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The Tenebrionid Beetles of North Central Mexico Collected on the David Rocke- feller Mexican Expedition of 1947 (Coleoptera, Tenebrionidae)

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While this paper is devoted mainly to the tenebrionid beetles collected by the David Rockefeller expedition into northern Mexico in 1947 (Spieth, 1950), some material from other sources has been incorporated where it has a direct relationship to the region visited by the expedition. This region was the four north central states of Mexico: Chihuahua, Durango, Zacatecas, and Coahuila. These states comprise the northern part of the Mexican Highlands and vary in elevation from about 4000 feet along the eastern part to about 9000 feet towards the west. The country in general is mostly arid. It varies in character, however, from nearly complete desert type, through desert grasslands and desert shrub, to island areas of more humid tropical vegetation. This is the great Mexican Highland Plateau.

Rising above this plateau are the mountains, culminating in the west in the Sierra Madre Occidental which reaches in places to over 10,000 feet. This range runs in a generally north and south direction. The slopes of these mountains present an entirely different aspect, for they are frequently covered with trees, largely oak, making up the Montane Forest on the higher parts and merging lower down into the *Quercus santacларыensis* and the *Bouteloua gracilis* consociations. This whole vast region

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of northern Mexico seems to tie in ecologically with the region of Arizona, New Mexico, and western Texas.

Such an area is very suitable for most of the beetles of the family Tenebrionidae. Canada and the northern and eastern part of the United States have only a few species of tenebrionids, and these are limited mostly to species that inhabit old logs and fungi. In the southwest the forms of more humid environments are entirely replaced by a vast array of forms peculiar to the more arid conditions which prevail in that area.

Tenebrionid beetles, also called darkling beetles, or darkling ground beetles, are exceedingly variable in appearance. They are usually distinguished from all the rest of the heteromerous beetles, that is, those that have five segments in the tarsi of the first and second pairs of legs but only four segments in the tarsi of the third or hind pair of legs, by the following characters: first coxal cavities closed behind, front coxae short, globose, not projecting greatly from the cavities, tarsal claws simple, next to the last segment of tarsi not spongy beneath.

In other characters, however, they may vary tremendously, for they may be small to large, normal, cylindrical, elongated, partly flattened, or robust. They are usually rather hard beetles and may be smooth, tuberculate, rugose, punctate, striate, or pubescent. Mostly black in color, but some may be gray, reddish, or mottled, while in the humid tropics, many are brilliantly iridescent with reds and greens. The head is relatively small, usually inserted into the prothorax to the eyes; mouth parts are well developed, mandibles large. The variable antennae, which arise from the sides of the head under lobes in front of the eyes, may be simple, clavate, moniliform, usually 11-segmented but a few 10-segmented. Small horn-like processes may be present in the males of some species. Prothorax variable, may be long and narrow or short and broad. Legs may be stout but are more often slender and frequently long. Membranous wings developed for flight are present in only a few species; in the others they are usually absent or at least vestigial. Elytra usually are hard and cover the abdomen, hugging it close, and in many of the species without the membranous wings are fused together along the suture. Abdomen with five visible sternites. The larvae are white, yellow, or brownish, cylindrical, extremely chitinous or at least leathery, distinctly segmented and with two terminal abdominal hooks. Although the adults may vary considerably, the larvae are strikingly uniform in character. They are usually called "false wire worms" to distinguish them from "wire worms" (larvae of the Elateridae) which they resemble. The pupae are also yellow or brownish and may have short cerci. They usually pupate underground or below the surface in sawdust, vegetable humus, old logs,

or debris, wherever the larvae have been feeding. The larvae, like the beetles, are generally phytophagous scavengers, feeding upon dead or decaying vegetable material and dung; some, which are among our serious pests, attack dry seeds, cereals, and dried vegetable products. Others prefer fungi, while many eat living plant tissue. Some live in ant nests as guest scavengers.

Many tenebrionids are nocturnal. This is especially true of the ground-loving species that inhabit our southwest and the Mexican arid regions. Most of the forms treated in this paper are of that group. During the hotter part of the day, they hide under stones, old logs, or pieces of bark, wood, or other debris. Some prefer to burrow into the ground. A few more hardy species wander about in the sun. However, late in the afternoon when the day begins to cool, activity begins and specimens in ever increasing numbers appear, to wander slowly about. Disturb them and their rather long slender legs are put to good use in getting them under cover. Some do not run from danger, as, for instance, the pinacate beetles (some of the species of the genus *Eleodes*) but place the head on the ground and elevate the abdomen to the full height that the hind legs will permit and remain motionless. From the tip of the abdomen a sticky secretion exudes, which is thought to be ill-tasting to birds, thus giving the pinacate beetles protection against hungry enemies. Other tenebrionids will feign death and with the strong odors that may be present frequently escape their enemies.

Because of their nocturnal habits, many species are overlooked by many collectors. As a result, not many species are represented by large series in collections. The Rockefeller expedition members used various methods in night collecting. The Coleman lanterns attracted many species that are phototropic. Head lamps spotted specimens as they wandered about on the ground. Gertsch used this method in his search for spiders and also undoubtedly added many of the interesting beetle species to the collections. Spiders are discovered by the reflection of the lamp light in their eyes, but the eyes of tenebrionid beetles do not reflect light, so that the beetle itself appears only as a black object. As a result of varied and intensive collecting, the expedition amassed a large amount of material—both specimens and species of the tenebrionid beetles from a region heretofore poorly represented in our collections and one not well studied in the past.

Most of the species of tenebrionid beetles of this highland arid region of northern Mexico, as are those of other arid regions of the world, are ground loving and largely apterous. Even those with vestigial wings cannot fly well, consequently depend on their legs for transportation, so

their spread is greatly hampered (see figs. 1, 2, and 3). For this reason the insects are likely to be confined to a limited area, making islands of isolation in an otherwise mixing population. The barriers creating these islands can be very simple. A small stream or wet area or even a small cliff that would not bar a winged insect could very readily stop a tenebrionid beetle. Isolated mountain ridges and deep valleys or canyons with no direct means of communication are typical of this region of the Mexican Highlands. As a result of this isolation, localized stocks become modified in the course of time. If the isolation is virtually complete, many forms could become distinct enough to be recognized as new subspecies, species, or even genera. The effect of this environment is constantly apparent in the tenebrionid beetles where a large series from a given locality show a reasonable amount of similarity, whereas specimens or series from a region perhaps only a few miles away may present an entirely different aspect.

It is reasonable therefore to consider these beetles as populations and to study them as a whole rather than to conclude that any variation from a normal pattern should be designated as a species, as has so frequently happened in the past. Perhaps at most these variants can be regarded as geographical subspecies. In this paper I have tried to be as conservative as possible in recognizing variants, preferring to consider them as part of a population of an already recognized species. A new species was established only where the differences were so marked that there could be no possible confusion.

No accurate idea of the number of species of tenebrionid beetles for this northern region of Mexico can be arrived at with our present knowledge. For the whole of Mexico and the Central American countries Champion (1884-1888; 1892-1893) listed or described 870 species belonging to 145 genera. Of these 594 species and 49 genera were described as new. However, the greatest percentage of these were from Mexico, the northern part of the area covered, because material from the other countries to the south was so poorly represented. Blackwelder (1945) considerably augmented this number, but gave no exact figures. In the Leng "Catalogue" (1920) and its various supplements, over 1325 species and innumerable subspecies, varieties, or forms of the Tenebrionidae were listed from North America north of Mexico. The greatest proportion of these occur west of the 100th meridian, and over one-half of them cross the border into Mexico or range through Arizona, New Mexico, or Texas so close to the border that many may eventually be discovered in Mexico. Certainly this expedition collected in Mexico a number of species heretofore recorded only north of the border. With

the species that may be endemic to this region and those that push in from the north, I roughly place the tenebrionid population at about 400 species in this northern highland section of Mexico.

The expedition collected from this area, together with a few from other sources, the 75 species which are listed in this paper. Nine species are described as new. Eight or nine other species were secured, mostly of the genus *Eleodes*, the position of which at this time it is impossible to determine, because of variations, slight irregularities, or other confusing differences. Some are uniques and I did not wish to establish a species on only one specimen. Of the 75 determined and newly described species, 41 are from Mexico south of the border. Twenty-six have been recorded from both the United States and Mexico. The remaining eight were previously known from the United States north of Mexico but were taken from south of the border by the expedition. From the above figures, it appears that the tenebrionid fauna covered in this paper is largely peculiar to this part of Mexico, the ratio being nearly 1.20 to 1. Such a high endemic population in my opinion indicates that the northern Mexican Highland area is the center of dispersal for this arid type of tenebrionid beetle for Mexico and the southwestern United States.

Distributional maps are given for three species. The letters on the maps correspond to the names of the localities given in the text. The recorded distribution is shown by solid circles; new records, whether from the 1947 expedition or of other specimens in the collection of the American Museum of Natural History, are indicated by crosses. The arrows indicate the recorded spread of the species into neighboring regions. The three maps also show that the distribution of winged tenebrionid beetles is broader than that of flightless species.

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sent to him, and particularly for his valuable help and suggestions, without which the task of preparing this paper would have been more difficult, if not impossible. Special thanks go to Dr. David Rockefeller not only for making the 1947 Mexican expedition possible, but especially for his continued support which made possible the preparation of this paper.

The arrangement of the genera in this paper follows that of Blackwelder (1945). This does not differ markedly from our generally accepted system of classification, which, however, at the present time is not all that could be desired. No attempt was made to arrange the species of a genus phylogenetically because in a paper of this sort, in which only a few species out of a multitude from any particular genus are mentioned, there is no necessity for showing relationships.

Lobometopon pilosum (Champion)

Epitragus pilosus CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 34.

TYPE LOCALITY: Mexico: Veracruz.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Ten miles west of Nami-quipa, July 3, 1947, one; 15 miles east of Parral, July 15, 1947, 5500 feet, one; *Salaices*, September 16, 1947, 5200 feet (G. M. Bradt), one.

This very distinctive species, described from one specimen by Champion, seems to be nowhere common. The three specimens taken by the expedition from three rather widely separated localities extend the distribution much farther to the north than previous records.

Lobometopon metallicum (Champion)

Figure 1

Epitragus metallicus CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 29.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Puebla*: Puebla (A); Matamoras Izucar (B). *Mexico*: Toluca (C). *Morelos*: Cuernavaca (D). *Veracruz*: Jalapa (E); Cordova (F); Misantla (G); Orizaba (H). *Distrito Federal*: Mexico City (I). *Oaxaca*: Almolonga (J); Oaxaca (K); Capulalpam (L); Juquila (M). *Quanaajuato*: Quanaajuato (N). *Queretaro*: Queretaro (O). *San Luis Potosi*: San Luis Potosi (P). *Chiapas*: Chiapas (Q). Cerro de Plumas, not located. Yolos, not located. Toluca, not located.

Also Guatemala: Guatemala City; Ostuncalco; Quezaltenango, 7800 feet; Duenas. Costa Rica.

NEW RECORDS FOR MEXICO: *Chihuahua*: Matachic (R), July 7, 1947, three; 2 miles west of Matachic (R), July 7, 1947, two.

This is a species of the hotter and more humid regions. It is a common and widely distributed beetle from central Mexico, a little north of Mexico City, south through Guatemala into Costa Rica. The five specimens taken on the expedition from two localities very close together in the central part of the state of Chihuahua extend the range of this species far to the north of any previous record.

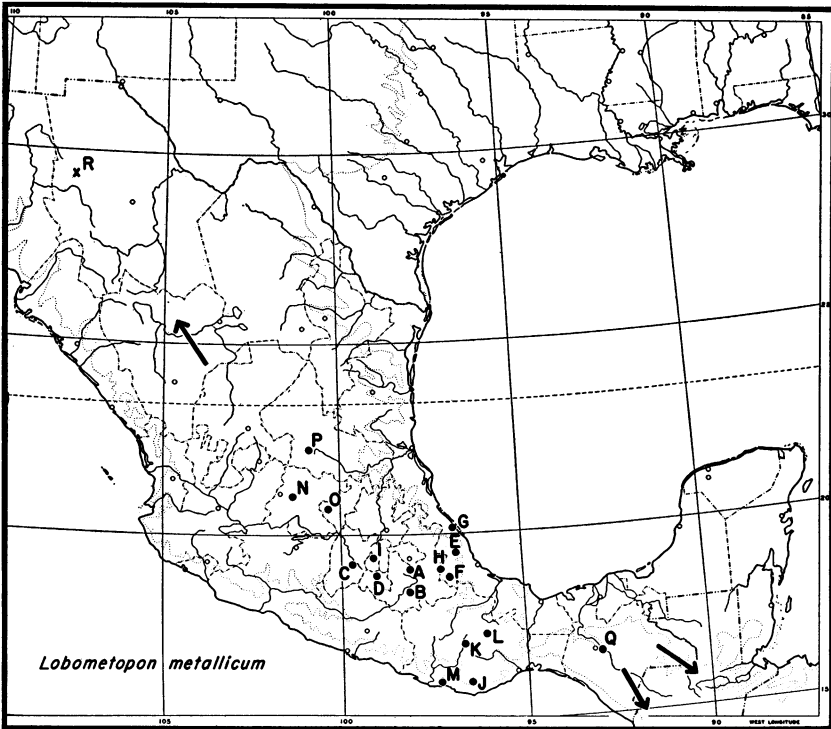


FIG. 1. Distribution of *Lobometopon metallicum* (Champion).

This is one of the winged group of the tenebrionid beetles and also a phytophagous species preferring living plant tissue. These biological factors appear to aid the insect in a more rapid as well as wider dispersal, through a variety of ecological environments. (See fig. 1.)

Bothrotes canaliculata (Say)

Epitragus canaliculatus SAY, 1824, in Keating, W. H., Narrative of an expedition to the source of St. Peter's River . . . under . . . Stephen H. Long, vol. 2, p. 281.

TYPE LOCALITY: Western United States (no exact locality designated).

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora. *Chihuahua*: Chihuahua City.

NEW RECORDS FOR MEXICO: *Chihuahua*: Delicias, July 11, 1947, 4150 feet, six; 10 miles south of Las Delicias, July 13, 1947, two; Cañon Prieto near Primavera, July 2, 1947, 6500–6800 feet, one; Villa Ahumada, June 28, 1947, one; 11 miles east of Huejotitlan, July 21, 1947, 5900 feet, one; Santa Barbara, Santa Barbara District, July 17, 1947, 6300 feet, three; Catarinas, July 25, 1947, 5800 feet, 16; Kilometer 36, Santa Barbara–Ojito road, August 17, 1947, 6900 feet, 42; Salaires, August 20, 1947, 5200 feet (G. M. Bradt), 14; 2 miles south of Matachic, August 21, 1950 (Ray F. Smith), 10. *Durango*: Las Puentes, July 24, 1947, 7000 feet, one; Encino, July 27, 1947, 6200 feet, three; San Isidro, Cuencame District, August 8, 1947, 6700 feet, two; Durango, August 14, 1947, 6200 feet, one. *Zacatecas*: Sain Alto, August 14, 1947, 7000 feet, one. *Coahuila*: San Pedro de Colonias, August 20, 1947, 3700 feet, one; La Rosa, August 22, 1947, one.

This is a very common species that ranges from Colorado, Kansas, and Missouri south through New Mexico and Texas into northern Mexico. Say (1824) in his description of this species mentions Pennsylvania as a distributional locality. I question this far eastern record and feel that the specimen Say had must be referred to some other species, or more probably the locality was incorrect.

The 106 specimens taken on the expedition came from 17 widely scattered localities from the four northern states of Mexico. The species undoubtedly also occurs throughout a large part of the highland region of Mexico.

Metopoloba pruinosa (Horn)

Epitragus pruinus HORN, 1870, Trans. Amer. Phil. Soc., new ser., vol. 14, p. 264.

TYPE LOCALITY: Owens Valley, California.

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora.

NEW RECORDS FOR MEXICO: *Chihuahua*: Twenty miles southwest of Camargo, July 13, 1947, 4500 feet, two; 25 miles southwest of Camargo, July 14, 1947, one.

An attractive species which appears to be distributed along the southwest border of the United States and northern Mexico. It has been taken in southern California, Arizona, Lower California, and the state of Sonora. The three specimens taken by the expedition extend the range eastward into the state of Chihuahua.

Edrotes intermixtus Casey

Edrotes intermixtus CASEY, 1907, Proc. Washington Acad. Sci., vol. 9, p. 455.

TYPE LOCALITY: Arizona.

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Chihuahua*: Seventy-eight kilometers south of Ciudad Juarez, July 1, 1947, 42.

Recorded previously only from Arizona. The 42 specimens of this rare and interesting species, all from one locality, taken on the expedition extend the range much farther to the south. Casey, in his description, based on one specimen, gives the length as 7.5 mm., the width as 4.72 mm. However, in the large series from Chihuahua the measurements vary considerably: length, 5.5–8 mm.; width, 4–5 mm.

Zopherus elegans Horn

Zopherus elegans HORN, 1870, Trans. Amer. Phil. Soc., new ser., vol. 14, p. 271.

TYPE LOCALITY: Canon de Chelly, New Mexico.

RECORDED MEXICAN DISTRIBUTION: *Durango*: Villa Lerdo; Refugio.

NEW RECORDS FOR MEXICO: *Chihuahua*: Thirty miles west of Balleza, May 27, 1948, 7900 feet (G. M. Bradt), 14. *Durango*: Six miles north-east of El Salto, August 10, 1947, 8500 feet, one.

Horn based his description on a single specimen from southeastern New Mexico. This extremely pretty beetle seems to be more plentiful south of the border than in the United States, where it appears to be quite rare. Champion (1892–1893) states, "numerous examples from Durango." The 15 specimens taken by the David Rockefeller expedition came from two widely separated localities in northern Mexico, one in the state of Durango, the other just over the southern line of the state of Chihuahua. Perhaps their rarity in collections is not so great as is thought, for this species may be confused with a number of others, particularly *Z. tristis*, *guttulatus*, *concolor*, and others, which it superficially resembles. This is possible because a large percentage of the specimens appear entirely black, with very little or no trace of the marginal white on the prothorax and elytra. These species are very subject to greasing. Submergence in carbon tetrachloride for several hours will bring out the white margins which at once will show that the specimen is *elegans*.

Araeoschizus decipiens Horn

Araeoschizus decipiens HORN, 1890, Trans. Amer. Ent. Soc., vol. 17, p. 342.

TYPE LOCALITY: Southern Arizona.

RECORDED MEXICAN DISTRIBUTION: *Durango*: Villa Lerdo. *Sonora*: Northern Sonora.

NEW RECORD FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947 (G. M. Bradt), 21.

The present Mexican record extends the distribution of this small but attractive species considerably to the northeast of previous records. Since this locality in Chihuahua is so close to the Texas-New Mexico border, I feel certain that this species will be eventually found in these two states as well as in Arizona, the type locality.

Araeoschizus mexicanus Champion

Araeoschizus mexicanus CHAMPION, 1892, *Biologia Centrali-Americana*, Co., leoptera, vol. 4, pt. 1, p. 491, pl. 22, fig. 3.

TYPE LOCALITY: Mexico, (Oaxaca), Tepetlapa.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORD FOR MEXICO: *Durango*: Yerbanis, Cuencame District, August 19, 1947, 6700 feet, two.

Champion described this species from one specimen. It is a very distinctive species although rather closely allied to two United States species, *A. sulcicollis* Horn and *A. fimbriatus* Casey. Champion (1892) gives the following characters, which I have also verified, for separating it from these two species. From the former it differs by the more parallel head, distinctly grooved, antennae very stout, prothorax shorter, very feebly sinuate, and coarsely fimbriate. From the latter, by the longer head, narrower prothorax, shorter elytral hairs.

The two specimens taken by the expedition extend the range of this species far to the north. *Araeoschizus mexicanus* appears to be extremely rare in collections, for I know of no other specimens.

Centrioptera infausta (LeConte)

Asbolus infausta LECONTE, 1854, *Proc. Acad. Nat. Sci. Philadelphia*, vol. 7, p. 84.

TYPE LOCALITY: Texas.

RECORDED MEXICAN DISTRIBUTION: *Durango*: Villa Lerdo. *Coahuila*: San Felipe Sabinas.

NEW RECORDS FOR MEXICO: *Durango*: Three miles west of Lerdo, August 24, 1946 (C. M. Bogert), one. *Coahuila*: Cabos, August 21, 1947, 4000 feet, one.

Described originally from Texas. *Centrioptera spiculosa* Champion (1892) is now considered to be a synonym. Although it appears to be a rather widely ranging species and was reported as abundant at Villa Lerdo, it is scarce in the collections that I have seen.

Cryptoglossa mexicana Champion

Cryptoglossa mexicana CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 73, pl. 3, fig. 21.

TYPE LOCALITY: Mexico, Monclova in Coahuila.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Coahuila*: Five miles north of Saltillo, August 22, 1947, 5100 feet, one.

The one specimen taken by the expedition came from a short distance south of the type locality. This species, described from six specimens, is not very common in collections and appears to be restricted to a small area in the southern part of the state of Coahuila, Mexico.

Stenosides breviscula (Casey)

Pactostoma breviscula CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 87.

TYPE LOCALITY: Mexico, Chihuahua—near the city.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Villa Ahumada, June 28, 1947, nine; 78 kilometers south of Ciudad Juárez, July 1, 1947, 74.

A large series of 83 specimens of this beetle were obtained from two localities rather close together and directly north of the type locality. Casey does not mention on how many specimens his description is based. From the description, however, I gather he had before him only a single specimen, which measured 10 mm. long and 4.7 mm. wide. In the 83 specimens taken on the expedition fewer than 10 were 10 mm. or slightly less. A few large specimens measure 12.5 mm. The great majority average 11 to 11.5 mm. in length and 5 to 6 mm. in width.

Stenosides anastomosis (Say)

Asida anastomosis SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 256.

TYPE LOCALITY: Arkansas.

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Santa Clara; Chihuahua City. *Durango*: Refugio.

NEW RECORDS FOR MEXICO: *Chihuahua*: Primavera, June 30, 1947, 5500–6000 feet, two; Cañon Prieto near Primavera, July 2, 1947, 6500–6800 feet, one; Santa Clara, July 2, 1947, one; 42 miles southwest of Camargo, July 15, 1949, one; Santa Barbara, May 13, 1947, 6200 feet (G. M. Bradt), one.

This species has been collected from Colorado, Kansas, and Arkansas south through Arizona, New Mexico, and Texas into northern Mexico. Throughout its wide range, the species shows considerable variation not

only in size but particularly in the development of the costae of the elytra. As the species is followed south, the costae, especially the first costa, become more feeble and frequently almost obsolete. It is largely on this character that Casey (1912) established the subspecies *S. a. salebroso* based on one specimen, the type, from Texas (El Paso). All the expedition material mentioned above could be referred to this subspecies, with some reservations. At present, because of the great variation shown by the species as a whole, I do not think this subspecies is a good geographical variant requiring a name. The expedition specimens are therefore referred to Say's species.

Stenosides kulzeri, new species

Figure 11

Oblong-ovate, depressed, nearly opaque, piceous black in color, with a few very short, decumbent, yellowish, hair-like setae.

MALE: Head wider than long, widest in front of the eyes, with a broad, deep, transverse depression and also a less conspicuous median continuation of same at center of head, coarsely and closely punctured, each puncture with a fine short yellowish hair, antennae reaching nearly to middle of prothorax, segments equal in length, except the second which is somewhat shorter, third twice as long as second, tenth broad, flattened, nearly circular, eleventh very small and set into tenth. Prothorax one-third broader than long, apex narrower than base, very deeply sinuate, apical angles prolonged, sharply rounded, base broadly rounded, deeply sinuate towards each side, basal angles prolonged, acute, and extending over humeral angles of the elytra, lateral margins evenly rounded, slightly sinuate in front of basal angles, faintly reflexed and slightly thickened, minutely crenate or serrate, surface densely, coarsely, and rugosely punctured, each puncture bearing a very short, fine, yellow seta, a faintly elevated smooth median line reaching from base to apex, four irregular, faintly elevated smooth areas, two each side of median line, the first pair in front of middle, the second pair just behind and sometimes merging with the larger front ones, shallow depressed areas between the spots and the median line, the basal depressions more distinct and usually oblique. Scutellum small, triangular. Elytra one and one-half times as long as wide, broadest just behind the middle, rounding slightly to base, more sharply to apex which is sharply declivous, base a little broader than base of prothorax, humeral angles distinct, rounded, elevated, continuing as a finely serrate marginal carina almost to apex, sutural carinae distinct but not pronounced, continuous from base to apex, first discal carinae faint, sometimes almost obliterated, very short, reaching from just behind the base to one-half the elytra, second distinct, thin,

faintly crenate or serrate, curving inward as if to join the end of the first carinae, which they occasionally do, but very faintly, then turning outward to join feebly the marginal carinae just before the apex, third distinct but short, faintly crenate, extending from about one-fourth to three-fifths from base, surface very finely and sparsely punctured, with scattered yellowish setae. Epipleurae nearly parallel, distinctly but distantly punctured, prosternum, mesosternum, and metasternum coarsely and closely punctured, abdomen more distantly, each puncture with a short, fine yellow seta, legs rugulose, densely punctured.

FEMALE: Similar to male.

Length, 8–11 mm.; width, 3.5–5 mm.

TYPE MATERIAL: Holotype, male, Otinapa, Durango, Mexico, 7500 feet, August 7, 1947; allotype, female, same data as holotype. Paratypes, Otinapa, Durango, Mexico, 8200 feet, August 11, 1947, two. All type material deposited in the collections of the American Museum of Natural History.

This species differs from the *anastomosis* group of *Stenosides*, which it superficially resembles, by the prolonged and acute basal angles of the prothorax. It presents a cleaner and blacker appearance, because of its very short, hair-like setae, which do not collect and hold the dirt as do the broader scale-like setae of many of the *Stenosides*. About the only place dirt tends to collect is in the rather large punctures of the prothorax and around the base of the elytra and the scutellum.

I have named this species for Herr Hans Kulzer for the time and trouble he took to study and make suggestions on the tenebrionids that were sent to him, and particularly for his very kindly examining this species and pronouncing it as new in the genus *Stenosides*.

Stenosides bisinuatus, new species

Figure 6

Oblong-ovate, somewhat depressed, nearly opaque, piceous brown in color, rather densely covered with decumbent, yellow, hair-like scales.

MALE: Head a little wider than long, broadly lobed in front of the eyes, with a broad transverse depression at middle, densely and irregularly punctured, each puncture with a short, yellow, hair-like scale, antennae not reaching middle of prothorax, reddish to piceous, segments nearly equal in length, except second two-thirds shorter, third twice as long as second, tenth expanded and flattened, eleventh very small. Prothorax a little wider than long, apex deeply sinuate, apical angles rather acute, base faintly rounded, deeply sinuate towards each side, basal angles prolonged, acute, and extending over humeral angles of elytra, lateral margins evenly rounded except for a slight sinuation in front of basal

angles, finely crenate or serrate, distinctly reflexed, surface closely and rather coarsely punctured, each puncture with a yellow, hair-like scale, median line fine, bare, faintly elevated, extending from base but usually not reaching the apex, four faint to distinct depressions, the front pair, one on each side of the median line, more or less rounded and placed just in front of the middle, the rear pair generally oblique, reaching the median line at base, small irregular callous areas sometimes show on the outside of the depressions. Scutellum broadly triangular, almost rounded behind. Elytra nearly twice as long as broad, broadest two-thirds behind the middle, nearly straight, sometimes faintly sinuate to base, sharply rounding to apex which is distinctly declivous, slightly broader at base than base of thorax, humeral angles prominent, obtuse, faintly rounded, strongly reflexed, continuing as a somewhat distinct, faintly serrated marginal carina, extending nearly to apex, sutural carinae distinct but not prominent, continuous from base to apex, somewhat swollen at base behind scutellum, first carinae almost obliterated, extending from base one-half of length of elytra, feebly joining second carinae, second carinae more elevated than suture, extending from base, nearly, but a little short of, joining the marginal carinae, first curving inward to join faintly end of first carinae and then out again towards the marginal carinae, finely serrate on ridge, third carinae short but distinct, extending from about one-fourth of the length of the elytra from the base to three-fifths of the length of the elytra, surface finely, rather closely punctured, each puncture bearing a decumbent yellow scale, frequently matted together with dirt. Epipleurae broad, parallel nearly to apex, finely and irregularly punctured, with very small fine setae, prosternum, mesosternum, and metasternum coarsely and deeply punctured, abdomen less coarsely, with short fine yellow setae. Legs coarsely and closely punctured.

FEMALE: Similar to male.

Length, 8–11.5 mm.; width, 3.5–5 mm.

TYPE MATERIAL: Holotype, male, Palos Colorados, Durango, Mexico, 8000 feet, August 5, 1947; allotype, same data as holotype. Paratypes, same data as holotype and allotype, two.

This species appears to be closely related to *Stenosides sinuaticolis* (Champion) but differs largely by having the base of the prothorax rounded and deeply sinuate towards each side, instead of truncate, thus prolonging the basal angles and making them more acute.

Microschatia robusta Horn

Microschatia robusta HORN, 1893, Trans. Amer. Ent. Soc., vol. 20, p. 142.

TYPE LOCALITY: Coahuila, Mexico.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: One mile east of La Saucedá, July 21, 1947, 7000 feet, one; Santa Barbara, April 24, 1947, 6200 feet (G. M. Bradt), one; Santa Barbara, May 10, 1947, 6200 feet (G. M. Bradt), two.

Horn described this species from one specimen taken somewhat east of where the four specimens were taken by the expedition. It is very closely linked with *M. morata* Horn (1878), which occurs in scattered localities in southern New Mexico and Arizona, and in my opinion it will eventually prove to be the same, with the name *morata* having priority. For the present, however, until more material is available (only a few specimens are in collections), I consider them as distinct species. Horn (1893) lists a few of the differences, as follows: *M. morata*: Propleurae sparsely granulate, metepisterna very little longer than wide. Prosternum moderately broad, the apex obtusely oval or subtruncate, epipleurae well defined. *M. robusta*: Propleurae smooth, metepisterna a little longer than wide, prosternum broad and truncate, the apex slightly impressed at middle; epipleurae not well defined. These characters are so inconstant in the limited number of specimens that I have seen that it is difficult to arrive at any satisfactory understanding of the two species.

Microschatia rockefelleri, new species

Figure 12

Ovate, slightly oblong, robust, dull black, with a narrow line of white scales on margins of prothorax and elytra.

MALE: Head broader than long, set into the prothorax to and frequently beyond the eyes, broadly lobed over the base of the antennae, a few scattered punctures on the top and front, densely and irregularly punctured around the margins, each puncture bearing a broad white scale, when head is extended a semicircle of white scales is visible, these replaced with black stiff setae on the front, labrum, and base of the mandibles, antennae reaching beyond the middle of the prothorax, covered with short black spines, segments nearly equal, except second, third, and eleventh, somewhat globose, terminal segments more flattened, second the smallest, bead-like, third twice as long as second, one-quarter longer than the rest, eleventh very small and set into the bilobed tenth, the apex and tips of the two lobes poriferous and whitish. Prothorax nearly twice as wide as long, widest slightly behind the middle, very convexly rounded, apex feebly rounded, apical angles prolonged, tip finely rounded, base broadly and evenly rounded, basal angles prolonged and extending over the humeral angles of the elytra, lateral margins rounding slightly to basal angles, more sharply to apex, surface very finely reticulate, with distinct punctures, each puncture bearing a black

seta, densely and irregularly punctured along margins, each puncture with a rather broad flattened white scale, scales when viewed under high power concave on under side, and the surface of each scale striate with four or five striae. The scales more numerous along lateral margins which are rather broadly explanate and slightly reflexed. Scutellum broadly triangular, surface somewhat shining. Elytra one and one-quarter longer than broad, convexly rounded, widest behind middle, narrowing slightly to base, tapering sharply and evenly to apex which is sharply rounded, base equal to or slightly broader than base of prothorax, humeral angles distinct, finely rounded, and continuing as a thin, elevated carina to apex, margin densely punctured, each puncture bearing a white scale similar to scales of head and prothorax, the scales also extending along the suture from apex to nearly the middle, surface with irregular anastomosing elevations surrounding deep, somewhat rounded pits, elevations sometimes appearing to form two or three imaginary costae, surface very finely reticulate, more coarsely and densely in the pits or depressions. Epipleurae well defined, rather broad at base, evenly tapering to apex, surface faintly muricate, each elevation bearing a fine seta, under side, particularly the prosternum, more distinctly muricate than the epipleurae. Legs moderate in length, femorae, tibiae, and tarsi rather thickly covered with shiny black spines, with a few white scales on tibiae near the base.

FEMALE: Similar to male.

Length, 14–16 mm.; width, 8–9 mm.

TYPE MATERIAL: Holotype, male, 25 miles southwest of Camargo, Chihuahua, Mexico, July 14, 1947. Allotype, female, same data as holotype. Paratypes, 25 miles southwest of Camargo, Chihuahua, Mexico, July 13, 1947, 4500 feet, three; 25 miles southwest of Camargo, Chihuahua, Mexico, July 14, 1947, two; 42 miles southwest of Camargo, Chihuahua, Mexico, July 15, 1947, 4900 feet, two; Parral, Chihuahua, Mexico, July 17, 1947, 5500 feet, one. All type material in the collections of the American Museum of Natural History.

This species, although quite distinct from all other known species of the genus *Microschatia*, approaches *M. morata* Horn in its general appearance. It may be very easily and quickly recognized by the fine lines of white scales on the margins of the prothorax and elytra.

The 10 specimens taken on the expedition are from four localities quite close together and extending from Parral, Chihuahua, Mexico, for a short distance in a northeasterly direction.

This attractive species is named in honor of Dr. David Rockefeller, whose interest and support have made possible the study and research for this paper.

Glyptasida rugosissima (Champion)

Asida rugosissima CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 43, pl. 3, fig. 1.

TYPE LOCALITY: Mexico, Coahuila, Saltillo.

RECORDED MEXICAN DISTRIBUTION: *Coahuila*: Saltillo; Hacienda de San Miguelito.

NEW RECORDS FOR MEXICO: *Chihuahua*: Catarinas, July 25, 1947, 5800 feet, nine; Huejotitlan, July 21, 1947, 5700 feet, one; Valle de Olivos, July 20, 1947, 5500 feet, three; Charcos, Allende District, July 27, 1947, 6000 feet, one.

Champion described this species from four specimens, probably all from one locality in the southern part of the state of Coahuila. The 14 specimens taken by the expedition came from four localities widely scattered throughout the state of Chihuahua.

I am also assigning to this species 10 specimens recently collected in the United States, from which there has been no previous record. The specimens are in the collections of the American Museum of Natural History. They came from four widely scattered localities, as follows: Arizona: Garden Canyon, Huachuca Mountains, Cochise County, July 9, 1950, 5500 feet (G. M. Bradt), one; 10 miles northwest of Douglas, Cochise County, September 13, 1950, 4000 feet (W. Gertsch, M. Cazier), four. New Mexico: Five miles south of Hurley, Grant County, September 22, 1950, 5300 feet (W. Gertsch, M. Cazier), one; 7 miles northwest of Deming, Luna County, September 22, 1950, 4500 feet (W. Gertsch, M. Cazier), four.

More extensive collecting will undoubtedly show that this large and attractive species ranges over almost the entire north central plateau of Mexico as well as the southern borders of Arizona, New Mexico, and Texas.

Glyptasida interrupta (Champion)

Asida interrupta CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 53.

TYPE LOCALITY: Mexico, Ciudad in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Durango*: Yerbanis, Cuencame District, August 19, 1947, 6700 feet, seven. *Zacatecas*: Fresnillo, August 15, 1947, 7000 feet, one.

Champion described this species on one specimen. I am placing the above-mentioned eight specimens, taken from two widely separated localities, in this species until such time as more material is available.

Actually *interrupta* may prove to be simply a southern variable extension of *Glyptasida sordida* LeConte, the widely distributed species of southwestern United States which ranges from Arkansas south into Texas and Arizona. In fact, the preceding species, *G. rugosissima*, may also prove to be a southwestern extension of *sordida*. These three species, with a number described by Casey, are all very closely linked together.

Glyptasida sordida (LeConte)

Pelecyporus sordida LeConte, 1853, Proc. Acad. Nat. Sci. Philadelphia, vol. 6, p. 445.

TYPE LOCALITY: Arkansas.

RECORDED MEXICAN DISTRIBUTION: Not previously recorded with any certainty.

NEW RECORD FOR MEXICO: *Chihuahua*: Madera, July 6, 1947, 7200 feet, two.

The above-mentioned two specimens, from a single locality in the state of Chihuahua, are placed with this widely distributed species from the southwestern United States because they seem to be more closely linked with *sordida* than with the two preceding species. *Sordida* has never been definitely recorded before from Mexico. Champion listed it as occurring in two localities, Chihuahua City and Santa Clara in the state of Chihuahua, at a time when he felt that *G. rugosissima*, *interrupta*, and *sordida* could not be retained as distinct species.

Pelecyporus morbillosus LeConte

Pelecyporus morbillosus LeConte, 1858, Proc. Acad. Nat. Sci. Philadelphia, vol. 9, p. 74.

TYPE LOCALITY: Sonora, Mexico.

RECORDED MEXICAN DISTRIBUTION: *Sonora. Baja California.*

NEW RECORDS FOR MEXICO: *Sonora*: Guaymas, September 25, 1947 (Borys Malkin), one.

No specimens of this species were taken from the region covered by the expedition. One specimen from the state of Sonora is, however, included in this report because, recorded as the species is from the extreme northwestern part of Mexico and from across the border in Arizona, it is probable that its range will also include the state of Chihuahua.

Bothrasida mucorea Wilke

Bothrasida mucorea WILKE, 1922, Arch. Naturgesch., vol. 87, div. A, no. 12, p. 270, pl. 2, fig. 19.

TYPE LOCALITY: Mexico, Chihuahua.

RECORDED MEXICAN DISTRIBUTION : Type locality.

NEW RECORDS FOR MEXICO: *Durango*: Coyotes, Durango District, August 8, 1947, 8300 feet, two; Otinapa, August 11, 1947, 8200 feet, five.

The seven specimens, from two localities rather close together, taken on the expedition broaden the known distribution of this species considerably to the south.

Gonasida gravida Casey

Gonasida gravida CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 118.

TYPE LOCALITY : Arizona.

RECORDED MEXICAN DISTRIBUTION : Not previously recorded.

NEW RECORDS FOR MEXICO: *Chihuahua*: Salaices, September 27, 1947, 5200 feet (G. M. Bradt), one.

Only one specimen of this large and distinctive insect was taken on the expedition. It is placed under *G. gravida* Casey with some hesitancy because, when compared with the type, the only specimen on which Casey based his description, there are a number of differences which are distinct enough for this to be made a new species. I am, however, extremely reluctant to establish a new species with only one specimen at hand. At present I am inclined to consider it an extreme on one side, with the type on the opposite side, or it may be a southern extension and geographical variation of the type. From the type the present specimen may be separated by its slightly larger size (34 mm.), very black color, narrower and more distinctly punctured prothorax, less roughened elytra, with only a few scattered, medium-sized punctures restricted to the basal areas.

This specimen is interesting because it is the only recorded representative of the genus *Gonasida* from south of the border. Undoubtedly other specimens will be found as explorations of these Mexican Highlands are continued. Specimens of this attractive genus are not common, and few are seen in collections. The insects appear to be not in the least gregarious, for only single, widely scattered individuals are ever taken.

Notiasida intricata (Champion)

Asida intricata CHAMPION, 1892, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 493, pl. 22, fig. 9.

TYPE LOCALITY : Mexico, state of Jalisco.

RECORDED MEXICAN DISTRIBUTION : Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Salaices, August 20, 1947, 5200 feet (G. M. Bradt), one; Santa Barbara, August 26, 1947, 6200 feet (G. M. Bradt), two.

Described and recorded heretofore only from the state of Jalisco. The

three specimens from two rather widely separated locations in the state of Chihuahua extend the range of this beetle far to the north. However, more intensive collecting throughout the Mexican Highlands will undoubtedly show that the species is distributed over the intermediate territory.

Notiasida evertissima Casey

Notiasida evertissima CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 125.

TYPE LOCALITY: Mexico (Promontorio, in the Sierra San Francisco, Durango, altitude 2400 meters).

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORD FOR MEXICO: *Chihuahua*: Two miles west of Pedernales, August 17, 1950 (Ray F. Smith), one.

No specimens of this species were taken on the 1947 Rockefeller expedition, but this specimen is included in the present report because it comes from the same area as that covered by the expedition. Casey based his description on 15 specimens. On examining his material I find that there is considerable variation among the individuals. Many of them approach Champion's species *N. geminata* which in itself is quite variable and is recorded from the states of Chihuahua and Durango, the region from which *evertissima* is recorded. For the present I am regarding them as separate species, although they may in the future prove to be synonymous.

Six species of the genus *Notiasida* were listed by Blackwelder (1945), of which four were recorded from the northern part of Mexico and three from the state of Chihuahua bordering the United States. Up to the present no specimens of *Notiasida* have been recorded from north of the border.

Parasida fallax favosa (Champion)

Asida favosa CHAMPION, 1887, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 58.

TYPE LOCALITY: Mexico, Guanajuato.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Durango*: Coyotes, Durango District, August 8, 1947, 8300 feet, one; 6 miles northeast of El Salto, Durango District, August 10, 1947, 8500 feet, three; Otinapa, August 11, 1947, 8200 feet, four.

Champion described this as a distinct species from one specimen. At that time he was, however, not satisfied with giving it specific rank, for he wrote of it as, "Closely resembling *A. laticollis* and *A. fallax*, and perhaps a variety of the latter." Blackwelder (1945) in his catalogue,

evidently following Champion, placed *favosa* as a variety of *fallax*. In this paper *favosa* is retained as a subspecies of *fallax*. Herr Hans Kulzer of the Georg Frey Museum, to whom I submitted specimens for examination, also determined the beetles as *favosa*.

The eight specimens taken by the expedition came from three localities, all quite close together in the southern part of the state of Durango. These records extend the range considerably to the northwest from the type locality, the previously recorded distribution. *Parasida* f. *favosa* appears to be a northern extension of *fallax* which ranges from Guanaajuato, the type locality, southward as far as Toluca and Mexico City.

Parasida obliviosa Wilke

Parasida obliviosa WILKE, 1922, Arch. Naturgesch., vol. 87, div. A, no. 12, p. 270, pl. 3, fig. 21.

TYPE LOCALITY: Mexico: Promontorio, Durango.

RECORDED DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Agua Caliente, Santa Barbara District, July 24, 1947, 27; Santa Barbara, August 26, 1947, 6200 feet (G. M. Bradt), one. *Durango*: Villa Ocampo, July 27, 1947, three; Ocampo, August 2, 1947, three; San Lucas, August 2, 1947, 6700 feet, two; Palos Colorados, August 5, 1947, 8000 feet, five; Otinapa, August 11, 1947, 8200 feet, one.

Wilke apparently described this species from only one specimen. I have not seen the type or any named specimens of this species, but my determination was confirmed by Herr Hans Kulzer of the Georg Frey Museum in Munich, who very kindly studied specimens submitted for his examination.

The 42 specimens taken by the expedition from seven localities broaden the known range into the state of Chihuahua, thus extending it much farther to the north than previously recorded. This is a very attractive species, which shows some variation, largely in color and size, in the large series at hand. Specimens from the state of Chihuahua are generally darker in color, and all but one specimen are larger than the Durango specimens. They range from 16.5 to 22 mm. in length, 8 to 11 mm. in width, most being about 21 mm. long and 10 mm. wide. The small specimen is the one specimen from Santa Barbara collected by G. M. Bradt. The Durango specimens are closer to the measurements of the type (length, 18 mm.; width, 8.5 mm.) as given by Wilke. These 15 specimens range in length from 15 to 19 mm., and from 7 to 9 mm. in width. However, in the 42 specimens examined the shape, sculpture, and punctuation are remarkably constant.

Parasida tenebrosa (Champion)

Asida tenebrosa CHAMPION, 1892, *Biologia Centrali-Americana*, Coleoptera, vol. 4, pt. 1, p. 495, pl. 22, fig. 12.

TYPE LOCALITY: Mexico, Saltillo in Coahuila.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Coahuila*: Five miles north of Saltillo, August 22, 1947, 5100 feet, 31; Saltillo, August 22, 1947, 5000 feet, one.

Champion described this species from a single specimen. The 32 specimens taken by the expedition came from approximately the type locality. The entire series show little variation in appearance and slight variation in size, ranging from 14 to 17 mm. in length and 6 to 8 mm. in width, except the one specimen from Saltillo which is larger than any of the others, measuring 19 mm. in length and 9 mm. in width. Champion's specimen was of about average size (length, 15.5 mm.; width, 7.5 mm.).

Champion notes that in the type specimen, which I have not seen, each puncture bears a distinct yellowish scale. In the series at hand the scales are not distinct and in many cases have become dislodged or appear entirely lacking. I have not seen any named specimens of this species in collections, but from the geographical data above it appears to be limited to the small area around the type locality.

Parasida trisinuata, new species

Figure 5

Oblong-ovate, slightly depressed, nearly opaque, piceous brown in color, rather densely covered with decumbent, yellow-brown, setae-like scales, frequently matted with dirt.

MALE: Head broader than long, broadest in front of eyes, transversely impressed, usually deeper at each end of impression, finely but densely punctured, each puncture bearing a yellowish, hair-like seta, antennae piceous, reaching to or slightly beyond the middle of prothorax, segments nearly globose, equal except the second which is smaller, third twice as long as second, one-half longer than fourth, tenth larger, broader, rounded, eleventh much smaller, set deeply into the tenth. Prothorax slightly broader than long, apex slightly narrower than base, deeply sinuate, forming prolonged apical angles, tips rounded, base trisinuate, the middle broadly, the sides deeply forming acute basal angles which extend over humeral angles of elytra, slightly divergent, lateral margins regularly rounded, somewhat thickened and reflexed, forming a deep depression behind the margin, very finely crenate on edge, surface of prothorax densely and rather finely punctured, more coarsely at sides, each puncture with a yellowish, seta-like scale, scales forming a more or

less dense fringe along basal margin, median line distinct, slightly elevated, in some specimens faintly interrupted for a short distance near basal third, a small, usually rounded, callous elevation on each side slightly in front of the middle and separated from the median line by a deep round pit, a second pair of callous, elevated, usually longitudinally elongated but frequently quite variable areas nearer the base and separated from the median line by a diagonal elongated depression usually reaching the base near the median line. Scutellum small, triangular, as broad as long, sides evenly rounded. Elytra one-third longer than wide, widest behind the middle, rounding gradually to the base which is a little wider than the base of the prothorax, distinctly rounding to the apex which is sharply rounded and declivous, humeral angles prominent, elevated, rounded and continuing as a distinct marginal carina to nearly the apex where it joins with the second carina, crenate at base, becoming serrate towards apex, sutural carinae more feeble but distinct throughout to the apex, first carinae distinct, sometimes slightly feeble at base, joining with the second about two-thirds from base, second sharply elevated and distinct from base to their joining with the marginal carinae just before the apex, third sharp and distinct, rising one-fourth from the base and not quite reaching the junction of the marginal and the united first and second, surface finely and rather sparsely punctured, each puncture with a rather long, seta-like scale, a few scales sometimes on the sides and top of the carinae which are also finely crenate along the ridge. Prosternum depressed between the coxae, deeply and closely punctured, abdomen more finely punctured, each puncture with a hair-like seta, legs rugulose, deeply and densely punctured with longer, hair-like setae.

FEMALE: Similar to male, but generally larger and proportionally broader, antennae a trifle shorter, reaching only to middle of prothorax.

Length, 12–15 mm.; width, 5.5–7.5 mm.

TYPE MATERIAL: Holotype, male, San Juan del Rio, Durango, Mexico, 5200 feet, July 30, 1947. Allotype, female, same data as holotype. Paratypes, same data as holotype, 14. All type material deposited in the collection of the American Museum of Natural History.

Following Casey's key (1912), this species would fall, because of the three discal carinae and the fringe of scales along the base of the prothorax, close to *bibasalis*, from which it differs by its smaller size, the fact that the elytra are not glabrous, and the arrangement of the carinae. It also comes close to *Parasida induta* Champion (1884), which Herr Hans Kulzer recognized in that he considered it a possible aberration of *induta*. He was also of the opinion that it might be a new species. With

this latter view I agree and am establishing it as such, closely allied to *induta* but differing by its generally larger size, the trisinate base of the prothorax, with the acutely produced hind angles, and the more continuous first carinae.

Parasida cristata, new species

Figure 4

Elongate, ovate, slightly convex, opaque, piceous to blackish in color, rather densely covered, except on the elevated areas, with decumbent yellow setae, frequently matted with dirt, elytral carinae thin and distinct.

MALE: Head broader than long, broadest in front of the eyes, transversely impressed, deeper at each end, at middle of head, densely and rather finely punctured, each puncture bearing a short seta, antennae reaching to about the middle of the prothorax, segments four to seven nearly equal, second shorter, third twice as long as second, eighth and ninth more globose, tenth flatter and larger, eleventh very small and, as in most Asidinae, set into the tenth. All segments distinctly spined. Prothorax slightly broader than long, apex a little narrower than base, deeply sinuate, front angles prolonged, not acute, tips broadly rounded, base evenly rounded, deeply sinuate at each side, forming basal angles, slightly prolonged and extending somewhat over the humeral angles, lateral margins evenly rounded, distinctly reflexed, thickened, very finely crenate along edge, with a deep depression behind margin, median line distinct, bare, usually fine and slightly elevated, a roundish depression on each side of median line about equidistant from the base and apex, elongate, diagonal, less marked depressions touching but not interrupting median line near the base, surface densely and closely punctured, more coarsely and irregularly along sides, each puncture with a fine seta, sometimes more dense and forming a fringe along the basal margin. Scutellum small, indistinct, rounded. Elytra nearly twice as long as wide, widest just behind the middle, faintly rounding to base which is wider than base of prothorax, more distinctly rounding to the rounded apex, which is sharply declivous, humeral angles slightly obtuse, distinctly elevated and continuing to apex as a rather thin, distinct, marginal carina, finely serrate near base, crenated beyond, sutural carinae distinct and continuous from about at base to apex, thickened at base so as to form a double roll or knob, first carinae thin and elevated, extending nearly from base two-thirds to apex, rarely showing a tendency to join with second at apical end, second carinae also thin and elevated from about at base four-fifths to apex, the last fifth curving in slightly towards sutural carinae, third carinae also thin and elevated, not quite reaching base and extending about three-fourths to apex or slightly farther than

first but not so far as second, each carina with a single row of fine black setae arising from rather distant and irregular punctures along the top of carinae, becoming more distinct towards the apex. Intervals finely and irregularly punctured with a yellow, hair-like, decumbent scale arising from each puncture, scales tending to be in two more dense rows along the sides of interval, epipleurae broad, nearly parallel almost to apex, prosternum depressed between coxae, densely and rather coarsely punctured, each with a seta, whitish towards sides, blackish in middle, mesosternum and metasternum closely punctured, each with a fine seta, abdomen finely punctured, with short whitish setae, legs closely rugulose, punctured with fine white setae and blackish spines.

FEMALE: Similar to male but generally larger and somewhat broader.

Length, 11–14.5 mm.; width, 5–7 mm.

TYPE MATERIAL: Holotype, male, 1 mile east of La Saucedá, Chihuahua, Mexico, 7000 feet, July 21, 1947. Allotype, female, same data as holotype. Paratypes: Two miles west of Matachic, Chihuahua, Mexico, 6400 feet, July 7, 1947, one; Valle de Olivos, Chihuahua, Mexico, 5500 feet, July 20, 1947, two (one without head); Huejotitlan, Chihuahua, Mexico, 5700 feet, July 21, 1947, one; Santa Barbara, Chihuahua, Mexico, 6200 feet, May 12, 1947 (G. M. Bradt), one; Las Puentes, Durango, Mexico, 7500 feet, July 24, 1947, one; Santa Maria del Oro, Durango, Mexico, 5700 feet, July 28, 1947, one. All type material deposited in the collections of the American Museum of Natural History.

This species is very close to *Parasida lirata* LeConte (1854), described from one specimen taken on the San Diego trip (probably along the southern border of Arizona). I agree with Casey (1912) that LeConte's type still remains a unique, for I have seen no specimens among those labeled *lirata* that exactly fit LeConte's description and figure. The present species differs from the description of *lirata* in several important characters. The basal prothoracic margin is rounded and deeply sinuate before the basal angles, instead of truncate; basal angles prolonged and more acute, instead of right angled; a distinct fringe of scales along basal margin, third carina of elytra not reaching the base as is shown in the figure of *lirata*.

Stenomorpha marginata (LeConte)

Pelecyporus marginatus LECONTE, 1852, Ann. Lyc. Nat. Hist. New York, vol. 5, p. 128.

TYPE LOCALITY: Gila River in Arizona.

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora. *Chihuahua*: Paso del Norte.

NEW RECORDS FOR MEXICO: *Chihuahua*: Agua Caliente, Santa Bar-

bara District, July 24, 1947, one; Kilometer 36, Santa Barbara-Ojito road, September 29, 1947, 6900 feet (G. M. Bradt), one.

The two specimens extend the distribution of this species considerably to the south of other previous records. It is an extremely variable species and in some of its forms is found along the Mexican-United States border from southern California to Texas, and from Colorado south into Mexico, with its greatest concentration in the Arizona area. Many of these variants have been described as species, particularly by Casey, based usually on uniques and with the use of slight differences in the sculpturing or punctuation as a means of separation. Until a vast assortment of material from a large number of localities is available for study, no adequate understanding of the relationship of these numerous species can be arrived at.

Asidina furcata (Champion)

Asida furcata CHAMPION, 1892, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 499, pl. 22, fig. 15.

TYPE LOCALITY: Mexico, Villa Lerdo in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Coahuila*: Cabos, August 21, 1947, 4000 feet, one; 5 miles north of Saltillo, August 22, 1947, 5100 feet, one.

Champion described this species from a single specimen. The two specimens taken by the expedition widen the known distribution somewhat to the east of the type locality. The species seems to be quite rare and more or less restricted to a limited area at the junction of the states of Durango and Coahuila. Perhaps future collecting will show this insect to be more widespread.

Litasida townsendi Casey

Litasida townsendi CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 184.

TYPE LOCALITY: Mexico (Colonia Garcia, Chihuahua).

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: San Jose Babicora, July 5, 1947, 7100 feet, 123; Matachic, July 7, 1947, one.

This large series of 124 specimens was taken at two localities rather close together. Casey described the species from one specimen collected by C. H. T. Townsend from Colonia Garcia. I have not been able to locate this place, for there are a number of localities in Chihuahua listed under the names Colonia or Garcia, but no Colonia Garcia. I believe the type locality to be somewhat southeast of the places where the expedition material was taken, perhaps 100 miles or more distant.

Herr Hans Kulzer examined some of the specimens and determined them as *L. townsendi* Casey. With only the description to follow, I would entirely agree with him, but after comparison with the type specimen I am somewhat hesitant in placing these specimens as *townsendi*, for I find a number of outstanding differences between the expedition material and the type. For the present, however, I consider these differences as possible variations, probably due to geographic isolation, and am therefore not establishing a new species until a more complete study can be made. The expedition material differs from the type specimen in one main character, that is, that the basal prothoracic angles are acute, very distinctly prolonged, and extend markedly over the humeri of the elytra. There is, of course, some variation in the length and acuteness of these angles, but all in the 124 specimens are at least twice as long as those of the type. The basal margin is also straight, whereas in the type the portion of the basal angles extending over the elytral humeri is largely due to the sinuation of the basal margin of the prothorax. The anterior angles are also more distinctly acute. Also in the expedition specimens the punctures of the head and prothorax are larger and more distinct, the lateral margins are narrower and less rugose, and the elytra are not smooth but faintly rugulose, distinctly but sparsely punctured. The size averages smaller than that of the type: length, 9.5 to 12.02 mm.; width, 5 to 6 mm.

In the large series at hand a small percentage show the characteristic redness of the immatures pigmented adults, typical of many tenebrionids.

Asidopsis durangoensis Casey

Figure 2

Asidopsis durangoensis CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 201.

TYPE LOCALITY: Mexico, La Borrega (A), Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Durango*: Villa Ocampo (B), July 27, 1947, 48; San Juan del Rio (C), July 30, 1947, 5200 feet, one; Ocampo (B), August 2, 1947, 185; San Lucas (D), August 2, 1947, 6700 feet, 141; Palos Colorados (E), August 5, 1947, 8000 feet, 11; Otinapa (F), August 11, 1947, 8200 feet, three; Nombre de Dios (G), August 13, 1947, 5900 feet, two; Nombre de Dios (G), September 19, 1950 (Ray F. Smith), two; Durango (H), August 14, 1947, 6200 feet, two; Durango (H), September 16, 1950 (Ray F. Smith) one; Villa Madero (I), August 18, 1947, 6700 feet, one; 5 miles northeast of El Sauz (J), September 15, 1950 (Ray F. Smith), one.

The 400 specimens of this species were taken in 10 locations, all, however, from a very restricted region in the southern part of the state of Durango. The 10 newly recorded areas almost completely surround the type locality, the only place from which this species has heretofore been

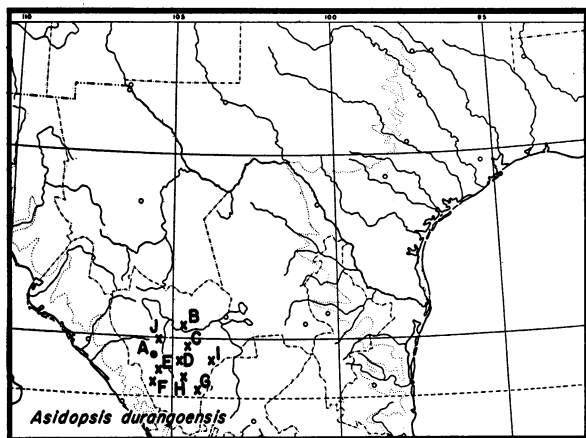


FIG. 2. Distribution of *Adisopsis durangoensis* Casey.

known—an excellent example, well shown on the map, of how a species of flightless tenebrionid, although extremely abundant in specimens, may be restricted to a very limited region.

Adisopsis immunda Casey

Adisopsis immunda CASEY, 1912, Memoirs on the Coleoptera, vol. 3, p. 199.

TYPE LOCALITY: New Mexico (Cloudcroft).

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Durango*: San Juan del Rio, July 30, 1947, 5200 feet, one.

This specimen extends the range far to the south of the type locality.

Belonging to the *opaca* group, this specimen is placed under Casey's species because of its greater affinity with *immunda*, although it differs somewhat from the type material. Actually the specimen and Casey's specimens of *immunda* are southern extensions of *Adisopsis opaca*. It is also closely allied with *A. manicata* Horn, which ranges from New Mexico south into Chihuahua, but differs from this species by the less distinctly marked three lines of wrinkles. On the other hand, it also is allied closely to the Mexican species *A. forreri* Champion, from Ventanas, state of Durango, described from one specimen, but differs from this

species by the less marked pits of the elytra. It may be an eastern variation of *A. forreri*. The Mexican species of the *opaca* group need more careful study when more material is available.

Asidopsis marginicollis (Champion)

Asida marginicollis CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 60, pl. 3, fig. 16.

TYPE LOCALITY: Mexico, Guanajuata, Guanajuata.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORD FOR MEXICO: Teotihuacan, July 18, 1947, one.

I hesitated before including this species in the report because of doubt concerning the accuracy of the data with the specimen. Only because the species is rare in collections is it included. The specimen bears a Rockefeller expedition label, but so far as I can learn no member of the expedition recalls passing through a place named Teotihuacan. The expedition was at a locality just north of Santa Barbara in the vicinity of Huejotitlan, Chihuahua, Mexico, on the date on the label attached to the specimen. On no map that I have consulted have I been able to locate any place in the region of Santa Barbara with the name Teotihuacan or one similar to it. In the state of Mexico, however, there is a Teotihuacan slightly southeast of the type locality. In these circumstances I assume that the Rockefeller expedition label is on the specimen in error and that the specimen was actually taken in the more southern locality rather than north of Santa Barbara in the state of Chihuahua.

Champion described the species from three specimens taken at the type locality. I have not seen the types, but the expedition specimen fits the description.

Megasida moricoides (Champion)

Asida moricoides CHAMPION, 1892, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 497, pl. 22, fig. 14.

TYPE LOCALITY: Mexico, Villa Lerdo in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORD FOR MEXICO: Coahuila: San Pedro de Colonia, August 20, 1947, 3700 feet, one.

The species seems to be restricted to a limited area near the Durango-Coahuila border.

Megasida segregata (Champion)

Figure 3

Asida segregata CHAMPION, 1892, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 497.

TYPE LOCALITY: Mexico, Villa Lerdo (A) in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Ten miles west of Jimenez (B), September 11, 1950 (Ray F. Smith), one; 20 miles southwest of Camargo (C), July 13, 1947, 4500 feet, one. *Durango*: Pedricena (D), August 19, 1947, 4500 feet, one. *Coahuila*: Cabos (E), August 21, 1947, 4000 feet, three; 5 miles north of Saltillo (F), August 22, 1947, 5100 feet, 37; Las Delicias (G), August 19, 1946 (C. M. Bogert), one.

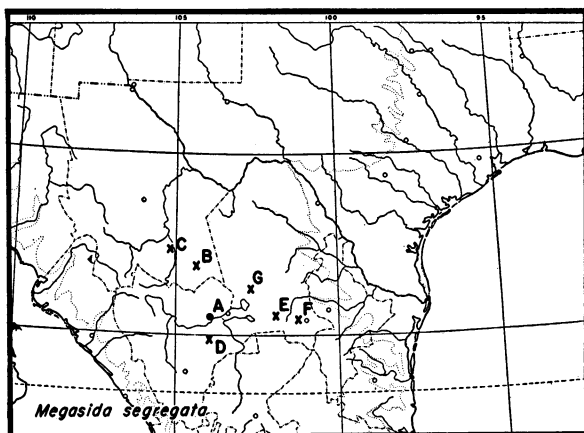


FIG. 3. Distribution of *Megasida segregata* (Champion).

Heretofore known from only eight specimens, all from the type locality. This fairly large series of 44 specimens from six localities shows that the species is apparently centered in a somewhat limited area around the type locality. This is another interesting example of how a flightless tenebrionid species may be restricted to a rather small area. Although perhaps not so marked in limitation as *Asidopsis durangoensis* Casey (see fig. 2), it apparently has not spread to any great extent.

This species closely resembles *M. moricoides* Champion and apparently occupies approximately the same area but is distinctive enough to be considered a good species.

Megasida magnifica, new species

Figure 8

Oblong-ovate, somewhat convex, black, in certain lights appearing to have a bluish sheen, shining, glabrous, nearly smooth, basal angles extremely long.

MALE: Head broader than long, broadest across the lobes in front of the eyes, a distinct transverse impression on middle of head, closely and coarsely punctured in front of impression, labrum, and mouth parts, each puncture with a long black seta, punctures behind the impression finer and less closely placed, each with a very short, hair-like seta, antennae reaching the middle of the prothorax, segments rounded, about equal in length, except the second which is one-quarter shorter, third twice as long as second, seventh to tenth gradually broader, eleventh very small, all covered with scattered, rather long, black setae. Prothorax slightly broader than long, convex, with two slightly impressed, roundish pits arranged transversely at center, apex narrower than base, deeply sinuate, apical angles prominent, produced, evenly rounded, base truncate, moderately impressed at middle, and with a transverse impressed line on each side from front of basal impression to sides, basal angles extremely long, nearly acute, not divergent, extending far back over humeral angles of elytra, lateral margins evenly rounded from middle to apical angles, but straight and converging slightly to basal angles, broadly reflexed, faintly thickened and armed with short, stiff, black, hair-like setae along margin, longer and more numerous at the apical angles, scarcely noticeable at the basal angles, transversely rugose behind the margins, median surface very faintly rugulose, with a few fine but distinct, scattered punctures, more noticeable at the apical margin. Scutellum small, triangular. Elytra broad, ovate, one and one-quarter times longer than broad, convex, although appearing somewhat flattened because of the slightly impressed suture, sharply declivous behind to apex, tips separated, individually and evenly rounded, a little broader at base than base of thorax, humeral angles strongly reflexed, thickened, rounded, continuing as a sharply elevated, reflexed, marginal carina nearly to apex, depressed area along the carinae with faint, rather evenly spaced, transverse lines, some of which run up into the elytra, gradually fading out but sometimes continuing as very faint, scattered, ramosing lines over the elytra, surface very finely rugulose, punctulate, with a few scattered, very fine punctures. Epipleurae extremely broad and nearly parallel to apex, sharply reflexed on under side of marginal carinae, finely rugulose. Ventral surface finely rugulose, more coarsely around the coxae, prosternum between the front coxae broad, longitudinally impressed, extending back over the front margin of mesosternum, terminal segment of abdomen with a few scattered punctures, legs rugose, rather closely punctured, each puncture bearing a moderately long black seta.

FEMALE: Similar to male, but generally somewhat larger and broader, with slightly shorter antennae.

Length, 18.5–21.5 mm.; width, 9–11 mm.

TYPE MATERIAL: Holotype, male, Yerbanis, Cuencame District, Durango, Mexico, 6700 feet, August 19, 1947; allotype, same data as holotype. Paratypes, same data as holotype, six; Cuencame, Durango, Mexico, 5500 feet, August 19, 1947, one.

This very striking and beautiful species can be quickly recognized by the acute and extremely long basal angles of the prothorax. It approaches rather closely *obliterata* Champion (1892), the original description of which, consisting of about three lines, is based on specimens taken at Paso del Norte, Mexico, which is just across the border from El Paso, Texas. Specimens fitting the description of *obliterata* have been taken on the Texas side of the Rio Grande. Casey (1912) has given a very full description of the Texas specimens which he believes to be *obliterata*, which differs from the above description of this distinctive species.

Megasida zacatecensis, new species

Figure 10

Elongate-ovate, convex, black, faintly shining, glabrous, finely rugulose.

MALE: Head broader than long, broadest across the lobes in front of the eyes, labrum as long as wide, transversely impressed across the front, deeply, coarsely, and rather closely punctured in front of the impression and on labrum, each puncture with a long black seta, the setae behind the impression much shorter and not conspicuous, antennae nearly reaching middle of prothorax, segments four to six nearly equal, as broad as long, second segment one-half as long, third three times as long as second, eighth to tenth gradually broader, eleventh very small, all closely covered with black setae. Prothorax nearly one-half broader than long, broadest just behind the middle, convex, apex faintly sinuate, apical angles produced, tips finely rounded, base evenly and moderately rounded, basal angles prominent, produced, faintly acute, extending over the humeral angles of the elytra, not divergent except the tips which are sharply divergent downward, lateral margins evenly rounded, rather broadly reflexed, margin thickened, punctured with moderately large punctures, edge armed with black setae, longer and more conspicuous towards the apical angles and apical margin, surface very minutely rugulose, minutely and sparsely punctured. Scutellum small, triangular. Elytra convex, nearly twice as long as broad, widest part slightly behind the middle, faintly sinuate to base which is distinctly wider than base of prothorax, rounded sharply to apex, distinctly declivous, humeral angles prominent, slightly rounded and reflexed upward, extending back for only about one-tenth of

the length of elytra, no trace of a marginal carina, surface very finely rugulose, punctured with fine scattered punctures, varying to larger and more numerous punctures. Under side finely rugulose, more coarsely around the coxae, prosternum longitudinally impressed between the coxae, extending beyond the prothoracic margin. Legs slender, closely punctured, rugulose, densely covered with short black setae.

FEMALE: Similar to the male, but averaging generally a little larger. Length, 15–18.5 mm.; width, 6–8.5 mm.

TYPE MATERIAL: Holotype, male, Guadalupe, Zacatecas District, Zacatecas, Mexico, 7400 feet, August 16, 1947; allotype, female, same data as holotype. Paratypes, same data as holotype, 14.

This is a quite variable species, particularly in the punctuation of the elytra. Specimens vary from very finely and sparsely punctured to coarsely and more closely punctured, the punctures sometimes taking on the form of deep pits. The more punctured specimens, when superficially examined, appear rough. One specimen, a paratype, differs by having not only the elytra, but also the prothorax more closely and coarsely punctured; these punctures, however, are not in the form of pits.

Herr Kulzer very kindly examined specimens of this species and was inclined to place them in Casey's group V (1912). California species make up this group. Upon careful study of the entire series, I cannot quite agree with Herr Kulzer but am placing them in group VII which includes both United States and Mexican species. This species does not approach any of the United States species, but apparently is more closely allied to the complex and extremely variable Mexican forms, which at present are little understood.

Argoporis rufipes Champion

Argoporis rufipes CHAMPION, 1885, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 94, pl. 5, fig. 2.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Paso del Norte; Chihuahua City; Santa Clara. *Durango*: Villa Lerdo; Durango City. *San Luis Potosi*: San Luis Potosi. *Coahuila*: Parras; San Pedro. Valle del Maiz and Hacienda de San Miguelito (not located).

NEW RECORDS FOR MEXICO: *Chihuahua*: Primavera, June 30, 1947, 5500–6000 feet, one; La Cruz, July 13, 1947, two; 25 miles southwest of Camargo, July 14, 1947, one; Kilometer 36, Santa Barbara–Ojito road, July 17, 1947, 6900 feet, one; Santa Barbara, Santa Barbara District, July 17, 1947, 6300 feet, four; Santa Barbara, July 18, 1947, 40; Santa Barbara, February 7 through April, May, August, September, and Oc-

tober, 1947 (G. M. Bradt), 278; Valle de Olivos, July 20, 1947, 5500 feet, six; Huejotilan, July 21, 1947, 5700 feet, one; 11 miles east of Huejotilan, July 21, 1947, 5900 feet, one; 1 mile east of La Saucedá, July 21, 1947, 7000 feet, two; Salaices, July 23, 1947, one; Salaices, September 20 to October 5, 1947, 5200 feet (G. M. Bradt), four; Catarinas, July 25-26, 1947, 5800 feet, eight; Charcos, Allende District, July 27, 1947, 6000 feet, four; Clarines Mines, February 8, 1947, 6000 feet (G. M. Bradt), 28; San Rafael, February 9, 1947 (G. M. Bradt), one; Chihuahua, September 2, 1950 (Ray Smith), one. *Durango*: Las Puertes, July 24, 1947, 7500 feet, two; Villa Ocampo, July 27, 1947, two; Encino, July 27, 1947, 6200 feet, four; San Juan del Río, July 30, 1947, 5200 feet, one; Yerbánis, Cuernavaca District, August 19, 1947, 6700 feet, 42. *Zacatecas*: Fresnillo, August 15, 1947, 7000 feet, one; Guadalupe, Zacatecas District, August 16, 1947, 7400 feet, three. *Coahuila*: Las Delicias, August 19, 1946 (C. M. Bogert), one; San Pedro de Colonias, August 20, 1947, one.

The approximately 240 specimens taken by, or in connection with, the Rockefeller expedition from the four states of Chihuahua, Durango, Zacatecas, and Coahuila show that the species is generally distributed and probably is one of the most common tenebrionid beetles of the north Mexican Highlands. It also crosses the border, for it has been recorded from Texas. Not only is it common and widely distributed, but specimens have been taken in every month of the year except November, December, January, and March. Undoubtedly if a careful search were made during these months, specimens would be found. At the present time, in our material, February seems to have the greatest number.

Eleodes obsoleta porcata Casey

Eleodes porcatus CASEY, 1890, Ann. New York Acad. Sci., vol. 5, p. 396.

TYPE LOCALITY: Arizona (Fort Apache).

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Chihuahua*: Madera, July 6, 1947, 7200 feet, 31.

Casey originally described *porcatus* as a species, but in 1909 Blaisdell made it a variety of *obsoleta*, which it still is. It has been recorded previously only from New Mexico and Arizona. The 31 specimens taken by the expedition, all at one locality, now extend the range considerably to the southward.

Eleodes striolata LeConte

Eleodes striolata LECONTE, 1858, Proc. Acad. Nat. Sci. Philadelphia, vol. 10, p. 185.

TYPE LOCALITY: Laredo (Webb County) to Ringgold Barracks (Starr County) in southern Texas along the Rio Grande.

RECORDED MEXICAN DISTRIBUTION: No exact records but reported to occur in Mexico along the Rio Grande.

NEW RECORDS FOR MEXICO: *Coahuila*: Five miles north of Saltillo, August 22, 1947, 5100 feet, one; La Gloria, south of Monclova, August 24, 1947, 3300 feet, one.

I have seen no specimens from Mexico of this distinctive species other than the two taken on the expedition, although it is vaguely reported as occurring in Mexico along the Rio Grande. Champion apparently had no specimens from Mexico, for he does not mention it in the "Biologia." In the United States the species seems to be restricted to a rather limited region along the lower Rio Grande in the vicinity of Laredo, Texas. The two specimens taken on the expedition show that the range extends south-westward from the type locality farther into Mexico than previously believed. Although nowhere common, undoubtedly future collecting will show that the species occurs not only in southern Texas and the state of Coahuila, but in Nuevo Leon and Tamaulipas as well.

Eleodes arcuata Casey

Eleodes arcuata CASEY, 1884, Contributions to the descriptive and systematic coleopterology of North America, pt. 1, p. 47.

TYPE LOCALITY: Arizona.

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORDS FOR MEXICO: *Chihuahua*: Salaices, August 20, 1947, 5200 feet (G. M. Bradt), nine; 30 miles west of Balleza, May 27, 1948, 7900 feet (G. M. Bradt), 10.

Heretofore thought to be restricted to a very limited area in southern Arizona on the Mexican border. The above new records from two localities in Mexico extend the range considerably to the southeast.

Eleodes obscura sulcipennis Mannerheim

Eleodes sulcipennis MANNERHEIM, 1843, Bull. Soc. Nat. Moscow, vol. 16, p. 266.

TYPE LOCALITY: California.

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora.

NEW RECORDS FOR MEXICO: *Chihuahua*: Santa Clara Canyon, 5 miles west of Parrita, June 27, 1947, 5600 feet, one; Primavera, June 30, 1947, 5500–6000 feet, two; Santa Clara, July 2, 1947, two; 8 miles west of Matachic, July 8, 1947, 7200 feet, one; Salaices, August 20, 1947, 5200 feet (G. M. Bradt), one; 30 miles west of Balleza, May 27, 1948, 7900

feet (G. M. Bradt), one. *Durango*: Palos Colorados, August 5, 1947, 8000 feet, five; San Lucas, August 11, 1947, 6700 feet (G. M. Bradt), one.

Although *sulcipennis* was originally described by Mannerheim as a species, it is now generally considered to be a subspecies of *obscura*, with which it is frequently confused but from which it can usually be separated by the strongly sulcate elytra. It is more widely distributed than typical *obscura* or any of its other subspecies or forms. It ranges from Washington and Idaho south through Oregon and Utah into Arizona and Sonora, Mexico. The 14 specimens taken in eight widely separated localities by the expedition extend the distribution far south of its recorded range. Although widely distributed, it appears to be nowhere abundant, for no large series of this large and conspicuous beetle were taken from one locality.

Eleodes gracilis LeConte

Eleodes gracilis LECONTE, 1858, Proc. Acad. Nat. Sci. Philadelphia, vol. 10, p. 184.

TYPE LOCALITY: Arizona.

RECORDED MEXICAN DISTRIBUTION: *Sonora*. *Chihuahua*: Paso del Norte; Santa Clara; Chihuahua City. *Coahuila*: Saltillo.

NEW RECORDS FOR MEXICO: *Coahuila*: San Pedro de Colonias, August 20, 1947, 3700 feet, nine. *Zacatecas*: Guadalupe, Zacatecas District, August 16, 1947, 7400 feet, three.

An attractive and rather widely distributed species found along both sides of the border from southern Arizona, New Mexico, and Texas south into Mexico in the states of Sonora, Chihuahua, and Coahuila. The specimens taken on the expedition from the state of Zacatecas extend the range much farther south than previous records.

Eleodes forreri Champion

Elaeodes forreri CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 88, pl. 4, fig. 18.

TYPE LOCALITY: Mexico, Ciudad in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: San Jose Babicora, July 5, 1947, 25. *Durango*: Six miles northeast of El Salta, Durango District, August 10, 1947, 8500 feet, 13.

The 38 specimens of this species, taken in two distantly separated localities, widen the distribution, previously only the type locality. Champion described the species from six specimens.

Eleodes spinipes Solier

Eleodes spinipes SOLIER, 1848, Baudi et Truqui Studi Ent., vol. 2, p. 238.

TYPE LOCALITY: Mexico (Guanajuato).

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Chihuahua City. *Durango*: Durango City. *Coahuila*: San Pedro. *Aguascalientes*: Aguascalientes City. *San Luis Potosi*: San Luis Potosi City. *Hidalgo*: Zimapan, Tula, Ixmiquilpan. *Guanajuato*: Guanajuato.

NEW RECORDS FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947, seven; 20 miles southwest of Camargo, July 13, 1947, 4500 feet, four; Santa Barbara, Santa Barbara District, July 17, 1947, 6300 feet, two; 63 miles west of Santa Barbara, July 20, 1947, 5500 feet, one; Catarinas, July 25, 1947, 5800 feet, one. *Durango*: Rodeo, San Juan del Rio District, July 29, 1947, 4700 feet, two; San Juan del Rio, July 30, 1947, 5200 feet, two; 6 miles northeast of El Salto, Durango District, August 10, 1947, three; Nombre de Dios, August 13, 1947, 5900 feet, one; Pedricena, August 19, 1947, 4500 feet, one; Cuencame, August 19, 1947, one. *Zacatecas*: Canutillo, August 14, 1947, nine. *Coahuila*: Cabos, August 21, 1947, three; 5 miles north of Saltillo, August 22, 1947, 5100 feet, 12; La Gloria, south of Monclova, August 24, 1947, 3300 feet, 11.

Also El Paso, Texas, June 23, 1947, two.

This large and conspicuous beetle was taken by the expedition from 16 widely scattered localities throughout the course of its travels. It appears to be nowhere common, for at no place was it obtained in any numbers. In its range, which extends from Texas and the United States border south through the Mexican Highlands to central Mexico, the species seems to be more numerous along the eastern border, for more specimens were collected in Coahuila and Zacatecas than in Chihuahua or Durango. Considerable variation is shown not only between the catches from different localities, but also by various individuals from a single locality.

Eleodes armata LeConte

Eleodes armata LECONTE, 1851, Ann. Lyc. Nat. Hist. New York, vol. 5, p. 134.

TYPE LOCALITY: California, in desert near Colorado River.

RECORDED MEXICAN DISTRIBUTION: Lower California.

NEW RECORD FOR MEXICO: *Sonora*: Thirty miles southwest of Sonoyta, March 31, 1949, 500 feet (G. M. Bradt), two.

Although no specimens of this species were taken from the four Mexican states covered by the expedition, the present record is included here because the species has never before been found in Mexico outside Lower

California. Its large size and conspicuous long, slender, curving legs make it a species not easily overlooked. The fact that all six femora are armed with a large spine serves as an easy and quick identification.

Eleodes hispilabris (Say)

Blaps hispilabris SAY, 1823, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 259.

TYPE LOCALITY: Missouri (uncertain).

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora. *Tamaulipas*: Nuevo Laredo.

NEW RECORDS FOR MEXICO: *Chihuahua*: Santa Barbara, July 18, 1947, one. *Coahuila*: Five miles north of Saltillo, August 22, 1947, 5100 feet, two.

This rather common species ranges widely throughout the United States, from northern California, Oregon, Montana, Wyoming, Nebraska, and Missouri south into Arizona, New Mexico, and Texas. It also extends into northern Mexico. Because it is so widespread, over such diversified terrain, numerous variations and forms have developed. As a result, many forms have received names, which in several cases have subsequently been reduced as synonyms. Some of the names persist and may eventually be recognized for subspecies.

The insect does not appear to be very common in Mexico, for only three specimens were obtained by the expedition. However, these three, from two localities, extend the range considerably farther south than any previous records.

Eleodes caudifera LeConte

Eleodes caudifera LECONTE, 1858, Proc. Acad. Nat. Sci. Philadelphia, vol. 10, p. 184.

TYPE LOCALITY: New Mexico.

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947, five.

The five specimens taken on the expedition are from a single location just south of the United States-Mexican boundary, and the species will probably be found in other places along the extreme northern part of Mexico. In the United States, although apparently not common, it is fairly well distributed, ranging from Colorado south into Texas, New Mexico, and Arizona.

Eleodes eschscholtzi Solier

Eleodes eschscholtzi SOLIER, 1848, Baudi et Truqui Studi Ent., vol. 2, p. 238.

TYPE LOCALITY: Mexico (Alamos).

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Alamos; Presidio.

NEW RECORD FOR MEXICO: *Coahuila*: Five miles north of Saltillo, August 22, 1947, 5100 feet, two.

Ranging along the Mexico-Arizona to Texas border, this species seems to be nowhere common. The two specimens from the one locality extend the range considerably to the southeast.

Eleodes segregata Champion

Eleodes segregata CHAMPION, 1892, *Biologia Centrali-Americana*, Coleoptera, vol. 4, pt. 1, p. 513.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Guerrero*: Omilteme; Xucumanatlan; Mochitlan.

NEW RECORDS FOR MEXICO: *Chihuahua*: Cañon Prieto near Primavera, July 2, 1947, 6800 feet, two; 8 miles west of Matachic, July 8, 1947, 7200 feet, four; Catarinas, July 25, 1947, 5800 feet, one; Santa Barbara, February 17, 1947 (G. M. Bradt), two. *Durango*: Las Puentes, July 24, 1947, 7500 feet, 31; Durango, August 1, 1947, 6200 feet, one; Palos Colorados, August 5, 1947, 8000 feet, one; Otinapa, August 7, 1947, 7500 feet, 31; Nombre de Dios, August 13, 1947, 5900 feet, three.

Champion described this species from 12 specimens, all from the state of Guerrero in southern or southwestern Mexico. The 76 specimens from nine localities taken on the expedition extend the range of this species far north of previous records. The nine localities from which expedition material was secured are all along the extreme western part of the area covered by the expedition. Champion's species, as he recognized it, is closely related to *Eleodes alutacea* Solier (1848) and *E. maillei* Solier (1848), both of which are now considered as synonyms of *E. aequalis* Say (1835). From the above species, *E. segregata* Champion, as he points out, is distinguished largely by its "more opaque appearance, and the elytral surface with rows of fine shallowly placed punctures, the interstices each with a single row of very minute punctures." This species, as I look upon it, is a western and southwestern extension of *E. aequalis* Say which seems to occupy the eastern and more southern reaches of the Mexican Highlands area. At present I feel that *E. segregata* is distinct enough to be retained as a full species.

I am indebted to Herr Kulzer for examining and confirming the determination of specimens of this species, for I have had no opportunity to see any of Champion's specimens.

Eleodes chihuahensis Champion

Eleodes chihuahensis CHAMPION, 1884, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 86, pl. 4, fig. 14.

TYPE LOCALITY: Mexico, Pinos Altos, Chihuahua.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Santa Clara Canyon, 5 miles west of Parrita, June 27, 1947, 5600 feet, 11; Primavera, June 30, 1947, 6000 feet, one; 10 miles west of Namiquipa, July 3, 1947, 6600 feet, 42; 8 miles west of Matachic, July 8, 1947, 6400 feet, one. *Durango*: San Isidro, Cuencame District, August 8, 1947, 6700 feet, one. *Coahuila*: La Gloria, south of Monclova, August 24, 1947, 3300 feet, one.

Champion described this species from a single specimen from the west central part of the state of Chihuahua. The 57 specimens taken on the expedition came from six localities. Four of these are a short distance north and northeast of the type locality. The other two are a long distance to the southeast: one in the extreme eastern part of the state of Durango, the other in the southeastern part of the state of Coahuila. In the large series at hand, including the 42 from one locality, the specimens show some variation in size as well as in the punctuation of the prothorax and particularly in the punctures of the elytra.

Eleodes omissoides Blaisdell

Eleodes omissoides BLAISDELL, 1935, Stylops, vol. 4, p. 157.

TYPE LOCALITY: Mexico, Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Durango*: Villa Ocampo, July 27, 1947, six; San Juan del Rio, July 30, 1947, 5200 feet, six; Ocampo, August 2, 1947, nine; San Lucas, August 2, 1947, 6700 feet, four; Palos Colorados, August 5, 1947, 8000 feet, 10; Coyotes, Durango District, August 8, 1947, 8300 feet, one; San Isidro, Cuencame District, August 8, 1947, 6700 feet, one; Otinapa, August 7-11, 1947, 8200 feet, 15. *Zacatecas*: Canutillo, August 14, 1947, six; Fresnillo, August 15, 1947, 7000 feet, one.

The 59 specimens from 10 localities taken by the expedition provide a very nice series of this attractive species, heretofore represented by the type and one paratype in the British Museum. The 10 localities are all rather close together around the type locality in the southeastern part of the state of Durango and in the neighboring state of Zacatecas. Because no other specimens were taken elsewhere during the expedition, it may be concluded that this species is rather localized to this small area.

Five specimens were sent to Herr Kulzer for examination. He referred them to *E. punctigera* Blaisdell (1935). I cannot quite agree with him, however, on a number of points and am therefore placing the 59 specimens under *omissoides* Blaisdell. I have not had the opportunity to see either the type or the paratype of *omissoides*, or the type, a unique, of *punctigera*, all of which are in the British Museum. None of the 59 specimens, which range from 16 to 21 mm. in length and 5.5 to 9 mm. in width, is as large as the type of *punctigera*, which in the description is stated as being 25 mm. in length and 10 mm. in width. It is largely on this point that I am using the name *omissoides*. Blaisdell recognizes the similarity of his two species but uses the shape of the prothorax as the main differentiating character. He states that in *omissoides* it is of the *carbonaria* type, while in *punctigera* it is of the *longicollis* shape. In the large series at hand these factors do not especially hold. There is also considerable variation in the size of the elytral punctuation, with specimens from the state of Zacatecas having the punctures generally larger and more impressed. I am of the opinion that actually these two species are the same, in which case the name *omissoides* has priority. Only, however, on examination of the types would I care to take a definite stand on this question.

Eleodes ornatipennis Blaisdell

Eleodes ornatipennis BLAISEDELL, 1937, Trans. Amer. Ent. Soc., vol. 63, p. 129.

TYPE LOCALITY: Holotype, female, New Mexico, allotype, male, near the Papagochic River, Chiricahua, Guerrero, Mexico.

RECORDED MEXICAN DISTRIBUTION: The locality of the allotype.

NEW RECORDS FOR MEXICO: *Chihuahua*: Madera, July 6, 1947, 7200 feet, four; 2 miles west of Pedernales, August 17, 1950 (Ray F. Smith), five.

Blaisdell based his description of this species on four specimens, the holotype and two paratypes from New Mexico and the allotype from far to the south in the state of Guerrero, Mexico. The nine specimens in the American Museum collections from two localities in the state of Chihuahua, Mexico, show that this species is widely distributed and more common than it appears to be, for it is seldom seen in collections. Undoubtedly in the future, specimens of this beautiful and distinctively marked species will be taken from many intermediate points in the highland area of Mexico. It is close to *E. longicollis*, but the sharply defined red vittae down the suture at once separate this species from any species that show reddish because of the immature pigmentation which sometimes occurs along the suture.

Eleodes longicollis LeConte

Eleodes longicollis LeConte, 1851, Ann. Lyc. Nat. Hist. New York, vol. 5, p. 134.

TYPE LOCALITY: "Flumen Gila," Arizona.

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora. *Chihuahua*: Santa Clara; Chihuahua City. *Durango*: Villa Lerdo; Durango City. *Coahuila*: Saltillo; Parras; San Pedro. *San Luis Potosi*: San Luis Potosi. *Aguascalientes*: Aguascalientes.

NEW RECORDS FOR MEXICO: *Chihuahua*: Primavera, June 30, 1947, 6000 feet, one; Santa Clara, July 2, 1947, one; 10 miles west of Namiquipa, July 13, 1947, 6600 feet, two; San Jose Babicora, July 5, 1947, one; 20 miles southwest of Camargo, July 13, 1947, 4500 feet, three; Santa Barbara, July 18, 1947, six; Santa Barbara, May 2-9, 1947, 6200 feet (G. M. Bradt), 30; Valle de Olivos, July 20, 1947, 5500 feet, one; Catarinas, July 25, 1947, 5800 feet, one; Cuevas, Matamoros District, July 26, 1947, four; Salaires, August 20, 1947, 5200 feet (G. M. Bradt), one; 10 miles west of Jiminez, September 11, 1950 (Ray F. Smith), one. *Durango*: Villa Ocampo, July 27, 1947, one; Encino, July 27, 1947, 6200 feet, one; El Tascate, July 28, 1947, 6400 feet, one; Palos Colorados, August 5, 1947, 8000 feet, three; San Isidro, Cuencame District, August 8, 1947, 6700 feet, eight; 6 miles northeast of El Salto, Durango District, August 10, 1947, 8500 feet, two; Nombre de Dios, August 13, 1947, 5900 feet, three; Durango, August 14, 1947, 6200 feet, 10. *Zacatecas*: Sain Alto, August 14, 1947, 7000 feet, five; Fresnillo, August 15, 1947, 7000 feet, six; Guadalupe, Zacatecas District, August 16, 1947, 7400 feet, 44. *Coahuila*: San Pedro de Colonias, August 20, 1947, 3700 feet, nine; Cabos, August 21, 1947, 4000 feet, one; 5 miles north of Saltillo, August 22, 1947, 5100 feet, one.

This is one of the most common and widely ranging species of *Eleodes*. Found from Kansas and Colorado south through Texas, Arizona, and the northern half of Mexico almost to Mexico City, it seems to be at home almost from sea level to altitudes of 10,000 feet. Specimens of this beetle were collected at 25 localities in the four states of Mexico covered by the expedition. Only at two of these, however, were more than 10 specimens taken. These were at Santa Barbara, where extensive collecting was done over a number of widely separated days. The other was at Guadalupe, state of Zacatecas, where 31 specimens were collected in one day. At all the other locations usually only one to three specimens were secured. It also appears to have a wide seasonal occurrence, for specimens were secured as early as May 2 and as late as August 22.

Embaphion mexicanum Blaisdell

Embaphion mexicanum BLAISDELL, 1935, *Stylops*, vol. 4, p. 160.

TYPE LOCALITY: Colonia Diaz, Chihuahua, Mexico.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORD FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947, two.

With some hesitancy, I assign the two specimens taken on the expedition at a single locality to this species. Blaisdell based his description on two specimens, the holotype and allotype, which are in the British Museum. I have not had the opportunity of comparing the expedition specimens with the types but only with a specimen named by Blaisdell in the United States National Museum. They seem, however, to fit the description in most characters. They are also closely related to LeConte's *E. contusum*, which is the only other caudate species that ranges rather commonly throughout the western United States from Wyoming and Colorado south into Arizona. It has not as yet been recorded from Mexico. *Embaphion mexicanum* differs from *contusum* in being generally smaller and narrower, and more parallel and oblong in form. There are also slight differences in the antennae as well as the shape of the pronotum. A large series, however, of *E. contusum* will show many specimens which might very well be placed with Blaisdell's *mexicanum*. Blaisdell also recognized this close relationship in the two species. I am inclined to think that *mexicanum* is simply a southern extension of *contusum*, and at most should be considered as a possible subspecies. This can be confirmed only through the acquisition of considerable material from the territory between that occupied by each of those two species.

Megasattus erosus (Horn)

Eusattus erosus HORN, 1870, *Trans. Amer. Phil. Soc.*, new ser., vol. 14, p. 294, pl. 15, fig. 21.

TYPE LOCALITY: Peninsular Lower California.

RECORDED MEXICAN DISTRIBUTION: *Durango*: Villa Lerdo.

NEW RECORDS FOR MEXICO: *Chihuahua*: Twenty miles southwest of Camargo, July 13, 1947, 4500 feet, one; 25 miles southwest of Camargo, July 14, 1947, one. *Durango*: Three miles west of Lerdo, August 24, 1946 (C. M. Bogert), one.

This very attractive beetle appears to be rather uncommon, for it is rare in collections. The three specimens mentioned above are the only ones in the collections of the American Museum of Natural History.

Eusattus reticulatus (Say)

Zophosis reticulatus SAY, 1824, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 250.

TYPE LOCALITY: Near the Rocky Mountains.

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Paso del Norte; Chihuahua City.

NEW RECORDS FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947, one; Ojo Laguna, June 30, 1947, one; Primavera, June 30, 1947, 5500–6000 feet, two.

Four specimens of this species were taken by the expedition from three localities in the state of Chihuahua. Although widely distributed in the United States from Kansas and Colorado south through New Mexico and Arizona into northern Mexico, it seems to be limited in Mexico to the extreme northern part of the Mexican Plateau. At present it does not appear to be particularly common, having been taken only in small numbers. Perhaps more intensive collecting will increase the known range and reveal it to be more common than indicated. Specimens of this species from various localities frequently show considerable variation in size and in the sculpture of the elytra.

Eusattus sculptus Champion

Eusattus sculptus CHAMPION, 1892, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 510.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora. *Chihuahua*: Paso del Norte. *Durango*: Villa Lerdo.

NEW RECORDS FOR MEXICO: *Chihuahua*: Kilometer 36, Santa Barbara–Ojito road, August 17, 1947, 6900 feet (G. M. Bradt), three; Santa Barbara, February 2–19, 1947, 6200 feet (G. M. Bradt), three; Clarines Mine, February 8, 1947, 6000 feet (G. M. Bradt), one; Salaices, August 20, 1947, 5200 feet (G. M. Bradt), two; 6 miles northeast of Meoqui, September 2, 1950 (Ray F. Smith), three.

The 12 specimens from five localities, all rather close together in the state of Chihuahua, indicate that this species is somewhat limited in its distribution to the northern part of the Mexican Highlands. It has been reported from north of the Mexican border, but these records are of uncertain quality. As in *E. reticulatus*, specimens of this species from various localities show considerable variation and are frequently undetermined or are confused with *reticulatus* in collections.

Ulus hirsutus Champion

Ulus hirsutus CHAMPION, 1885, *Biologia Centrali-Americana*, Coleoptera, vol. 4, pt. 1, p. 133, pl. 6, fig. 13.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Durango*: Ventanas, Presidio. *Veracruz*: Cordova, Tehuacan, Jalapa. *Yucatan*.

Also Guatemala: San Geronimo. Panama: San Feliz, Bugaba, Obispo.

NEW RECORDS FOR MEXICO: *Chihuahua*: Ten miles south of Las Delicias, July 13, 1947, four; Catarinas, July 25, 1947, 5800 feet, three.

The seven specimens from two localities in the state of Chihuahua extend the recorded range of this Central American species considerably to the north. It is closely allied to *U. obliquus* LeConte from Lower California and *U. fimbriatus* Casey from Texas and northern Mexico. With more material from a greater number of localities available for study, these three species may prove to be geographical subspecies, with LeConte's name having priority. For the present Champion's name is here retained for the Mexican forms.

Ulus fimbriatus Casey

Ulus fimbriatus CASEY, 1890, *Ann. New York Acad. Sci.*, vol. 5, p. 413.

TYPE LOCALITY: Texas (El Paso).

RECORDED MEXICAN DISTRIBUTION: Not previously recorded.

NEW RECORD FOR MEXICO: *Chihuahua*: La Cruz, July 13, 1947, one.

One specimen of this very pretty little beetle was secured in Mexico a short distance south of the type locality. Casey records having a large series from the type locality. It approaches rather closely to the widely distributed Mexican species *U. hirsutus* but is a trifle smaller, and the pubescence along the lateral margins and on the prothorax is more dense. The distributions of the two species overlap in the state of Chihuahua.

Blapstinus substriatus Champion

Blapstinus substriatus CHAMPION, 1885, *Biologia Centrali-Americana*, Coleoptera, vol. 4, pt. 1, p. 128.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Coahuila*: Parras. *Guanajuato*: Guanajuato. *Mexico*: Toluca. *Puebla*: Puebla. *San Luis Potosi*: San Luis Potosi. *Veracruz*: Jalapa. *Chihuahua*: Chihuahua City. *Durango*: Villa Lerdo. *Distrito Federal*: Mexico City.

NEW RECORDS FOR MEXICO: *Chihuahua*: Delicias, July 13, 1947, two. *Durango*: Encino, July 27, 1947, 6200 feet, one.

This is a widely distributed species which ranges from Montana south through the Rocky Mountain states into central and southern United States. Although widely distributed, it appears to be nowhere abundant and only locally common.

Blapstinus pratensis LeConte

Blapstinus pratensis LECONTE, 1859, Smithsonian Contrib. Knowl., vol. 11, p. 15.

TYPE LOCALITY: Kansas.

RECORDED MEXICAN DISTRIBUTION: *Tamaulipas*: Nuevo Laredo.

NEW RECORDS FOR MEXICO: *Chihuahua*: Catarinas, July 26, 1947, 5800 feet, one; Kilometer 36, Santa Barbara-Ojito road, August 17, 1947, 6900 feet (G. M. Bradt), one. *Durango*: Palos Colorados, August 5, 1947, 8000 feet, one.

The three specimens from rather widely separated areas in northern Mexico extend the range of this common United States species considerably south of previous records.

Blapstinus dilatatus LeConte

Blapstinus dilatatus LECONTE, 1851, Ann. Lyc. Nat. Hist. New York, vol. 5, p. 146.

TYPE LOCALITY: Colorado.

RECORDED MEXICAN DISTRIBUTION: *Sonora*: Northern Sonora.

NEW RECORDS FOR MEXICO: *Chihuahua*: Delicias, July 11, 1947, 4150 feet, two; 10 miles south of Delicias, July 13, 1947, three.

This widely distributed and rather common species, found in the southwest United States from Colorado and Arizona to southern California, has heretofore been taken in Mexico only in the northern part of the state of Sonora. The two localities, close together near the southeastern part of the state of Chihuahua, of the five specimens taken by the expedition broaden the known distribution of this insect. It is likely that further collecting will show that the species occurs throughout most of northern Mexico. I am indebted to Herr Hans Kulzer for examining specimens of this species.

Conibius brunnipes Champion

Conibius brunnipes CHAMPION, 1885, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 133, pl. 6, fig. 12.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Chihuahua*: Chihuahua City. *Durango*: Villa Lerdo. *Guanajuato*: Guanajuato. *Puebla*: Atlixco; Puebla. *Guerrero*: Chilpancingo. *Oaxaca*: Capulapam; Oaxaco.

Also Guatemala: Guatemala City; El Jicaró.

NEW RECORDS FOR MEXICO: *Chihuahua*: Santa Barbara, February 7-19, 1947, 6200 feet (G. M. Bradt), 13. *Durango*: Yerbánis, Cuencame District, August 19, 1947, 6700 feet, 12.

A widely distributed species ranging from northern Mexico, just south of the border, south into Guatemala. It has been reported from the southwestern United States, but these records are questionable and probably apply to some other species of *Conibius*, of which there are several occurring in Texas and Arizona. Three specimens of the Yerbánis series were submitted to Herr Hans Kulzer for examination, which he regarded as a new species of *Conibius*. The only difference I can find to warrant establishing a new species is that the Yerbánis specimens all are a little larger in size (5 to 5.5 mm. in length) than those in the Santa Barbara series, which average about 4.5 mm. Champion in his description of *C. brunripes* gives for the length 5 to 5.5 mm. Both series are here placed under Champion's name.

Ammodonus tropicus (Kirsch)

Asida tropicus KIRSCH, 1866, Berliner Ent. Zeitschr., vol. 10, p. 190.

TYPE LOCALITY: Colombia: Bogotá.

RECORDED MEXICAN DISTRIBUTION: *Veracruz*: Veracruz; Presidio. (Uncertain, probably state of Chihuahua.)

Also Nicaragua: Chontales. Panama: Tole. Colombia: Bogotá. Brazil: Santarém. Antilles: Guadeloupe.

NEW RECORDS FOR MEXICO: *Chihuahua*: Catarinas, July 25, 1947, 5800 feet, two.

These two specimens of this attractive but extremely variable beetle are placed in the Central and northern South American species *tropicus* Kirsch rather than in *granosus* Fall from Arizona, because I believe more intensive collecting and more material will show that these are the same species, with Kirsch's name having priority.

Alphitobius diaperinus (Panzer)

Tenebrio diaperinus PANZER, 1797, Faunae insectorum Germanicae, vol. 37, p. 16.

TYPE LOCALITY: Europe.

RECORDED MEXICAN DISTRIBUTION: *Guanajuato*: Guanajuato. *Puebla*: Puebla. *Veracruz*: Veracruz.

Also North America; Europe; cosmopolitan.

NEW RECORDS FOR MEXICO: *Chihuahua*: Primavera, June 30, 1947, 6000 feet, two; 239 kilometers south of Ciudad Juárez, July 1, 1947,

three; Kilometer 36, Santa Barbara-Ojito road, August 12, 1947, 6900 feet (G. M. Bradt), one. Durango: *Durango*, August 14, 1947, 6200 feet, two.

A cosmopolitan species that has spread throughout a large part of the world, principally by means of man's commerce.

Alphitobius piceus (Olivier)

Helops piceus OLIVIER, 1792, Entomologie, Paris, vol. 3, p. 50, pl. 2, fig. 13.

TYPE LOCALITY: Europe.

RECORDED MEXICAN DISTRIBUTION: *Coahuila*: San Pedro. *Nuevo Leon*: Guajuco. *Veracruz*: Minas Viejas; Cosamaloapam. *Yucatan*.

Also Costa Rica; Panama; North America; Europe; cosmopolitan.

NEW RECORDS FOR MEXICO: *Chihuahua*: Samalayuca, June 24, 1947, two; Delicias, July 11, 1947, 4150 feet, two; 25 miles southwest of Camargo, July 14, 1947, four; Kilometer 36, Santa Barbara-Ojito road, August 17, 1947, 6900 feet, one. *Durango*: San Juan del Rio, July 30, 1947, 5200 feet, one; Pedricena, August 19, 1947, 4500 feet, one. *Coahuila*: Cabos, August 21, 1947, 4000 feet, one.

This also is a cosmopolitan species which seems to be more widely distributed than the preceding species. Both are scavengers and are frequently found in the drift along beaches, in warehouses, around old bones, or in other debris.

Doliema pallida (Say)

Pytho pallida SAY, 1824, Jour. Acad. Nat. Sci. Philadelphia, vol. 3, p. 271.

TYPE LOCALITY: "Arkansa."

RECORDED MEXICAN DISTRIBUTION: *Veracruz*: Cordova; Jacale; Jalapa.

Also Guatemala: Guatemala City; Capetillo; Zapote; San Geronimo. Nicaragua: Chontales. Colombia: Manizales.

NEW RECORD FOR MEXICO: *Chihuahua*: Twenty-five miles southwest of Camargo, July 14, 1947, one.

One specimen of this extremely widely distributed species was secured by the expedition. It ranges from the southern two-thirds of the United States into northern South America. Specimens from Mexico and Central America were known as *D. cucujiformis* Reitter for many years, but Champion (1892) placed *cucujiformis* as a synonym of *pallida* where it still remains.

Tarpela atra Allard

Tarpela atra ALLARD, 1876, L'Abeille, vol. 14, pp. 7, 46.

TYPE LOCALITY: Mexico (no specific location).

RECORDED MEXICAN DISTRIBUTION: *Puebla*: Puebla; Matamoros Izucar. *Jalisco*: Sayula.

NEW RECORDS FOR MEXICO: *Durango*: Palos Colorados, August 5, 1947, 8000 feet, one; Coyotes, Durango District, August 8, 1947, 8300 feet, 10; 6 miles northeast of El Salto, Durango District, August 10, 1947, 8500 feet, nine; Otinapa, August 11, 1947, 8200 feet, one.

Known previously from central Mexico. The new records extend the distribution of this species somewhat farther north. The 21 specimens taken by the expedition came from four localities very close together in the extreme southwestern part of the state of Durango.

Helops spilmani, new species

Figure 7

Elongate-ovate, convex, faintly shining, piceous black, legs reddish, head and prothorax coarsely and closely punctured, elytra striate-punctate, intervals finely punctulate.

MALE: Head slightly longer than wide, widest across the lobes in front of the eyes, shallowly but broadly depressed between lobes, front of clypeus feebly sinuate, three-fifths as wide as head, sides oblique to lobes over antennae, lobes elevated, evenly rounded, sides of neck nearly parallel, front coarsely and closely punctured, more finely towards base, labrum nearly twice as wide as long, finely and closely punctured, each puncture with a long, fine, yellowish hair, antennae reaching at least two segments beyond base of prothorax, segments about equal in length except second which is about one-half of length of fourth, third three times as long as second or nearly twice as long as fourth, eleventh one and one-half times longer than tenth, ovate, sixth to eleventh segments gradually widening, second to ninth covered with short black setae, longer towards apex of each segment, tenth and eleventh more finely pilose, eyes exceedingly small, the smallest in any known *Helops*, elongate ovate, twice as long as wide, not quite so long as fourth antennal segment, finely faceted, placed at back edge of antennal lobes. Prothorax cylindrical, without marginal carinae, slightly longer than wide, convex, surface coarsely, closely, and in a few places confluent punctured, apical margin feebly rounded, very feebly sinuate at middle, basal margin equal to apical, feebly rounded to broadly obtuse basal angles formed by a trace of a marginal carina, lateral sides broadly and evenly rounded. Scutellum broadly rounded, shining, a few feeble punctures. Elytra ovate, convex, nearly twice as long as wide, widest about at middle, evenly rounded to humeral angles, which are broadly rounded, obtuse, and continuing as a distinct, thin, and reflexed marginal carina to apex, base truncate, not

margined, apex broadly and evenly rounded, faintly striate, each stria with small but distinct, somewhat elongated punctures closely but irregularly placed, striae more feeble towards apex, punctures of second, fourth, sixth, and eighth striae usually a trifle more impressed, intervals flat, faintly rugulose and with small, irregularly placed punctures rather close together. Epipleurae narrow, nearly parallel from base almost to apex, tapering in the apical eighth; finely punctured. Under side, head coarsely and closely punctured, except for a triangular area at middle nearly smooth, a few transverse wrinkles at base, prosternum coarsely and closely punctured, elevated between coxae, sharply declivous to basal margin, mesosternum and metasternum coarsely, closely, and somewhat confluent punctured, abdomen more finely punctured, each bearing a short yellowish hair. Legs rather coarsely punctured, each puncture on the femora with a yellowish hair, tibiae and tarsi with reddish setae.

FEMALE: Similar to male.

Length, 6–8 mm.; width, 2.3–3 mm.

TYPE MATERIAL: Holotype, male, 20 miles southwest of Camargo, Chihuahua, Mexico, 5400 feet, July 13, 1947; allotype, female, same data as holotype. Paratypes: same data as holotype, seven; Salaices, Chihuahua, Mexico, July 23, 1947, one; Pedricena, Durango, Mexico, 4500 feet, August 19, 1947, one. All type material deposited in the collections of the American Museum of Natural History.

A species easily distinguished from all other known *Helops* by the extremely small eyes. It apparently has no close affinities, but does approach *Helops seriatorporus* Champion (1893), and some other close affiliates of *seriatorporus*, such as *H. rastratus* Champion (1893) and *H. spissicornis* Champion (1893). Champion described these three species from specimens all occurring in the same general region of *spilmani*. It would seem that all are probably from the same general stock, having evolved into their present forms as they branched out into new localities.

Mr. Spilman, to whom I sent specimens of this species for study, very kindly examined the genitalia of one of the males. He found that in this character it shows considerable similarity to *H. difficilis* Horn.

I take great pleasure in naming this very interesting and unusual species of *Helops* in honor of Mr. T. J. Spilman for his very careful and painstaking study of these beetles, and for his helpful suggestions as to their close associations.

Helops spiethi, new species

Figure 9

Elongate-ovate, subparallel, moderately convex, piceous black, faintly

shining, head and prothorax coarsely and closely punctured, elytra deeply striate, striae rather coarsely punctured.

FEMALE: Head wider than long, widest behind the eyes, tapering to the neck, front margin of clypeus truncate, three-fourths as wide as head, then oblique to antennal lobes, lobes elevated, prominent, evenly rounded to eyes, head faintly but broadly impressed in front of middle, surface irregularly, closely, and rather coarsely punctured, labrum twice as wide as long, finely punctured, each bearing a fine, rather long, piceous seta, eyes normal, antennae reaching the last three segments beyond base of prothorax, segments nearly equal in length, except second which is one-third of length of fourth, third six times the length of second or about twice as long as fourth, last three segments gradually broader to the eleventh which is nearly globose, all rather densely covered with short blackish setae. Prothorax somewhat quadrate, slightly wider than long, widest just in front of middle, convex, a trace of a faint, very small depression each side of middle, very finely margined, apical margin slightly rounded at middle, and fringed with short golden yellow ciliae, faintly sinuate towards each side, base evenly rounded, slightly narrower than apex, lateral margins rounded, with three very faint sinuations in front of the middle from the widest part to the obtuse apical angles, tip faintly rounded, basal half evenly rounded, becoming faintly sinuate to the basal angles which are nearly rectangular, tips faintly rounded, surface irregularly, closely and coarsely, but not particularly confluent punctured, trace of a median line, more visible on apical half. Scutellum somewhat broadly triangular, rather coarsely and closely punctured. Elytra elongate, convex, twice as long as wide, one-fifth wider than prothorax, widest slightly behind the middle, rounding very slightly to the humeral angles, which are sharply rounded, base truncate, truncated part equal to or only a trifle wider than base of prothorax, rounding more sharply to the apex which is broadly rounded, marginal carinae slightly reflexed, faintly but distinctly ridged from base to middle, less pronounced towards apex, surface deeply striate, with rather large, close-set, slightly elongated, deep punctures, smaller towards apex, intervals convex, with scattered, irregularly placed, fine punctures. Epipleurae very narrow, nearly parallel to beyond middle, then tapering towards the apex. Under side, head rugose and rather coarsely and closely punctured, prosternum, mesosternum, and metasternum coarsely and somewhat confluent punctured, abdomen more finely but closely punctured, each bearing a very fine, short, yellowish hair. Legs normal, closely punctured, each with a very fine, short, yellowish hair on the femora, blackish or piceous, longer setae on the tibiae and tarsus.

Length, 8.5 mm.; width, 3.5 mm.

TYPE MATERIAL: Holotype, female, San Juan del Rio, Durango, Mexico, 5200 feet, July 30, 1947; allotype, female, same data as holotype, allotype slightly smaller, length 8 mm., width 3.2 mm. The allotype is not in as good condition as the holotype because of dirt, broken appendages, and an impressed area on the elytra near the base, more marked on the left side and probably due to an injury in the pupal stage. No paratypes. All type material deposited in the collections of the American Museum of Natural History.

I am indebted to Mr. T. J. Spilman, to whom I sent these two specimens for study, for his very helpful assistance, not only in confirming my opinion that they represented a new species, but also in comparing them with certain recognized species. At present, he believes that this new species has affinities with *Tarpela socia* Champion (1887) from Mexico, especially in the prothorax and appendages, but that it differs markedly in the elytra. In comparison with species of the United States he believes it is somewhat allied to *Helops perforatus* Horn (1880) in respect to the prothorax but differs in respect to the elytra.

Tarpela socia is recorded from Acapulco, Mexico, whereas *H. perforatus* occurs in Texas. The range of this new species is about halfway between these two affiliates and may possibly be connected with both. The fact that these two species have been placed under different genera is of no particular significance, because at present we know of no hard and fast distinctions between *Tarpela* and *Helops*. Mr. T. J. Spilman is now working to straighten out some of these obscurities.

The present species is named in honor of Dr. Herman T. Spieth, who was a member of the David Rockefeller expedition to Mexico in 1947 and whose name appears as collector.

Pyanisia tristis Castelnau

Pyanisia tristis CASTELNAU, 1840, Histoire naturelle des insectes coléoptères, vol. 2, p. 236.

TYPE LOCALITY: Mexico.

RECORDED MEXICAN DISTRIBUTION: *Durango*: Ventanas. *Veracruz*: Cordoba; Jalapa; Tuxtla; Tampico; Misantla. *Chiapas*: Tapachula. *Jalisco*: Zapotlan.

Also British Honduras: Belize; Rio Hondo; Rio Sarstoon. Guatemala: Yzabal; San Juan in Vera Paz; Cubilguitz; San Joaquin; San Geronimo; El Reposo; Zapote. Nicaragua: Chontales. Panama: San Feliz; Tole. Cuba, Puerto Rico, and the Isle of Pines.

NEW RECORDS FOR MEXICO: *Nayarit*: Tuxpan, May 13, 1949, 150

feet (G. M. Bradt), two; 10 miles south of Santiago, Ixcuintla, May 15, 1949, 100 feet (G. M. Bradt), one; Mecatan, May 23, 1949, 800 feet (G. M. Bradt), four.

This is a widespread species that ranges from Texas south through Mexico and the Central American countries into Panama. It does not appear to be plentiful in the northern part of its range but is common in the southern part. The Isthmus of Panama seems to limit its spread into South America. No specimens were taken in the four north central states of Mexico covered by the expedition, but the species is included in the present paper in order to add the new distributional records.

Strongylium atrum Champion

Strongylium atrum CHAMPION, 1887, Biologia Centrali-Americana, Coleoptera, vol. 4, pt. 1, p. 360, pl. 15, fig. 14.

TYPE LOCALITY: Mexico, Ventanas in Durango.

RECORDED MEXICAN DISTRIBUTION: Type locality.

NEW RECORDS FOR MEXICO: *Chihuahua*: Santa Barbara, Santa Barbara District, July 17, 1947, 6300 feet, one; 63 miles west of Santa Barbara, July 20, 1947, 5500 feet, one; Catarinas, July 26, 1947, 5800 feet, one. *Durango*: San Juan del Rio, July 30, 1947, 5200 feet, one.

Strongylium atrum is easily distinguished from other species of the genus by its large size, uniform dull black color, very large eyes, long elytra, which are finely striate-punctate, and nearly smooth intervals. The species was described from one specimen taken in Ventanas, Durango, Mexico. It is rather rare in collections and appears to be extremely localized to a rather restricted area in northern Mexico which extends up into the extreme southern part of Arizona. The four specimens taken on the expedition are from four rather widely separated areas.

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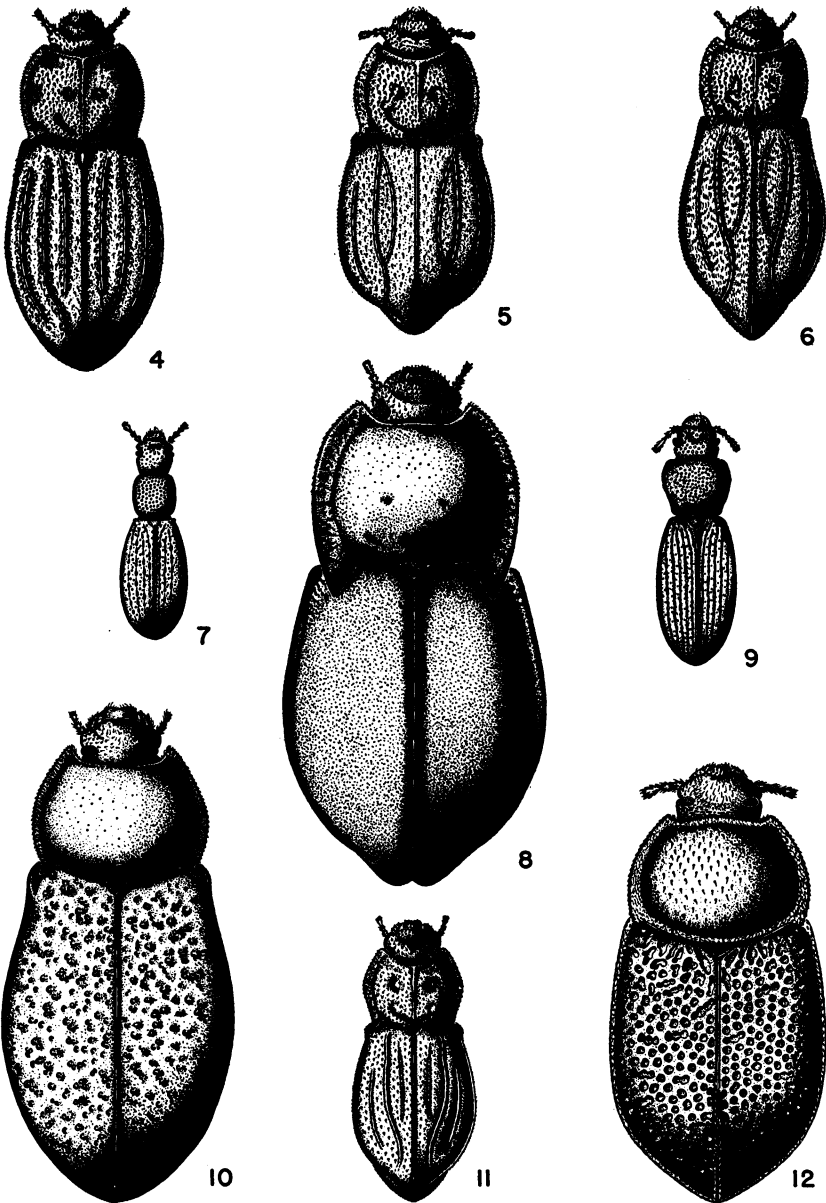
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FIGS. 4-12. Dorsal views of new species of Tenebrionidae. 4. *Parasida cristata*. 5. *Parasida trisinuata*. 6. *Stenosides bisinuatus*. 7. *Helops spilmani*. 8. *Megasida magnifica*. 9. *Helops spiethi*. 10. *Megasida zacatecensis*. 11. *Stenosides kulzeri*. 12. *Microschatia rockefelleri*.

