Mex. 7200 ft. VII-8-47." Both collected by Dr. W. J. Gertsch, for whom the species is named. Types in the American Museum of Natural History. Paratypes none.

Species of *Collops* with entirely black thorax are very unusual. Champion (1914) does not mention any such from Mexico or Central America and the only ones from North America with which the present species is apt to be confused are *versatilis* Fall and *necopinus* Fall. I have specimens of each of these species that resemble the present form rather closely as to color and markings, except that the antennae in both *versatilis* and *necopinus* are always testaceous. *Versatilis* is a larger species, is more finely punctured, and the first antennal segment is strongly sinuate or excavate posteriorly, as in *histrion* and *blandus*. *Necopinus* has only the sutural bead pale, the second antennal segment in the male is differently formed, and the appendage to this segment is very short and inconspicuous.

***Collops limbellus* Gemminger and Harold**

Collops limbellus GEMMINGER AND HAROLD, 1869, Catalogus coleopterorum, no. 6, p. 1687.

TYPE LOCALITY: Nebraska.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Durango: San Juan del Rio, three.

This species has not been previously reported from Mexico, although it is fairly common in southwest Texas. The present small series considerably extends its known range, but shows no

difference between the Mexican specimens and those from Texas and Arizona.

***Collops granellus* Fall**

Collops granellus FALL, 1912, Jour. New York Ent. Soc., vol. 20, p. 265.

TYPE LOCALITY: "Southern Arizona."

RECORDED MEXICAN DISTRIBUTION: Northern Sonora. Nuevo Leon; Monterey.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*, Durango: Encino, two.

Similar in every respect to specimens from the southwestern United States, where it is very common.

***Collops vittatus* (Say)**

Figure 5

Malachius vittatus SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 184.

TYPE LOCALITY: "The Mississippi region."

RECORDED MEXICAN DISTRIBUTION: Lower California. Northern Sonora. Durango: Durango City (A), Villa Lerdo (B). Coahuila.

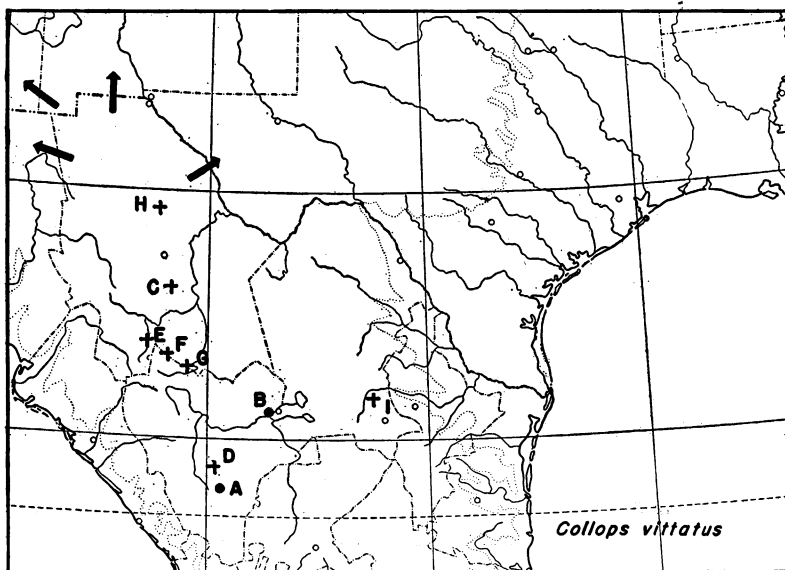


FIG. 5. Distribution of *Collops vittatus*.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Delicias (C), 38; Kilometer 36, Santa Barbara-Ojito Road (E), 10; Santa Barbara (F), one; Catarinas (G), four; Ojo Laguna (H), 2. Durango: San Juan del Rio (D), 22. Coahuila: Guadalupe (I), one.

This series shows the same degree of variation as to the thoracic markings as is shown by specimens from the United States, where the species is widely distributed, varying from specimens with an entirely pale thorax through those with two elongate dark spots to those in which the thorax shows a large, black, quadrate discal area. The width of the elytral vittae and consequently of the pale elytral margins also varies considerably.

Collops confluens LeConte

Figure 6

Collops confluens LECONTE, 1852, Proc. Acad. Nat. Sci. Philadelphia, p. 164.

TYPE LOCALITY: "Missouri Territory."

NEW LOCALITIES AND SPECIMENS EXAMINED: Chihuahua: Madera (A), seven; San José Babicora (B), three; Matachic (C), three; Santa Clara (D), three; Catarinas (E), three. Durango:

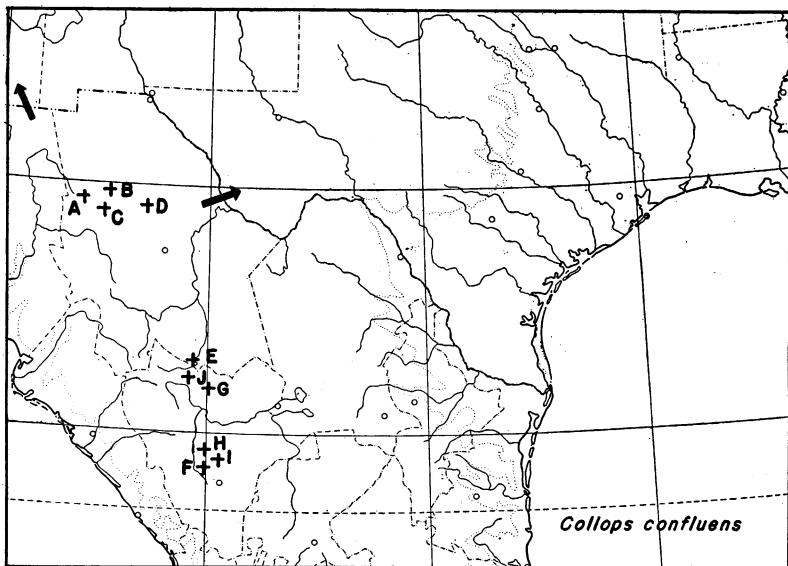


FIG. 6. Distribution of *Collops confluens*.

Palos Colorados (F), five; El Tascate (G), two; San Lucas (H), two; San Juan del Rio (I), three; Encino (J), one.

This is the first time this species has been reported from Mexico, although it was to be expected in the area covered by the expedition. It runs to *flavolimbatus* Champion in Champion's key (1914) but can be distinguished at once by the fact that in *confluens* the lateral thirds of the prothorax are rugulose and dull. Champion states that the head and elytra of *confluens* are more coarsely punctate than in *flavolimbatus* and that the basal joint of the male antennae is entirely testaceous, which last statement is not true in the majority of cases. All but three of the specimens in the present series have the elytral spots confluent.

Collops punctulatus var. **insulatus** LeConte

Collops insulatus LECONTE, 1866, Smithsonian Misc. Coll., vol. 6, p. 94.

TYPE LOCALITY: California.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: 20 miles southwest of Comargo, two.

This is the first time that *punctulatus* or any of its varieties have been reported from Mexico. One of the specimens has the central black thoracic stripe entire, from apex to base; in the other the stripe extends to the base, but not to the apex. There is no geographic correlation between the four color varieties of *punctulatus*.

Collops histrio Erichson

Collops histrio ERICHSON, 1840, Entomographien, p. 59.

TYPE LOCALITY: California.

NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Santa Barbara, one.

This is the first time that *histrio* has been reported from Mexico, although it was to have been expected from Chihuahua. The male is easily distinguished from its allies by the shape of the first antennal segment and the black legs.

Collops blandus Erichson

Collops blandus ERICHSON, 1840, Entomographien, p. 60.

Collops pulchellus HORN, 1870, Trans. Amer. Ent. Soc., vol. 3, p. 80.

TYPE LOCALITY: Mexico.

RECORDED MEXICAN DISTRIBUTION: Durango; Morelos; Vera Cruz; Oaxaca.

The above synonymy is given, in this instance, because the species is known in our literature as *pulchellus*. Fall (1912) makes no mention of *blandus* in his remarks under *pulchellus*, and Leng in his "Catalogue" (1920), was evidently not aware of the synonymy. Apparently Champion (1914) was the first to discover the identity of the two names, although he does not so state. A single female before me, from Jalapa, Vera Cruz, exactly resembles specimens of the same sex from Arizona and Texas, except that it has black legs, but Champion also mentions "a short series" of *blandus* from Vera Cruz which has black legs.

No specimens of this species were taken by the expedition.

Collops histrionicus Champion

Collops histrionicus CHAMPION, 1914, Trans. Ent. Soc. London, pt. 1, p. 34.

TYPE LOCALITY: Not stated by the author.

RECORDED DISTRIBUTION: *Mexico*. Northern Sonora; Chihuahua; Vera Cruz; Oaxaca; Chiapas. *Guatemala*. San Geronimo.

No specimens of this species were taken by the expedition.

Collops quadrimaculatus Fabricius

Malachius quadrimaculatus FABRICIUS, 1798, Entomologia systematica, supplementum, p. 70.

TYPE LOCALITY: "America Borealis."

RECORDED MEXICAN DISTRIBUTION: "Mexico, southward to Guerrero and Vera Cruz" (Champion). "Ciudad in Durango" (Gorham).

No specimens of this species were taken by the expedition. It is very common in the eastern United States, and Champion speaks of it as "a common Mexican insect."

GENUS **TROPHIMUS** HORN

Trophimus aeneipennis Horn

Trophimus aeneipennis HORN, 1870, Trans. Amer. Ent. Soc., vol. 3, p. 85.

TYPE LOCALITY: "Colorado and New Mexico."

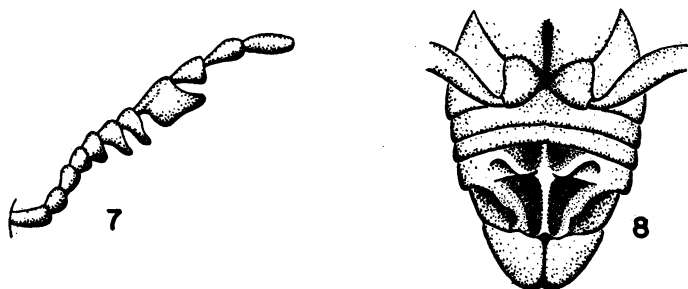
NEW LOCALITIES AND SPECIMENS EXAMINED: *Mexico*. Chihuahua: Santa Clara, Namiquipa Dist., one.

The single female does not appear to be different from those occurring in New Mexico and Texas. It differs from the female of the following species by its larger size and its much longer head. This is the first time that the genus *Trophimus* has been reported from Mexico.

***Trophimus mexicanus*, new species**

Figures 7, 8

MALE: Oblong, subparallel, black, faintly shining, with slight aeneous tinge, the anterior (inner) border of the first five antennal segments, sides and base of pronotum, prosternum, trochanters,



FIGS. 7, 8. *Trophimus mexicanus*, new species. 7. Male antenna. 8. Male abdominal segments.

anterior and middle femora, anterior tibiae and tarsi (in part), and posterior margin of fourth sternite rufotestaceous. Head short, length and width equal, faintly impressed between the eyes, surface shining and practically glabrous. Antennae 11-segmented, the first segment rounded triangular, segments 2, 3, and 4 moniliform, 5 triangular, 6 and 7 strongly serrate, 8 widely and quadrately dilated, 9, 10, and 11 elongate cylindrical (fig. 7). Prothorax quadrate, 1.2 times wider than long, the sides parallel, all the angles broadly rounded, the anterior margin slightly produced, the posterior very slightly emarginate at the middle and finely beaded; the surface shining, finely and sparsely punctulate and pubescent. Elytra finely scabrous, the individual punctures not evident, pubescence rather dense, white, decumbent, with a few scattered, erect, black setae, most noticeable along the margins. Ventral surface finely and sparsely punctured and pubescent, the legs more noticeably so; the center of

the metasternum glabrous, the fourth sternite strongly produced over the fifth, the posterior margin sinuate, the posterior angles strongly dentate and with a dentate median carina (fig. 8). Sixth sternite composed of two large, black, shining, triangular lobes, finely punctate and pubescent. Anterior tarsi simple, four-segmented, the second segment slightly longer than the first and third; middle and posterior tarsi simple, five-segmented, the second segment longest.

FEMALE: Similar to the male, except for the following. The color is entirely black, except for the prothorax, which is colored as in the male, and a narrow pale area occupying about the central third of the lateral margin of each elytron. The aeneous tint of the elytra is somewhat more pronounced than in the male. The antennae are simple, rather short and stout, and very feebly serrate. The head is slightly longer than in the male. The last sternite has a deep median sulcus, with the tip truncate. The pubescence has a yellowish tint and the erect setae are more numerous. The tarsi are all five-segmented.

Length, male, 2.0 mm.; female, 2.5 mm.

Holotype, male, "Palos Colorados, Durango, Mex., 8000 ft. VIII-5-47" and allotype, female, "6 miles n. e. of El Salto, Durango, Mex. 8500 ft. Aug. 10, 1947," both collected by Mr. Rudolph Schramel, in the collection of the American Museum of Natural History. Paratypes none.

The present species resembles *T. aeneipennis* so closely that, before noticing the short head, I was of the opinion that it was that species. On close examination, however, the peculiarly formed antennae, wholly unlike anything in our malachiid fauna, made its specific distinctness evident. The modification of the abdominal segments is also quite different from that in the male of *aeneipennis*. The only European genus to which the species might possibly be referred is *Colotes* Erichson. Abeille de Perrin, however, states (1890) that in *Colotes*, which he spells *Caulantes*, the labrum is indistinct. In the present species it is quite distinct, as it also is in *T. aeneipennis*. The peculiar antennal structure should not exclude it from *Trophimus*. Most species of the type genus, *Malachius*, for instance, have the male antennae simply serrate; but many European species of this genus have the antennae variously modified, as illustrated by Abeille de Perrin (1891, vol. 60, pl. 7).

In deciding where to place the present species, we must also

consider the genus *Micrometes* Wollaston (1862). Champion (1914) places *Anthocomus discimacula* Gorham, from Guanajuato, Mexico, in this genus, stating that "the simple 4-jointed front feet of the male brings it near *Colotes* Erichson, under which Wollaston's genus is sunk by Abeille de Perrin." He chooses, however, to retain *Micrometes*, on the basis of the shape of the apical joint of the maxillary palpi. Abeille de Perrin (1890, p. 257) discusses at some length his reasons for combining *Micrometes* and seven other monotypic genera with *Colotes*, and his reasons appear to me to justify his conclusions. Champion (1914) figures this species, including drawings of the male antenna and anterior tarsus, and Gorham (1882) states that the antennae are "pale, with the middle joints spotted above." The present species resembles *discimacula* closely as to size and color and probably belongs to the same genus, but if Gorham's statement and Champion's figure of the antenna are correct, it is amply distinct as to species. I have not seen *discimacula* and have no specimens of *Colotes* but, if Abeille de Perrin's statement as to the labrum in *Colotes* is to be relied on, I believe that both *discimacula* and *mexicanus* should be assigned to the genus *Trophimus*.

GENUS *ATTALUS* ERICHSON

Attalus hepburnius Gorham

Attalus hepburnius GORHAM, 1884 Biologia Centrali-Americana, Coleoptera, suppl., vol. 3, pt. 2, p. 317.

TYPE LOCALITY: Mexico.

RECORDED MEXICAN DISTRIBUTION: Chihuahua: Pinos Altos.

This species, which was not taken by the expedition, is the only species of *Attalus* recorded by either Gorham or Champion from the area covered. It was described from a unique female, and Champion (1914) stated that the male was still unknown. From the description it resembles our *Tanaops coelestinus* (Gorham) and is said to be recognizable by the tuberculiform prominence on the epistoma. Since only the female is known, it is not at all certain that it is placed correctly as to genus, and the probability is that it will prove to be a *Tanaops*.

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