

A REVISION OF THE GENUS *CHARISIUS* (COLEOPTERA: ALLECULIDAE)

By J. M. CAMPBELL¹

INTRODUCTION

The genus *Charisius* was first described by Champion (1888) in the *Biologia Centrali-Americana*. He erected the genus to receive four species which he considered distinct from the genus *Allecula* Fabricius. In 1893, Champion added an additional species to the genus in the supplement to the family Alleculidae in the "Biologia," and, in 1901, Linell added a new species from Florida. Since that date, there have been no additional publications pertaining to the genus.

Charisius is a very interesting genus of alleculids because of the high elevations at which all of its species are naturally found. Other related genera, except the monotypic genus *Narses* Champion, are found primarily below 4,000 feet. A few species of *Isomira* Mulsant and *Lobopoda* Solier may be found at moderately high elevations, but only rarely above 4,000 feet.

I have divided *Charisius* into three groups, the Fasciatus Group, the Salvini Group, and the Zunilensis Group. The three species of the Fasciatus Group have been collected at elevations ranging from 5,000 to 10,000 feet, with most recorded localities between 7,000 and 9,000 feet; the two species of the Zunilensis Group are found at elevations ranging from 4,000 to 5,000 feet, except for a possible introduction in Florida; and the Salvini Group is found at somewhat intermediate elevations ranging from 4,000 to 7,000 feet.

The revision of the genus was made possible by the generous loan of material from the British Museum (Natural History) which included syntypes of all the species described by Champion. I would like to acknowledge the assistance of Miss C. M. F. von Hayek of the British Museum throughout the course of this study and to James Marshall for observing the holotype of *Charisius floridanus*. In addition, I would like to express my appreciation to Hugh B. Leech and the California Academy of Sciences for the loan of material and to Richard B. Selander for the donation of material from his personal collection. I would also like to express my appreciation to the Society of the Sigma Xi and the Sigma Xi RESA Research Fund which supported the field work of this investigation. For allowing me to accompany him in Mexico during the summer of 1962, I would particularly like to thank Edward L. Mockford.

The primary objectives of this work are: (1) to give an adequate key for the separation of the species; (2) to designate lectotypes of Champion's species; (3) to suggest a phylogeny for the species of the genus; (4) to describe the new species at hand; and (5) to give a brief discussion of the geographic range of the species of the genus.

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BIONOMICS

Unfortunately, very little is known of the bionomics of this group. The larvae are unknown. Adults may be found by beating trees bearing an abundant covering of lichens upon which they probably feed. I collected five specimens from a small tree near a tree stump and one specimen was collected on a stump. It is probable that the larvae live in dead wood as do the larvae of most United States genera of Alleculidae.

METHODS AND TERMS

Records are given for all specimens studied. These records list the exact localities of the specimens, the elevation of the locality, the date of collection if known, the collection from which the specimen was borrowed, and finally the number of specimens in each series. The following abbreviations were used to designate the collections: (BMNH) British Museum, (CAS) California Academy of Sciences, and (JMC) my personal collection.

Pronotal index expresses the ratio of the length of the pronotum along the midline to the width at the basal angles. This ratio is multiplied by 100 for convenience in handling. Total length of the specimen is measured *in situ* to the nearest $\frac{1}{2}$ mm. Total length is the distance between the anterior margin of the labrum and the apices of the elytra. All measurements were made with the aid of an ocular micrometer.

The genus *Charisius* has only five visible sterna. These are numbered one through five although morphologically they are the third through the seventh. The morphological eighth and ninth sterna of the male are invaginated and bilobed. In referring to these structures, they are called the lobes of the eighth and/or ninth sterna. The terms basal piece and apical piece are used in describing the male genitalia. The term basal piece was proposed by Sharp and Muir (1912) and has since been referred to as gonocoxite (Michener, 1944) and as phallobase (Snodgrass, 1935). I have used the term apical piece for convenience. It is synonymous with the terms lateral lobes (Sharp and Muir), gonostyli (Michener), and parameres (Snodgrass). The male genitalia, eighth, and ninth sterna are collectively called the male terminalia. The small, modified, triangular setae found on the male terminalia are referred to as dentiform setae.

SYSTEMATICS

Charisius Champion

Charisius Champion, 1888, Biol. Centr.-Amer., Ins., Coleop. 4(1):421.

Body elongate; glabrous; color ranging from reddish-brown to black; surface smooth, strongly shining. Length 6 to 13 mm.

Vertex moderately densely punctate; a small, impunctate area placed between posterior margin of eyes. Apical segment of labial palpi elongate-triangular, apex slightly longer than outer side; apical segment of maxillary palpi broadly triangular, apex about equal in length to outer side; mandibles with apex shallowly emarginate. Antennae long, filiform; apex of fifth segment reaching to base of pronotum when pulled posteriad over dorsal surface of body; third segment approximately three

times as long as second, slightly shorter than fourth; following segments approximately equal in length to third. Eyes moderately small in size, usually separated by distance approximately equal to diameter of an eye.

Pronotum with base distinctly narrower than base of elytra; sides variable, ranging from strongly narrowed from base to apex to widest near middle and rounded; sides and base distinctly margined. Basal foveae small, moderately deeply impressed, connected across base of pronotum by a deep, transverse prebasal groove. Prosternum elongate and transverse anteriorly of procoxae, prosternal elongation abruptly declivous posteriorly of procoxae; mesosternum abruptly declivous just anteriorly of mesocoxae; metasternum very elongate. Venter of thorax moderately densely, deeply punctate; glabrous. Legs moderately sparsely setate; setae short, becoming denser approaching apex of legs. Third and fourth tarsal segments of anterior and intermediate tarsi and penultimate segment of posterior tarsi broadly lobed in both male and female, basal two segments of anterior tarsi of male lobed ventrally (except in *C. salvini*).

Elytra elongate, sides parallel for basal half and then evenly rounded to apex; elytral striae moderately shallowly impressed near base, becoming more deeply impressed approaching apex; striae punctures small, densely placed along striae; striae interstices convex, impunctate, or finely and obsoletely punctate. Elytral epipleurae ending just anteriorly of apex of elytra; evenly arched from base to apex. Abdominal sterna impunctate or finely, sparsely punctate. Fifth sternum evenly convex, rarely excavate in male.

Eighth sternum of male with two large, well developed, elongate lobes; lobes moderately broad, straight, or curved medially approaching apex (angulate in *C. salvini*); apex bearing very small, densely placed denitiform setae which extend along inner margin to base of lobes. Ninth sternum bilobed; lobes small, reaching only to base of eighth sternal lobes; glabrous. Male genitalia narrowed from base to apex; apical piece strongly narrowed, apex very narrowly rounded, bearing densely placed dentiform setae on sides.

Type-Species. I here designate *Charisius fasciatus* Champion as the type-species of the genus.

Discussion. *Charisius* is a member of the tribe Alleculini of the subfamily Alleculinae. This tribe is distinguished from other tribes of the subfamily in having lobed tarsi and a narrowly triangular intercoxal process of the abdomen. *Charisius* seems to be most closely related to the genus *Allecula* and the wingless monotypic genus *Narses*. All have the same shape and general appearance, similarly shaped maxillary and labial palpi, very broadly lobed anterior and intermediate tarsi, and narrowly elongate eighth sternal lobes.

The genus *Charisius* is distinct from other Mexican and Central American genera of alleculids by the possession of a deep, prebasal, transverse groove connecting the basal foveae of the pronotum. In addition, the shining, glabrous surface of the body; elongate shape; sparsely to moderately densely punctate pronotum; well developed wings; and in some species, the presence of distinct yellow bands across the elytra will easily separate *Charisius* from related genera.

KEY TO GROUPS AND SPECIES OF CHARISIUS

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| 1. | Elytra with two or three light yellow transverse bands-----Fasciatus Group | 2 |
| | Elytra without yellow markings----- | 4 |

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| 2. | Elytra with a greatly expanded yellow band in basal half (fig. 18); band interrupted only by elytral suture; sides of pronotum (fig. 11) distinctly narrowed from base to apex ----- | MEXICANUS |
| | Elytra with anterior band reduced to oval spot or absent (figs. 15-17), not reaching elytral suture; sides of pronotum (fig. 9-10) parallel, sinuate, or converging slightly in basal half ----- | 3 |
| 3. | Anterior yellow spot (fig. 17) extending from sides to middle of each elytron; sides of pronotum (fig. 10) parallel for basal half ----- | PICTURATUS |
| | Anterior yellow spot either absent (fig. 16) or represented by a large, oval spot placed in middle of each elytron (fig. 15) ----- | FASCIATUS |
| 4. | Pronotum coarsely, evenly punctate; anterior tibiae of male slightly expanded ventrally; fifth sternum of male distinctly excavate in middle; apex of elytra black ----- | Salvini Group SALVINI |
| | Pronotum finely punctate; male anterior tibiae and fifth sternum unmodified; elytra without darkened elytral apices ----- | Zunilensis Group 5 |
| 5. | Pronotum evenly punctate; elytral interstices impunctate; length greater than 8 mm. ----- | ZUNILENSIS |
| | Pronotum more densely punctate in middle than on sides; elytral interstices very finely punctate; length less than 7½ mm. ----- | INTERSTITIALIS |

Phylogeny. The suggested phylogenetic relationships of the species of *Charisius* are outlined in figure 1. Based on the Central and South American species of the genus *Allecula* and other related genera of alleculids, the ancestral species of *Charisius* probably had the following characteristics: pronotum with distinct, transverse prebasal groove; surface glabrous dorsally; anterior tibiae of the male widened on the ventral margin; lobes of the eighth sternum of the male either straight or simply curved mediad approaching the apex; fifth sternum evenly convex in both male and female; basal four segments of the anterior tarsi lobed ventrally in the male; color dark brown, without elytral patterns; pronotum only slightly wider than long and coarsely punctate.

Three main lines may be recognized as having evolved from this hypothetical ancestral species. The line giving rise to the Zunilensis Group remains essentially primitive except in having the anterior tibiae of the male unmodified. The line leading to the Salvini and Fasciatus groups is specialized in having sparser punctation of the pronotum, a smaller pronotal index, and at least the beginning of the development of color as shown by the black elytral apices of *C. salvini*. The line leading to the Salvini Group is specialized in having the fifth sternum of the male excavate, the lobes of the male eighth sternum strongly angulate on the sides, and the lobes of the basal two segments of the male anterior tarsi lost. The line leading to the Fasciatus Group is specialized in having the pronotum sparsely punctate, the pronotal index very small, the elytra with distinct transverse bands, and the body larger in size. Within the Fasciatus Group, two lines developed, one leading to *C. mexicanus* and the other leading to *C. fasciatus* and *C. picturatus*. In the line leading to *C. mexicanus* the sides of the pronotum became strongly narrowed, the elytral banding became greatly expanded, and the lobes of the eighth sternum of the male straight.

FASCIATUS GROUP

The Fasciatus Group contains three species, all of which are large (ranging in length from 10 to 13 mm.), elongate beetles with either two or

three yellow bands placed transversely across the elytra. The width of the pronotum is distinctly greater than the length and the surface is very finely and sparsely punctate. The elytral striae bear very fine and very closely placed punctures; the striae interstices are flat at the base (except in *C. picturatus*) and convex approaching the apex; and the interstices are impunctate. The anterior tibiae of the male are expanded on the inner side near the middle and the anterior tarsi of the male have the four basal segments broadly lobed ventrally.

Charisius fasciatus Champion

(Figs. 3, 9, 15, 16)

Charisius fasciatus Champion, 1888, Biol. Centr.-Amer., Ins., Coleop. 4(1):421, pl. 19, figs. 12, 12a, 13.

Dark reddish-brown or black; three light yellow transverse bands placed across elytra, anterior band often missing; margin of all yellow areas slightly dentate, completely surrounded by a narrow dark brown to black margin (figs. 15-16). Length $10\frac{1}{2}$ to $12\frac{1}{2}$ mm.

Vertex moderately densely, finely, and shallowly punctate. Pronotum sparsely but evenly punctate; punctures small and very shallowly impressed; sides parallel or slightly converging and sinuate in basal two-thirds then broadly, evenly rounded to apex (fig. 9); pronotal index of five specimens 77 to 80, mean 77.8. Prosternum and proepisterna smooth, impunctate; metasternum impunctate in middle, punctures becoming moderately densely and deeply impressed approaching sides. Anterior tibiae of male slightly, convexly expanded on middle of ventral surface. Elytral striae unimpressed near base, becoming moderately deeply impressed approaching apex, striae punctures very small, shallowly and very densely impressed along striae; interstices flat or very slightly convex near base, becoming distinctly convex nearing apex; impunctate.

Lobes of eighth sternum of male (fig. 3) narrowly and evenly curved medially from near base to apex; apex and inner sides bearing small, densely placed dentiform setae; outer side bearing dentiform setae only on apical half and a few large setae placed on outer margin. Apex of lobes of ninth sternum obliquely transverse.

Type. As lectotype, I have selected a male from Guatemala collected by Champion and labeled Quiche Mts., 7-9000 feet. The specimen is in the British Museum (Natural History).

Geographic Distribution. This species is known only from the highlands of central Guatemala. It has been collected at elevations ranging from 4-5000 feet to 8500-10,500 feet (elevations given as recorded by Champion).

Records. GUATEMALA: Calderas, 7000 feet (BMNH-Biologia Collection) 1; Cerro Zunil, 4-5000 feet (BMNH-Biologia Collection) 2; Quiche Mountains, 7-9000 feet (BMNH-Biologia Collection) 1; Totonicapam, 8,500-10,500 feet (BMNH-Biologia Collection) 2.

Discussion. *Charisius fasciatus* may be divided into two distinct forms based on coloration. In one form, represented by two specimens from Totonicapam (8,500 to 10,500 feet) and one specimen from the Quiche Mountains (7,000 to 9,000 feet) the body is reddish-brown and the elytra have three distinct yellow transverse bands, each surrounded by a narrow, dark brown to black ring (fig. 15).

In the second form, the body is normally black, the elytra either reddish-brown or black; the anterior yellow band is entirely absent; and the elytral apices are black (fig. 16). In one specimen the apical band is partially reduced to form three small spots. This form is represented by three specimens, two from Cerro Zunil and one from Calderas.

Because of the absence of any clearly defined morphological variation between the two forms either externally or in the male terminalia, I have followed the example of Champion in considering the two forms as members of a single species, but the question of the true status of these two forms can only be satisfactorily demonstrated by additional collections.

By comparing the localities with Champion's (1907) itinerary, I found that the specimen from Calderas was collected during either June or July and those from Quiche Mountains and Totonicapam were collected during August.

Charisius picturatus Champion
(Figs. 10, 17)

Charisius picturatus Champion, 1893, Biol. Centr.-Amer., Ins., Coleop. 4(1):565, pl. 23, fig. 21.

Reddish-brown; with three light yellow bands placed across each elytron, all bands narrowly, irregularly surrounded by dark brown coloration (fig. 17). Length 11 mm.

Head densely and moderately deeply punctate. Pronotum moderately finely, sparsely, and evenly punctate; punctures moderately shallowly impressed; sides parallel for basal two-thirds and then evenly rounded to apex (fig. 10); sides and base distinctly and deeply margined; mean pronotal index of two specimens 80.0, ranging from 78 to 82. Elytra with striae moderately deeply and evenly impressed from base to apex; stria punctures deeply impressed, circular in shape; striae interstices moderately convex, impunctate. Prosternum moderately densely and unevenly punctate; proepisterna sparsely punctate, punctures large and deeply impressed; metasternum moderately sparsely punctate in middle, punctures becoming very large, densely, and deeply impressed approaching sides. Anterior tibiae of male with ventral margin evenly and concavely expanded from base for basal half and then abruptly narrowed to normal diameter; apical portion of ventral margin densely pubescent.

Type. As lectotype, I have selected a male labeled Omilteme, Guerrero, Mexico, 8000 feet, July. The specimen was collected by H. H. Smith and is in the British Museum (Natural History).

Geographic Distribution. This species is known only from the type locality.

Records. MEXICO: Guerrero: Omilteme (Omiltemi), 8000 feet, July (BMNH-Biologia Collection) 1.

Discussion. This species is very similar in appearance to *C. fasciatus*, particularly to the form having three yellow bands across the elytra. It differs primarily in having the margins of the yellow regions very irregular, the anterior spot placed on the outer sides of the elytra, and the apical spot small and somewhat crescent-shaped. Morphologically it differs primarily in having the punctation of the head, pronotum, and the underside of the thorax much denser; more deeply impressed elytral striae; and more convex elytral interstices.

Charisius mexicanus Campbell, NEW SPECIES

(FIGS. 4, 8, 11, 18)

Light orange-brown; elytra very conspicuously colored with three large yellow transverse bands (fig. 18). Length 11 to 13 mm.

Head densely and moderately deeply punctate. Pronotum deeply and evenly punctate; sides moderately straight, narrowed conspicuously from base to apex (fig. 11), very strongly deflexed; mean pronotal index of 13 specimens 70.4, ranging from 67 to 74 ($S\bar{x} = .5$); midline slightly depressed longitudinally.

Anterior tibiae of male distinctly, triangularly widened on inner side near middle. Prosternum shallowly, unevenly punctate; proepisterna sparsely punctate, punctures large and deeply placed; metasternum sparsely, shallowly punctate in middle, punctures becoming moderately densely and deeply impressed approaching sides. Elytra with striae very shallowly impressed near base, becoming somewhat deeper approaching apex; striae punctures circular, moderately densely placed; interstices of elytral striae flat in basal half, becoming moderately convex nearing apex; bearing median row of very small and shallow punctures. Abdominal sterna finely, sparsely, and evenly punctate; fifth sternum bearing long, conspicuous setae along sides and near apex; apex bearing densely placed short setae, distinctly concave in middle in male, convex in female; fourth sternum with scattered setae along apical margin.

Lobes of eighth sternum of male (fig. 4) straight, broad; apex evenly rounded; apex and inner side of lobes densely covered with very small dentiform setae, a few long, straight setae placed along outer side. Lobes of ninth sternum narrow, slightly curved medially approaching apex; apex narrowly rounded. Apex of male genitalia as in Figure 8.

Type. Holotype, male, from 5.2 miles west of Acultzingo (Veracruz) Puebla, Mexico; July 6, 1962; J. M. Campbell. It is in the British Museum (Natural History).

Geographic Distribution. This species is known from elevations above 6000 feet in the Mexican states of Mexico, Morelos and Puebla.

Records. MEXICO: Country label only (BMNH) 2. *Mexico:* Amecameca, 9600 feet, June (CAS) 2. *Morelos:* Tres Marias, 9000 feet (BMNH) 2. *Puebla:* 5.2 miles west Acultzingo (Veracruz), 8000 feet, July (JMC) 5; 6 miles northeast Teziutlan, 6000 feet, August (JMC) 2.

Discussion. I collected specimens of this species near Acultzingo by beating a large tree heavily covered with lichens. This locality is almost directly on the continental divide of Mexico and receives moderately heavy rainfall and very dense fog cover during the rainy season. The larvae of this species possibly live in dead stumps as the adults were collected from a tree adjacent to a dead stump, although other nearby trees of the same species did not yield any specimens.

Charisius mexicanus is similar to *C. fasciatus* and *C. picturatus*, but it may readily be identified by the greatly expanded and very irregularly dentate markings of the elytra and the very conspicuously narrowed sides of the pronotum.

The adults of this species have been collected from June to August.

ZUNILENSIS GROUP

The Zunilensis Group contains two species, both of which are smaller than the species of the Fasciatus Group (from 6½ to 10 mm.). They are characterized by the absence of any yellow markings on the elytra; the large pronotal index; the pronotum distinctly narrower than the base of the elytra; the surface of the pronotum coarsely punctate; the anterior tibiae of the male not expanded; and the broad and straight lobes of the eighth sternum.

Charisius zunilensis Champion

(FIGS. 6, 12)

Charisius zunilensis Champion, 1888, Biol. Centr.-Amer., Ins., Coleop. 4(1):422, pl. 19, fig. 14.

Dark brown. Length 8½ to 9½ mm.

Head very densely punctate; punctures moderate in size and depth. Pronotum quadrate with sides slightly narrowed nearing base (fig. 12); mean pronotal index of four specimens 92.5, ranging from 90 to 95; surface densely punctate, punctures moderately small and shallowly impressed.

Male with ventral surface of anterior tibiae unmodified; four basal segments of anterior tarsi distinctly lobed ventrally. Prosternum very sparsely and shallowly punctate; proepisterna moderately punctate, punctures small and very shallowly impressed; metasternum finely and sparsely punctate in middle, punctures becoming moderately densely and deeply impressed near sides. Elytra with striae moderately deeply impressed near base, becoming deeply impressed near apex; striae punctures small, circular, deeply impressed; striae interstices moderately convex, impunctate. Abdominal sterna very finely and sparsely punctate, apical margin of fifth sternum distinctly concave; sides of apical margin bearing a few short setae.

Lobes of eighth sternum of male (fig. 6) moderately broad, straight; apex of lobes evenly rounded, rather densely covered with small, densely placed dentiform setae; inner margin of lobes bearing moderately densely placed small spines. Lobes of ninth sternum short, both outer and inner sides rounded, apex of lobes broadly rounded.

Type. As lectotype, I have selected a male collected by Champion and labeled Cerro Zunil, 4,000-5,000 feet, Guatemala. The specimen is in the British Museum (Natural History).

Geographic Distribution. Known only from the type locality.

Records. GUATEMALA: Cerro Zunil, 4,000 to 5,000 feet (BMNH-Biologia Collection) 4.

Discussion. Three of the six known species of *Charisius* are from Cerro Zunil. These are *C. zunilensis*, *C. fasciatus*, and *C. salvini*. Each of these species were collected by Champion at an altitude of 4,000 to 5,000 feet. They belong to separate species group and may be readily separated by the key characters.

Charisius interstitialis Champion

(FIGS. 7, 13)

Charisius interstitialis Champion, 1888, Biol. Centr.-Amer., Ins., Coleop. 4(1):422.

Charisius floridanus Linell, 1901, Proc. Ent. Soc. Wash. 4:184. (NEW SYNONYMY.)

Elongate; brown, pronotum and head often dark brown. Length $6\frac{1}{2}$ to $7\frac{1}{2}$ mm.

Head very densely, finely punctate. Pronotum with sides parallel for basal two-thirds and then angulate to apex (fig. 13); mean pronotal index of six specimens 89.0, ranging from 86 to 94; surface densely punctate; punctures moderate in size and moderately impressed, becoming more sparsely distributed nearing sides. Punctuation of underside of thorax and shape of anterior tibiae and tarsi of male similar to those of *C. zunilensis*. Elytral striae shallowly, evenly impressed; interstices distinctly convex, bearing a median row of very small, shallow punctures. Remainder as in *C. zunilensis*.

Lobes of eighth sternum (fig. 7) very similar to those of *C. zunilensis*; inner side of lobes rounded. Lobes of ninth sternum very short, outer side slightly convex; apex of lobes obliquely truncate.

Type. As lectotype, I have designated a male collected by Hoëge from Jalapa, Mexico. This specimen is in the British Museum (Natural History). The holotype of *C. floridanus* is type number 4174 of the USNM. The specimen is labeled Cocoanut Grove, Florida.

Geographic Distribution. Known only from the type locality and one specimen collected near Miami, Florida.

Records. MEXICO: Veracruz: Jalapa (4681 ft.) (BMNH-Biologia Collection) 9. UNITED STATES: Florida: Cocoanut Grove, Linell (1899).

Discussion. This species is very similar to *Charisius zunilensis*. Since the known ranges of these two species are widely separated and as there are no intermediate specimens, I have chosen to follow Champion's example and consider the two populations as separate species.

Charisius interstitialis may be separated from *C. zunilensis* by the much smaller size of the body; smaller punctures of the head and pronotum (the punctures are more densely placed in the middle half of the pronotum); and the somewhat more narrowly rounded apices of the male ninth sternal lobes.

The specimen described by Linell from Florida as *C. floridanus* is almost certainly an accidental import. The Cocoanut Grove locality is in the vicinity of a tropical garden.

James Marshall (personal communication, 1964) compared the holotype of *C. floridanus* with a specimen of *C. interstitialis*. He stated that the only apparent difference in the two is that the pronotal groove of *C. floridanus* is somewhat more pronounced. The pronotal index of the holotype is 92.

SALVINI GROUP

The Salvini Group contains only one species, *C. salvini*. The male has the anterior tibiae expanded ventrally, the basal two segments of the anterior tarsi densely pubescent ventrally, the apical margin of the fifth abdominal sternum deeply excavate, and the eighth sternal lobes angulate on the sides. The elytral apices of both males and females are black.

In many respects, the Salvini Group is somewhat intermediate between the Fasciatus Group and the Zunilensis Group. It has the apices of the elytra black and the anterior tibiae of the male expanded near the middle which may suggest an affinity for the Fasciatus Group. The punctation of the head and thorax as well as the elytral structure is quite similar to that of the Zunilensis Group. It is also somewhat intermediate between these two groups in elevation.

Charisius salvini Champion

(Figs. 5, 14)

Charisius salvini Champion, 1888, Biol. Centr.-Amer., Ins., Coleop. 4(1): 423, pl. 19, fig. 15.

Dorsal surface reddish-brown, venter dark reddish-brown to black, elytral apices usually black. Length $8\frac{1}{2}$ to 10 mm.

Head densely, deeply punctate. Pronotum (fig. 14) with sides parallel or somewhat sinuate in basal two-thirds; surface deeply, densely punctate; punctures large and circular in outline; mean pronotal index of twelve specimens 86.6, ranging from 81 to 90 ($\bar{s}x = .7$); surface evenly convex, occasionally slightly depressed along midline.

Anterior tibiae of male very slightly, ovally expanded on inner side near middle; anterior tarsi of male with basal segment densely pubescent ventrally, not lobed; second segment densely pubescent with small narrow lobe. Prosternum moderately densely, unevenly, and rugosely punctate; proepisterna densely, evenly punctate; metasternum moderately punctate, becoming deeply and densely punctate approaching sides. Elytral striae moderately impressed near base, becoming deeply impressed nearing apex; striae punctures large, circular, closely placed along striae; striae interstices moderately convex near base, becoming deeply impressed nearing apex; impunctate. Abdominal sterna finely, sparsely punctate. Fifth sternum of male conspicuously excavate in middle, each side of excavation very densely punctate; punctures bearing moderately long setae.

Male eighth sternum (fig. 5) with lobes angulate near middle of outer side; inner sides evenly and narrowly rounded; apex of lobes blunt, obliquely transverse, bearing small, moderately densely placed dentiform setae. Lobes of ninth sternum moderately broad; outer sides rounded to apex, apex very narrowly rounded.

Type. As lectotype I have selected the male figured by Champion in the "Biologia." The specimen was collected by Champion at Calderas, Guatemala. It is in the British Museum (Natural History).

Geographic Distribution. Known only from the mountainous regions of southeastern and southcentral Guatemala. Collected between the altitudes of 4,000 and 7,000 feet.

Records. GUATEMALA: Country label only (BMNH-Biologia Collection) 7; Calderas (7000 ft.) (BMNH-Biologia Collection) 1; Capetillo (BMNH-Biologia Collection) 1; Cerro Zunil (4000 ft.) (BMNH-Biologia Collection) 1; Chinautla (4000 ft.) (BMNH-Biologia Collection) 1; Duenas (4700 ft.) (BMNH-Biologia Collection) 1.

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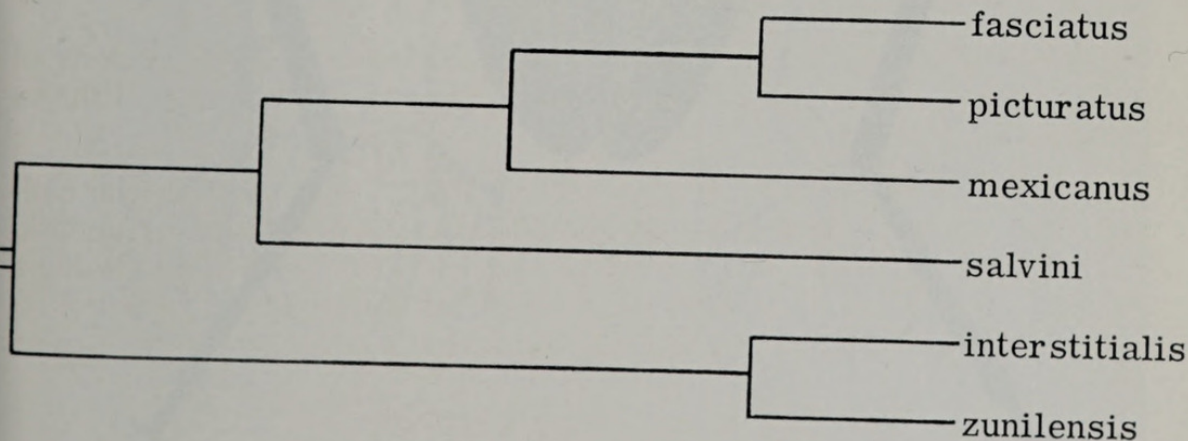


FIGURE 1. Proposed phylogeny of the genus *Charisius*.

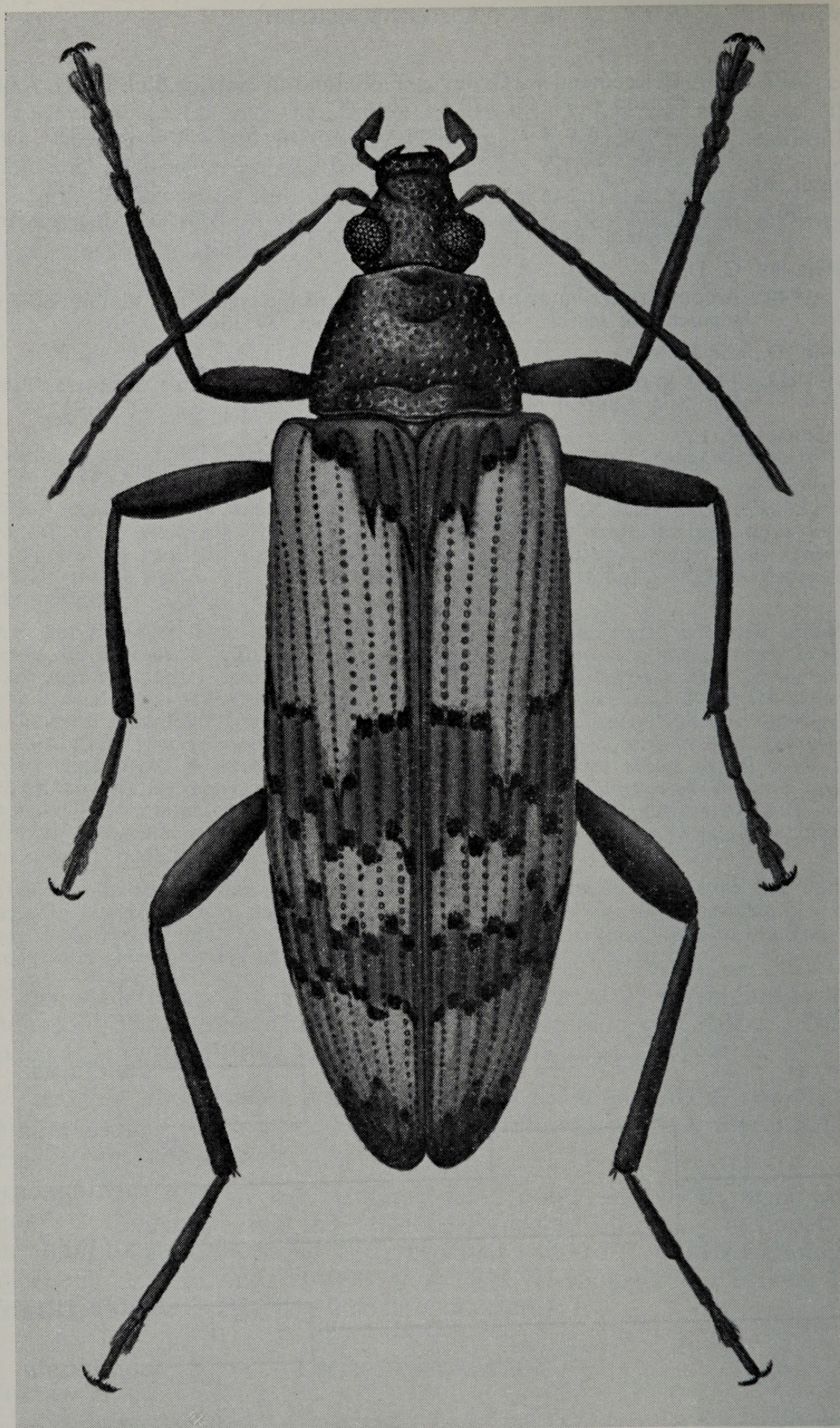
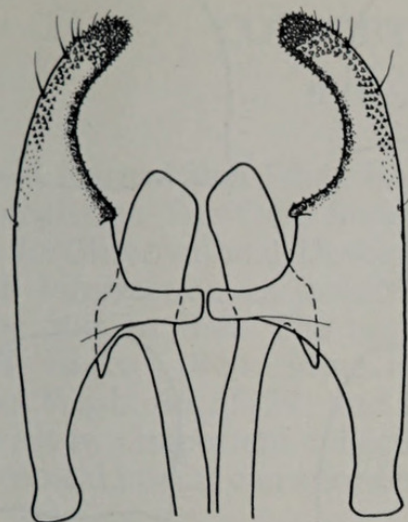
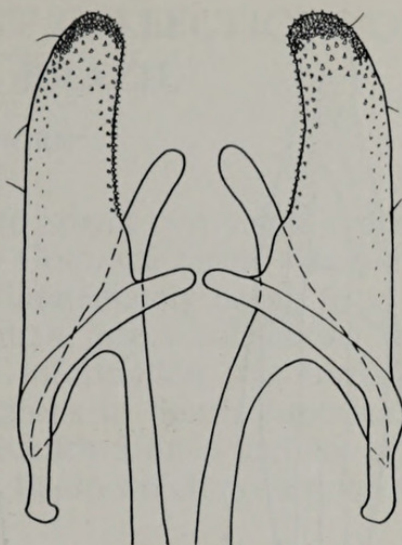


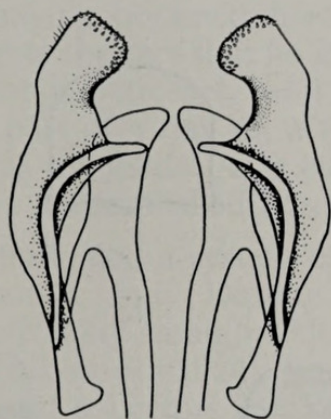
FIGURE 2. *Charisius mexicanus*, new species. (Drawing by Mrs. Thomas Prickett.)



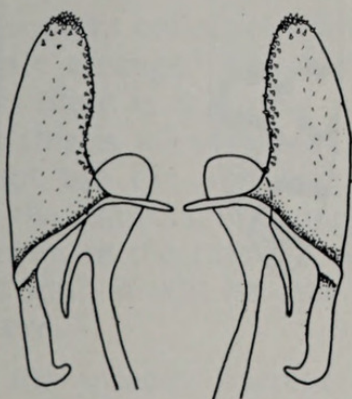
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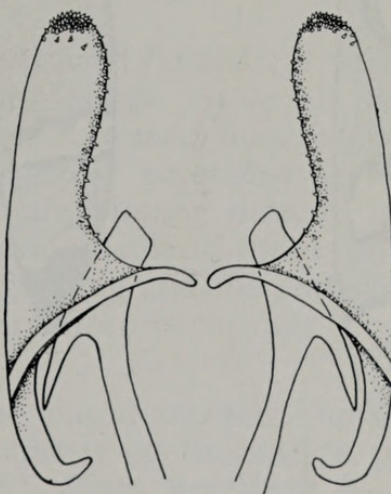
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7

FIGURES 3-7. Ventral view of male eighth and ninth sterna of species of *Charisius*. 3—*fasciatus*. 4—*mexicanus*. 5—*salvini*. 6—*zunilensis*. 7—*interstitialis*.

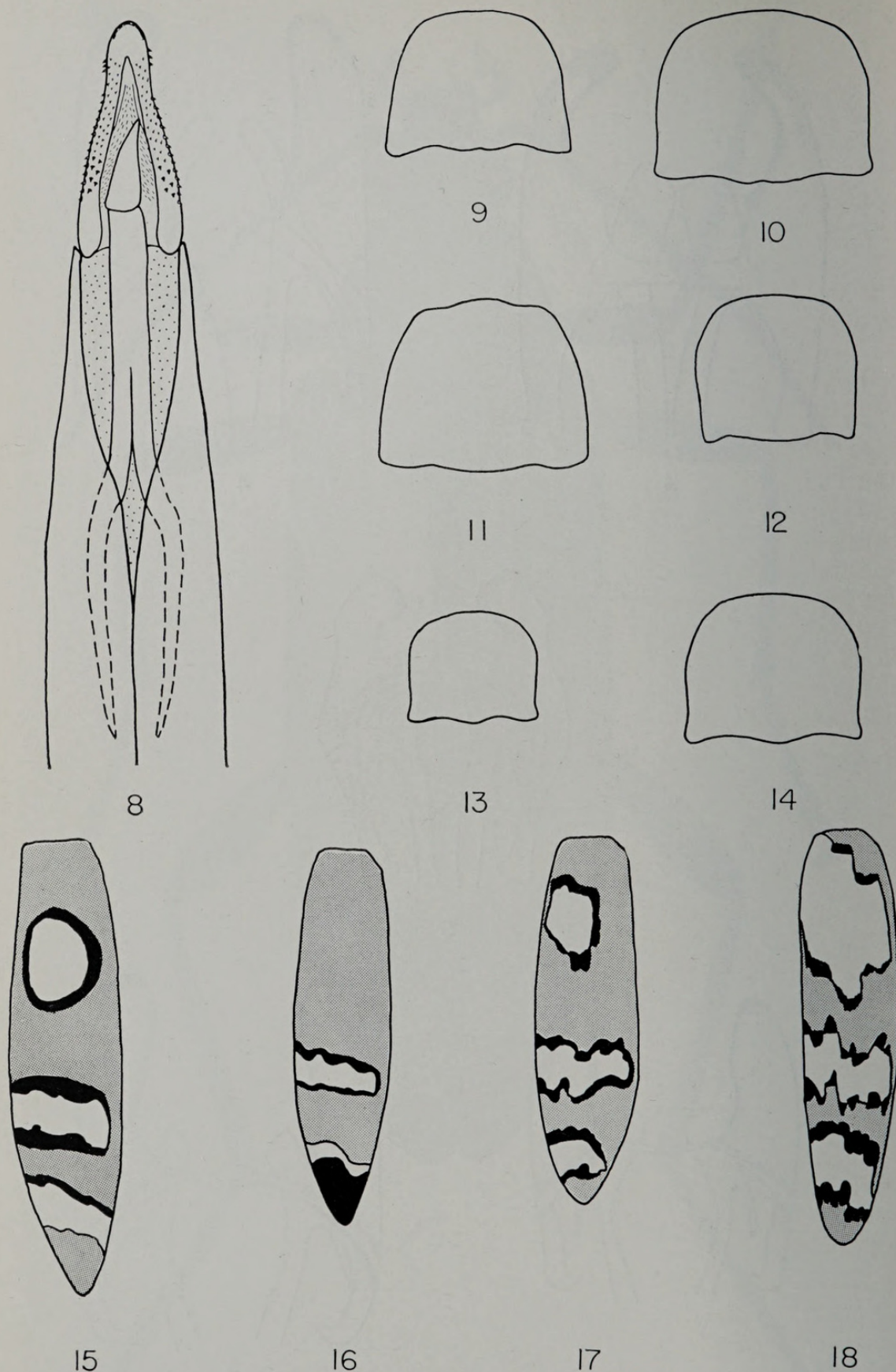


FIGURE 8. Ventral view of apical two-thirds of male genitalia of *Charisius mexicanus*. FIGURES 9-14. Pronotal outline of species of *Charisius*. 9—*fasciatus*. 10—*picturatus*. 11—*mexicanus*. 12—*zunilensis*. 13—*interstitialis*. 14—*salvini*. FIGURES 15-18. Elytral markings of species of *Charisius*. 15 and 16—*fasciatus*. 17—*picturatus*. 18—*mexicanus*.



Campbell, J. M. 1965. "A Revision of the Genus *Charisius* (Coleoptera: Alleculidae)." *The Coleopterists' Bulletin* 19(2), 43–56.

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