

STUDIES IN THE TENEBRIONIDAE, No. III.¹

(COLEOPTERA)

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The present paper contains the descriptions of a number of nondescripts that have been in my collection for many years awaiting other specimens or the opposite sexes. As no such acquisitions have been forthcoming for the most part, it is thought best to make known the species and in that way stimulate greater interest in their discovery and collection.

I wish to express my appreciation and gratitude for the loan of material and aid given me by the following persons and Institutions: Mr. E. T. Cresson, Jr. of The Academy of Natural Sciences of Philadelphia, for specimens from the collection of the American Entomological Society, especially from the collection of Dr. Geo. Horn; Mr. Nathan Banks of the Entomological Department of the Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, for comparisons of specimens with types of LeConte; Mr. Roy E. Wagner of Fresno, California, for loan of his excellent material and for calling my attention to very important facts; Mr. Chas. Liebeck, of Philadelphia, and Mr. Henry Dietrich of the New York State College of Agriculture, Department of Entomology, Cornell University at Ithaca, for loan of material. The series in the Museum of the California Academy of Sciences includes the collections of Dr. E. C. Van Dyke, J. O. Martin and that of the author.

***Euschides cressoni* new species**

Form rather robust, elongate oval, a little more than twice as long as wide; pronotum obtusely angulate laterally as in *angulatus* Lec., body subcylindrical. Color deep black, integuments very smooth and shining; luster of head and pronotum somewhat dull.

¹ No. 1. Ent. News, xxlx, pp. 162-169, (May, 1913). No. 2. Proc. Calif. Acad. Sciences, 4th S., xiv, pp. 369-390, (Sept. 18, 1925).

Head about as long as wide with labrum extended, or twice as wide as long from the post-ocular line to epistomal apex, about a fourth narrower than the pronotal apex; widest before the eyes, supra-antennal convexities strong, arcuately prominent laterally, thence the sides rapidly convergent and broadly sinuate to the obtusely rounded epistomal angles; surface deeply, strongly and transversely impressed at epistomal base and within the supra-antennal prominences, epistoma correspondingly convex; vertex moderately convex, frons quite plane, gradually declivous to the impression, punctures distinct, small, separated by a distance equal to one to three times their diameter, vertex impunctate. Labrum about two fifths as wide as the head, arcuate laterally, angles continuously so, apex broadly, arcuately and rather deeply emarginate at middle. Antennae slender, compressed apically, one-half longer than width of head and attains basal fourth of the pronotum; second segment short and as wide as long, third twice as long as second, third to eighth inclusive elongate and not incrassate; fourth and fifth equal in length, a little shorter than third; sixth, seventh and eighth subequal, very slightly increased in thickness and a third shorter than fifth; ninth segment a little longer than wide, one-half as long as the third, distinctly thickened, tenth triangular, quite abruptly broader, a third wider than ninth, about as wide as long, eleventh small, circular and about half as wide as the tenth.

Pronotum one-half wider than long, broadly and obtusely angulate laterally, widest slightly behind the middle, length equal to the apex; the latter deeply and arcuately emarginate, angles acute, triangular and prominent anteriorly, margin finely beaded; sides broadly, arcuately obtuse at middle, thence convergent and broadly, feebly sinuate anteriorly to the angles, posteriorly arcuately declivous and convergent to the rather feeble obtuse basal angles, margins most widely impressed but not broadly so in middle third, decreasingly so toward the angles, moderately reflexed, beads rather coarse and finely crenulate, entire and fine on the declivity to base; the latter a little wider than apex, feebly lobed and slightly sinuate in middle third opposite to the scutellum, laterally slightly oblique and feebly sinuate to the angles, not beaded; disk very strongly convex, subgibbous across basal third, gradually less so anteriorly, arcuately precipitous in basal fifth, a strong semilunar impression at middle against the base, surface smooth, not sculptured laterally, a few sparse and coarse punctures in the impressed area, elsewhere obsolete punctulate.

Elytra oval, about a third longer than wide, base feebly emarginate, as wide as the pronotal base, humeri small and subacute, not prominent; sides broadly, moderately and evenly arcuate to the rather broadly rounded apex; disk evenly, strongly

and subcylindrically convex from side to side, the arcuate apical declivity but slightly oblique, post-humeral margin but slightly more abruptly convex; surface impunctate, very obsoletely reticulate along strial lines and intervals; apices not in the least swollen. Scutellum triangular, small and impunctate.

Propleurae rather irregularly convex, very sparsely punctate, punctures small, surface more or less rugose against and on the reflexed margins and coxal convexities; prosternum sparsely punctate. Mesosternum and side pieces finely but not closely punctate. Metasternum and parapleural region obsoletely punctate.

Abdomen moderately strongly convex, surface dull and extremely finely, microscopically crinkled to appear granulate, obsoletely reticulate, slightly rugose on base of the first three segments, punctures not discernable. First segment on the median line twice as long as the third, second about twice as long as the fourth, third equal to the fifth.

Legs moderately long, likewise slender; femora polished and transversely rugose; tibiae densely but not coarsely sculptured; punctures with short setae, tarsi stout. Metatibiae two and a fourth times as long as their tarsi.

Measurements.—Length 25 mm.; width 11 mm.

Holotype.—Female. It was collected by James A. G. Rehn at Wagon Pass, eight miles east of Jacumba, San Diego County, Calif., at an elevation of 3700 ft., Sept. 15, 1922. [No. 8167, in the collection of The Academy of Natural Sciences of Philadelphia.]

The species is dedicated to E. T. Cresson, Jr., in appreciation of aid given me in my research.

Cressoni is a very distinct species related to *angulatus* Lec. by its obtusely angulate sides of the pronotum. It differs markedly by its more convex, subgibbous and more posteriorly precipitous pronotum and strong semilunar basal impression; the color is of a deep black, surface smoother and more shining, punctulation very fine and more or less obsolete. Side margins of the pronotum noticeably reflexed and the marginal bead coarser; tenth antennal segment quite equilaterally triangular and as long as wide and the eleventh is small and circular (female); the elytra are more convex, more broadly rounded at apex and more rapidly declivous apically, not gradually narrowed as in *angulatus* Lec. Abdomen densely alutaceous and extremely finely crinkled and subgranulate.

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In *angulatus* the tenth antennal segment is transverse, not equilaterally triangular in the female and the eleventh segment is larger and not evenly circular. The elytra are less convex and gradually narrowed apically, less so in the female and the punctation is distinct; pronotum less convex, less precipitous posteriorly and not impressed at base before the scutellum; surface rather dull and feebly shining. In the male the tenth and eleventh antennal segments are distinctly transverse, the latter very short.

***Eleodes omissa* Leconte subsp. *tumida* new subspecies**

Form ovate, about twice as long as wide, head and prothorax relatively small, elytra more or less inflated. Color deep black, luster dull and more or less alutaceous.

Head about as wide as long, a little more than one-half as wide as the pronotum; eyes and tempora together evenly arcuate; sides rather feebly arcuate over the antennal insertions, thence straight and moderately convergent, obsoletely emarginate at the oblique sutures; epistomal apex broadly and feebly emarginate, angles obtusely rounded, frontal and oblique sutures fine and more or less evident; frons very feebly and evenly convex, epistoma nearly plane, finely and rather irregularly punctate, punctures small, separated by a distance equal to one to four times their diameter. Antennae moderately long, attaining the pronotal base, slender, scarcely thickened externally; second segment very short, as long as wide, third elongate, four times as long as the second and about twice as long as the fourth, the latter slightly longer than the fifth; fifth, sixth and seventh subequal in length, eighth triangular and as long as wide, ninth and tenth more or less irregularly spherical, as long as wide, eleventh ovate and obliquely pointed at apex.

Pronotum more or less subquadrate, widest before the middle, one-eighth to one-fourth wider than long; apex subtruncate in feeble circular arc, angles obtuse and not in the least prominent; sides evenly arcuate in anterior two-thirds, thence convergent, almost straight, feebly and broadly sinuate before the obtuse basal angles; base broadly and moderately arcuate, less so in middle third, a little wider than the apex; disk evenly and moderately convex from side to side, moderately declivous anterolaterally, marginal beads quite evident throughout, the lateral quite visible when viewed vertically from above, sparsely and irregularly punctate, punctures as on the frons, separated by a distance equal to two to six times their diameter.

Elytra different in width in the sexes, strongly convex from side to side, abruptly and arcuately as well as more or less verti-

cally declivous at apex; base slightly wider than the pronotal base, humeral angles distinct and not in the least prominent; sides evenly and rather strongly arcuate, apex rather narrowly rounded; disk very finely, rather closely punctate, punctures equal in size, series are evident.

Abdominal segments sparsely punctate, punctures small in size, surface distinctly, rather coarsely and irregularly creased. Relative lengths of the segments quite similar in the sexes: First about as long as the third and fourth taken together, third as long as the fifth, second about twice as long as the fourth; intercoxal process of first segment sharply truncate at apex and flush with the anterior margin of the coxae. Legs slender, moderate in length; metatarsi elongate, three-fifths as long as their tibiae; plantar grooves of the protarsi open and entire.

Male. Narrower ovate, elytra not strongly inflated, about five-sevenths longer than wide and a little less than three times the length of the pronotum. Abdomen slightly oblique to the sterna, less than moderately convex; first three segments flattened in middle third, a linear impression more or less visible on the median line, sometimes on the fifth; punctures coarser toward base, finer on the fifth, punctation stronger than on the upper surface.

Female. Strongly ovate, elytra inflated. Abdomen evenly and moderately convex, otherwise as in the male.

Measurements.—(Types) Length 15 to 18 mm., width 6.5 to 9.0 mm.

Holotype.—Female. Collected at Bass Lake which is situated a few miles beyond Northfork, Madera County, California, in the Sierras at an altitude of about 4000 ft. Collected by Roy S. Wagner, to whom I am indebted for specimens, which were taken on April 21, 1932. [No. 3707, and *allotype*, male, No. 3708, in the author's collection, Museum of the California Academy of Sciences.]

Paratypes in the author's collection and that of Mr. Wagner, who very kindly allowed me to place one in the collection of The Academy of Natural Sciences of Philadelphia. A moderate series studied.

Tumida is a member of the subgenus *Melaneleodes* and of the *omissa* section which have the inner spur of the protibiae slender and acute, not thickened and obtuse. It resembles *pygmaea* Blais., but the elytra of the female is strongly inflated with the head and pronotum relatively small, the under surface of the body is distinctly and irregularly creased.

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Eleodes spoliata new species

Form ovate, about twice as long as wide. Color black, very opaque and alutaceous, sculpture very scabrous, consisting of stictigerous punctures raised on small muricate tubercles.

Head a little wider than long, two-thirds as wide as the pronotum and quite as wide as the apex; eyes and tempora equally prominent; sides quite strongly arcuate over the antennal insertions, thence convergent and broadly sinuate to the rounded epistomal angles; epistomal apex broadly and feebly emarginate; labrum transverse apex arcuate with a small rounded sinus at middle; frons feebly convex, supra-antennal convexities rather strong, within which the surface is slightly impressed, the impression extending along the frontal suture, the sutures not distinct, punctures close and raised on muricate asperities, each with a stout, black seta, setae of the labrum rather long and semi-recumbent. Antennae of moderate length, slightly incrassate; second segment very short, about as long as wide, segments three to five inclusive subparallel and feebly obconical; third elongate, about a third longer than the fourth, the latter less than twice as long as wide, fifth, sixth and eighth subequal in length and about a fourth longer than wide, seventh a little longer; eighth subquadrate, ninth and tenth subspherical, as long as wide, eleventh short ovate, somewhat sinuately narrowed and truncate at apex.

Pronotum subquadrate, widest before the middle and about two-sevenths wider than long; sides moderately arcuate in apical half, thence straight and convergent to base, margin finely and irregularly serrulate; apex feebly and broadly emarginate in feeble circular arc, angles obtuse and slightly prominent; base broadly and moderately arcuate, about a seventh wider than the apex, angles obtuse and distinct; disk evenly convex, densely scabrous, setae short and slender, arising from the elevated muricate punctures, marginal beads obsolete.

Elytra oval, not quite one-half longer than wide, widest at middle; base transverse, not margined, humeral angles absent; sides evenly arcuate, apex subacute, sutural angles minutely divergent; disk somewhat depressed and moderately convex, strongly, rather abruptly and arcuately declivous laterally, apical declivity arcuate and oblique, densely scabrous, punctures raised on small muricate tubercles, each with a short seta, viewed longitudinally from behind a linear arrangement is somewhat discernable, striae asperities slightly larger than the interstitial.

Under surface of body more or less shining, sculptured as above but less densely. Abdomen less than moderately convex, impressed along middle third of first three segments and more strongly sculptured, fourth and fifth segments simply sparsely and muricately punctate; first segment on the median line equal

in length to the second and third taken together, twice as long as the fifth, third as long as the fifth, second about twice as long as the fourth. Legs moderate in length, quite slender; each tarsus is fimbriate at apex with hairs that are quite as long as the fourth segment. A metatarsus is equal to one-half the length of its tibia; segments two and three equal in length, first a little longer, fourth equal in length to the preceding three taken together; apical hairs subequal in length to the fourth segment.

Measurements.—(Type) Length 12 mm.; width 5.5 mm.

Type.—Male. The unique was collected by F. W. Nunenmacher on May 17, 1913, in Klamath County, Oregon. [No. 3709, in the author's collection, Museum of the California Academy of Sciences.]

The single specimen has been at hand for about nineteen years, waiting for other specimens to be secured. It is a very distinct species and should follow *pilosa* Horn in our lists, as a member of the subgenus *Tricheleodes*. In *spoliata* the body is clothed with short setae and not long hairs as in *pilosa*; in the latter species the pronotum is sculptured with large, shallow and more or less eroded punctures, while in *spoliata* the pronotum is asperate like the elytra, from small setigerous muricate tubercles.

***Eleodes armata* Leconte var. *pumila* new variety**

Form elongate oblong-subfusiform to oblong-ovate, types about one-half the size of average specimens of *armata* Lec., smooth and of slender habitus. Punctuation fine and very sparse throughout, except on head and prosternum, where the punctures are larger and much less sparse, simple to feebly muricate. Luster rather dull and moderately alutaceous.

Head as long as wide, feebly convex, almost plane, scarcely prominent over the antennal insertions; sides moderately convergent anteriorly, rather feebly arcuate, most so in front of the eyes, feebly emarginate at the oblique sutures, the latter with the frontal obsolete. Epistomal apex truncate, angles obtusely rounded; frons distinctly punctate, punctures moderately strong and separated by a distance equal to one to three times their diameters. Labrum feebly convex, sides parallel, thence moderately arcuate, with a rounded emargination in middle third of apex. Middle lobe of mentum rather small, truncate at apex; lateral lobes small and exposed. Eyes not in the least prominent, tempora oblique and not convex. Antennae slender, moderate in length attaining the pronotal base, distal four segments slightly incrassate; similar in the sexes, third segment about four times as long as the second, fourth a little longer than the fifth, the latter to

the eighth inclusive equal in length, eighth and ninth triangular and about as long as wide; ninth and tenth more or less rounded, eleventh ovate and obliquely truncate at apex.

Propleural punctures with short black setae; prosternal process rather coarsely rugoso-punctate.

Pronotum about a fourth wider than long, apex truncato-emarginate between the acute, moderately prominent, feebly everted apical angles; sides very moderately arcuate in anterior two-thirds, thence straight and convergent to base, the latter slightly arcuate, angles obtuse; base and apex subequal in width and quite equal to the length; apical bead obsolete at middle, the lateral fine, that of the base coarser and flat; disk evenly convex.

Elytra more or less subcylindrically convex, base about equal to that of the pronotum; humeral angles small and sharply obtuse; sides broadly and evenly arcuate to the feebly lobed, obtusely rounded apex; disk arcuately convex from side to side, slightly less so on the dorsum, rather sharply declivous apically.

Legs slender, moderate in length. Femoral teeth small and very acute. Metatarsi a little less than half as long as their tibiae.

Male. Narrower, subcylindrical; elytra about a fourth wider than the pronotum, approximate striae of very small obsolescent punctures, interstitial punctules extremely minute and scattered. Abdomen horizontal with the sterna, less than moderately convex, flattened in middle third of first three segments, somewhat narrowly impressed on the median line of first two segments; first segment on median line as long as second and third together, post-coxal portion about as long as the second and a little longer than the third or fifth; third twice as long as the fourth.

Female. Stouter, ovate, about a half wider than the pronotum. Abdomen evenly convex and horizontal; first segment on the median line not quite as long as the second and third together, second a third longer than the third, the latter about as long as fifth and not quite as long as fourth.

Measurements.—(Types) Length 18.0 to 18.0 mm.; width 6.0 to 7.8 mm.

Holotype.—Female. Collected about twenty miles north-east of El Centro, Imperial County, California. [No. 3710, and allotype, No. 3711, in the author's collection, Museum of the California Academy of Sciences.]

Paratypes in the author's collection and one has been deposited in that of The Academy of Natural Sciences of Philadelphia. A considerable series studied. The largest paratype has the following measurements: length 23 mm.; width 8 mm.

Pumila differs from typical *armata* Lec. in its small size and slender habitus; in part of the paratypes the elytra show faint approximate striae of very small punctures, occasionally the scattered interstitial punctules are equal in size to the striae. *Armata* is much more robust and is always heavier.

***Eleodes amedeensis* new species**

Form elongate, subcylindrical, subfusiform to oblong-subovate, about two and a half times as long as wide. Color dull black, strongly alutaceous with a strong sericeous luster; punctation extremely fine throughout.

Head relatively small, about one-half as wide as the pronotum; frons feebly convex, very broadly and slightly impressed within the feebly convex and rather thick supra-antennal convexities, the latter not more prominent than the eyes, tempora arcuate in continuity with the eyes and feebly developed; sides moderately convergent anteriorly, rather broadly emarginate at the fine oblique sutures. Epistoma short, broadly and feebly sinuate at apex; frontal suture obsolete to very fine; surface finely and irregularly punctate, punctures larger anteriorly and laterally. Labrum slightly transverse, apex with a rounded sinus at middle third, apical half abruptly and very densely punctate, each puncture with a rather short yellowish seta. Eyes very short, relatively small. Middle lobe of the mentum triangulo-trapezoidal, apex arcuato-truncate, sides angulate at middle, thence sinuate anteriorly; lateral lobes very small. Stipes with a distinct process. Antennae similar in the sexes, moderately long and slender, as long as the pronotum; distal segments slightly compressed, not incrassate; second segment short, as long as wide, third about three times as long as second and quite equal to the combined length of fourth and fifth; fifth and seventh segments equal in length and one-half longer than wide, fourth twice as long as wide, sixth and eighth equal in length, ninth subtriangular and as long as wide, ninth and tenth rounded and as long as wide, eleventh rather irregularly ovate.

Pronotum widest at middle, about one-sixth wider than long, apex one-fourth wider than the head, base one-sixth wider than apex and equal to the length; apex feebly arcuate in middle two fourths, thence sinuate within the moderate, prominent, acute and more or less everted dentiform angles, bead fine and obsolete in middle third; sides moderately arcuate in anterior half and sinuate behind the angles, convergent toward base, rather straight, feebly and broadly sinuate before the small, slightly prominent or obtuse basal angles, marginal bead fine and even; base broadly arcuate, bead more or less coarse and flat; disk moderately and almost evenly convex, moderately declivous antero-laterally, punctation sparse and very inconspicuous.

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Propleurae smooth and impunctate, except anteriorly where the punctures are distinct, each with a fine appressed hair. Prosternal process distinctly mucronate.

Elytra about three-fifths longer than wide, oval; base transverse, humeral angles small and distinct; sides broadly arcuate, apex obtusely rounded; disk more or less evenly rounded from side to side, somewhat less so in the central area, arcuately and rather abruptly obliquely declivous in apical fourth; punctules very fine, close in approximate and unimpressed strial series, interstitial spaces with an irregular single series.

Abdomen less than moderately convex. Legs somewhat long, rather stout; femora armed, not noticeably clavate and almost parallel, teeth slender and very acute; tibiae somewhat arcuate in basal third, tarsi rather stout; metatibiae two and one-third times longer than a metatarsus.

Male. Narrower, subcylindrical, about equally narrowed anteriorly and posteriorly. Abdomen less than moderately convex, flattened in middle third, more strongly impressed on the median line on first three segments.

Female. More ovate. Elytra somewhat widest at or behind the middle. Abdomen less than moderately convex, less so along middle third.

Measurements.—(Types) Length 24 to 25 mm.; width 9 to 11 mm.

Holotype.—Female. Collected by H. F. Wickham at Amedee, in south-eastern Lassen County, California, July 21, at an elevation of 4200 ft. [No. 3712, and *allotype*, male, No. 3713, in the author's collection, Museum of the California Academy of Sciences.]

Paratypes in the author's collection. One has been deposited in the collection of The Academy of Natural Sciences of Philadelphia.

Distribution.—CALIFORNIA: Eastern part of the State as far south as the Colorado Desert, at Palm Springs, La Puerta, Imperial county; Ahwahnee, Yosemite Valley, May, (A. Fenyes), Mariposa County. NEVADA: Goldfield, Esmeralda County, (F. W. Nunenmacher).

Amedeensis is very distinct from *armata* Lec. in its more cylindrical form, alutaceous and sericeous luster. In *subcylindrica* Casey the form is more robust, anterior pronotal angles large, acute and anteriorly prominent; the middle and posterior femora are mutic. *Armata* Lec. is without an alutaceous luster, its form although variable is generally more or less oblong-ovate.

In my Monograph of the Eleodiini² the types of *amedeensis* are mentioned under Habitat as occurring at Amedee, Lassen County. At that time I did not deem it advisable to describe species as new on account of the lack of knowledge of the many variants referable to the Armata Complex. The twenty-two years that have elapsed since then, have brought much material to my notice and study and has strengthened my conviction that the present species is valid.

Eleodes scabripennis LeConte, Proc. Ac. Nat. Sci. Phila., 1859, p. 77.

Three specimens of this species have rather recently been collected by Mr. E. R. Leach, of Piedmont, Alameda County, California, at the California Hot Springs, Tulare County, California, on June 22, 1928. There has been much speculation and doubt regarding the identity of this species. I have known of only one authentic specimen and that is the type, which I had an opportunity of examining in 1928, while at the Museum of Comparative Zoology in Cambridge, Mass. The specific validity is settled. The following are my notes recorded at the time I made a critical examination of the type: "A female, not roughly sculptured and resembles a *consobrina* Lec. The pronotum is not strongly and evenly arcuate at the sides in *scabripennis*, but has the appearance of being broader in apical third and thence more convergent to base, not strongly constricted as in *consobrina*; in other words, the pronotal sides are less arcuate in anterior two-thirds, convergent and broadly, rather feebly sinuate in basal third before the distinct obtuse angles. The pronotal disk is punctate as in *consobrina* and the elytra are like the smoother phase of that species, the genial angles are the same." The two species, *kaewana* and *scabriventris* described in the present paper are related to *scabripennis* and with it constitute a group distinct from that of *consobrina*. *Scabripennis* is a little more robust and the pronotal characters are different. The name *scabripennis* is really a misnomer. The type has a gold disk locality label, indicating California; the name is in LeConte's hand writing as well as the locality, "Tejon."

Actual comparisons were subsequently made for me by Mr. Nathan Banks. His comments are as follows: "The type of *E. scabripennis* has the elytral sculpturing as in *consobrina*—in

² Bull. U. S. Nat. Mus. No. 63, p. 261, (1909).

fact extremely close to the specimen of *consobrina* that you have sent. The type of the latter may be a worn specimen as the ridges are less sharp and the pronotum seems to be a little broader than in your specimen. The pronotum of *scabripennis* is not near as broad, nor so much narrowed behind as in *consobrina*."

Eleodes scabriventris new species

Form elongate oblong-suboval, less than three times as long as wide. Color deep black, mouth-parts more or less rufo-piceous. Elytral sculpturing not coarse; ventral surface of body throughout densely punctate, punctures rather finely, distinctly muricate and subtuberculose in the central area of the first three abdominal segments.

Head relatively small, about a fifth wider than long; frons nearly plane, very feebly impressed within the rather feeble convexity over the antennal insertions, where the sides are slightly more prominent than the eyes, tempora oblique; frons rather densely and irregularly punctate, punctures moderately small, not coalescent. Middle lobe of the mentum moderate in size and ogival at apex; surface narrowly and longitudinally impressed laterally. Antennae slender, quite equal in length to the pronotal width; outer four segments not thickened; second segment short and as wide as long, third elongate, subcylindrical, equal to the combined length of fourth and fifth, the latter each one-half longer than wide, fourth two-fifths longer than the second; sixth, seventh and eighth subequal in length, about a third longer than wide, fifth to the tenth inclusive of quite equal width, slightly wider than the fourth and fifth; eleventh ovate, as wide as long, sides straight, briefly truncate at apex.

Pronotum about a third wider than long, base a little wider than apex, widest at middle; apex truncato-emarginate in moderate circular arc, angles obtuse; sides evenly, broadly and moderately arcuate in anterior two-thirds, thence convergent and oblique toward base, feebly and broadly sinuate before the small obtuse angles, lateral margin very narrow, bead fine and feebly reflexed, obsolete in basal fifth; base transverse, feebly and finely beaded, slightly wider than apex; disk evenly and moderately convex, quite evenly punctate, punctures small, separated by a distance equal to one to three times their diameters, a little more impressed, somewhat crowded and feebly muricate laterally.

Propleurae very sparsely punctate, punctures small, finely muricate, surface more or less rugulose.

Elytra not quite twice as long as wide, a little less than twice as long as the pronotum and about a fifth wider than the latter; humeri rounded, sides broadly and moderately arcuate, obliquely convergent in apical third to the obtusely subogival apex;

disk noticeably depressed, moderately and evenly convex, becoming strongly arcuately declivous and inflexed laterally, apical declivity gradual; surface densely punctate, punctatorugulose laterally, punctures strong, not coarse and finely muricate, in approximate series as viewed longitudinally, not muricate in the sutural area. Scutellum small. Epipleurae somewhat smooth, sparsely and feebly punctate.

Legs moderately slender, the posterior noticeably rather long, about three-fifths longer than the anterior; metatarsi two-thirds as long as their tibia.

Male. Narrower, more elongate, elytra more obliquely narrowed apically. Abdomen moderately convex, first three segments flattened in middle third, feebly and narrowly impressed on the median line on first two; first three segments very densely punctate, tuberculose in the central area of the first two, punctures more or less finely muricate; last two segments sparsely punctate, impunctate areas present. First two segments of the protarsi with tufts of golden pubescence on tips beneath, interrupting the plantar grooves; first segment of the mesotarsi with a similar and dense pubescence on apical margin and angles beneath but scarcely obliterating the plantar grooves.

Measurements.—(Type) Length 17 mm.; width 7 mm.

Holotype.—Male. Collected at Camp Potwisha, Sequoia National Park, Tulare County, California, by Roy S. Wagner of Fresno, California. [No. 3714, in the author's collection, Museum of the California Academy of Sciences.]

Two male specimens studied, a paratype in Mr. Wagner's collection.

In the type the left tibiae and tarsi of the anterior and middle legs are missing.

Scabriventris can readily be mistaken for *constricta* Lec., the form and elytral sculpturing is similar in both species. In *constricta* the sides of the pronotum is abruptly constricted, straight and parallel before the basal angles; in *scabriventris* the sides of the pronotum are as in *scabripennis* Lec., gradually narrowed to base to which it is most closely related, the abdomen is not tuberculose in *constricta*.

***Eleodes kawana* new species**

Form oblong-ovate, moderately narrowed anteriorly, a little more than twice as long as wide. Color dull black. Head relatively small, as long as wide, anterior canthi feebly arcuate and as prominent as the eyes; sides arcuate and rather rapidly

convergent to the epistomal apex, feebly notched at the oblique sutures; epistoma truncate at apex, very slightly sinuate at middle, angles narrowly rounded; labrum transverse, broadly and arcuately emarginate at middle of apex, angles evenly rounded; frons slightly convex, more or less feebly and irregularly impressed, evenly punctate, punctures small, separated by a distance equal to one to three times their diameter, frontal suture absent. Eyes short, transversely subreniform, continuing the curvature of the tempora, not in the least prominent. Antennae long and slender, extending a little beyond the pronotal base, distal three segments not incrassate; third segment as long as the fourth and fifth together, fourth slightly longer than the fifth and about twice as long as the second, fifth to the eighth inclusive equal in length, ninth and tenth rounded, as long as wide, not wider than the preceding segments, eleventh slightly longer than wide, ovate and oblique at apex.

Pronotum almost subcordate, widest slightly before the middle, apex feebly and arcuately emarginate in moderate circular arc, angles obtuse, not prominent; sides broadly, evenly arcuate in anterior two-thirds, thence straight, convergent to base, not sinuate before the obtuse angles; base slightly arcuate and equal to the apex, marginal beads fine; disk evenly and moderately, finely punctate, punctures discrete laterally where they become slightly granulate, separated by a distance equal to two to four times their diameter. Propleurae very sparsely muricato-granulate.

Elytra oval, about two-fifths longer than wide, humeri broadly rounded and continuous with the evenly and moderately arcuate sides that converge in apical fourth to apex, the latter rather narrowly rounded; disk moderately depressed, not strongly convex, becoming strongly and arcuately declivous and inflexed laterally, apical declivity arcuate and more or less oblique; discretely punctate, punctures finely muricate in the central area, becoming somewhat granulato-muricate laterally and apically, and appear in approximate series when viewed longitudinally, interstitial surface not rugose nor tuberculose; the punctures separated throughout by a distance equal to three to six times their diameter.

Under surface of body finely punctate, quite densely so on first three segments of the abdomen. Legs rather long and slender; metatarsi about three-fifths as long as their metatibia.

Male. More elongate, elytra a little less than three times as long as the pronotum and a third wider. Abdomen quite horizontal with the sterna, less than moderately convex, broadly but not strongly impressed in middle third of first three segments; second segment twice as long as the fourth, fifth as long as the third, as well as the postcoxal part of the first and a little shorter

than second. First segment of the protarsi with a small tuft of golden pubescence at tip beneath interrupting the plantar groove, the latter distinct on the other segments; first segment of the mesotarsi with simply an apical fringe of yellow spinules beneath, grooves open.

Female. More robust, elytra more broadly oval, slightly inflated. Abdomen horizontal, more convex and not impressed; segments as in the male. Tarsi without pubescent tufts.

Measurements.—(Types) Length 18 to 18 mm.; width 7.5 to 8.5 mm.

Holotype.—Female. Collected by Roy S. Wagner of Fresno, California, June 28, 1931, at Kaweah, Tulare County, California. [No. 3715, and *allotype*, male, No. 3716, in the author's collection, Museum California academy of Sciences.]

Nine specimens studied, six designated as paratypes in Mr. Wagner's and my own collection. Mr. Wagner has permitted one paratype to be deposited in the Museum of Comparative Zoology, Cambridge, Mass.

Kaweana is a very distinct species and unique in the character of the elytral sculpturing, the small muricate punctures being discrete throughout without intermixture of rugosity or tubercles; the sides of the pronotum are gradually convergent behind the middle to the base as in *scabripennis* Lec., in which species the elytra are densely muricato-rugose as in *consobrina* Lec. In the latter species the pronotum is more or less transverse, sides strongly arcuate and distinctly sinuate and parallel before the basal angles. *Kaweana* should follow *scabripennis* in our lists.

Male genital characters.—An examination of the edeagi shows the apicale of the edeagophore to be triangular, broad at base and rather suddenly arcuately sinuate at the sides in basal fourth, thence gradually convergent to apex which is unusually slender; the dorsal surface is rather strongly convex and a feeble median groove is indicated; the basale is oblong, broader than usual and well depressed.

Female genital characters.—The genital segment is triangular as usual. Dorsal plate of each valve oblong and evenly arcuate at apex, very narrowly explanate laterally with the submarginal groove rather feeble; apex semi-membranous and prominent, finely setose; fossae somewhat dorso-lateral and the appendages very short mammilliform with three or four long setae at tip.

A specimen was submitted to Mr. Nathan Banks, of the Museum of Comparative Zoology at Cambridge, for comparison with LeConte's type of *Eleodes* (*Blapyllis*) *scabripennis*. Mr. Banks responded as follows: "The type of *Eleodes scabripennis* Lec. has the elytral sculpturing as in *consobrina* Lec., in fact extremely close to the specimen of *consobrina* that you have sent. The type of *consobrina* may be a worn specimen as the ridges are less sharp and the pronotum seems to be a little broader than in your *consobrina*. The pronotum of *scabripennis* is not near as broad, nor so much narrowed behind as in *consobrina* and your *kaweana*. Certainly *kaweana* is very different from *scabripennis* both in elytral sculpture and in the shape of the pronotum, broader in proportion to length and more narrowed behind." It is to be remembered that the pronotum in *consobrina* varies in relative width, always wider in the female than in the male; in a series of specimens the elytral sculpturing will vary as remarked above concerning the LeConte type and the specimen which I sent for comparison.

The middle lobe of the mentum is relatively small, triangular, subacute at apex; surface bi-impressed and convex on the median line.

***Eleodes oblonga* new species**

Form oblong-oval, about two and a half times as long as wide. Color piceous to black; luster subopaque and alutaceous.

Head slightly transverse, tempora and eyes together evenly convex, sides over the antennal insertions rather strongly arcuate, thence convergent, almost straight to the rounded epistomal angles, broadly and feebly emarginate at the oblique sutures; epistomal apex broadly and slightly emarginate; frons and epistoma evenly and slightly convex, supra-antennal convexities moderately convex, surface slightly impressed within and against the anterior border of the eyes, oblique sutures fine and feeble, frontal obsolete, replaced by an impunctate area, punctures small and sparse centrally, separated by a distance equal to two to six times their diameter, denser and coarser at the periphery, each with a small black seta. Labrum transverse, apical margin arcuate with a shallow sinus at middle. Middle lobe of mentum moderately small, sides convergent from middle to apex, the latter rounded; surface very slightly impressed laterally, feebly punctato-asperate; lateral lobes small and well reflexed. Antennae slender, not incrassate, as long as the pronotal width, extending slightly beyond pronotal base; second segment small, as long

as wide, third elongate, subcylindrical, two and a half times as long as the second and quite equal to the combined length of the fourth and fifth; segments two to seven inclusive equal in width, fourth about a third longer than wide, a little longer than the fifth, the latter about a fourth longer than wide and a little longer than sixth; sixth and seventh as long as wide, eighth quadrato-triangular and as long as wide, a little wider than seventh; ninth and tenth subspherical, ninth about a fourth wider than the eighth or tenth, eleventh a little narrower than the tenth and about a fourth longer than wide, sides convergent apically, apex more rounded than oblique.

Pronotum two-fifths wider than long; apex a fifth wider than the head, truncato-emarginate in feeble circular arc, marginal bead rather coarse, obliquely declivous and with a line of punctures, angles rather broadly rounded, not at all prominent; sides broadly, evenly and rather strongly arcuate, convergent posteriorly, scarcely sinuate before the small and slightly prominent basal angles which are formed by the coarse basal bead, lateral beads fine and rather thin; base broadly arcuate, a little wider than apex; disk evenly convex, punctures small, each more or less within a round and extremely shallow impression which are more or less contiguous, the peripheral punctures become more crowded, each with a small shining granule, impressions less evident, appearance somewhat eroded, setae very short.

Elytra oblong-oval, one-fifth wider than the pronotum and not quite two and a half times as long, one-half longer than wide; base wider than the pronotal base, not margined, humeri rounded; sides broadly, moderately arcuate and parallel in basal two-thirds, thence more arcuato-obliquely convergent to the rather narrowly rounded and subogival apex; disk moderately convex, sides moderately broadly and arcuately declivous, in apical fourth arcuately, obliquely and quite rapidly declivous, surface subasperately punctate, punctures small in the central area where the surface is more or less irregular from shallow impressions, laterally and apically the punctures become muricato-tuberculate, tubercles very small and shining, no distinct series, surface has a somewhat eroded appearance.

Abdomen moderately convex, feebly and broadly impressed in middle third on first two segments; surface more or less irregularly creased, somewhat densely punctate, punctures not coarse and finely muricate, smaller and sparser on last two segments. First segment on the median line equal in length to the second and third together, fifth twice as long as the fourth, second one-sixth longer than the third.

Legs moderate in length, tarsi elongate, somewhat slender, spinules of plantar surface tawny; first two segments of the protarsi with small rounded and rather prominent tuft of pubes-

cence at tips beneath obstructing the plantar grooves; first segment of mesotarsi with a similar but smaller tuft. Metatarsi two-thirds as long as their tibiae; segments two and three of each subequal, together as long as the first, the latter as long as the fourth.

Measurements.—(Type) Length 15 mm.; width 7 mm.

Type.—Male. Bearing a "Cal." label without other data. [No. 3717, in the author's collection, Museum of the California Academy of Sciences.]

Five other specimens labeled *scabripennis* Lec. are in the Casey collection in the National Museum; two of the specimens have a "Yreka, Cal." label, the other three simply a "Cal." A paratype in my collection was given to me by Col. Casey in 1909, and it is perfectly homomorphic with the type and those in the Casey collection.

Oblonga is to be associated with *scabripennis* Lec. and should follow *scabriventris* in our lists. It differs from the related species by its oblong-oval form, peculiar and somewhat eroded sculpturing, the pronotal and elytral surfaces being feebly irregular from small rounded impressions in the central areas and, besides the extremely minute reticulations give it a distinct alutaceous luster. All of the specimens studied have the same somewhat immature color.

***Neobaphion elongatum* new species**

Form elongate subfusiform, nearly three times as long as wide. Color black, trophi more or less rufous, fifth ventral segment of same color; luster subopaque to feebly shining and alutaceous.

Head relatively small, fully twice as wide as long before the post-ocular line, or equal from the nuchal constriction; sides convergent, supra-antennal convexities moderately strongly arcuate basad to the oblique sutures, not quite as prominent as the eyes, epistoma straight laterally, angles broadly rounded, apex arcuato-truncate; front feebly convex, broadly flattened in the central area, sutures obsolescent, punctures small, very widely separated and feebly defined, at periphery the punctures are coarser, stronger and separated by a distance equal to one or two times their diameters. Labrum transverse, sides arcuate, angles rounded, apex broadly and rather feebly emarginate in middle third, margins fimbriate and the indistinct punctures with moderately long and semirecumbent setiform hairs. Eyes slightly more prominent than the sides and continuing the curve of the tempora, facets moderately small. Antennae not increas-

sate, long and slender, extending to basal seventh of elytra, segments two to eighth inclusive obconical, second small and as long as wide, third very elongate, four times as long as second and equal to the combined length of third and fourth, the latter and seventh equal in length, sixth and eighth a little shorter and equal, ninth and tenth obconico-ovate and a little longer than wide, eleventh subfusiform and as long as eighth.

Pronotum two-sevenths wider than long, widest at or a little before the middle, not quite twice as wide as the head; apex moderately emarginate between the subacute and somewhat prominent angles; sides moderately strongly and evenly arcuate in anterior two-thirds, thence less so and convergent to the obtuse but distinct basal angles, marginal beads thin and reflexed; base slightly arcuato-truncate, equal to apex; disk less than moderately and evenly convex, narrowly impressed within the lateral beads, punctures small, not very distinct, rather widely separated, not denser laterally and slightly granulate in the impressed areas.

Elytra elongate, twice as long as wide, about three times the length of the pronotum, obliquely narrowed apically, apex subacute; base transverse, not wider than pronotal base, humeri rounded; sides broadly and less than moderately arcuate, straighter and convergent in apical third; disk depressed, scarcely convex, rapidly and quite narrowly, arcuately declivous and inflexed laterally, oblique and gradually declivous in apical fourth; surface asperate, finely and densely punctate, punctures finely muricate, becoming gradually feebly muricato-tuberculate laterally and apically. Scutellum very small.

Prosternal process subacute, mucronate with apex deflexed. Undersurface of body sparsely punctured, punctures more or less asperate. First abdominal segment on median line equal to combined lengths of third and fourth segments, behind the coxae a little longer than the third, second as long as fifth and twice as long as the fourth. Legs long and slender, femora gradually subclavate; profemora obtusely subdentate close to apex; each protibia briefly cylindrical at base, thence abruptly widened and parallel to apex; mesotibiae quite straight, very gradually widened to apex; metatibiae not quite as long as their femora, dilated and parallel in apical five-twelfths, arcuate and cylindrical in basal seven-twelfths. Tarsi elongate and slender, a metatarsus about two-thirds as long as its tibia. First segment of the metatarsi is as long as the fourth, second and third subequal and together equal to the first.

Measurements.—(Type) Length 20 mm.; width 7 mm.

Type.—Male. Collected at Yerrington, Nevada, July-August, 1908. [No. 3718, in the author's collection, Museum of the California Academy of Sciences.]

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One paratype, male, taken at Constantia, Nevada, collected by Geo. Haley. This specimen is more opaque and densely alutaceous, elytra more strongly asperate laterally than the type, the femora are more slender and more noticeably curved in adaptation to the sides of the body, the mouth-parts are piceous and the fifth abdominal segment much less rufous; length 18 mm., width 6.5 mm., otherwise as in the type.

A very distinct species and quickly separated from *planipennis* Lec., by the elongate form of the male, long antennae and legs; the metafemora being arcuate in basal two-thirds, dilated and parallel apically. *Planipennis* is more or less shining and the male is never as narrow and elongate as in *elongatum*. The two specimens have been in the author's collection upwards of twenty-five years, waiting for some collector to discover the female, which is at present unknown.

Amphidora parallela Casey, Mem. Coleop., xi, p. 328, 1924.

Type, female of *Stenotrichus rufipes* Lec. I have examined the type in the Casey collection at the National Museum, Washington, D. C. Males are usually much smaller than the females. The disparity in size is often remarkable. The following is an example: Many years ago I collected near San Diego, California, a pair in copula. These have the following measurements which have been made directly from the specimens in my collection: Male, length 6 mm.; width 2 mm. Female, length 11 mm.; width 4 mm. *Parallela* is a synonym of *rufipes* and not an *Amphidora* Esch.

Stenotrichus confluens Casey, Mem. Coleop., xi, p. 329, 1924.

The type is a small, poorly developed male of *Stenotrichus rufipes* Lec. The integuments are minutely wrinkled and shows evidence of poor nutrition and unfavorable environment. *Confluens* Casey is a synonym of *rufipes* Lec.

Eutriorophus tuckeri Casey, Mem. Coleop., xi, 297, 1924.

This is a true *Stibia* Horn. The type was collected at Tucson, Arizona. Two specimens are before me, both from the type region, one in the collection of Roy S. Wagner of Fresno, California, the other in my own. *Eutriorophus* is a synonym of *Stibia* and the name should be *Stibia tuckeri* (Casey).