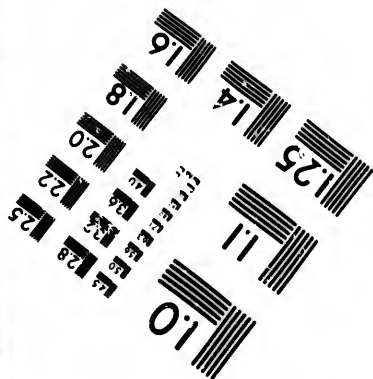
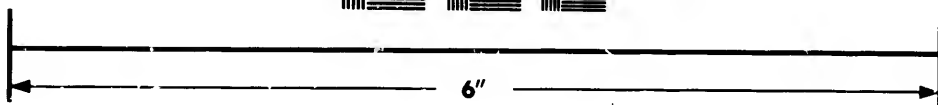
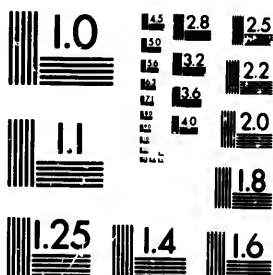


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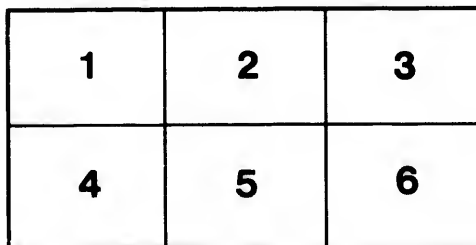
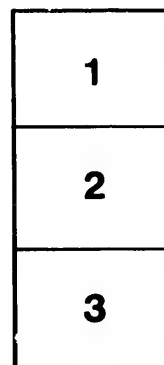
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NEW SPECIES

OF

NORTH AMERICAN COLEOPTERA.

PREPARED FOR THE SMITHSONIAN INSTITUTION.

BY

JOHN L. LECONTE, M.D.

PART II.



WASHINGTON:
SMITHSONIAN INSTITUTION:

MAY—JUNE, 1873.

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ASEMUM Esch.

482. A. nitidum. *Atrum nitidum*, breviter fusco-pubescent, prothorace latitudine brevior, lateribus valde rotundatis, disco subtiliter minus dense punctato, ante basin transversim, disco autem vix conspicue impresso; elytris subtiliter dense punctulatis, obsolete striatis. Long. 17.5 mm.

One male, Oregon, Lord Walsingham. This species is larger, and somewhat more robust than either *moestum* or *atrum*, and is easily known by the surface being lustrous instead of opaque, and by the prothorax being much less densely punctured. The antennæ of the male are half as long as the body and stouter than in the other species, especially towards the base. The eyes are of the same form; and somewhat hairy as in the other species.

Asmum asperum Lec. belongs properly to *Nothorhina*, a genus easily distinguished by the prosternum being more deeply emarginate in front, pronotum longitudinally excavated in the middle, and rough with elevated points at the sides.

CRIOCEPHALUS Muls.

"The vaguely described North American species introduced by Kirby, Randall, and Leconte," do not seem to have merited the recognition of Schiödte,* and I have therefore constructed the following table, which may assist in the determination of specimens.

Some of the characters used by Prof. Schiödte for the separation of the two Danish species, become, in our more extensive fauna, of importance in defining groups rather than individual species, which may accordingly be divided as follows:—

A. 3d joint of hind tarsi emarginate for half its length, the 4th joint consequently extending as far as the lobes of the 3d joint, elytra finely punctured:

Antennæ and legs very slender, hind tarsi with the 3d joint twice as long as wide; body more elongate, prothorax not wider than long, rounded on the sides, slightly roughened with elevated points.

1. PRODUCTUS Lec.

Antennæ and legs less slender, body less elongate, prothorax wider than long:

* *Annals and Magazine of Nat. History*, 3d ser. xv. 233. (March, 1865.)
12 May, 1873.

- 3d joint of hind tarsi two-thirds longer than wide, prothorax rounded at the sides and slightly roughened. 2. *AGRESTIS* (Kirby).
 3d joint of hind tarsi half longer than wide, prothorax angulated at the sides, and strongly roughened. 3. *ASPERATUS* Lec.
 B. 3d joint of hind tarsi bilobed, cleft nearly to the base, the 4th joint received into the emargination, not extending as far as the end of the lobes; elytra less finely punctured, (sides of prothorax rounded, scarcely asperated):
 Prothorax deeply impressed, hind tarsi with 3d joint nearly twice longer than wide. 4. *MONTANUS*, n. sp.
 Prothorax feebly impressed, hind tarsi with 3d joint very little longer than wide;
 Prothorax very finely punctured. 5. *OBSOLETUS* (Rand.).
 Prothorax less finely punctured. 6. *NUBILUS* Lec.
 C. Eyes smaller, less prominent, and more deeply emarginate than in the other species, prothorax and elytra finely punctured, the former rounded, not asperated, feebly impressed at the middle; 3d joint of hind tarsi 7. *AUSTRALIS* Lec.

483. *C. montanus*.

This species is founded on four specimens from Colorado, having very much the appearance of *C. productus*, but differing by the 3d joint of hind tarsi cleft nearly to the base, and by the less finely punctured elytra. The prothorax is scarcely wider than long, rounded on the sides, with only a few elevated points, finely and densely punctured, with the two discoidal impressions, the medial channel, and two transverse impressions deep. The hind tarsi are slender, the 2d joint is more than twice as long as its width, and the 3d is about half longer than its width, cleft nearly to the base. The antennæ of the ♂ are about three-quarters as long, those of the ♀, one-half as long as the body. The ventral sexual characters are as in the other species, the 5th segment being broad in the ♂, elongate in the ♀; in the ♂ the 6th segment is visible. Length 19-24 mm.

7. *C. australis* Lec., Pr. Ac. Nat. Sci., Phil. 1862, 43; *Asemum australe* Lec., Journ. Ac. Nat. Sci. Phila., 2d ser., ii. 35. I have seen only the type of this species, which on account of the finer punctuation, and general appearance, I placed in *Asemum* from which it differs by the eyes being larger, more coarsely granulated, and not hairy.

GONOCALLUS **LEC.**

Body elongate, slender, thinly pubescent, with long flying hairs on the antennæ, legs, prothorax, body, and elytra; integuments of firmer consistence than usual in the tribe; front short, oblique, channelled, divided by a deep transverse line, support of labrum coriaceous as usual. Eyes finely granulated, deeply emarginate; genæ short, prominent, rectangular. Palpi short, not very unequal, last joint broadly triangular; antennæ slender, thinly clothed with long pubescence, and sparsely villous; scape rather stout, more than half as long as 3d joint, 2d joint about one-fourth as long as 3d joint; 4th joint a little shorter than 5th joint; 11th in ♀ simple, in ♂ very distinctly divided, outer portion shorter. Prothorax shining, sparsely punctured, sides distinctly angulated at the middle. Elytra elongate, densely punctured, rounded at tip. Prosternum narrow between the front coxæ, which are transverse and broadly angulated. Mesosternum triangular, obtusely rounded behind, coxæ distant, open externally; episterna of metathorax not very wide, nearly parallel, tubercle of scent pores very distinct; 5th ventral segment shorter in ♂ and broadly emarginate. Legs slender, thighs very feebly clavate, hind tibiæ with distinct spurs, tarsi shorter than tibiæ, 1st joint as long as the two following united.

A very anomalous genus, founded on *Callidium collare* Kirby (lepidum *Lec.*), a slender black species with bright red prothorax, found in Canada, and on Lake Superior. By the greater firmness of the tissues, the general appearance, the presence of an additional article in the ♂ antennæ, and the smaller size of the 2d joint, it forms a connecting link with the later tribes allied to Clytini; but by the broadly angulated front coxæ it belongs rather to the Callidiini.

The eyes are more inclined to embrace the base of the antennæ than in any other genus of the Callidioid series, and it is rather to avoid making a new group in the Cerambycoides than for any other reason that I have placed it here.

GRACILIA **MULS.**

484. *G. fasciata*. Nigra opaca, subtiliter pubescens, prothorace latitudine fere duplo longiore, medio paulo latiore, alutaceo parce punctato; elytris fortiter punctatis, margine basali fasciæque transversa mox pone

medium albo-pubescente, apice truncatis, et 3 vel 4-denticulatis; pedibus picis, antennis flavo-testaceis. Long. 4.5 mm.

Lower California, Mr. Ulke. A singular species, but resembling entirely in form and size *G. minuta*. The elytra are distinctly truncate at tip, and the truncature is serrate, the suture and outer angle being prominent, with one or two intermediate cusps.

CALLIDIUM FABR.

485. *C. vile*. Nigrum, subtiliter cinereo-pubescent, prothorace latitudine vix brevior, lateribus rotundatis, fortiter punctato; elytris sat dense fortiter punctatis, et transversim rugosis; antennarum articulo 2do sequente triplo brevior. Long. 4.5 mm.

Mendocino, California; collected by Mr. Behrens. Readily known by the small size, black color, and coarse sculpture. The thighs are strongly clubbed, the front coxæ are contiguous, and the mesosternum obtusely triangular. I cannot see the mesonotum, but I have no doubt from the other characters that there is no stridulating surface.

486. *C. hirtellum*. Elongatum minus depressum, nigrum nitidum, pubescens, et pilis nigris erectis villosum, prothorace ferrugineo, punctato, callis lævibus haud elevatis ornato, latitudine paulo brevior, lateribus rotundatis; elytris conoide punctatis sæpe testaceis; antennis pilosis, basi rufescentibus, articulo 2do 3io dimidio brevior. Long. 8 mm.

Nevada, Mr. Ulke. Two specimens, one of which is black, with the prothorax ferruginous; the other has also the elytra brownish ferruginous. The mesonotum is smooth and polished, with a few scattered punctures; the mesosternum is triangular; the thighs strongly clubbed, the front coxæ contiguous. *C. æreum* Newman (*pallipes* Hald.), belongs to the same division of the genus, characterized by the rather stout antennæ, not thickened but very hairy towards the base, with the 2d joint about half as long as the 3d, and the punctuation less dense than in the metallic blue species.

XYLOCRIUS LEC.

487. *X. cribratus*. Ater, pube nigra villosus, prothorace fortiter punctato, latitudine brevior, postice subangustato, lateribus antice valde rotundatis, postice subsinatis; elytris subreticulatim grosse punctatis, punctis versum apicem paulo minoribus. Long. 12.5 mm.

One male, Virginia City, Nevada, Mr. Edwards. Nearly allied to *X. Agassizii* Lec., but the prothorax is distinctly narrowed behind and subsinuate, very much as *Spondylis upiformis*, and the sculpture of the elytra is not suddenly finer behind the middle.

The convex sides of the prothorax are less coarsely and more densely punctured than the disk. The antennæ are two-thirds the length of the body, quite hairy, and the 4th joint is very little shorter than the 5th.

GANIMUS Lec.

Head moderately large, eyes coarsely granulated, deeply emarginate, lower lobe very large, genæ extremely short, front short, perpendicular; mandibles short, stout, acute at tip, external outline with a well-defined obtuse angle near the tip, so that the front margin is straight and transverse; palpi very unequal, last joint triangular, obliquely truncate. Antennæ (♂) longer than the body, 11th joint indistinctly divided; 1st joint thicker, and about two-thirds as long as the 3d joint, very rough with small acute spines, 3d and following rough but gradually becoming smoother, fringed beneath but not densely with hairs, which also gradually become thinner and shorter. Prothorax wider than long, feebly rounded on the sides, not constricted either before or behind, transversely impressed before the base, which is produced into a broad subtruncate lobe; disk rather flat, with a narrow, smooth dorsal line, and two vague discoidal impressions; scutellum broad, rounded behind; elytra as wide at the base as the thorax, gradually narrower behind, and rounded at tip. Prosternum laminiform between the coxæ, but not prolonged as in *Oeme*; surface in front of coxæ finely transversely rugose, and depressed each side; the finely roughened dorsal surface extends on the flanks to the prosternal suture, as in *Eucrossus*, and *Oeme*, in which the prosternum is similarly sculptured, but not depressed; the coxæ are widely angulated externally, and the whole extent of the coxal fissure is open, though not so widely as in *Oeme*. The mesosternum is very narrow, and deeply sunk between the coxæ which are very large and prominent, and the cavities are widely open externally; the hind coxæ are prominent. Legs as in the two genera just mentioned, thighs rather stout and compressed, tibial spurs small, hind tibiæ with 1st joint as long as

the others united. Ventral segments nearly equal in length, 5th of ♂ nearly equal to the 4th, truncate behind, 6th exposed, emarginate. Body thinly pubescent, above and beneath.

488. *G. vittatus*. Testaceus, parce pubescens, thorace dense subtilius asperato-punctato, linea tenui dorsali lævi, latitudine breviora, lateribus late rotundatis, apice truncato, basi late lobato; elytris punctatis, costis utrinque duabus parum elevatis, vittisque duabus angustis nigris. Long. 21 mill.

California, Dr. Horn. This genus seems quite distinct from any described in Lacordaire's work, and to present a curious combination of characters. The well-defined angle near the tip of the mandibles is singular, and known in very few other genera of Cerambycini.

OEME NEWMAN.

489. *Oe. costata*. Nigro-picea, subtiliter parce pubescens, prothorace lateribus late rotundatis, postice modice constricto, disco punctulato, et parce punctato, vitta dorsali lævi; elytris thorace latioribus, elongatis, punctulatis, sutura margine costisque 3 discoidalibus angustis elevatis, interstitiis parce reticulatis. Long. 22 mm.

California, Mr. Ulke. The male has the antennæ as long as the body; the 3—6 joints are armed beneath with acute spines gradually becoming more feeble.

EUCROSSUS LEC.

Body elongate, rather depressed, pale brown, without markings; head as in *Oeme*, eyes large, coarsely granulated, deeply emarginated; palpi very unequal, labial short, maxillary long, last joint triangular, obliquely truncate; antennæ (♂) longer than the body, 1st joint stout, as long as the head, 2d very short, 3d longer than the 4th, which is equal to the 5th, joints from 3d gradually more slender, 11th not appendiculate, 3d, 4th, and 5th armed with a very small apical spine; beneath densely fringed with long soft hair, becoming gradually thinner, and finally disappearing on the 8th joint. Prothorax wider than the head, transverse, much rounded on the sides, not constricted at base. Elytra scarcely as wide as the thorax, parallel, rounded at tip, with a small subsutural spine. Prosternum narrow, rounded at tip, front coxæ large, prominent, with distinct trochantin; cavities strongly angulated externally, middle and hind coxæ also pro-

minent; mesosternum rather wide, truncate behind, middle coxal cavities open externally. Legs moderate, thighs not clavate, tibial spurs very small, hind tarsi with the 1st joint equal to the others united.

490. *Eu. villicornis*. Saturate testaceus, thorace (♂) opaco, subtilissime alutaceo et subsericeo, latitudine brevior, lateribus valde rotundatis, linea dorsali lævi, cicatrice vix elevata, sublunata utrinque notato; elytris vage punctatis, pilis erectis haud dense pubescentibus, spina parva subsuturali armatis, dorso utrinque lineis duabus obsoletis. Long. 18—24 mm.

One male, Arizona. Resembles in appearance *Oeme*, but is less slender; the sculpture of the prothorax is very peculiar, and the dull sericeous surface extends upon the flanks to the prosternum; it is somewhat similar to that seen in *Achryson*, less the punctures and hairs observed in that genus; the smooth dorsal line is rather broad, and abbreviated near the base; there is on each side a large cicatrix, commencing near the base, extending in front of the middle, then suddenly bent inwards for a short distance, and then turning forwards is suddenly abbreviated. They resemble, in position, the scars on the prothorax of the ♂ of some of our large species of *Romaleum*, but are much broader.

A female from Owen's valley, California, given me by Dr. Horn, differs from the male by the antennæ shorter, thinner, and less hairy; the 5th ventral segment not truncate, and the 6th not visible. The sides of the prothorax are finely punctured, but the disk is shining, sparsely and coarsely punctured, and somewhat uneven.

There is great variation in the lateral spine of the prothorax; in the smaller ♂ it is quite absent, and the sides are rounded; in a large ♂ from California it is small and acute, in the ♀ it is still more prominent.

HAPLIDUS LEC. (*Cerambycini*).

Body elongate, slender, rather depressed, antennæ, prothorax, and legs thinly clothed with long flying hairs, of which a few are also seen on the front part of the elytra; front short, vertical; eyes large, emarginate, coarsely granulated; genæ short, very acute; palpi short, equal, last joint cylindrical, truncate. Antennæ slender, scape a little shorter than the 3d joint, 4th about

one-fourth shorter than 3d or 5th. Prothorax a little longer than wide, oval, broadly rounded on the sides, feebly constricted at the base, which is truncate; disk densely punctured, with a small median smooth spot in ♀, more finely punctured with a longer dorsal smooth stripe in ♂, and with a feeble dorsal impression and obsolete cicatrix each side of the median line. Elytra elongate, parallel, rounded at tip. Prosternum very narrow and nearly invisible between the coxæ, but not prolonged behind; front coxæ transverse, widely angulated externally; mesosternum broadly truncate behind, coxæ open externally; episterna of metathorax wide in front, and narrowed almost to a point behind, as in *Oeme*. Legs slender, thighs feebly clavate, hind tarsi as long as the tibiæ, 1st joint longer than two following united. Ventral segments nearly equal in ♀, 1st longer in ♂; 5th shorter in ♂ than ♀, and broadly rounded at tip.

A slender brownish insect, without conspicuous characters, resembling somewhat a very narrow *Callidium*; the antennæ in the ♂ are as long as the body, in the ♀ about two-thirds as long.

491. *H. testaceus*. *Elongatus, testaceus, subtiliter pubescens, antennis pedibus prothoraceque parce longe villosis; prothorace latitudine paulo longiore, lateribus late rotundatis, postice subconstricto; elytris subrugosis, punctulatis, et parce punctatis.* Long. 9—14 mm.

California, Nevada, and Utah; Dr. Horn and Mr. Ulke. The genus is easily known by the short, slender, equal palpi, and by the eyes being less deeply emarginate than in the other genera of the group, and scarcely embracing the base of the antennæ, which are inserted on a line with their front margin.

ACHRYSON SEKV.

492. *A. concolor*. *Elongatum, saturate testaceum, pilis pallidis parce vestitum, prothorace opaco latitudine longiore, utrinque angustato, lateribus late rotundatis, confertim haud profunde punctato, subreticulato; elytris nitidis, fortiter haud dense punctatis, punctisque remotis majoribus seriatim digestis, apice haud spinosis.* Long. 8.5 mm.

One female; Texas. Of the same form as *A. surinamum*, but smaller; uniform brownish-testaceous, thinly clothed with long pale hairs; the head and thorax are coarsely punctured, the punctures of the latter are not deep, but so close as to produce a reticulate appearance, and in the centre of each puncture is a

small puncture from which proceeds a long white hair. The elytra are somewhat paler, polished, deeply but sparsely punctured, with several rows of very distant larger punctures, from which proceed rather longer flying hairs.

AXESTINUS LEC.

Eyes large, coarsely granulated, lower lobe extending in front of the antennæ, which are shorter than the body, compressed serrate, finely sericeous, 12-jointed, with the 4th joint scarcely shorter than the 3d or 5th, and the 12th elongate oval, half as large as the 11th. The genæ are very short, the front quadrate, oblique, concave between the antennal tubercles, otherwise flat and divided by a fine transverse suture; palpi moderate, subequal, last joint thicker, truncate. Prothorax rounded on the sides, longer than wide, somewhat narrowed in front, with two discoidal impressions in front of the middle; sparsely coarsely punctured, with feeble transverse rugæ. Front coxal cavities rounded, the fissure being completely closed. Middle coxal cavities nearly closed externally. Episterna of metathorax narrow, nearly parallel, with a small scent pore near the hind coxæ. Prosternum narrow, mesosternum flat, truncate and subemarginate behind, ventral segments nearly equal, 5th broadly emarginate (& ?) at tip. Legs slender, thighs not clavate nor spinose, tibiæ slender, hind tarsi with 1st joint scarcely as long as the two following.

493. A. obscurus. Picus, subtiliter cinereo-pubescent, prothorace latitudine longiore, antice angustato, dorso antice utrinque impresso, parce vage punctato, et transversim ruguloso, lateribus sub-angulatum rotundatis; elytris thorace latioribus postice paulo angustatis, apice bispinosis, dense punctulatis, punctis majoribus versus basin intermixtis. Long. 30 mm.

One specimen, from Pope's Expedition, probably from the Rio Grande valley. This genus seems related most nearly to *Xestia*, but differs from it by the punctulate and finely pubescent surface.

OSMIDUS LEC.

Head rather large, eyes large, coarsely granulated, deeply emarginate; front short, nearly perpendicular, without deep frontal suture, vertex between the antennæ not concave; mandibles small, acute, curved; palpi unequal, last joint triangular obliquely

truncate. Antennæ longer than the body (♂), slender, densely finely pubescent, not sericeous, 3d and following joints scarcely differing in length, 11th equal to 10th, not divided. Prothorax oval, longer than wide, uniformly convex and densely pubescent, with two basal and two discoidal impressions, very faintly marked; truncate at base and tip, not constricted. Scutellum triangular, rounded behind, elytra scarcely wider than prothorax, elongate, parallel, rounded at tip with a small apical spine, near but not on the suture. Front coxal cavities angulated externally, although the fissure is open only for a short distance; prosternum moderate in width, rounded behind; mesosternum parallel, moderate in width, and subemarginate behind, coxal cavities open externally, epimera not intervening between the sternal plates. Episterna of metathorax narrow, with scent pores distinct. Ventral segments gradually decreasing in length, 6th in ♂ slightly protruding, and more hairy. Legs rather long, thighs stout, but not clubbed, tibial spurs small, 1st joint of hind tarsi as long as the two following.

The body is densely covered with short uniform cinereous pubescence, with small scattered denuded round spots on the elytra, as in some species of *Hesperophanes*, to which it is allied, but differs by the more elongate form, and the absence of the deep transverse frontal suture.

494. *O. guttatus*. *Elongatus, piceus, dense breviter cinereo-pubescent, prothorace confertim punctato, latitudine longiore lateribus rotundatis, apice basique truncato, disco antice vage bimpreso, et utrinque ad basin leviter impresso; elytris elongatis, parallelis, punctatis, guttis pluribus parvis rotundatis denudatis, apice rotundatis et breviter acuminatis.* Long. 17—19 mm.

Two males; Cape San Lucas, Mr. Xantus.

EBURIA SERV.

A polymorphic genus, with which should probably be recombined some of the genera that have been separated from it. Those tabulated below, however differing in other characters, have the front coxal cavities more or less angulated externally, sometimes nearly rounded, and the joints of the antennæ not sulcate. In the ♂ of the first two species the basal joint of the antennæ is somewhat flattened in front, but not sufficiently so to warrant their reception in the group *Coeleburia*.

A. Middle and hind femora produced at tip into two acute spines; elytra bispinose at tip;

a. Front coxæ not angulated, fissure completely closed; prothorax abruptly constricted before and behind, tuberculate and strongly armed on the sides; color piceous;

Body glabrous above, slightly pubescent beneath, prothorax feebly grossly punctured; elytra with very small ivory spots of which the medial pair and the outer basal one are frequently wanting.

1. ULKEI.

Body densely and finely pubescent, prothorax with a few very large punctures; elytral spots small, distant, outer basal one sometimes wanting, elytral spines equal.

2. PERFORATA, n. sp.

b. Front coxæ angulated; prothorax densely and coarsely punctured, sides sub-tuberculate in front; lateral spine small, acute, dorsal callosities denuded, color testaceous;

Lateral tubercle of prothorax very distinct; elytra with outer spine shorter, and ivory spots smaller.

3. HALDEMANI.

Lateral tubercle of prothorax feeble; elytra with outer spine longer, and ivory spots larger.

4. QUADRIGENINATA.

c. Front coxæ angulated; prothorax densely and finely punctured, transversely impressed before and behind the middle, lateral spine acute; color testaceous;

Ivory spots very unequal, thoracic spine strong.

5. STIGMA.

Ivory spots equal, large, thoracic spine very small, (femoral spines very long).

6. DISTINCTA.

B. Femora with short apical spines; elytra obliquely truncate inwards at tip; prothorax coarsely and densely punctured, rounded on the sides, with two denuded dorsal callosities; color testaceous; front coxæ distinctly angulated.

PANTOMALLUS Lac.

Ivory spots of elytra unequal.

7. OVICOLLIS, n. sp.

C. Femora without spines, apical angles obtuse; elytra transversely sub-truncate; prothorax with four dorsal callosities before the middle, lateral spine very small, (front coxæ not angulated);

Abdomen densely, but equably and less finely punctured; sides of prothorax much rounded in front of the spine.

8. TUMIDA, n. sp.

Abdomen unequally punctured; sides of prothorax very feebly rounded in front;

Ivory spots geminate, apex of elytra truncate.

9. MUTICA.

Ivory spots single, apex of elytra nearly rounded, with a small sutural spine.

10. MANCA.

1. *E. Ulkei* Bland, Proc. Am. Ent. Soc. Phila., i. 270; Lower California, Cape San Lucas, Mr. Xantus. The antennal tubercles are very acute and elevated, the 1st joint of the antennæ is in the ♂ stouter, flattened or feebly sulcate in front, and the 11th joint is longer than the 10th.

495. *E. perforata*. Robusta, picea, dense sordide cinereo-pubescent, prothorace latitudine brevior, apice basique constricto, lateribus antemedium tuberculatis, ad medium spina valida armatis, dorso punctis grossis parvis notato; elytris punctulatis et haud profunde punctatis, apice bispinosis, callis eburneis parvis valde discretis, exteriore basali sæpe deficiente. Long. 23—30 mm.

Texas and Northern Mexico. I should consider this as *E. stigmatica* Chev. Col. Mex. Cent. 1., but the description states that the sutural spine of the elytra is wanting, the tip being truncate. The basal joint of the antennæ in the ♂ is a little flattened in front, and the 11th joint is a little longer than the 10th.

2. *E. Haldemani* Lec., Journ. Acad. Nat. Sci., Phila., 2d, ii, 102, I have a specimen from Missouri which is almost intermediate between the Texan specimens, and the ordinary 4-*geminata* of the Southern States, and the Mississippi valley. The elytral spots are smaller than the specimens from Georgia, as is usually the case with the Missouri specimens, but the subapical protuberance on the sides of the prothorax is as strong as in any Texan specimen of *E. Haldemani*. In all of the latter species that I have seen, the sutural spine is well marked, while the outer one is short, and not prominent; the specimen in question has them equal as in *E. 4-geminata*. The evidence is in favor of combining the two forms as one species, but for the present it is safer to retain them as distinct.

496. *E. ovicollis*. Elongata, fusco-testacea, piceo-nebulosa, subtiliter dense pubescens, prothorace latitudine longiore, lateribus late rotundatis, confertim punctato, callis discoidalibus duobus denudatis, apice et basi truncato haud constricto; elytris apice intus oblique truncatis, vix aut breviter spinosis, fortiter sat dense punctatis, callis eburneis geminatis approximatis, basalibus parvis, mediis elongatis, internis autem multo brevioribus. Long. 18—23 mm.

Texas and Northern Mexico. The 11th joint of the antennæ of ♂ is longer than the 10th; the hind femora extend a little beyond the tip of the elytra, and are not spinose at tip. The front coxæ are very distinctly angulated externally, though hardly more so than in the four preceding species in the synoptic table, and the coxal fissure is open for a small portion of its extent.

In one specimen the inner basal ivory spot is almost wanting; in another the outer one is so reduced as to be hardly larger than the inner one.

497. *E. tumida*. Fusco-picea, dense minus subtiliter griseo-pubes-cens, prothorace latitudine brevior, antice transversim marginato, lateribus pone apicem subito rotundatis, spina laterali minuta, parce fortiter punctato, callis 4 denudatis ante medium transversim sitis, intermediis elatioribus; elytris haud dense punctatis, apice paulo truncatis, spina externa obsoleta, suturali distincta, callis eburneis parvis discretis. Long. 15—20 mm.

Texas; the body beneath is densely punctured, clothed with rather coarse pubescence. The ivory spots of the elytra are small, in one specimen the outer one of the hind pair is longer than the inner one, and the spots of the basal pair are nearly equal; in a second specimen the outer basal spots are nearly obliterated, and the hind pair are reduced to merely elevated points. The front coxæ not at all angulated externally.

ELAPHIDION SERV.

Sub-Genus **ROMALEUM** WHITE.

The species of this sub-genus differ from genuine *Elaphidion* by the more robust form, and by the episterna of the metathorax being distinctly wider in front, and gradually narrowed behind, though much less so in the 2d division than in the 1st. The prothorax is comparatively wider, and has a slight tendency to a tubercle on the sides; the pronotum is coarsely punctured with a medial and two dorsal callosities in ♀, very densely punctulate, with a posterior medial channel and dorsal cicatrices in the ♂. The antennæ are longer than the body in ♂, shorter in ♀, the spines are never long, the sensitive spaces are distinct, commencing on the 4th joint in a small elongate depression, extending on the following joints so as to occupy gradually the whole length; a very small fovea may be usually seen near the end of the 3d joint. The prosternum is always rounded behind, and the mesosternum gently declivous. The femora are not spinose. The last joint of the palpi is less dilated than in genuine *Elaphidion*.

The species form two natural groups:—

- | | |
|---|-------------------|
| A. Body uniformly finely pubescent; | |
| Both angles of 3d and 4th joint of antennæ spinose. | 1. PROCERUM. |
| Outer angle of 3d and 4th joint spinose. | 2. SIMPLICICOLLE. |
| B. Body irregularly pubescent, with spots of coarser and denser hair. | |
| Pubescence mottled, irregular. | 3. ATOMARIUM. |
| Pubescence uniform, fulvous. | 4. RUFULUM. |

Sparsely pubescent, elytra very coarsely punctured before the middle, with an irregular transverse patch of white pubescence at the middle.

5. TENIATUM.

Sub-Genus **ELAPHIDION.**

The metathoracic episterna are scarcely wider in front than behind, and there are no distinct sensitive spaces on the antennæ; the antennæ are longer than the body in the ♂ and shorter in the ♀. The prothorax of the ♂ in some species is more finely punctured than in the ♀, but the difference is never as obvious as in the preceding sub-genus; the prothorax is sometimes rounded on the sides, sometimes straight, and usually marked with dorsal callosities. The prosternum is sometimes perpendicular behind, in which case the mesosternum is suddenly declivous in front, and the femora spinose at tip; otherwise it is rounded, the mesosternum obliquely declivous, and the thighs unarmed; in the second case the elytra are sometimes merely truncate or even rounded at tip, and the antennal spines occasionally obsolete. The scent pores are usually not very distinct, sometimes (*E. subpubescens*) remarkably large, sometimes (*E. moestum*) apparently wanting. The legs are usually finely punctured and pubescent, without distinct flying hairs, sometimes coarsely punctured and sparsely hairy, the hairs being in a few species very long (*E. pusillum*). The body is more or less densely pubescent, except in *E. unicolor*, which is polished as in *Ibidion* and *Sphæridion*.

A. Antennæ and elytra with very long spines; thighs spinose at tip; prothorax perpendicular behind, mesosternum gibbous; prothorax ♂ ♀ similar, with several callosities;

Above glabrous, with patches of white hair.

6. IRRORATUM.

Above clothed irregularly with gray pubescence.

7. MUCRONATUM.

B. Antennal spines small; prosternum rounded behind, mesosternum obliquely declivous; thighs not spinose at tip; prothorax ♂ finely, ♀ more coarsely punctured; (scent pores indistinct in a, b, or very obvious, c, or wanting d);

a. Prothorax rounded on the sides with several dorsal callosities, elytra truncate and strongly bispinose at tip;

Pubescence grayish-brown, mottled.

8. INCERTUM.

b. Prothorax feebly rounded on the sides, elytra not bispinose at tip, pubescence grayish-brown, mottled, (legs densely punctured and pubescent);

Thorax with a medial smooth space, and no discoidal callosities, tip of elytra truncate inwards, not spinose.

9. INNERME.

Thorax with a medial smooth space and two small discoidal callosities, tip of elytra subtruncate, sutural spine distinct. 10. *TRUNCATUM*.

Thorax more rounded on the sides, dorsal space coarsely punctured, tip of elytra rounded, suture not spinose. 11. *SPURCUM*.

c. Prothorax scarcely rounded on the sides, nearly cylindrical (except in *pumilum*), elytra bispinose at tip;

a. Pubescence mottled, flying hairs not very obvious; elytral spines long; legs densely punctured and pubescent;

Prothorax scarcely longer than wide. 12. *VILLOSUM*.

Prothorax distinctly longer than wide. 13. *PARALLELUM*.

β. Pubescence mottled, flying hairs very long and numerous on legs and antennæ, legs very sparsely punctured;

Elytral spines very short. 14. *PUMILUM*.

γ. Pubescence sparse, coarse, uniform, body very long and slender, coarsely punctured, legs coarsely punctured;

Flying hairs sparse, antennal and elytral spines moderately long.

15. *SUBPUBESCENS*.

Flying hairs long; antennal and elytral spines long.

16. *ACULEATUM*, n. sp.

δ. Body shining, testaceous, sparsely punctured, nearly glabrous;

Flying hairs sparse; elytral spines long. 17. *UNICOLOR*.

d. Prothorax rounded on the sides, coarsely punctured (♂ ♀) without callosities, body more robust, uniformly coarsely and sparsely pubescent, elytra rounded at tip; legs coarsely punctured; scent pores not visible. 18. *MOESTUM*.

C. Antennal spines completely wanting; pubescence uniform sparse; form slender, prothorax feebly rounded on the sides;

a. Pubescence intermixed with long flying hairs, elytra rounded at tip, legs very finely pubescent, scarcely punctured.

19. *PUNCTATUM*, n. sp.

b. Pubescence without long flying hairs; elytra truncate at tip, legs very coarsely punctured; punctuation of prothorax ♂ ♀ dissimilar, (*ANOPLIUM* Hald., emend. Lac.) 20. *CINERASCENS*.

E. (*R.*) *operarium* White, B. M. Cat., Long. 309, 1855, is either *procerum* or *simplicicollis*; the locality is given as doubtfully Indian, and the characters are not sufficient to determine to which of the two species it should be referred.

4. *E. (R.) rufulum* Hald., seems sufficiently distinct by the much finer and less mottled pubescence, though very closely allied to *atomarium*. The correct synonymy of the latter is as follows: *Cer. atomarius* Drury, = *C. pulverulentus* De Geer, = *Stenocorus marylandicus* Fabr., = *Callidium* maryl. Olivier. The second name was erroneously applied by Haldeman to the species, a variety of which was afterwards described by him as

Encphalodes simplicollis, without generic definition. It is useful to mention, as showing the instability of the characters relied on as of value in the classification of Cerambycidae, that there is before me a specimen of *E. rufulum* in which the left front coxal cavity is open as much as in any *Hesperophanes*.

Thersalus bispinus Pascoe, Journ. Ent. ii, 372 (1855), is closely allied to if not identical with *E. (R.) atomarium*, and the fact that it was previously described (Trans. Ent. Soc. Lond., 3d, i, 562) as *Phacodes*, indicates tolerably clearly that the genus *Phacodes* should be partly suppressed, as being merely a slight Australian geographical variation upon *Elaphidion*.

7. *E. mucronatum* (Fabr.), Hald., = *muricatum* Hald.

8. *E. incertum* Newm., = *asperum* Hald., = *vicinum* Hald. = *neglectum* Lec.

9. *E. truncatum* Hald., which has been cited as synonymous with *E. inerme* Newman, is quite distinct by the characters given above. The type, now in my possession, is probably Mexican, but the species has since occurred in Texas and is = *E. debile* Lec.

12. *E. villosum* (Fabr.) = *Stenocorus putator* Peck.; ♂ with 5th ventral rounded at tip.

13. *E. parallelum* Newman, = *arctum* Newm., = *oblitum* Lec.; ♂ with 5th ventral truncate at tip.

15. *E. subpubescens* Lec., New Jersey and Texas. The palpi in this species are very unequal, but this character hardly indicates a distinct genus.

498. *E. aculeatum*. Valde elongatum, piceo-testaceum, parce longius pubescens, et pilis volatilibus villosum, prothorace latitudine sesqui longiore, medio paulo latiore, confertim grosse punctato, callo dorsali inconspicuo lævi; elytris minus dense punctatis, nitidis, apice fortiter bispinosis, spina exteriore elongata; antennarum articulis 3io et 4to spinis longis, 5to autem brevi armatis. Long. 15 mm.

One ♂, Texas, Dr. Horn. Nearly allied to *E. subpubescens* Lec., but easily known by the prothorax being less cylindrical, the outer spine of the elytra and the antennal spines much longer, by the flying hairs much longer, and the body beneath coarsely not densely punctured. The hind angles of the metasternum are densely pubescent, the scent pores moderately distinct, and the

legs coarsely punctured. The ventral segments diminish rapidly in length, and the 5th joint is broadly truncate.

17. *E. unicolor*; *Stenocorus un.* Randall, *Stizocera un.* Hald., *Psyrassa un.* Pascoe. I can find no sufficient characters for separating this as a distinct genus, much less placing it in another tribe.

499. *E. punctatum.* *Elongatum piceum, fortiter punctatum, pilis longiusculis griseis parce vestitum, prothorace latitudine longiore, linea dorsali laevi calloque elongato indistincto utrinque notato; elytris parallelis, apice rotundatis haud spinosis, scutello luteo-pubescente; palpis antennis pedibusque ferrugineis, pube subtili pallida vestitis, his vix punctulatis, pilis volatilibus elongatis sat numerosis, antennis haud spinosis; metasterno poris odoriferis nullis.* Long. 10—12 mm.

Two females, Cape San Lucas, Lower California; Mr. Xantus. The body beneath is finely punctulate and pubescent, with longer hairs intermixed. The general form is as slender as in *E. parallelum*.

19. *E. cinerascens* Lec., *Anoplium unicolor* || *Hald.*; ♂ with 5th ventral emarginate, leaving the 6th visible. Placed by Lacordaire in his group *Callidiopsides*, but I can see no reason for separating it so widely from *Elaphidion*, to which it is evidently most closely related.

ANEFLUS LEC.

This genus is rendered necessary for certain species which completely resemble the elongate forms of *Elaphidion*, (*subpubescens*, etc.), in appearance, sculpture, and pubescence, but differ by having the joints of the antennæ from the 5th flattened, and distinctly carinate along the middle of the flat sides. The legs are coarsely punctured and pubescent, the tibiæ are finely carinate, but not more distinctly than in many species of *Elaphidion*, and except in *E. tenue*, the carinæ are not visible on the hind pair; the spurs are well developed. The 1st ventral is evidently longer than the others, and the 5th in ♂ is broadly emarginate.

The species may be tabulated as follows:—

- A. Prothorax distinctly dilated and feebly angulated on the sides; elytra bispinose at tip; hind tibiæ scarcely carinate; palpi unequal, with the last joint dilated triangular;

Very large, spines of antennæ moderately long.

1. *PROTENSUS.*

13 June, 1873.

B. Prothorax cylindrical, sides nearly straight;

- a. 3d joint of antennæ with spine a little longer than that of the following joint; palpi with last joint not dilated;

Elytra emarginate at tip, slightly bispinose, flying hairs of tibiæ long, not very numerous.

2. LINEARIS.

- b. 3d joint of antennæ with the spine much longer;

Elytra emarginate at tip, flying hairs of tibiæ not conspicuous, palpi with last joint not dilated.

3. TENUIS.

Elytra truncate at tip, suture more prominent, flying hairs of tibiæ long, numerous; palpi very unequal, with last joint triangular, dilated; (antennal carinæ obsolete).

4. VOLITANS, n. sp.

1. *A. protensus*, Elaphidion prot. Lec., Proc. Acad. Nat. Sci., 1858, 82. Arizona.

2. *A. linearis*, Elaphidion lin. Lec., ibid. 1859, 80. California.

3. *A. tenuis*, Elaphidion tenue Lec., ibid. vii, 81. Texas and Arizona. In this species, as in the preceding, the palpi are not dilated and not very unequal; the hind tibiæ are, however, much more distinctly carinated; the spine of the 3d antennal joint is two-thirds as long as the 4th joint, and the spine of the latter is quite small.

500. *A. volitans*. Fuscus, parce longe pallide pubescens, prothorace latitudine longiore confertim punctato, lateribus late rotundatis; elytris fortiter punctatis, apice truncatis, sutura prominula; tibiis pilis volatilibus longis, conspicuis. Long. 10 mm.

One female, Cape San Lucas, Mr. Xantus. In this species as in *A. protensus*, the first joint of the antennæ is longer and less thickened than in *linearis*, and slightly curved; the outer joints are scarcely carinate, the spine of the 3d joint is two-thirds as long as the 4th joint, and the spine of the latter is also long, being fully one-third as long as the 5th joint. The palpi are very unequal, and the last joint is triangular and much dilated. The hind tibiæ are only feebly, and hardly perceptibly carinate.

EUSTROMA Lec.

This new genus is founded upon *Elaphidion validum* Lec., Proc. Acad. Nat. Sci., Phila. 1858, 82, which occurs in Texas, Arizona, and Lower California. It is allied to Elaphidion, but differs in having the antennæ shorter and stouter, with the outer joints compressed, sericeous pubescent; the lower joints are

shining, sparsely punctured, and thinly clothed with long fulvous hairs, the 3d and 4th are flattened, and slightly concave beneath; the 1st joint is as long as the 3d and stouter, the 3d is equal to the 5th in length, but is thicker and armed with a short spine at the outer angles, the 4th is about two-thirds as long as the 3d, and armed with a smaller spine; the spines of the 5th and 6th joints are very small; the palpi are unequal, and the last joint is somewhat, though not very strongly, triangular. The mandibles are stout, acute, and the outer margin is suddenly bent near the tip in the ♂ so as to appear transversely truncate (as in *Axestinus*), but is regularly curved, and normal in form in the ♀. The front coxal cavities are rounded, not at all angulated externally, and only narrowly open behind; the prosternum is rounded behind; the mesosternum nearly perpendicular in front, horizontal, and emarginate behind; coxal cavities closed externally, and scarcely angulated. Ventral segments slightly decreasing in length, 5th rounded at tip in both sexes. Legs short, stout, densely and coarsely punctured, tibiae strongly carinate, and broadly grooved, spurs moderate, tarsi broad, 1st joint of hind pair but little longer than the 2d.

The body above and beneath is punctured, and clothed with rather coarse, yellowish-brown hair; the prothorax has several smooth confluent spaces, the intervals being very coarsely punctured; the ♂ has in addition a large lateral densely pubescent spot; the scutellum is broad and rounded behind, the elytra are feebly truncate at tip, and armed with a small sutural spine. The form is robust, about like *Elaphidion atomarium*.

This species by the hairy spaces of the prothorax shows some resemblance to *Stromatium*, from which it is quite distinct by the front coxal cavities not angulated externally as well as by many other characters above detailed.

ZAMODES LEC.

Head moderate, front short, nearly perpendicular, frontal suture oblique each side, deep; eyes coarsely granulated, deeply emarginate, upper part less narrow than usual; mandibles small, curved acute; palpi not very unequal, last joint triangular obliquely truncate. Antennæ (♂) a little longer than the body, punctured, finely pubescent, hispid with numerous long, erect flying hairs, thicker at the base, gradually attenuated externally,

not sulcate nor carinated, 3d joint a little longer than the 4th, the latter and following ones nearly equal, 11th very feebly appendiculate. Prothorax rounded on the sides, constricted at the basal margin, without dorsal callosities. Elytra parallel, rounded at tip. Front coxal cavities round, not at all angulated externally; open behind, prosternum very narrow between the coxæ; middle coxæ rather widely separated, scarcely angulated externally, mesosternum subtriangular, emarginate behind; metathorax emarginate behind, episterna narrow, scent pores not distinct; ventral segments equal, 1st a little longer, 5th rounded at tip, 6th not visible. Legs stout, thighs compressed, gradually tolerably strongly clavate, tibiæ not carinate, spurs moderate, first joint of hind tarsi as long as the two following.

The body is covered with fine short brown pubescence, with long erect hairs intermixed.

501. *Z. obscurus*. Supra piceo-niger, opacus, dense subtiliter fusco-pubescoens, pilis erectis intermixtis, prothorace latitudine laud longiore, lateribus rotundatis, punctulato et haud profunde grosse punctato; elytris antice fortiter punctatis, punctis postice sensim subtilioribus; subtus piceus, subtiliter punctulatus, pubescens et pilosus, prosterno vage punctato. Long. 13 mm.

One specimen; Pennsylvania. Of the same form and size as *Tylonotus bimaculatus*, but quite distinct by the antennæ not being sulcate, the prothorax without callosities, and the piceous legs. The general appearance is that of a *Callidium*.

It is quite possible that this genus is not distinct from *Zamium Pascoe*. It agrees in all particulars with the detailed description given by Lacordaire, l. c. viii. 215, but does not possess the group characters of *Saphanides*, in which *Zamium* is placed by my learned and lamented friend. The second joint of the antennæ is quite small in the present genus, which would prevent its association with *Saphanus*, *Opsimus*, etc.

COMPSA PERTY emend. LAC.

502. *C. puncticollis*. Elongata, picea, pube brevi cinerea pruinosa, prothorace latitudine duplo longiore, lateribus paulo rotundatis, confertim punctato, opaco; elytris nitidis, punctulatis punctisque majoribus raris intermixtis, scutello dense cinereo-pubescente. Long. 8—13 mm.

Cape San Lucas, Lower California, Mr. Xantus. The 3d and following joints of the antennæ are finely carinate, and the

front coxal cavities are entirely closed; in the ♂ the 3d and 4th joints are as stout as the 1st, and the 5th is less enlarged. The 4th joint is shorter than the 3d in both sexes, but is as long as the 5th.

503. *C. quadriplagiata*. Piceo-castanea, subtilissime cinereo pubescens, prothorace impunctato, latitudine plus duplo longiore, collo angusto ad medium elevato, disco utrinque magis convexo et ante basin bituberculato; elytris parce punctatis, punctisque majoribus raris intermixtis, macula utrinque pallida quadrata ante medium, alteraque pone medium ornatis; antennis flavo-testaceis, basi castaneis. Long. 10 mm.

One ♀; Cape San Lucas, Lower California; the dorsal callus of the prothorax is narrow, short, and carinated; the disk each side is more convex, but scarcely gibbous; near the base on each side is seen an elevated tubercle. The larger punctures of the elytra in this and the preceding support flying hairs, which are not however very long or as conspicuous as in the polished species of *Heterachthes*.

PLECTROMERUS Lec.

I have adopted this unpublished name of Dejean for *Callidium dentipes* Oliv., (*Curius scambus* Newm.). It is fully described by Lacordaire, l. c. viii. 352, as *Curius*; the type of the genus *C. dentatus* (concinatus Hald.) not having been seen by him; he has mentioned the differences in a note, and they are chiefly as follows

Body depressed, opaque in *Curius*, cylindrical and polished in *Plectromerus*; prothorax rounded on the sides in the first, nearly straight in the second; 4th joint of antennæ a little shorter than the 5th in the first, very much shorter in the second. The thighs are pedunculated, and suddenly clavate in *Plectromerus*, and the tooth is much larger than in *Curius*, in which they are more gradually dilated.

CALLIMUS Muls.

504. *C. chalybæus*. Viridi-cyanæus, nitidus, prothorace latitudine longiore, parce punctato, lateribus late rotundatis, convexo postice paulo angustiore et constricto; elytris parallelis apice rotundatis, parce punctatis et pallide pubescentibus; femoribus anticis, vel ferrugineis, vel cyaneis. Long. 6 mm.

California; Mr. Ulke and Dr. Horn. The punctures of the elytra are tolerably strong near the base, and become finer towards the apex. The prosternum is sparsely punctured, the abdomen nearly smooth. I have seen four specimens, all males, having the ventral segments nearly equal. The eyes are rather finely granulated, and the last joint of the palpi is broadly triangular.

EUMICHTHUS Lec.

Front declivous, with a deep lunate impression each side; eyes not very finely granulated, deeply emarginate; genæ short not prominent; palpi rather short, last joint triangular, not so broad as in *Callimus*; antennæ slender, a little longer than the body (♂), with a few long flying hairs, 2d joint half as long as 3d, remaining joints nearly equal. Prothorax convex, without tubercles, narrowed feebly in front, more strongly behind; elytra wider than prothorax, cylindrical, rounded at tip. Prosternum very narrow, mesosternum triangular, moderately wide; thighs strongly clubbed, tarsi with the 1st and 2d joints swollen and convex; the 3d is also enlarged in the front and middle pairs but is smaller in the hind pair.

505. *Eu. œdipus*. Piceo-ferrugineus, subtiliter pubescens, pilis volatilibus parce pilosus, capite thoraceque vix punctulatis, hoc latitudine paulo longiore, lateribus rotundatis, postice angustiore et constricto; elytris punctulatis, fascia pallida subburnea obliqua ante medium pube dense pallida vestita, alteraque latiore pone medium cinereo-pubescente ornatis, spatio intermedio nigricante. Long. 5 mm.

One ♂; Vancouver Island, Mr. Matthews. A very singular little insect, having from the form of the elytral bands a resemblance to *Callidium decussatum* Lec. The elytra are marked near the base with a few scattered large punctures, from which proceed long black flying hairs; the front band is covered with dense whitish hair, but looks as if it were slightly elevated; it is feebly sinuate, directed backwards towards the suture.

PHYTON Newm.

506. *P. discoideum*. Rufo-testaceum nitidum, oculis magnis fortiter granulatis, prothorace antice posticeque constricto, basi valde angustato, lateribus obtuse fortiter dilatatis, dorso subinæquali parce punctato; elytris parce punctatis, nebula magna fusca maculam rotundatam

pallidam communem inoladente; antennis 5 corpore paulo longioribus. Long. 6 mm.

Two ♂, Cape San Lucas, Mr. Xantus. Varies with the elytral markings obsolete. Of the same form as *P. pallidum* (Say) (*Diozodes pall. Hald.*, *P. limum Newm.*), but quite different by the markings.

HYBODERA Lec.

Front declivous, canaliculate, divided anteriorly by a deep transverse line; eyes finely granulated, deeply emarginate; genæ short rectangular; palpi equal, slender, last joint slightly oval. Antennæ slender, scape as long as 3d joint, 3-5 gradually increasing in length. Prothorax strongly constricted in front, less behind, base as wide as the apex, sides obtusely angulated, disk with four tubercles arranged in a square. Elytra wider than prothorax, flat parallel, rounded at tip. Front coxæ separated by prosternum, widely angulated externally, inclosed behind; middle coxæ widely separated by truncate mesosternum, narrowly open externally; epimera of metathorax wider in front, gradually narrowed behind. Thighs very strongly clubbed; 1st joint of hind tarsi equal to 2d and 3d united.

In the ♀ the 1st ventral segment is very long; the 2d deeply excavated, and nearly perpendicularly declivous behind, the following joints short and retracted.

A few flying hairs are seen on the antennæ and legs.

507. *H. tuberculata*. Nigro-picea, pube appressa brevi cinerea vestita, prothorace elytrisq. fusco-variegatis. Long. 9 mm.

Oregon and Vancouver Island. The mottlings of the elytra are not very definite, but the cinereous portions are more concentrated at the base, and in a broad band behind the middle.

PILEMA Lec.

This genus resembles so closely the European *Cartallum*, that no detailed description is necessary. It agrees precisely in form, appearance, and general characters, but differs by the palpi being slender, with the last joint cylindrical (not triangular), and by the mesosternum being wide and truncate (not narrow and subacute behind). The hind tibiæ are somewhat curved.

508. *P. ruficollis*. Nigrum opacum, prothorace rufo nitido parce punctato, disco fortiter trituberculato, medio subtiliter carinato, antice constricto, lateribus obtuse tuberculatis, basi subconstricto profunde transversim impresso, margine basali nigro; elytris planis, punctatis, angulo suturali prominulo. Long. 8—9 mm.

Napa, and Mariposa; California. The 1st ventral segment in ♀ is as long as the others united, the 2d excavated, clothed with very long fulvous hair. The antennæ and legs are clothed with very long flying hairs; on the prothorax and elytra only a few remain, having been lost probably in the alcohol in which the specimens were preserved.

509. *P. cyanipenne*. Flavo-ferrugineum, longe villosum, (prothorace ♀ rufo, ♂ nigro) capite, antennis, pospectore, femoribus apice, tibiis tarsisque nigris; elytris cyaneis, planis, punctatis. Long. 7—8 mm.

California, Dr. Horn and Mr. Edwards. Of the same size as the preceding, but the prothorax is less angulated on the sides, not deeply transversely impressed at the base, and there is no impressed dorsal line.

Two ♂ have the prothorax black, the base of the tibiæ yellow, and the elytra greenish-blue.

MEGOBRIUM LEC.

This new genus is founded on a comparatively large species from California, which is intermediate between *Cartallum* and *Pilema*, having the palpi with the last joint slightly dilated and oval, truncate at tip, and the mesosternum narrow, but scarcely acute as in *Cartallum*. It differs from both by the prothorax being longer, with the lateral tubercles much larger and obtuse, and the apical and basal constrictions longer, equal in width. As is commonly the case, in intermediate grades of structure, the specific characters are quite different, so that a stronger individuality is thereby impressed on the organism. The color is testaceous; the punctures of the elytra but few, not coarse, and arranged in three lines extending from the base to a little behind the middle; there are a few scattered punctures between these lines, and outside of them; there is an appearance of an angulated pale band, with the point directed forwards on the suture, in front of the middle, and a few nebulosities behind. The antennæ are longer than in *Pilema*, and the outer joints are compara-

tively more equal. The sexual characters are as in the two allied genera.

510. *M. Edwardsii*. Fusco-testaceum, opacum parce pubescens, antennis pedibus prothoraceque pilis volatilibus parcius villosis, hoc latitudine longiore, tuberculo laterali majore obtuso, antice posticeque late constricto et lateribus sinuato; elytris alutaceo-granulatis, versus suturam parce punctato-striatis, punctis pone medium obsoletis, litura angulata pallidioris mox ante medium signatis. Long. 12 mm.

One ♀; Santa Rosa Island, California, Mr. H. Edwards, to whom I take pleasure in dedicating this remarkable addition to our fauna.

MOLORCHUS FABR.

511. *M. longicollis*. Niger, antennis pedibus prothoraceque pilis volatilibus munitis, hoc latitudine sesqui longiore, apice basique constricto, pone medium paulo latiore, et lateribus angulato, dorso planiusculo minus dense punctato; elytris punctatis, testaceis, planis, oblique impressis et ad apicem paulo tumidis; pedibus antennarumque basi piceo-ferrugineis. Long. 8 mm.

One ♂, California, Mr. Ulke. Differs from *M. bimaculatus* chiefly by the prothorax being narrower, less rounded, somewhat angulated at the sides, and less densely punctured. The antennae are longer than the body, slender, piceous, with the first joint brownish-red.

RHOPALOPHORUS SERV.

512. *R. laevicollis*. Niger, opacus, prothorace impunctato, cinereo pubescente, vitta dorsali glabro, apice basi subtusque plus minusve rubro; elytris fortiter punctatis, cinereo-pubescentibus; antennarum articulo 4to sequentis dimidium aequante. Long. 12 mm.

Texas and northern Mexico. Larger than the other species in our fauna, and easily known by the impunctured prothorax, which is distinctly constricted on the sides at the base, though the constriction does not extend upon the disk.

HOLOPLEURA LEC.

Body elongate, rather depressed, densely punctured, pruinose with extremely short white hairs, head short, front small, vertical, mouth small; palpi short, stout, genae moderately long; eyes rather small, somewhat finely granulated, very deeply emarginate, upper lobe very narrow; antennae widely separated, placed on

very feebly elevated tubercles, 11-jointed, sparsely fringed with long hairs, scape stouter, cylindrical, as long as 3d joint, 2d joint small, 4th about one-third shorter than the 3d, 5th and following about equal to the 3d, gradually thinner, 11th not at all divided.

Prothorax rounded, punctuation of sides finer and denser than on the disk, base and apex nearly truncate; scutellum transverse; elytra parallel, rounded at tip, humeri nearly rectangular rounded, sides perpendicularly deflexed, lateral margin distinct, epipleuræ narrow, well defined, extending to the sutural tip.

Prosternum not wide between the coxæ, which are small, not prominent, cavities angulated, closed behind; middle coxal cavities widely open externally, mesosternum wide, truncate behind; episterna of metathorax pointed behind, epimera prolonged to meet the ventral segments, of which the 1st is longer, and the others equal, the 5th subtruncate (♂). Legs slender, thighs pedunculate and clubbed, tibial spurs small; tarsi broad, 1st joint of hind pair one-half longer than the 2d.

This tribe has affinities with the Callidiini, but differs not only by the shorter 2d joint of antennæ, but by the front coxæ being inclosed behind, and from all other tribes by the epipleuræ extending in equal width, and horizontally inflexed from base to tip.

513. *H. marginata*. Nigra opaca, dense punctata, brevissime albo-pubescent, prothorace rotundato latitudine paulo brevior, margine basali apicalique, vittisque indistinctis tribus rubris; elytris margine basali lateraliq. usque ad suturam rubro, macula elongata laterali pone humeros nigra. Long. 9 mm.

One male, Marin County, California, Mr. Edwards. The lateral spot is in the red margin, and reaches from the base for one-fifth the length of the elytra, extending also upon the epipleuræ.

514. *H. Helena*. Lætæ coccinea opaca, subtiliter pubescens, prothorace confertim et profunde punctato, guttis duabus nigris ornato; elytris obsolete sed grosse punctatis, guttis utrinque tribus nigris ornatis, 1mæ submarginali pone basin, 2ndæ subsuturali ante medium, 3ia discoidali pone medium; ore antennis, pedibus, trunco, abdomineque nigris. Long. 8 mm.

Mariposa, California; for this lovely little species I am indebted to Mr. Thevenet, of Paris; it was collected by his brother, Dr. Thevenet, now living in California. The scarlet

color is singularly bright; the sculpture of the elytra is curious, being composed of large closely placed punctures, so shallow as to appear obliterated.

CALLICHROMA LATR. (emend. SERV.).

515. *C. cobaltinum*. Læte cyaneum, prothorace transversim minus rude rugoso, antennis pedibusque nigris, femoribus posticis abdomineque ferrugineis. Long. 25—36 mm.

Cape San Lucas, Lower California. Related to the Texan *C. plicatum* Lec., but the transverse rugæ of the prothorax are not so coarse, the anterior transverse constriction more regular and stronger, the color of a beautiful blue (not green), and finally the front and middle thighs are black.

SCHIZAX Lec.

Body elongate, clothed with short coarse pubescence, flying hairs sparse at the base of the antennæ and legs; head rather small, front short, deeply impressed transversely; mandibles obtuse and subemarginate at tip, though the outline is concealed by the pubescence; genæ short, rounded; eyes large, finely granulated, broadly divided, lobes nearly equal in size, rounded triangular; palpi stout, short, last joint truncate, impressed; antennæ (♂) twice as long as the body, ♀ about one-third longer than the body, slender, punctured, and pubescent, with a few flying hairs near the base, 11th joint longer, slightly curved at the tip in both sexes. Prothorax narrowed in front and behind, with an acute lateral spine one-third from the base. Scutellum moderate in size, elongate, triangular, acute; elytra parallel, broadly rounded at tip. Prosternum broad between the coxæ, which are not angulated externally; mesosternum broad, protuberant, truncate behind, coxal cavities open externally; metasternum with side pieces rather broad, scent pores distinct. Ventral segments slightly diminishing in length. Legs slender, hind pair longer; hind thighs ♂ extending to the tip of the elytra; hind tarsi with the 1st joint, as broad as, and equal to, the two following united.

Remarkable in the group of Tyloses for the divided eyes, which have suggested the generic name.

516. *S. senex*. Niger opacus, pube brevi minus subtili cinerea vestitus, prothorace fortius, elytris subtilius punctatis, his margine suturali laterali apicali et scutello fulvo-pubescentibus. Long. 13—17 mm.

Arizona, collected by Drs. Horn and Palmer; the rapidity of flight of this insect is wonderful. The pubescence of the elytra is less dense than that of the under surface, and not evenly distributed, so as to give a mottled appearance. The outer condyle of the thighs is elongated into a short obtuse process.

CROSSIDIUS LEG.

The species of this genus vary greatly in color, and are somewhat difficult to recognize by the scattered descriptions heretofore published. I have constructed the following table to enable them to be more easily identified:—

A. Prothorax subquadrate;

Black clothed with long gray hair; elytra very densely punctured, punctures very coarse at the base, becoming finer behind; front tibiae with a dense brush of hair on the inner side. Utah; Eastern California.

1. *ATER* Lec.

B. Prothorax rounded and subtuberculate on the sides;

a. Elytra very coarsely punctured towards the base, punctures becoming smaller behind;

Head, antennae, and legs black; under surface and pronotum black or rufous; elytra rufo-testaceous with basal margin and sutural blotch black, the latter usually narrow or wanting in ♂, broad in ♀.

2. *PUNCTATUS* n. sp.

Testaceous, antennae fuscous, legs ferruginous; elytra with two costae more distinct than in the other species. Colorado Desert.

3. *TESTACEUS* Lec.

Testaceous, antennae fuscous, legs ferruginous; elytra without costae, suture black, broader in ♀. Arizona.

4. *INTERMEDIUS* Ulke.

Smaller; antennae, legs, and head black; under surface yellow, trunk frequently, abdomen rarely blackish; pronotum more or less black; elytra yellow with humeral spot and sutural blotch more or less dilated, black. Colorado and New Mexico.

5. *PULCHELLUS* Lec.

b. Elytra less coarsely punctured, punctures smaller towards the tip;

Black, abdomen usually ferruginous; elytra rufo-testaceous, with basal margin, and usually the whole of the suture black, the blotch never very much dilated; front tibiae with a dense brush of hair on the inner side. Oregon.

6. *HIRTIPES* Lec.

C. Prothorax rounded on the sides, not angulated;

Dull testaceous, densely pubescent; punctures of elytra dense, finer behind, a short humeral vitta black, which in one specimen has a continuation near the tip (indicating that it may be entire in some individuals). New Mexico.

7. HUMERALIS Lec.

Bright red, antennæ, legs, postpectus, and head black; elytra coarsely punctured, punctures denser and somewhat smaller behind, basal band and sutural blotch black, the latter very broad in both sexes. Colorado.

8. DISCOIDEUS (Say).

517. *C. punctatus*. Niger, pube longa pallida vestitus, prothorace lateribus rotundatis medio angulatis, dense punctato, sæpe rufo; elytris grosse punctatis, punctis postice minoribus, rufo-testaceis, margine basali maculaque elongata suturali plus minusve dilatata nigris; subtus niger vel testaceus. Long. 13—17 mm.

Oregon, Lord Walsingham; California, Dr. Horn. Easily recognized by the coarser punctures of the elytra; the sutural blotch varies greatly; in one ♂ it is a very narrow line, in two others it is a large, oval, elongate spot; in two ♀ it is broader, with the sides straight and parallel.

6. *C. hirtipes* Lec., Proc. Acad. Nat. Sci. Phila., vii, 16. *C. suturalis* Lec., from New Mexico, is perhaps a local variety of this species, but the prothorax is less densely punctured, the basal margin of the elytra is not black, and the body beneath is rufo-testaceous, the hind tibiæ are a little sinuate on the inner side, and the hind tarsi rather broader, with the 1st joint less elongated in the single ♀ in my collection.

8. *C. discoideus*; *Callidium discoideum* Say, Journ. Acad. Nat. Sci. Phila., iii, 411; *Crossidius pulchrior* Bland, Proc. Ent. Soc. Phila., i, 272; this beautiful little species represents in miniature the red variety of *C. punctatus*; the sutural blotch is broad, with parallel sides, and extends to the side margin by curving outwards about one-fifth the length from the tip.

CYLLENE NEWM.

518. *C. brevipennis*. Nigro-picea, cinereo-pubescent, prothorace obscure ferrugineo, lateribus rotundato, versus basin utrinque vix excavato; elytris fasciis tribus angustis, base apiceque late testaceis, flavo-pubescentibus, antennis pedibusque ferrugineis; abdomine elytris multo longiore. Long. incl. abd. 18; excl. abd. 12.5 mm.

One specimen; Utah, collected by Dr. Leidy. The base of the prothorax is not excavated each side and the prosternum is not perpendicular behind; the species is easily recognized by

the length of the abdomen, as well as by the fasciæ of the elytra being less numerous than in the allies of *C. pictus*, and by the prothorax not being fasciate.

CLYTUS LAICH.

519. *C. lanifer*. Niger, flavo-pubescent, prothorace elytrorumque basi et sutura longius flavo-villosis, illo latitudine paulo longiore, basi constricto, lateribus subangulatim rotundatis, postice sinuatis, dense grosse punctato, linea brevi dorsali lævi; elytris sutura, fascia subbasali, altera transversa ad medium, 3iaque obliqua ante apicem flavis; scutello dense flavo-villoso; tibiis tarsisque ferrugineis. Long. 14 mm.

Owen's Valley, California; Dr. Horn. In the ♂ the antennæ are a little more than half the length of the body, and the front tarsi are much broader than in the ♀. The prothorax is quite distinctly tubularly constricted, and sinuate on the sides near the base; the hind tarsi are less slender than in *C. marginicollis*; the 1st joint is longer than the 2d and 3d, but not as long as all the others united. The front is short and rounded as in that species. It belongs to the *Ochrestes* group, but differs from any of the Mexican species which are thus far described.

XYLOTRECHUS CHEVR.

The markings of the elytra in all the species of this genus may be reduced to an elementary form, consisting of a scutellar spot, an arcuated band extending along the suture to a little in front of the middle; an oblique band behind the middle, and the apical margin, which are covered with pale or yellow hair. In front of the arcuated band is inclosed a marking which is variable in form being sometimes (e. g. *colonus*) a slender sinuated transverse line; sometimes, as in most of the species, a spot; sometimes as in the three following species a line, directed inwards and backwards, but reaching neither margin nor suture. The bicarinated frontal elevation also differs in form in the different species, and affords good characters for distinguishing them.

520. *X. convergens*. Fusco-piceus, cinereo-pubescent, prothorace latitudine sublongiore, asperato, lateribus late rotundatis, basi tubulatim constricto disco plagi 4 flavo-pilosis ornatis; elytris apice late rotundatis, breviter mucronatis, sutura tota, linea hamata a basi ad medium juxta suturam extensa, dein extrorsum antice curvata, strigam obliquam tenuem includente, linea tenui pone medium extrorsum retrover-

gente, margineque apicali tenui pallide flavo-pilosis; antennis pedibusque (clava femorali excepta) ferrugineis; fronte flavo-pilosa, umbone elongata, plana, argute marginata, antice acuta. Long. 11 mm.

Ohio, one specimen, which I owe to the kindness of Mr. H. Ulke. A very distinct species by the elytral markings, which are narrow lines of mixed yellow and white hairs, and consist of the entire suture, the usual curved fascia concave forwards about the middle, an oblique line behind the middle, and the apical margin; in front of the curved fascia is an oblique line running inwards and backwards from the humerus, but not attaining either the margin or the sutural line. The four thoracic spots of yellow hair are placed, two transverse ones on the front margin, and two discoidal behind the middle. The femora are strongly clubbed, and the hind pair extend to the tip of the abdomen.

521. X. insignis. Nigro-piceus pubescens, fronte, oculorum sinibus, prothorace margine apicali et basali, elytris maculis solitis latis flavo-pubescentibus, macula antea inclusa retrorsum intus obliqua; prothorace rotundato, basi tubulatim constricto, subtiliter muricato; elytris apice rotundatis; frontis umbone bicarinata, antice subacuta, subtus maculis et fasciis flavo-pubescentibus. Long. 20 mm.

California, Dr. Horn. Our largest and most conspicuous species; easily known by the wide bright yellow markings, which consist of: frontal spot, emargination of the eyes; front and hind margins of prothorax, (the former almost interrupted at the middle); a basal spot near the scutellum, and joining the yellow hind margin of that part; a curved band commencing behind the scutellum, running along the suture nearly to the middle, then transverse and slightly curved forwards to the margin; a slightly oblique band behind the middle, and a broad apical margin; beneath, side spots of the pro- and metathorax, the posterior half of the episterna of the metathorax, four broad bands on the ventral segments, and the whole of the 5th segment are similarly clothed with dense yellow pubescence.

522. X. obliteratus. Nigro-piceus cinereo irroratus, prothorace magis rotundato, subtilius asperato, basi haud tubulatim constricto; elytris maculis solitis angustis testaceis indistinctis, macula antica inclusa retrorsum intus obliqua; elytris apice rotundatis, umbone frontali latiore, antice obtusa, medio canaliculata, haud acute bicarinata; subtus immaculatus. Long. 15 mm.

Colorado, two specimens ; the markings of the elytra seem to be precisely as in *X. insignis*, but are narrow, and the black ground is sprinkled with short cinereous hair. The prothorax is more rounded on the sides, and not at all constricted at base.

This species is sometimes placed in collections as *X. mormonus* Lec., to which it has a strong resemblance in form, and by the indistinct markings, but differs by the asperities of the prothorax being very much finer, and by the frontal umbo, which in *X. mormonus* is broader, more acute in front, flat on the main surface, and margined by two sharp well-defined distant carinæ. The thighs are strongly clubbed, but do not extend to the tip of the abdomen.

NEOCLYTUS THOM.

N. muricatus ; Clytus mur. Kirby, Fauna Bor. Am. iv. 177
= *C. leucozonus* Gory and Laporte, Mon. pl. xvii, f. 105.

523. *N. torquatus*. Fusco-piceus pubescens, elongatus, prothorace latitudine longiore, carinulis brevibus transversis, serie triplici stis, (quarum antica media major est), margine apicali et basali, fasciaque transversa ad medium flavo pubescentibus ; elytris apice breviter acuminate, basi fasciisque tribus flavo-pubescentibus, antica a sutura paulo ascendente, alteris retrorsum obliquis ; subtus flavo-fasciatus, antennis pedibusque ferrugineo-fuscis, femoribus anticis dente subapicali spiniformi armatis. Long. 11 mm.

One specimen from Texas kindly sent me by Mr. A. Sallé. This species has the same form as *N. erythrocephalus*, but differs by the coarser sculpture of the prothorax (which is also less rounded on the sides), and by the bands of yellow pubescence ; on the elytra the two hinder bands are more oblique backwards from the suture, and the front one is directed as much forwards in this species, as it is backwards in *N. erythrocephalus*. The front thighs are armed beneath on the posterior margin at the tip with a long slightly curved spine, represented in allied species, in the form of an obtuse slightly prominent tooth ; the hind thighs extend to the tip of the abdomen.

N. longipes ; Clytus long. Kirby, Fauna Bor. Am. iv, 176. I have seen this species in Parisian collections named *N. fulguratus* Thomson. It appears to be rare in the North, but more frequent in Texas ; the dark-ground color of the elytra is sometimes thinly suffused with white pubescence, especially towards the base.

524. *N. balteatus*. Fusco-piceus, pubescens, prothorace latitudine paulo brevior, lateribus rotundatis, apice marginato, basi paulo angustiore, carinulis brevibus transversis serie media ornato, lateribus inordinatim asperatis, disco medio elevato, utrinque oblique declivi, fascia apicali basali et media (interrupta et saepe deficiente), flavo-pubescentibus; elytris apice breviter acuminatis, fasciis tribus, margine apicali, scutelloque flavo-pubescentibus; subtus flavo-pubescentibus, prothoracis lateribus, episternis metathoracis antice, coxisque omnibus obscuris; antennarum basi pedibusque ferrugineis. Long. 14 mm.

Oregon; collected by Lord Walsingham. Of the same form as *N. erythrocephalus*, with the short carinae of the prothorax fewer and less developed, the front one of the medial series being longer but scarcely higher than the others, the apex is distinctly margined; the middle fascia of the prothorax is feeble in one specimen, and slightly interrupted in the other, the apical and basal fasciae are broad, and unite beneath at the prosternum. The elytral fasciae are broad, the first and second are straight and transverse, the 3d inclines slightly backwards from the suture. The under surface is covered thickly with yellow hair in ♂, except on the flanks of the prothorax, and the front half of the side pieces of the metathorax; in the ♀ the yellow hair is much thinner, and the ground color appears to be ferruginous. The hind thighs of the ♂ extend beyond the tip of the abdomen, but not in the ♀.

525. *N. interruptus*. Fusco-piceus, pubescens, prothorace latitudine longiore, lateribus late rotundatis, apice marginato, basi angustiore, carinis transversis tribus ornato, 1mo pone apicem longiore, alteris pone medium brevibus, dense punctato et parce asperato, gutta parva basali media flavo-pubescente; elytris apice singulatim rotundatis, fasciis tribus scutelloque flavo-pubescentibus; 1ma nec marginem nec suturam attingente, 2nda et 3ia marginem non attingente, haec obliqua; subtus obscure ferrugineus, episternis metathoracis postice, segmentoque ventrali 1mo flavo-maculatis. Long. 10 mm.

One specimen; California, collected by Mr. J. Behrens, and communicated to me by Dr. Horn. This species is also allied to *N. erythrocephalus*, and in well-preserved specimens the markings beneath would perhaps be similar; but in the one examined there are only two spots of yellow pubescence on each side; one on the hind part of the metathoracic episterna, the other at the side of the 1st ventral segment on its hind margin.

14 June, 1873.

EUDERCES LEC.

526. *Eu. Reichei*. Piceo-ferrugineus, pilis longis erectis parvis vestitus, prothorace latitudine longiore, punctato, apice lævi, lateribus paulo rotundatis, basi late tubulatum pedunculato; elytris striga eburnea transversa haud obliqua ornatis, ante medium punctatis asperatis, basi paulo gibbosis, pone medium nigris politis. Long. 4—5 mm.

Texas; two specimens. I saw this species in the Oxford museum, and adopt the name there appended to it with great pleasure, as a deserved compliment to my excellent friend Mr. L. Reiche of Paris. It is smaller than *Eu. picipes*, and is easily distinguished from similarly colored varieties of that species by the prothorax being smooth near the apical margin, and not longitudinally plicate, but only punctured on the rest of the surface; the elytra are similarly sculptured, but the sub-basal tubercles are less developed, and the ivory band is exactly transverse, and not directly slightly backwards, as in that species. The antennæ are not spinose.

Eu. pini Fitch; *Call. pini Oliv.*, *Cl. piniadeus Fabr.*, *Gory*, and *Lap.*, incorrectly referred by Lacordaire to *Tillomorpha*, is closely allied to *Eu. picipes*, and varies in color in the same manner; the prothorax is plicate, smooth at the apex for a long distance as in *Reichei*, but the sides are rounded in a different manner from the other two species, being more prominent and subangulated at the middle. The elytra are velvety for a space behind the ivory band, which is slightly oblique as in *picipes*, but the sub-basal elevation is more developed, and there is an oblique band of silvery hair at one-third from the apex, which is frequently accompanied towards the suture by a shorter line placed in front of it.

The eyes are completely divided as in the other species, but the upper lobe is much smaller, and reduced in fact to a very few lenses, thus approaching the genus *Tillomorpha*, in which the upper lobe is entirely wanting.

527. *Eu. parallelus*. Niger, prothorace longitudinaliter plicato, latitudine paulo longiore, ovato, lateribus rotundatis, basi multo angustiore; elytris confertim postice subtilius punctatis, usque ad medium velutinis fasciis duabus eburneis transversis rectis parallelis ante medium signatis, anteriore tutus abbreviata; antennis haud spinosis. Long. 5 mm.

Lower California, Mr. Ulke. Very different by the double elytral ivory fasciæ, which are transverse, not at all oblique.

The anterior one extends from the suture to the outer third, the hinder one is entire. The eyes are completely divided, as in the other species of the genus, with the upper portion small, narrow, and oval.*

ZAGYMNUS LEO.

528. Z. clerinus. Niger, pube erecta pallida sat dense vestitus; supra confertim fortiter punctatus, capite thoraceque rubris; elytris parallelis, apice rotundatis sutura prominula, macula subscutellari fascisque duabus latis aurantiacis, his ad suturam interruptis et ad marginem conjunctis; subtus nitidus punctatus. Long. 13 mm.

* It is proper to note here the occurrence in Texas of *Gnaphalodes trachyderoides* Thoms., a remarkable Mexican species. The genus belongs to Group II of Cerambycini, and would be properly placed in the table (Classif. 302) before *Chion*, with the following definition:—

Prothorax with lateral spine behind the middle; antennæ densely fringed beneath, inner angle of joints 4-7 spinose; elytra bispinose at tip; episterna of metathorax wide, scent pores distinct. **GNAPHALODES.**

The scutellum is triangular, larger than in *Chion*, and the eyes are less coarsely granulated: the prosternum is perpendicular behind, and the mesosternum convex. The body is brown, uniformly clothed with gray-brown pubescence, paler and more dense on the scutellum.

Aneflus prolixus. Piceus, densa breviter cinereo-pubescent et pilis raris volatilibus pilosus, prothorace punctato, fere cylindrico, latitudine ongior, linea transversa tenui ante medium, tuberculoque utrinque prope basin ornato; elytris thorace latioribus, punctatis, punctis positice subtilioribus, alterisque majoribus piliferis intermixtis, apice longe bispinosis; antennarum articulis 3-6 spina brevi armatis. Long. 25 mm.

One pair, Cape San Lucas, Mr. Xantus. This fine species differs from the others by the antennæ being armed with small spines; they are very distinctly carinate, in the ♂ are nearly as long as the body, and in the ♀ scarcely two-thirds as long. The under surface and legs are finely pubescent, and speckled with darker punctures from which proceed the flying hairs. The 5th ventral of the ♂ is slightly truncate, emarginate. The last joint of the palpi is elongate triangular, less dilated than in *A. volitans*, and transversely truncate; the appearance of a transverse line across the disk of the prothorax in front of the middle is the result rather of the arrangement of the pubescence than of a positive elevation; the tubercle each side is transverse, near the base, and nearer the side than the median line; there are a few large scattered darker punctures upon the sides.

This fine species was overlooked in my boxes until too late to print the description on p. 186, where it properly belongs.

One specimen from Florida, given me by Dr. E. Brendel; another in the collection of Mr. Ulke is entirely black. I have mentioned, on p. 321 of the Classification, some of the structural differences between this and *Agallissus gratus* (Hald.), which entitle them to rank as distinct genera; and which may be briefly summed up as follows: in *Agallissus Dalman*, front quadrate oblique, prothorax rounded on the sides; elytra gradually narrowed behind, broadly truncate, and serrate at tip, with the sutural spine quite prominent; body finely punctured above, smooth beneath: in *Zagymnus*, front short, vertical, prothorax longer than wide, feebly rounded on the sides; elytra parallel, not narrowed behind, rounded at tip, with the sutural spine small, body very coarsely punctured above, moderately punctured beneath.

The narrow epipleuræ are in this tribe suddenly and strongly sinuate near the base, a singular character, which attracted my attention before I was acquainted with the description of *Dalman*, and induced me to place the only species known to me as a distinct primary group of the subfamily Cerambycidae.

NECYDALIS LINN.

529. *N. cavipennis*. *Elongatus, nigro-vel rufo-piceus, pube longa sericea flava dense vestitus, prothorace latitudine longiore, antice posticeque profunde constricto, lateribus bisinuatis medio obtuse tuberculatis, disco parce punctato, linea dorsali profunda utrinque abbreviata; elytris testaceis base apiceque fuscis, alutaceis, vix punctatis, planis, apice subito elevatis et tumidis, margine laterali paulo elevato; pedibus sæpe ferrugineis, antennis crassiusculis, articulo 4to contiguis sesqui brevioribus. Long. 18—22 mm.*

San Francisco, collected by Mr. J. Behrens. Of the same form as *N. lævicollis*, but easily known by the antennæ being stouter, with the 4th joint comparatively shorter; by the long and dense pubescence; by the prothorax (when the pubescence is abraded) being sparsely punctured, and by the elytra being impressed nearer the apex, and more suddenly concave. The color varies; one specimen is black, with exception of the disk of the elytra, and the peduncle of the thighs; in another the antennæ, legs, and elytra are ferruginous, with a dusky cloud on the latter.

LEPTALIA LEC.

This genus is established on *Anoplodera macilentæ* Mann. It is allied to *Encyclops*, having nearly the same form of head, con-

stricted suddenly but slightly, far behind the eyes, which are finely granulated, and feebly emarginate on the inner side; the hind angles of the head are obtuse and rounded; the antennæ are long and slender, as in *Encyclops*, and the 4th joint is a little shorter than the 3d and 5th, they are inserted well up on the front, which is less vertical than in *Encyclops*, and the mouth is a little longer. The last joint of the palpi is triangular and obliquely truncate. The prothorax is narrower than the head, longer than wide, deeply constricted before and behind, and the sides are obtusely but strongly dilated. The elytra are wider than the thorax, elongate, parallel, feebly truncate at tip. Legs slender, tarsi long, 1st joint of all much longer than the 2d, of the hind tarsi the 1st and 2d joints are feebly sulcate, with a narrow line of pubescence each side; 3d joint of all the tarsi dilated and deeply bilobed, as in *Encyclops*.

The species is black, densely punctured, the head and prothorax more finely than the elytra. Varieties occur with yellow elytra, with the suture and broad sublateral vitta black; *A. Frankenhæuseri* Mann., is a variety in which the elytra have only the black vitta, and the legs are testaceous; *Leptura fuscicollis* Lec. is a larger variety from California, of still paler color, the body being testaceous, and the elytral vitta very indistinct.

CENTRODERA LEC.

530. *C. nevadica*. Fusco-testacea, helvo-pubescent, prothorace confertim subtiliter punctato, latitudine vix longiore, convexo, leviter canaliculato, antice posticeque constricto, tuberculis lateralibus obtusis; elytris thorace sesqui latioribus apice rotundatis, subtilius versus basin antem distinctius punctatis; antennis (♀) corporis $\frac{2}{3}$ haud longioribus, articulo 4to 3to brevior, conjunctis 5to æqualibus. Long. 17 mm.

One female; Virginia City, Nevada, Mr. Edwards. By the obtuse tubercles of the prothorax this species resembles *C. sublineata*, but the punctuation is finer, the prothorax is scarcely narrower at tip than at base, and there is no appearance of lines on the elytra. The antennæ are shorter and stouter, but this is in part or in whole a sexual character, the ♀ of *C. sublineata* being unknown to me.

XYLOSTEUS FRIWALDSKY.

531. *X. ornatus*. Niger, capite thoraceque dense punctatis, elytris fortiter punctatis, maculis utrinque duabus flavis marginalibus ornatis, versus apicem subævibus. Long. 14 mm.

One female, Oregon; collected by Lord Walsingham, and kindly given me by Mr. G. R. Crotch. The antennæ are about three-fourths the length of the body. This species resembles entirely the figure of the European *X. Spinolæ*,* except that the basal and subapical spots of the elytra are wanting, and only the two marginal ones remain; these are transverse, and directed towards each other in a diagonal direction, and extend nearly one-half the breadth of the elytra. The genus is very closely allied to *Centrodera Lec.*, and differs only by the eyes being smaller, less transverse and less prominent, and by the sides of the head being prolonged behind the eyes, suddenly but feebly constricted at the base (somewhat as in *Encyclops*, etc., though to a less degree), instead of being obliquely narrowed to the neck. These differences are not generic in *Acmaeops*, nor is the form of the head and eyes constant in *Leptura*. I am therefore disposed to believe that the two genera are not sufficiently distinct. Those who agree to combine them will adopt the generic name *Xylosteus* as having many years priority over *Centrodera Lec.*

TOXOTUS SERV.

532. *T. obtusus.* Testaceus subtilissime pubescens, capite fusco, prothorace latitudine haud longiore, lateribus distincte tuberculo laterali obtuse rotundato, disco convexo, antice et postice transversim modice constricto, vage canaliculato; elytris vix punctulatis, fere parallelis, apice rotundatis; oculis parvis, subtiliter granulatis. Long. 15 mm.

One denuded specimen from Yellowstone basin, Dr. Horn, and another well preserved in Mr. Ulke's collection. Differs from all the other species before me by the less deeply constricted prothorax and more obtusely rounded lateral tubercles; the eyes are smaller than usual, and finely granulated, but more convex than in *T. vestitus*, with which it agrees in this character; the 3d and 5th joints of the antennæ are equal, and the 4th is two-thirds as long; the head is feebly narrowed behind, but not rounded on the sides. The pubescence is extremely short and fine. The species of this genus are not alike in the eyes; in *T. cinctus* and *T. opertus* they are much larger, and less finely granulated, than in any of the others.

* Vide Du Val, Gen. Col. Eur., iv. pl. 56, f. 262.

PACHYTA SERV.

533. *P. armata*. Nigra, opaca, pube erecta villosa, capite thoraceque confertissime punctatis, hoc apice et basi profunde constricto, basi multo latiore, spina laterali valida elongata, apice rotundata; elytris basi prothorace multo latioribus, postice sensim valde angustatis, apice truncatis, nitidis glabris, flavo-testaceis, pone medium extrorsum oblique nigris, parce punctatis, punctis versus humeros asperatis. Long. 19 mm.

Oregon; Mr. Ulke. Related to *P. liturata* Kirby (nitens Lec.), but much broader, with entirely different sculpture, and with much longer thoracic spines; the humeral regions of the elytra are very prominent, and the disk is broadly concave inside of them; a broad oblique groove runs from below the humeral prominence on to the dorsum of the elytra where it is lost; the black space extends along the outer margin obliquely from just behind the middle to the sutural tip. The antennæ and other organs are as in *P. liturata*.

534. *P. rugipennis*. Nigra, subænea, pube brevi minus subtili parce vestita, antennarum, femorum tibiarumque basi ferruginea; elytris apice rotundatis, rude punctatis, et lineis elevatis fortiter reticulatis, fascia transversa cerina angusta ad medium ornatis. Long. 13—16 mm.

One pair, Canada. The male has the antennæ two-thirds as long as the body, and the elytra slightly narrowed from the base; in the female the antennæ are shorter, and the elytra broader, and parallel on the sides. The head and thorax are densely and coarsely punctured, the latter narrower in front, with the usual transverse constrictions before and behind; the lateral tubercle is acute; the disk is feebly foveate each side, and the dorsal line is narrow and somewhat channelled. The sculpture of the elytra is very peculiar, consisting of a reticulation of smooth, strongly elevated lines with the depressed spaces coarsely punctured, from the punctures proceed rather coarse golden hairs; at the middle there is a narrow transverse waxy band.

I have seen specimens of this insect in the British Museum under the names *P. rugipennis* †Newman, and *P. bimaculata* †Dej. I have adopted the former as being more applicable.

ANTHOPHILAX LEC.

535. *A. tenebrosus*. Niger, subnitidus, capite thoraceque confertim subtilius punctatis, hoc antice posticeque modice constricto, tuberculo laterali brevi obtuso; elytris (♀) thorace latioribus, parallelis apice rotundatis, antice parce fortiter, versus suturam et pone medium subtiliter punctatis. Long. 12 mm.

One female; southeastern California, Dr. Horn. Not unlike in form the stouter species of *Acmæops*, but the eyes are larger, subtriangular, and strongly and broadly emarginate at the antero-interior side. The antennæ are a little more than half the length of the body, and stout; the 4th joint is two-thirds as long as the 5th, and a little shorter than the 3d. The punctures of the head and prothorax are rather fine, and the latter is not channelled. The elytra are somewhat shining, sparsely and not finely punctured at the base, and along the sides beyond the middle, the punctures becoming gradually finer towards the suture and behind, where the surface is nearly opaque.

A. mirificus Bland, is a much larger species, with much more coarsely punctured head and prothorax, the latter broadly channelled, and the elytra punctured and rugose before the middle, opaque and scarcely punctured behind. It is found in Colorado.

ACMÆOPS LEC.

I regret to say that owing to the want of sufficiently extensive sets of specimens I have unnecessarily multiplied the species of this genus, on slight differences in color, pubescence, or sculpture, which larger collections have shown to be merely individual, and not of specific value. With the increased material now accessible I would arrange the species as follows:—

A. Short stout species, with the head narrowed behind but not constricted, antennæ rather stout (except in thoracica), with the 4th joint distinctly shorter than the 5th; elytra of ♀ somewhat dilated on the sides.

a. Prothorax with the lateral angle distinct, sides, therefore, behind the middle concave in outline;

Black, prothorax yellow, densely pubescent, elytra densely punctured; base of tibiae yellow, var. *incerta* Bland. 1. *THORACICA* (Hald.)

Color variable, very slightly pubescent, elytra sparsely punctured, punctures larger towards the base. **α.** Thorax with two black spots, or black disk; elytra yellow with two black vittæ, legs yellow or black, *bivittata* Say. **β.** Yellow, head and elytra black, antennæ dusky, base testaceous

- nigripennis* Lec. γ . Black; varies with 1, legs yellow; 2, prothorax yellow; 3, prothorax yellow with two black spots, *varians* Lec. δ . Testaceous, head dusky, *fusciceps* Lec. 2. *BIVITTATA* (Say). Blackish-blue, elytra more coarsely and sparsely punctured (pubescent?) lateral angle of prothorax obtuse but less prominent. ϵ . *ATRA* Lec. Greenish-bronze, pubescent, elytra coarsely and sparsely punctured (general form less stout, and lateral angle of prothorax more rounded, and less prominent). 4. *SUBLINEA* Lec.
- b. Prothorax with the lateral angle rounded, not prominent, sides straight and parallel behind;
- Testaceous (feebly pubescent?) punctures of elytra irregular toward the base. 5. *PINGUIS* n. sp.
- Dark metallic, pubescence soft and long, elytra more densely punctured, more finely towards the tip. Varies, dark-blue, *tumida* Lec.; black, *lugens* Lec.; blue with longer and better preserved pubescence, *mollipilosa* Lec.; dark testaceous, sides blackish-bronze, *fusca* Lec. Smaller, elytra less densely punctured, *californica* Lec.; with elytra brighter blue, *subcyanea* Lec. 6. *TUMIDA* Lec.
- B. More elongate species, antennæ on a line with the front margin of the eyes, slender, 4th joint scarcely shorter than 5th; prothorax campanulate, constricted before and behind, hind angles frequently prominent, tarsi longer and more slender, with 3d joint rather more broadly bilobed; 1st and 2d joints of hind tarsi not brush-like beneath, (precisely as in *Leptura*).
- a. Disk of prothorax convex, channelled; elytra rounded at tip; hind angles of head obtusely rounded except in 10 and 11;
- Prothorax wider than long;
- Hind angles not prominent, elytra more densely punctured, with a red humeral spot. 7. *MILITARIS* Lec.
- Hind angles distinctly prominent, elytra less densely punctured, black sometimes testaceous. α . Elytra with testaceous vittæ, *dorsalis* Lec. *Subpilosa* was founded on abraded specimens; *lupina* Lec., on one in which the long pubescence is preserved. 8. *SUBPILOSA* Lec.
- Prothorax longer than wide, more strongly constricted in front;
- Elytra more sparsely punctured;
- Sides of head parallel behind the eyes. α . Elytra entirely black. β . Elytra with testaceous vittæ. γ . Elytra testaceous, margin black, *marginalis* Lec. 9. *LONGICORNIS* Kirby.
- Sides of head oblique behind the eyes; hind impression of prothorax deeper;
- Prothorax more densely punctured. 10. *VINCTA* Lec.
- Prothorax shining, less densely punctured. 11. *LIGATA* n. sp.
- Elytra more densely punctured with short pubescence, base red; head and prothorax clothed with golden hair, the former feebly, the latter strongly constricted at base. 12. *BASALIS* n. sp.

b. Disk of prothorax convex not channelled, sparsely and finely punctured, elytra rounded at tip;

* Sides of head behind the eyes straight, oblique; neck concave: ♂ with the front tibiae armed on the inner side with an obtuse tooth at the middle, outline concave from the tooth to the tip.

Testaceous, elytra coarsely punctured, with the suture, dorsal vitta and side margin (the latter sometimes interrupted into spots) black; *quadri-vittata* Linn, (vide *Hald.*). 13. *DIRECTA* Newm.

** Sides of head behind the eyes tumid, rounded, smooth, prothorax more deeply constricted behind; (♂ ?)

Black, with fine hoary pubescence, mouth and prothorax ferruginous.

14. *FALSA* Lec.

c. Disk of prothorax more or less flattened behind, and prolonged or elevated each side into a tubercle; elytra truncate at tip.

Prothoracic tubercles conical lateral; black, elytra opaque, base and side margin and sometimes the suture bright red. 15. *DISCOIDEA* (*Hald.*).

Prothoracic tubercles dorsal obtusely rounded; black, elytra shining, more distinctly punctured, black, striped, testaceous, or fuscous. *a.*

Tubercles less developed, *gibbula* Lec. 16. *PROTHORAX* (*Kirby*).

C. A moderately stout but small species, with the front and mouth extremely long, the antennae inserted in front of the line joining the anterior margin of the eyes; prothorax campanulate, constricted in front, wider and feebly constricted behind: tip of elytra truncate.

Black, elytra black, fuscous, or testaceous, sometimes with a dorsal vitta and tip fuscous, *strigilata* Fabr., *longiceps* Kirby, *fulvipennis* Mann.

17. *PRATENSIS* Laich.

536. *A. pinguis*. Fusco-testacea, pallide pubescens, obesa, prothorace latitudine brevior, lateribus postice parallelis, antice rotundatis, apice angustiore constricto, confertim punctato, spatio dorsali praecipue postice laevi; elytris latioribus convexis, parce punctatis, punctis postice subtilioribus, versus basin autem irregularibus, vittis indistinctis sublaevibus relictis. Long. 9 mm.

One specimen; California, Dr. Horn. A very stout species, shaped like *A. bivittata*, but with the sides of the prothorax straight and parallel behind the middle, as in *A. atra*, and quite distinct from them as from all others by the punctures of the basal half of the elytra being arranged so as to give the appearance of faint longitudinal stripes, of which the inner one runs obliquely forwards towards the humerus, so as to tend to unite with the others. The antennae and legs are dark piceous, the former rather stout, with the 3d and 4th joints equal.

537. *A. ligata*. Nigra nitida, breviter parce pubescens, elongata, capite confertim punctato, pone oculos oblique angustato, et late rotundato, prothorace latitudine longiore, antice et postice profunde constricto, dorso canaliculato, utrinque convexo, minus dense punctato, vitta dorsali lævi, lateribus subangulatis, angulis posticis paulo prominulis; elytris thorace latoribus apice rotundatis, profunde haud dense punctatis; antennis tenuibus elongatis. Long. 8—12 mm.

α. Elytris vittis duabus obliquis testaceis, interiore postice, exteriori antice abbreviata; antennis pedibus plus minusve testaceis.

β. Elytris testaceis, sutura nigricante; antennis pedibus plus minusve testaceis.

Montana; this species is closely allied to *A. longicornis* and *vineta*; but is distinguished from the former by less robust form, and by the head being obliquely narrowed behind the eyes, and from both by the prothorax being less densely punctured, more shining, and more constricted, especially at the base; the pubescence in all three is very short and sparse.

538. *A. basalis*. Nigra, capite thoraceque dense punctatis aureo-pilis, hoc antice posticeque constricto, lateribus obtuse tuberculatis, vel potius bisinuatis, linea dorsali lævi; elytris thorace latoribus, elongatis fere parallelis, apice subtruncatis, parce breviter albo-pubescentibus, punctatis, punctis postice subtilioribus, fascia basali rubra parcius punctata, femoribus anticis ferrugineis. Long. 10 mm.

California; Dr. Horn. A slender species, proportioned somewhat like *A. longicornis*, but with the elytra more flattened, and more densely punctured. The head is gradually narrowed behind the eyes, as usual, but is very distinctly constricted though not strongly at base, showing thus an affinity with the *Encyclops* tribe; I should be disposed to place it in that tribe, next to *Leptalia*, but the mouth is too long, and the front not sufficiently vertical to warrant it.

STRANGALIA SERV. emend. LEC.

The poriferous system of the antennæ is contained in small oval spaces, situated near the tip of the 6th and following joints, the 11th joint is not appendiculate, and has but one sensitive space each side, and not two, as in *Typocerus*; but in species 5 and 6 there is in ♂ an attempt at a double system of impressions on the 6th and following joints.

- A. Body very elongate; 5th ventral of ♂ very deeply excavated, so as to appear emarginate, lateral lobes thin, expanded; (elytra not fasciate).

* Hind tarsi with third joint scarcely emarginate;

Ferruginous, antennæ thicker; elytra more coarsely punctured with pale sutural markings, (4th ventral ♂ with a broad apical impression). Texas.

1. VIRILIS n. sp.

** Hind tarsi with 3d joint strongly emarginate;

Above testaceous, head sometimes fuscous, antennæ blackish, slender; prothorax with two broad black vittæ, elytra less coarsely punctured, with black marginal spots; beneath usually dark, abdomen sometimes, and legs partly, testaceous. (Varies entirely black, also entirely pale, with the antennæ, and parts of the legs dark). Atlantic States.

2. FAMELICA Newm.

Black, elytra more coarsely punctured, pale, with margin and suture blackish; tip less acuminate, and more distinctly truncate than in the preceding, than which it is smaller and more slender. (Varies entirely black.) Middle States.

3. ACUMINATA (Oliv.)

- B. Body very elongate, 5th ventral of ♂ more or less excavated, but not emarginate, lateral lobes not, or only moderately, expanded; 3d joint of hind tarsi emarginate;

Ferruginous, elytra with two transverse testaceous bands. Florida.

4. STRIGOSA Newm.

Rufo-testaceous, prothorax with two vittæ, elytra with three transverse bands black; hind thighs black at the tip. Atlantic States.

5. LUTEICORNIS (Fabr.)

Ferruginous, elytra black. Atlantic States.

6. BICOLOR (Swed.)

- C. Body less elongate, 5th ventral of ♂ only triangularly impressed; 6th joint of antennæ without sensitive spot.

Ferruginous, elytra paler, with three large spots extending from the margin nearly to the suture. Atlantic States.

7. 6-NOTATA Hald.

589. *S. virilis*. This species resembles in form *S. strigosa*, but is larger (15—19 mm.); the color above is ferruginous brown, thinly clothed with fine yellow pubescence. The antennæ (♂) are stouter than in any other species, and are about two-thirds the length of the body. The prothorax is one-third longer than the basal width, gradually narrowed in front, very feebly sinuate on the sides, not impressed behind, densely punctured with two fuscous badly defined vittæ; elytra acutely acuminate behind, and slightly dehiscent, extending to the tip of the 3d segment, more coarsely and less densely punctured than in *S. famelica*, with a scutellar spot, and two sub-sutural triangular ones connected along the suture, paler testaceous, and covered with yellow hair. Beneath fuscous, legs ferruginous, outer half of hind

thighs, tibia, and tarsi fuscous. The sexual characters are more strongly developed than in any other species in our fauna. The 5th abdominal ring is much swollen, the dorsal segment convex, the ventral one very deeply excavated, with the sides laminate, broadly impressed externally, and obtusely pointed at the end; the excavation occupies not only the whole of the under surface of the segment, but extends over half of the 4th ventral, as a shallow impression; the hind tibiae are thickened at the outer end, and acutely carinate on the inner margin for the lower third; the 3d joint of the hind tarsi is nearly one-half as long as the 2d, and scarcely emarginate. Texas.

TYPOCERUS Lec.

The species of this genus have not been increased since the publication of my first memoir on Cerambycidae; but as the study of typical specimens in the British Museum has enabled me to arrange definitely the synonymy of Mr. Newman's species, I have prepared the following table:—

A. Antennæ black with the 6th and following joints with impressed poriferous spaces; prothorax not strongly rounded on the sides:

a. Prothorax very coarsely punctured

* Prothorax margined before and behind with golden hair, legs ferruginous;

Elytra acutely acuminate, chestnut colored, with indistinct yellow bands; prothorax narrowed from the base, sides subsinuate; 1. *BADIUS*.

Elytra less acutely acuminate, obliquely truncate, black, with three bands and two basal spots yellow. 2. *ZEBRATUS*.

** Prothorax at base margined with grayish hair, legs and antennæ black;

Elytra with a broad angulated yellow spot extending from the base to the side margin, inclosing the humeral angle. 3. *LUNATUS*.

b. Prothorax more densely, less coarsely punctured; pubescence golden, denser at base and tip; legs ferruginous;

Elytra brown with four yellow bands, frequently imperfect or obsolete, tip sub-obliquely truncate, and feebly bispinose. 4. *VELUTINUS*.

Pubescence black, grayish at the base; body entirely black, tip of elytra obliquely truncate, shortly acuminate. 5. *LUUBRIS*.

B. Prothorax strongly punctured, much rounded on the sides before the middle; pubescence long, grayish, denser at the base, but not golden; elytra with four yellow bands, more or less confluent, the anterior one basal, the 2d and 3d frequently connected near the suture; tip subtruncate, not spinose; legs ferruginous, antennæ brown:

Antennæ stouter, 6th joint of, with large impression in ♂.

6. *BRUNNICORNIS* n. sp.

Antennæ more slender, joints 3—5 longer, 6th without impression in either sex.

7. *SINUATUS*.

1. *T. badius* Newm. Entomologist, 69. This species resembles *T. velutinus*, in the color of the elytra, but has the prothorax very coarsely punctured as in *T. zebratus*. In form it is similar to the latter but the elytra are more obliquely truncate at tip and more acutely acuminate, and the sides of the prothorax are feebly sinuate. Specimens may perhaps occur with perfect yellow elytral bands, but in the individual before me only a few traces remain. One ♂ from Florida was kindly given me in exchange by the British Museum.

2. *T. zebratus* Lec. J. Acad. Nat. Sci., 2d, 1, 334. *Leptura zebrata* Fabr. Syst. El. 2, 364; *L. zebra* Oliv. *L. carolina* Weber, Obs. Ent. 91.

3. *T. velutinus*. *Leptura velutina* Oliv., 73, 3, 32. *L. fugax* Fabr. Syst. El. 2, 359. *L. tenuior* Kirby, Fauna Bor. Am. iv., 181; *L. nobilis* Newman! Entom. 69.

540. *T. brunnicornis*. Niger, pallide pubescens, abdomine pedibusque ferrugineis, prothorace latitudine paulo brevior, a basi antrorsum angustato, lateribus ante medium rotundatis, confertim fortiter punctato, basi densius pubescente; elytris punctatis, punctis postice subtilioribus, subtiliter pubescentibus, apice truncatis, nigris, fascia lata basali alterisque tribus flavis; antennis fuscis basi ferrugineis. Articulo 5to apice latiore, sequentibus impressis. Long. 10—13 mm.

Texas; three males; the 2d and 3d elytral bands are a little wider towards the suture, which they do not quite reach; the hindmost band is a spot, also wider towards the suture but attains neither it nor the side margin; the tip is truncate not at all toothed.

This species exactly resembles in form and sculpture *T. sinuatus*, but differs by the elytra being more shining, and less pubescent, and by the antennæ being stouter, with the joints 3—5 obviously less slender, the 5th distinctly dilated at the outer end like the following joints, all of which are furnished with sensitive spaces.

7. *T. sinuatus* Lec., l. c. 335, *Leptura sinuata* Newm. *Stenura 8-notata* Hald. Varies greatly, the bands of the elytra bei g more or less developed, and the ground color either black or

brown; the dark portions tend to become confluent longitudinally between the side margin and the suture.

I have included under this name several forms which will be eventually placed as distinct species, but which I am unable at present to properly define, in consequence of want of sufficient material. They are follows:

- a. Antennæ of both sexes more slender than in the other forms, with moderately large sensitive spaces. Last ventral segment, in four specimens before me, subtruncate and slightly declivous at tip, anal plate simple, pygidium feebly emarginate; abdomen yellow in three specimens from the Middle States, dark in one specimen from Kansas; elytra yellow, with spots moderate in size, longitudinally confluent.
- β. Antennæ rather heavier than in α, longer in ♂, with moderately large sensitive spaces, shorter in ♀, with much smaller spaces. Last ventral segment of ♂ deeply excavated for nearly half its length; anal plate excavated and hairy, of ♀ subtruncate and feebly impressed, pygidium subtruncate in ♂, emarginate in ♀. Elytra in two specimens (♀) marked like the preceding, in three ♂ dark with narrow remnants of the yellow bands. Kansas.
- γ. Antennæ as in β, longer in ♂ with small sensitive spaces. Last ventral segment anal plate and pygidium of ♂, as in β; in ♀ with a transverse carina or plate near the tip; pygidium not emarginate; elytra castaneous, with faint traces of yellow spots, Indian Territory, Dr. Horn.
- δ. Antennæ as in β and γ, last ventral segment ♀ with a small elevated tubercle near the tip, pygidium not emarginate. Elytra with large spots, more or less confluent. Two ♀; Kansas.
- ε. Antennæ ♂, as in the preceding, but ferruginous, as are the legs and abdomen; last ventral feebly impressed as in ♀ of β, and pygidium very feebly emarginate. Elytra bright-yellow, with the spots clearly defined, the 1st and 3d forming bands. One specimen, Texas. (The pubescence seems shorter than in the other forms, but has been in great part abraded.)

LEPTURA LINN.

The species of this genus are very numerous, especially in the northern and northwestern parts of the continent, and may be conveniently arranged as follows:—

- A. Prothorax more or less triangular, or campanulate, widest at the base, hind angles prolonged; STENURA Serv.
 - a. Prothorax strongly narrowed from the base, which is broadly but deeply bisinuate, posterior transverse impression distinct; elytra widest at the base, gradually narrowed behind, truncate and emarginate at tip, which is not margined;

- * Antennæ feebly serrate; 5th ventral ♂ flattened, broadly truncate-emarginate, and bidentate; mouth short, hind angles of head more prominent;

Black, velvety pubescent, elytra red with the apex black;

Elytra not sulcate; prothorax sparsely punctured. 1. EMARGINATA.

Elytra sulcate; prothorax densely punctured. 2. GIGAS n. sp.

- ** Antennæ filiform; 5th ventral ♂ broadly truncate-emarginate and bidentate; mouth long, hind angles of head less prominent;

§ 1. Prothorax densely not finely punctured;

Elytra yellow, with anterior blotch (frequently wanting), medial band and apex black; feet varied black and yellow; sides and base of prothorax sometimes yellow, antennæ usually annulated;

Antennæ long and slender: α, tip of elytra ferruginous, *obliterata* Hald.;

β, tip of elytra black, *vitiosa* Lec.

3. OBLITERATA.

Antennæ stouter, not annulated, elytra with middle and posterior band black.

4. SOROR n. sp.

Elytra yellow, more obliquely truncate at tip, lateral spot near the middle, suture behind, and apex black; legs, antennæ, and body black.

5. PROPINQUA.

Elytra yellow, with vague medial and posterior bands interrupted at the suture, sides of prothorax, abdomen, and legs testaceous; tarsi, tip of posterior tibiae and hind femora fuscous; narrower than *obliterata* with the ♂ antennæ longer, and 11th joint very distinctly appendiculate, and prothorax more sinuate on the sides.

6. DELETA.

§ 2. Prothorax more finely punctured;

Black, elytra luteo-testaceous, tip blackish; 3d, 4th, and base of 5th ventral segments red; α, elytra black.

7. PLEBEJA.

More slender, antennæ annulate with yellow; ♂ black, base of legs yellow; elytra with base of epipleuræ yellow. 1 broad vitta dilated at base interrupted at the middle, and abbreviated two-thirds the length; *subhamata* Randall, *interrupta* Newm., *armata* Hald.; ♀ testaceous, disk of prothorax, scutellum, suture, side margin, transverse spot at middle of elytra, and tip black; legs varied with black; varies with the prothorax marked only with a narrow black vitta, *elegans* Lec.

8. SUBHAMATA.

§ 3. Prothorax strongly less densely punctured;

Much broader and stouter, hind impression of prothorax very deep, abdomen red, base and tip blackish: ♂ black, abdomen red, *abdominalis* Hald.; ♀ yellow, occiput, two prothoracic spots, knees, tips of tibiae, and tarsi black, elytra with side margin and oblique vitta yellow, *atrovittata* Bland; varies with the trunk fuscous, and prothorax with the disk black.

9. ABDOMINALIS.

Broad, black, prothorax deeply impressed behind, elytra sanguineous, with a very broad common discoidal stripe not reaching the base, abdomen sanguineous.

10. PLAGIFERA n. sp.

Smaller, black, prothorax less deeply impressed; elytra with a spot near the base, two bands, and a spot near the tip yellow. 11. *AMABILIS*.

§ 4. Prothorax densely punctured, feebly impressed; form slender;

Prothorax not sinuate on the sides, fuscous finely pubescent; elytra testaceous, suture, dorsal vitta, and submarginal spots blackish; legs testaceous, antennæ annulate; *indirecta* Newm., *cincta* Hald., *lateralis* Lec.

12. *LINEOLA*.

Black, clothed with short yellow pubescence, elytra dark testaceous, coarsely punctured, tip sometimes black. 13. *RUBIDA* n. sp.

b. Prothorax nearly smooth, strongly and gradually narrowed from the base, which is bisinuate, hind impression very deep; elytra very coarsely punctured, not narrowed, very dehiscent, rounded, subacuminate, and distinctly margined at tip;

Black, sides of elytra, metathorax, and abdomen red; thighs red, with the tips black. 14. *CRUENTATA*.

c. Prothorax punctured, without hind impression, campanulate but subquadrate, hind angles small; elytra parallel, genæ very short; 5th ventral ♂ ♀ rounded at tip;

* Elytra rounded and margined at tip;

Black, elytra blue, polished, coarsely and sparsely punctured, antennæ and legs either black or yellow. 15. *CHALYBÆA*.

Black, head and prothorax bright rufous;

Elytra shining, very coarsely punctured, tip subtruncate; prothorax without impressions. 16. *CAPITATA*.

Elytra densely not coarsely punctured, tip rounded; prothorax impressed near the hind angles. 17. *AMERICANA*.

Black, hoary with fine white pubescence, prothorax dull red.

18. *HÆMATITES*.

Black with white pubescence, head and prothorax golden-pubescent; prothorax yellow with a black discoidal spot, front thighs and base of middle thighs yellow. 19. *SAUCIA*.*

** Elytra scarcely or not margined at tip;

Dull-black, hoary with fine white pubescence, especially on the prothorax which is densely punctured; elytra coarsely punctured;

Head dull ferruginous; front legs and base of middle thighs testaceous.

20. *RUFICEPS*.

Entirely black.

21. *SUBARGENTATA*.

Black, legs and scape of antennæ ferruginous; *rufibasis* Lec.; a, tarsi, tip of hind thighs and part of hind tibiæ blackish. 21. *SIMILIS*.

* *L. nana* and *exigua* Newm. are allied to *saucia*; the first is black with the base of the thighs yellow, the second has the scape of the antennæ and front legs yellow, and the prothorax golden-pubescent; I have seen only the types in the British Museum.

15 June, 1873.

Dark-blue, elytra with red humeral spot sometimes wanting; *militaris*
Chev. 22. MOLYBDICA.

d. Prothorax transversely depressed at the base, convex, much rounded on the sides before the middle, hind angles small (except in *impura*); elytra at base wider than prothorax, more or less narrowed behind, usually black, spotted or banded with yellow; genæ moderately long (shorter in ***);

* Prothorax transversely excavated along the whole base, sides sinuate, tip strongly tubular; body beneath, margins of prothorax and elytral bands golden-pubescent; tip truncate, legs ferruginous;

Yellow bands broader at the suture;

Antennæ very stout, dark ferruginous.

23. LÆTA.

Antennæ more slender, nearly black; *quagga* Germ.

24. NITENS.

Bands equal straight, antennæ stout, blackish. 25. TRIBALTEATA n. sp.

** Prothorax feebly excavated each side near the hind angles; pubescence not golden;

Brownish-yellow, densely clothed with fine pubescence, hind angles of prothorax more explanate and prolonged; elytra with a faint lateral fuscous spot at the middle.

26. IMPURA.

Prothorax narrowed from the base, sides subsinuate; elytra yellow, with two marginal spots and tip black, the later dehiscent, not truncate.

27. CORDIFERA.

Prothorax not narrowed from the base, sides sinuate, rounded in front, elytra with yellow bands or spots variously confluent, sometimes entirely black; suture dehiscent, tip rounded; *instabilis* Hald., *convexa* Lec.

28. INSTABILIS.

Prothorax not wider than long, more finely and densely punctured, body less robust, elytra less dehiscent at tip, which is more broadly rounded, and scarcely margined; yellow with base, two bands and apex black; bands sometimes interrupted; *vezatrix* Mann.

29. SEXMACULATA.

Legs and antennæ ferruginous, elytra feebly dehiscent, tips more broadly rounded;

Very robust, black, elytral margin from base to middle, and two lateral spots yellow; tip scarcely margined.

30. QUADRATA n. sp.

Less robust, elytra yellow, entire margin black, a discoidal spot near the base, large lateral one near the middle, and transverse one near the tip black; tip distinctly margined.

31. SEXSPILOTA.

*** Prothorax broader than long, campanulate, transversely excavated or depressed along the whole base, sinuate on the sides, tip strongly constricted and tubular; pubescence not golden, elytra rounded and margined at tip; mouth and genæ rather stout;

Elytra testaceous with a large blotch behind the middle, extending to the margin but not the suture, and tip black.

32. MATTHEWSII.

Entirely black, more coarsely punctured.

33. GROSSA n. sp.

- e. Prothorax longer than wide, subcampanulate, with a deep transverse impression near the base, hind angles broad, laminate; color black, elytra sometimes testaceous, scarcely narrowed behind; antennæ with the 4th joint very short;

Prothorax coarsely, elytra very coarsely, punctured, truncate, and spinose; antennæ ♀ short, thickened externally. 34. *DREVICORNIS* n. sp.

Prothorax densely and coarsely punctured, antennæ slender, elytra sharply truncate at tip. 35. *NIURELLA*.

Prothorax sparsely punctured, antennæ slender, elytra feebly truncate at tip. 36. *CARBONATA*.

B. Prothorax more or less triangular or campanulate, widest at base, hind angles not prolonged. (Antennæ with $4\frac{1}{2}$ joints punctured, the remainder sericeous;) *LEPTURA* restrict. *Serville*.

- a. Antennæ annulated with yellow, 11th joint distinctly divided; elytra narrowed from the base, tip truncate and dentate; ♂ with antennæ serrate, and 5th ventral flattened triangularly, emarginate, and bidentate (sculpture usually coarse, prothorax deeply bisinuate at base with a deep transverse impression);

Elytra truncate-emarginate at tip; prothorax more deeply constricted behind; 11th joint of antennæ strongly appendiculate. ♂ antennæ strongly serrate, almost entirely black, *tenuicornis* Hald.; ♀ antennæ feebly serrate, annulate with yellow; a. Elytra coarsely punctured not shining; 1, base of elytra red, *canadensis* Fabr.; 2, elytra entirely red, *erythroptera* Kirby, *cinnamoptera* Hald.; β. Elytra almost cribrate, shining; 1, elytra entirely red, *cribripennis* Lec.; 2, elytra red at the base; 3, elytra entirely black. 37. *CANADENSIS*.

Black, prothorax and elytra bright red, more densely and finely punctured, antennæ not annulated. 38. *COCCINEA* n. sp.

Elytra truncate at tip, prothorax feebly constricted behind;

elytra entirely red, antennæ joints 1-5 black, 11th joint feebly appendiculate. ♂ antennæ feebly serrate, abdomen red; ♀ antennæ nearly filiform, abdomen black; *erythroptera* || Germ. 39. *RUBRICA*.

elytra pale, side margin and tip black. 40. *CIRCUMDATA*.

- b. Elytra narrowed from the base, very dehiscent at tip, which is rounded and indistinctly margined; prothorax feebly constricted at base, antennæ subserrate in ♂ with 11th joint feebly appendiculate;

Antennæ annulate with yellow, elytra very coarsely punctured, more or less testaceous, sometimes entirely black; ♂ with 5th ventral deeply excavated and emarginated. 41. *VAGANS*.

Antennæ entirely black, elytra less coarsely punctured (testaceous in the specimens examined); ♂ with 5th ventral less excavated and emarginated. 42. *DEHISCENS*.

- c. Antennæ not annulated, 11th joint scarcely appendiculate, elytra slightly narrowed from the base, truncate at tip; prothorax scarcely constricted behind;

- * Prothorax densely and coarsely punctured; 5th ventral in ♂ flattened and truncate;
 Elytra reddish, testaceous, fuscous towards the tip, which is transversely truncate. 43. SANGUINEA.*
- Elytra obliquely truncate at tip; ♂ entirely black, *lugens* Lec; ♀ elytra scarlet, with a subsutural spot before the middle, one near the side at the middle and tip black, *lætifica* Leo. 44. LÆTIFICA.
- Elytra testaceous, feebly truncate, apex and subapical band black; pubescence very long. 45. HIRTELLA n. sp.
- ** Prothorax less densely punctured; 5th ventral ♂ flattened and broadly rounded;
 Elytra obliquely truncate and subdentate at tip; black with yellow markings, consisting of a subcutellar spot, and two transverse bands connected at the suture, more or less interrupted. 46. QUADRILLUM.
- *** Prothorax coarsely punctured, elytra densely pubescent with golden hair arranged transversely, 5th ventral ♂ scarcely impressed;
 Elytra transversely truncate, frequently fuscous at the sides; α. pubescence of elytra longer and denser, *chrysocoma* Kirby; β. pubescence of elytra shorter, *auripilis* Lec. 47. CHRYSOCOMA.
- **** Prothorax usually densely and coarsely punctured, transversely impressed and constricted behind, disk more or less channelled; pubescence of elytra short and sparse; 5th ventral of ♂ scarcely impressed;
 First joint of middle tarsi as long as the two following; prothorax feebly impressed;
 Pubescence of prothorax golden, elytra testaceous, suture and lateral vitta extending to tip black. 48. NIGROLINEATA.
- Black, pubescence brown, elytra and legs testaceous, prothorax subannulated on the sides, elytra more coarsely punctured. 49. RUFULA.
- First joint of middle tarsi scarcely longer than 2d; (sides of elytra more sinuate);
 Elytra testaceous, tip black. 50. PROXIMA.
- Entirely black, (more robust in form). 51. ATRATA.
- First joint of middle tarsi as long as the two following, prothorax sparsely punctured, more deeply channelled and impressed; (hind angles of head more tumid, and nearly square, elytra elevated at the base);
 Fusco testaceous, elytra paler with a medial marginal dark spot, antennæ ♂ very long. 52. BIFORIS.
- Black, antennæ ♂ moderate. DOLORESA.
- d. Antennæ not annulated, 11th joint scarcely appendiculate, elytra elevated at the base, elongate, scarcely truncate, feebly narrowed from the base in ♂, not densely but very finely pubescent, yellow with black spots or bands; prothorax bell-shaped,

* Allied to the European *cincta* Fabr.

transversely impressed at base, which is more deeply sinuate than usual;

- * Hind angles of head nearly square, genæ rather long; ♂ with 5th ventral impressed, truncate, and emarginate;

Ferruginous, prothorax obtusely angulated on the sides, elytra with 3 bands and apex black, all connected at suture and margin, antennæ very stout.

53. CRASSICORNIS n. sp.

Legs entirely yellow, prothorax tolerably strongly sinuate on the sides; Abdomen usually yellow, sometimes banded with black, rarely almost entirely black, *fasciventris* Leo.

54. CRASSIPES.

Thighs and tips of tibiae dark, prothorax rather rounded than sinuate on the sides, abdomen black.

55. TIBIALIS.

- ** Hind angles short, tumid but obtuse, neck less constricted; prothorax less sinuate on the sides, more finely and less densely punctured, pubescence white, long, and fine;

Black, elytra with a basal spot, two bands connected near the suture, and a large spot near the tip, yellow; legs and abdomen ferruginous, tarsi dusky.

56. BEHRENSII n. sp.

- *** Hind angles of head very short, rounded; ♂ as above;

Blackish-blue, shining, prothorax feebly rounded on the sides, elytra slightly truncate at tip, with four pale yellow spots on each; base of thighs pale.

57. OCTONOTATA.

- e. Antennæ annulated, 11th joint not appendiculate, elytra not elevated at the base, elongate, parallel, truncate at tip; prothorax bell-shaped, constricted strongly at tip, and less strongly at base; hind angles of head obtuse, genæ moderate, front with a deep transverse impression;

Black, with fine sparse yellowish pubescence; head and prothorax finely, very densely punctured, elytra twice as wide as prothorax, punctured, more densely and a little more finely towards the tip; antennæ long and slender (♀), annulate with pale, legs ferruginous or fuscous.

58. PEDALIS.

- C. Prothorax constricted before and behind (except in a); hind angles not prolonged; last joint of palpi dilated, triangular, truncate, sometimes obliquely, sometimes transversely; hind angles of head obtuse and rounded, never square; elytra scarcely narrowed behind;

- a. Elytra protuberant at base; tip subtruncate, suture with a small spine; prothorax scarcely constricted, more deeply bisinuate at base;

- * Head prolonged behind the eyes;

Sparsely punctured, black, shining, elytra with a yellow vitta from base to behind the middle, usually sinuate, sometimes wanting.

59. VITTATA.

- ** Neck very near to the eyes;

Black, prothorax pubescent with erect hair, densely punctured, with a smooth dorsal vitta.

60. PUBERA.

- b. Elytra not protuberant at base, rounded at tip; prothorax very deeply constricted before and behind, sides strongly rounded, and disk very convex; head prolonged behind the eyes;

Black, front legs, base of thighs, and tibiae more or less yellow; prothorax sometimes red, very finely pubescent, nearly smooth; base punctured, *paupercula* Newm., *ruficollis* Say; *allecta* Newm. 61. SPHERICOLLIS.

Black, front legs, base of thighs, and tibiae more or less yellow, prothorax sparsely finely punctured, base punctured; elytra more coarsely punctured, with a yellow vitta extending from the base almost to the tip, sometimes interrupted near the tip, *nitidicollis* Horn. 62. VIBEX.

Testaceous, prothorax densely punctured, clothed with yellow pubescence; elytra more coarsely punctured, with a sutural and lateral black vitta, extending nearly to the tip. 63. AURATA.

Piceous or black, prothorax scarcely punctured, feebly pubescent; elytra less coarsely punctured, with three marginal spots and a sinuate black vitta extending from base for three-fourths the length, where it is confluent with the posterior spot; legs testaceous, hind thighs dusky at tip; a. Vitta reduced to a very short basal streak; and marginal spots to faint clouds. 64. SCRIPTA.

- c. Elytra not protuberant at base, rounded at tip, prothorax slightly constricted at base and at tip, sides tuberculate, head prolonged behind the eyes; antennae stout, 3d and 4th joints united equal to 5th;

Testaceous, elytra very coarsely punctured, with a small fuscous spot near the side about the middle. 65. GNATHOIDES n. sp.

D. Prothorax constricted before and behind, hind angles scarcely prolonged, but broadly and feebly lobed; elytra parallel, truncate at tip, and armed with a strong sutural spine; palpi not dilated, penultimate joint of maxillary nearly as long as last joint; hind angles of head short, rounded, genae moderate, mouth rather short, front with a deep transverse impression; antennae slender with 4½ joints punctured, remainder sericeous; 11th joint not appendiculate; ♂ with antennae longer, and 5th ventral broadly and deeply emarginate with angles acute;

Testaceous, finely pubescent, elytra with narrow sutural line, two small clouds near the base, and two about the middle fuscous, (very large species). 66. VALIDA.

E. Prothorax quadrate, slightly narrowed in front, not constricted but only feebly impressed behind, elytra feebly narrowed from the base, slightly truncate at tip; palpi as in B, with the last joint feebly dilated, truncate, and longer than the preceding; head suddenly narrowed behind, but not constricted, very short hind angles, rounded; antennae with 4½ joints punctured, the remainder sericeous 11th joint of antennae of ♂ very strongly appendiculate, 7th and following with a smooth feebly carinated line beneath;

- a. Elytra punctured;

Black, prothorax distinctly narrowed in front, pubescence short. a. Elytra dirty testaceous, *luridipennis* Hald.; 67. *MUTABILIS*.

Black, prothorax nearly square, pubescence long, erect, fuzzy.

68. *QUADRICOLLIS*.

b. Elytra rough with elevated points or granules;

Very black, thorax feebly bisinuate on the sides; antennæ not carinated, 11th joint not appendiculate. 69. *ASPERA*.

F. Prothorax constricted before and behind, wider at base, hind angles not prolonged; elytra wider, parallel, rounded at tip; head suddenly narrowed far behind the eyes, but not constricted, hind angles therefore long, broadly rounded; eyes not emarginate, antennæ inserted a little behind the front margin of the eyes, slender, with 4½ joints punctured, the remainder sericeous, 11th joint simple; genæ rather short, palpi with last joint triangular, truncate, as in *L. vittata*; this group differs from *Acmaeops* chiefly by the position of the antennæ;

Black, antennæ brown, front legs ferruginous, with knees, tip of tibiæ, and tarsi dark; head and prothorax longer than wide, densely and finely punctured, the latter subcanaliculate, with smooth narrow dorsal space.

70. *CUBITALIS*.

Prothorax not longer than wide, more densely punctured, elytra and legs testaceous.

71. *SPURIA*.

541. *L. gigas*. Niger pubescens, prothorace dense subtiliter punctato, dorso utrinque late deplanato, linea dorsali subelevata; elytris late fulvis, quadrisulcatis, apice nigris, emarginatis, bispinosis. Long. 35 mm.

The specimens commonly called *L. emarginata* from Texas differ from the northern individuals by the prothorax much more densely punctured, the disk more impressed each side, the dorsal line more elevated, the posterior impression less curved, the middle lobe of the base with a distinct transverse elevation near the margin, and finally by the elytra being each marked with four vague wide grooves, reaching neither the base nor the tip, and presenting somewhat the appearance observed in *Tragidion*.

542. *L. soror*. Testacea, flavo-pubescens, prothorace toto vel disco solo nigro, postice vage impresso; elytris fascia media alteraque ante apicem nigris, apice acuminatis, occipite pectorisque lateribus nigris; antennis validiusculis fuscis, vix annulatis. Long. 12 mm.

California; Dr. Horn. This is so closely allied to the lighter colored varieties of *L. oblitterata*, that it might be viewed as a less developed Southern race of that species. Nevertheless the elytra are less distinctly obliquely truncate at tip, so as to become rather rounded, and acutely acuminate; the antennæ are also stouter

in both sexes, and the 4th joint is more distinctly shorter than the 5th. The color varies quite as much as in *L. oblitterata*, though I have never seen a specimen of *soror* with the antemedial spot, which is but rarely absent in the former. The prothorax is sometimes entirely black, sometimes with the disk and prosternum black, and all the margins yellow; the head is usually black, with the mouth, and antennal tubercles yellow; the trunk is sometimes entirely black, sometimes black only at the sides; the legs are testaceous, with the tarsi darker, and in one specimen the hind thighs are dusky at tip. The sexual characters are as in *L. oblitterata*.

543. *L. plagifera*. Nigra, breviter pubescens, prothorace haud dense punctato, latitudine vix longiore, antrosum valde angustato, lateribus ante medium subangulatis, angulis posticis productis, ante basin transversim impresso, et breviter subcanaliculato; elytris haud dense subtilius punctatis, postice dehiscens, oblique truncatis et acuminatis, sanguineis, vitta communi lata nigra pone basin ad apicem extensa; abdomine sanguineo, tibiis ferrugineis apice fuscis. Long. 13 mm.

One female. Lake Tahoe, Sierra Nevada; Mr. Edwards. Quite distinct by the characters above given; to be placed next to *L. abdominalis* Hald. The thoracic impression is angulated at the middle and extends to the sides; the pubescence of the prothorax is short and erect, that of the elytra is very short, and at first sight not conspicuous. The genae are long, and the palpi slender as in the other species of the group.

544. *L. rubida*. Nigra, pube subtili fulva parca vestita, capite thoraceque confertim subtilius punctatis, illo angulis posticis brevibus rotundatis, genis mediooribus; hoc latitudine longiore, apice angustiore, lateribus late rotundatis, angulis posticis parvis acutis, basi utrinque late concavo; elytris fusco-testaceis, fortiter haud dense punctatis, fere parallelis, apice oblique subtruncatis vix marginatis; pedibus plus minusve ferrugineo-fuscis. Long. 13 mm.

One specimen; California. The pubescence is very fine, and is grayish beneath, though yellowish above. It is easily distinguished from the other species of the group by the larger size and different color. The general form is the same as in *L. subargentina*, etc.

545. *L. tribalteata*. Nigra, prothorace subtusque dense aureo-pubescent; prothorace campanulato, basi transversim excavato, angulis posticis acutis; elytris punctulatis, dense breviter pubescentibus, late flavis,

fasciis tribus transversis rectis apiceque nigris, apice oblique truncatis; pedibus rufo-testaceis, antennis validis nigris. Long. 10 mm.

One ♂ specimen; Owens' Valley, Dr. Horn. Allied to *L. læta* Lec., and having the antennæ equally thick, but differing from both it and *L. nitens* by the elytral fasciæ narrower and perfectly straight, so that the yellow predominates, while in the species just named the black is the ground color; the bead of the suture and a narrow basal margin are also black.

546. *L. quadrata*. Robusta nigra, breviter fulvo-pubescens, capite thoraceque confertim punctatis, illo angulis posticis brevibus rectis rotundatis, genis oreque sat prolongatis; hoc lateribus pone medium fere parallelis, antice obliquis, apice fortiter constricto, basi declivi, et utrinque vage concavo, angulis posticis parvis acutis; elytris subparallelis (♀), apice parum dehiscentibus rotundatis et marginatis, subtilius punctatis, macula laterali ad medium alteraque ad dodrantem parvis pallidis; antennis pedibusque ferrugineis. Long. 11 mm.

One specimen; Saskatchewan. I would be tempted to place this as one of the varieties of the Protean *L. instabilis*, but the elytra are less dehiscent and more broadly rounded at tip, the antennæ and legs are ferruginous, (always black in *instabilis*), and the pubescence is very short.

547. *L. grossa*. Crassa, nigra opaca, subtus brevissime cano-pubescent, (supra glabra?) capite thoraceque dense punctatis, illo angulis posticis tumidis rectis rotundatis, genis oreque mediocribus; prothorace latitudine brevior antrosum multo angustiore et fortiter marginato, basi transversim depresso, lateribus subsinuatis, angulis posticis acutis, disco utrinque vage foveato, subcanaliculato; elytris sat dense punctatis, fere parallelis, apice rotundatis et marginatis. Long. 18 mm.

One ♀; California, Dr. Horn. Quite different from the neighboring species by the coarser punctuation; the sides of the thorax are subsinuate and less distinctly angulated than in *L. instabilis*, and the mouth and genæ are shorter. In this latter character it resembles *L. Matthewsii*; the form is, however, stouter, the antennæ thicker, and the punctuation much coarser.

Since publishing the description of *L. Matthewsii* I have received from the same collection a male. It differs by less robust form, and very long antennæ, one-fourth longer in fact than the body, and stouter than in the ♀. There is scarcely any ventral difference between the two sexes. The apical blotch of the ely-

tra is wanting, and the post-medial is reduced to a small cloud, almost as in *L. biforis*.

548. *L. brevicornis*. Nigra, sat robusta, opaca, capite dense, prothorace rude punctato, hoc campanulato, ad basin transversim profunde depresso, angulis posticis laminatis; elytris antice grosse, postice fortiter punctatis, apice oblique truncatis et breviter acuminatis; antennis (♀) brevibus, extorsum crassioribus, articulis 8—10 crassities haud longioribus. Long. 19 mm.

Virginia City, Nevada; Mr. Edwards. Allied to *L. nigrella* Say, but stouter, much more coarsely punctured, and with quite different antennæ; the 3d joint is two and a half times as long as the 2d, the 4th is two-thirds the length of the 3d; the 5th is fully twice as long as the 3d, the 6th and 7th shorter and wider, 8th, 9th, and 10th, stouter and shorter, almost wider than long, subtriangular, somewhat rounded, 11th larger, oval, rather pointed. The total length barely extends beyond the base of the prothorax.

549. *L. coccinea*. Nigra, fulvo-pubescent, prothorace elytrisque late rubris, illo dense punctato, latitudine baseos haud brevior, antorsum magis angustato et constricto, postice constricto, angulis paulo laminatis, lateribus rotundatis; elytris confertim punctatis, postice paulo angustatis, apice oblique truncatis, spina exteriori longiore; tibiis tarsisque ferrugineis, antennis ♀ haud annulatis. Long. 17 mm.

California; Mr. Ulke. Of the same form as *L. canadensis*, but easily known by the finer punctuation, and differences in color.

550. *L. hirtella*. Nigra opaca, pubescens, capite postice, prothorace elytrorumque basi longius pilosis, fere lanuginosis, illis confertissime subtiliter punctatis; elytris a basi angustatis, apice subtruncatis, testaceis macula subapicali apiceque nigris; tibiis testaceis apice nigris. Long. 10 mm.

One ♂; Labrador; Dr. A. S. Packard. Easily distinguished by the very long hair of the head, prothorax, and front part of the elytra. The mouth is short, the genæ moderate, the hind angles of the head short, square, rounded; the prothorax a little longer than wide, campanulate, sides parallel behind, rounded in front, constricted at tip, convexly declivous at base, angles not prolonged. Antennæ long, subserrate (last joint?). Last ventral segment feebly channelled, truncate, and slightly emarginate, with the angles acute, and dentiform.

The 5th ventral in *L. sanguinea* ♂ is truncate, but not dentate, in *L. lætifica* and *quadrillum*, it is feebly impressed, but broadly rounded, as in the ♀.

551. *L. crassicornis*. Ferrugineus nitidus, elytris parce subtilius punctatis fasciis tribus apiceque nigris, omnibus ad suturam et marginem connexis; prothorace confertim, antice subtilius punctato, apice basique constricto, lateribus antice obliquis, dein obtuse angulatis et fere parallelis, basi fortiter bisinuato; elytris ad basin planiusculis fortiter lobatis, apice rotundatim subtruncatis; antennulis validis (♀) corporis dimidio haud longioribus. Long. 15 mm.

California; Mr. Ulke. Allied to *L. crassipes* Lec., but much larger, differing in color, with the antennæ very much stouter and shorter.

552. *L. Behrensii*. Elongata nigra, subnitida, pube alba tenui longiuscula parce vestita; capite thoraceque subtiliter punctatis, hoc latitudine longiore, antorsum angustiore, lateribus subsinuatis et late rotundatis, apice basique transversim constrictis, basi profunde bisinuata, angulis posticis subacutis haud prolongatis; elytris parallelis, apice subtruncatis, antice planiusculis haud impressis, haud dense punctatis, iacula subscutellari, plaga maxima maculam lateralem includente, maculaque prope apicem flavis, abdomine pedibusque ferrugineis, genubus tarsisque fuscis. Long. 17 mm.

One ♀; Mendocino, California, sent by Mr. Jas. Behrens to Dr. Horn. This species is apparently the western analogue of *L. 8-notata*, but is much larger, and the spots are differently formed and arranged. It gives me much pleasure to dedicate this species to the industrious and intelligent gentleman by whom it was collected, who by his labors has greatly added to our knowledge of the entomological fauna of the Pacific States.

The antennæ are slender, more than half the length of the body, the 4th joint about two-thirds the length of the 5th joint. The spots on the elytra are pale yellow; one near the base, extending obliquely inwards, an oblique fascia running from the margin a little in front of the middle, a second broader fascia behind the middle, connected with the first near the suture, so as to inclose a large subquadrate lateral spot; another large spot near the tip, attaining neither the suture nor margin.

Should the yellow spots be greatly extended, and the black reduced, varieties might occur somewhat resembling some varieties of *L. crassipes*, but would be at once distinguished by the diffe-

rent form of the prothorax, which is less convex, less rounded on the sides and less punctured, by the finer pubescence, and by the elytra being less protuberant at the base, with a less deep intra-humeral impression.

553. *L. gnathoides*. Testacea, parce subtiliter pubescens, thorace confertim punctato, latitudine sesqui longiore antice posticeque subconstricto, apice angustiore, lateribus sinuatis, antice medium obtuse tuberculatis; elytris parallelis, apice rotundatis, gutta parva sublaterali picea versum medium ornatis, grosse punctatis, punctis postice aensim minoribus; antennis (♂) validis, articulo 4to 3to brevior, 5to illis conjunctis æquali. Long. 9 mm.

One male; Oregon, Mr. Edwards. The head is square behind with rounded angles, the genæ moderately short, and the palpi dilated as in *L. scripta*, and the others of that group (C-b); but it is remarkably different by the antennæ which are stout, with the 3d and 4th joints much shorter, and united only equal to the 5th. The sculpture of the elytra is very coarse, and the general appearance recalls *Gnathium* of the Meloidæ.

554. *L. aspera*. Nigra, opaca, capite thoraceque dense punctatis, hoc latitudine longiore, antrosum sensim angustato, lateribus bisinuato, et vage transversim impresso, dorso late vage canaliculato, et utrinque late foveato; elytris basi thorace plus sesqui latioribus, postice parum angustatis, apice subtruncatis, dorso planis, granulis parvis minus dense asperatis. Long. 9—13 mm.

Vanconver Island; Messrs. Matthews. Entirely similar in form and appearance to *L. mutabilis*, but the thoracic impressions, though broad and shallow, are well defined; the proportion of the antennal joints is about the same, the 3d and 4th united being a little longer than the 5th; the outer joints are, however, not carinated beneath, and the 11th joint is not appendiculate. The antennæ are longer than the body in the ♂, and shorter in the ♀. The body beneath is pruinose, with very short whitish pubescence.

555. *L. spuria*. Nigra, cinereo-pubescens, capite thoraceque confertim subtiliter punctatis, hoc antice posticeque constricto, convexo, subcanaliculato, lateribus postice parallelis, antice obliquis, angulis posticis subprominulis; elytris parallelis, apice rotundatis, sat fortiter punctatis. Long. 11 mm.

Oregon and Washington Territory; one pair. The antennæ in the male are slender, nearly four-fifths the length of the body; scarcely more than half the length of the body in the ♀.

This and *L. cubitalis* form a peculiar group in the genus, having the eyes scarcely emarginate on the inner margin, and the 3d joint of the tarsi broader and more deeply bilobed than usual, agreeing in these characters with *Acmaeops*; the head is much less constricted behind than in other *Lepturæ*, although it is suddenly narrowed, and the angles are rectangular and rounded, almost as in *Encyclops*; the front is, however, not vertical, the transverse impression is deep, the genæ rather short, the epistoma and mouth moderately long; the last joint of the palpi is but feebly dilated, and squarely truncate, longer than the preceding, as usual.

I would associate these species with the 2d division of *Acmaeops*, but the antennæ seem to be inserted rather behind the line joining the front of the eyes, as in other *Lepturæ*, and the general appearance is more suggestive of the latter genus. They would, however, be equally well placed in either.

MONILEMA SAY.

A. Scape of antennæ feebly punctured, or nearly smooth;

a. Scape of antennæ acute inwards at tip;

Disk of elytra flattened, sides suddenly inflexed; prothorax cylindrical.

1. APPRESSUM *Lec.*

Elytra very convex; prothorax with a feeble lateral tubercle or spine, sides subsinuate.

2. ANNULATUM *Say.*

b. Scape of antennæ cylindrical at tip;

a. Body variegated with a network of white pubescence; sides of elytra suddenly inflexed;

Lateral tubercle of prothorax well-developed. 3. ALBOPICTUM *White.*

β. Sides of elytra suddenly inflexed; color uniform black, antennæ alone partly cinereous;

* 3d joint of antennæ annulated;

Lateral spine of prothorax long, acute; disk of elytra flattened; (punctures variable, sometimes very few).

4. GIGAS *n. sp.*

** 3-7 joints of antennæ annulated;

Prothorax sparsely punctured, lateral spine large, acute, disk of elytra not flattened;

5. FORTE *n. sp.*

Prothorax sparsely punctured at base and apex, lateral spine small, directed upwards, elytra not flattened.

6. SEMIPUNCTATUM *Lec.*

Prothorax with a few punctures near the base, lateral spine small, directed upwards; disk of elytra not flattened, (punctures variable, sometimes very few).

7. ARMATUM *Lec.*

Prothorax nearly smooth, lateral tubercle very feeble and obtuse; elytra with a few large punctures towards the sides. 8. *LÆVIGATUM* Bland.

γ. Elytra wider, sides more convex, lateral tubercle of prothorax small, subacute, horizontal;

Body stouter, uniform black, elytra very convex. 9. *CRASSUM* Lec.

δ. Prothorax strongly, not densely punctured, sides scarcely tuberculate, elytra roughly punctured before the middle, sides suddenly inflexed. 10. *OBTUSUM* n. sp.

B. Scape of antennæ strongly punctured, cylindrical at tip;

Body more elongate (as in *M. armatum*); prothorax nearly cylindrical without lateral spine. 11. *SUBRUGOSUM* Bland.

556 *M. gigas*. Nigrum nitidum, prothorace punctis perpaucis notato, lineaque basali majorum, spina laterali elongata acuta; elytris antice grosse punctatis, dorso deplanatis, lateribus subito deflexis; antennis scapo haud mucronato, articulo 3io usque ad medium cinereo-pubescente. Long. 37 mm.

Arizona; Dr. Horn and Mr. Ulke. Easily known by the very large size, the extremely long thoracic spines, and only the 4th joint of the antennæ with a broad, cinereous band. The elytral punctures in one specimen are numerous, in the other very few.

557. *M. forte*. Nigrum subnitidum, prothorace parce fortiter punctato, punctis postice sat densis, spina laterali acuta; elytris subrugosis, basi præcipue versus latera grosse punctatis et asperatis, dorso convexiusculo, lateribus subito deflexis; antennis scapo haud mucronato, articulis 3—7 basi cinereis, 8—11 totis cinereis. Long. 32 mm.

Arizona; Mr. Ulke, also a very large species, but easily distinguished from the preceding by the prothorax being more punctured, the spines shorter, the antennæ annulate, and the elytra less flattened on the back. It may perhaps be an extremely well developed form of *M. semipunctatum* Lec., but in the absence of a full series of specimens it would be hazardous to unite them.

558. *M. obtusum*. Nigrum subnitidum, prothorace parce fortiter punctato, lateribus subsinuatis haud spinoso; elytris ante medium asperato-punctatis, dorso modice convexis, lateribus subito inflexis; antennis scapo haud mucronato, articulis 3—7 basi cinereo-pubescentibus. Long. 20 mm.

Utah; Mr. Ulke. Of the same form as *M. appressum* Lec. but with the elytra less flattened on the back, and the scape of the antennæ not mucronate; the cinereous bands of the antennæ are gradually shorter, so that the one on the 7th joint is very small.

MONOHAMMUS SERV.

The species infest pine trees throughout the whole extent of the United States, and contiguous northern regions. They may, following the arrangement proposed by Lacordaire, be tabulated thus:—

A. Elytra rounded at tip, suture prolonged;

Brown, elytra mottled with quadrate patches of brown and gray pubescence; sutural spine acute; prothorax rather smooth, sparsely punctured, lateral spine larger but less acute than in the next species.

1. TITILLATOR (Oliv.).

Smaller, brown, elytra more cylindrical, with some patches of fulvous hair in front of the middle, sutural spine larger and obtuse; prothorax more punctured and rugose, lateral spine more acute. Length 14—18 mm. Georgia.*

2. MINOR n. sp.

Dark blackish-brown, with metallic gloss, elytra with gray pubescence, varied with quadrate patches of dark-brown hair, sutural spine obtuse; prothorax strongly punctured and rugose, spines acute densely clothed with whitish pubescence.

3. MACULOSUS Hald.

Blackish, with a dull leaden gloss, elytra as in the preceding, but the punctures are stronger, and tend to coalesce into transverse rugæ; prothorax less punctured but more rugose, lateral spines less densely clothed with yellowish-white pubescence.

4. CLAMATOR Lec.

B. Elytra rounded at tip, suture not prolonged;

Black with bronzed lustre; scutellum densely clothed with white hair, elytra with a few small spots of white pubescence.

5. SCUTELLATUS (Say).

Black with more leaden lustre; scutellum clothed with white hair, but with a denuded medial stripe; elytra with more abundant small patches of white pubescence, punctures more disposed to form transverse rugæ. Length 17—24 mm. Oregon and Washington Territory.

6. OREGONENSIS n. sp.

Gray, clothed with fine rather close gray pubescence, prothorax much less punctured and rugose, elytra with small patches of blackish-brown hair.

7. CONFUSOR Kirby.

C. Elytra gradually obliquely narrowed at the tip, suture not spinose;

Brown, elytra beautifully ornamented with large quadrate spots of fulvous cream-colored pubescence, and denuded spots: *M. fautor* Lec.; *acutus* Lac.

8. MARMORATUS (Rand).

* I have one specimen labelled Canada, but the locality seems doubtful.

LOPHOPCEUM BATES.

559. *L. volitans*. Fuscum dense pubescens, pilis volatilibus elongatis villosum, prothoracæ spina laterali acuta; elytris lateribus subito deflexis, bicarinatis, carina exteriore ad medium postice abbreviata, fusco maculatis, macula elongata selliformi scutelloque pallidioribus. Long. 5—8 mm.

Cape San Lucas; Mr. Xantus. This species seems to agree more nearly with the genus to which I have referred it than with any other of which I can find description. I should refer it to *Pogonocherus*, since the front coxal cavities are angulated externally nearly as much as in that genus, but the scape of the antennæ is much longer and more slender, as in *Leptostylus*, and extends to the lateral spine of the prothorax. The antennæ are about one-fourth longer than the body, and clothed on all sides with long hairs, the 3d and 4th joints are nearly equal, the 5th and following diminish rapidly in length. The prosternum is rather narrow between the coxæ, the mesosternum not wide, truncate and subemarginate behind, the middle coxal cavities angulated externally, though not open.

The body is clothed with dense pale brown pubescence, the antennæ are annulated and punctured with darker, the disk of the prothorax is mottled with darker, and the lateral spines are acute; the base, sides, and tip of elytra are dark, with still darker spots, leaving an elongate common spot of pale gray, emarginate in front and at the sides, extending from the humeri for two-thirds the length, limited, for one-half its length by a well-defined carina, extending from the humerus, and becoming obsolete near the tip, which is rounded; outside of this carina is a shorter one, also proceeding from the humerus, and abbreviated at the middle. The body beneath is clothed with pale-brown pubescence, and the groove and tubercle of the middle tibiæ are feeble. The flying hairs are very long and numerous.

LEPTOSTYLUS Lec.

The species may be arranged as follows:—

- A. Elytra more broadly and regularly rounded at tip; lateral tubercles of prothorax not prominent, broadly rounded. PALMERI n. sp.
- B. Elytra more obliquely narrowed behind, obliquely subtruncate, or separately rounded;
Elytra very rough with asperities. ACULIFER Say.

Asperities feeble, arranged in rows;

* Elytra flattened on the disk in front;

Elytra with a white fascia behind the middle, lateral tubercle of prothorax very broadly rounded. *PLANIDORSUS* n. sp.

** Elytra not flattened on the disk; pubescence concealing the punctures;

Elytra less prolonged behind, lateral tubercle of prothorax broadly rounded. *BIUSTUS* Lec.

Elytra more prolonged behind, lateral tubercle of prothorax obtuse but not rounded. *ALBIDUS* Lec.

Elytra less prolonged, lateral tubercle obtuse not rounded, (much smaller). *PARVUS* n. sp.

*** Elytra not flattened on the disk; pubescence not concealing the punctures;

Elytra obliquely rounded, truncate at tip; not fasciate with white;
Punctures of elytra rather fine, lateral tubercle of prothorax rounded. *COLLARIS* Hald.

Punctures of elytra very coarse;

Larger, lateral tubercle of prothorax obtuse, rounded. *PERPLEXUS* Hald.

Smaller, tubercle of prothorax obtuse, not rounded. *CONVEXUS* Hald.

Elytra more broadly rounded, truncate at tip, prothorax with very obtuse rounded lateral tubercle and black spots, and elytra with a paler band behind the middle. *MACULA* Say.

560. *L. Palmeri*. Nigro-piceus, prothorace transverso, pube ochrea variegato, parce grosse punctato, lateribus paulo dilatatis, haud tuberculatis, prope basin transversim costricto et angustato; elytris prothorace plus sesqui latioribus, dorso antice planiusculis, parce grosse punctatis, apice rotundatis, pube brevi ochrea dense vestitis, fascia basali, macula laterali, fascia postica, guttisque pluribus obscuris; antennis cinereo-annulatis. Long. 18—25 mm.

A female from Arizona, collected by Dr. Henry Palmer, kindly given me by Mr. Ulke, in whose collection it bears the name I have adopted; a male sent by Mr. C. V. Riley to Dr. Horn. Conspicuous by its large size; besides the dark spots on the elytra mentioned in the diagnosis, there is also one near the side, about one-fourth from the apex, which is also dark; the band is sinuated, and runs slightly obliquely backwards from the suture. The male is very remarkable for having the 6th joint of the antennæ dilated inwards at the tip.

561. *L. planidorsus*. Subtilliter dense griseo-pubesceus, prothorace dorso subtuberculato, tuberculo laterali obtuso haud rotundato, apice et basi parce punctato; elytris dorso antice deplanatis, carina laterali dis-

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tineta, alteraque obliqua usque ad medium extensa, fasciculis solitis parvis nigris, plaga magna laterali ante medium, fasciaque obliqua pone medium nigricantibus; fascia pallide pubescente paulo pone medium ornatis; antennis cinereis, fusco punctatis et annulatis. Long. 9 mm.

Louisiana; this species is sufficiently distinct by the disk of the elytra being flattened in front, limited each side by an oblique well-defined line, exterior to which is the line defining the abrupt declivity of the sides; towards the tip they are regularly rounded, scarcely prolonged, and obliquely truncate at the extreme tip. The small tufts of black hair are well developed; there is a large lateral dark blotch extending from the side to the oblique ridge, behind which is a broad band of paler cinereous, somewhat as in well marked specimens of *L. macula*; behind this pale fascia the pubescence is dark, with an oblique band composed of two blackish spots, and then a subapical dark cloud. Beneath covered with cinereous pubescence, medial band and apex of tibiae, and tarsi blackish.

562. *L. parvus*. Testaceus, pube subtili dense vestitus, prothorace dorso obsolete tuberculato, lateribus obtuse angulatis; elytris apice singulatim rotundatis, parce fortiter punctatis, tuberculis parvis penicellatis parvis ornatis; capite thoraceque obscurioribus, antennis tibisque piceo-annulatis. Long. 4 mm.

Two specimens; Western States. A robust little species, very easily recognized; the disk of the elytra is obliquely impressed in front of the middle, and the post-humeral compression is quite distinct.

STERNIDIUS Lec.

This new genus is founded upon the species of Div. C of my arrangement of *Liopus*, (Journ. Acad. Nat. Sci. Phila., 2d ser. ii, 172). They differ from *Leptostylus* by the 1st joint of the hind tarsi as long as the two following, and from *Liopus* by the mesosternum being broad and truncate between the coxae. The thoracic tubercle varies in position but little, and is about one-fourth to one-third from the base, obtuse, but not rounded; the sides are emarginate behind the tubercle, but straight and oblique in front of it; there are no dorsal tubercles.

A. Elytra without an ascending angular blotch behind the middle; larger species.

Elytra mottled, with lines of tessellated black and white; a white spot near the apex, with a quadrate black spot in front of it.

1. *VARIATUS* Hald.

B. Elytra with a common fuscous cloud angulated at the suture;

Elytra scarcely mottled, apex slightly obliquely narrowed and feebly prolonged, angle of fuscous spot acute.

2. *ALPHA* Say.

Elytra more distinctly mottled, apex more obliquely prolonged, angle of fuscous spot acute.

3. *CINEREUS* Lec.

Elytra more distinctly mottled, apex less prolonged, angle of fuscous blotch obtuse, margined before and behind with whitish pubescence.

4. *XANTHOXYLI* Shimer.

C. Elytra without angular blotch behind the middle, smaller species; Elytra mottled with small black points, an indistinct transverse white band behind the middle.

5. *PUNCTATUS* Hald.

Broader, elytra sparsely mottled with black points, without white band, lateral tubercle more acute.

6. *CRASSULUS* n. sp.

D. Thoracic spine nearer the base, elytra and prothorax with lines of fulvous and fuscous pubescence.

7. *HALDEMANI* Lec.

L. *misellus* and *rusticus* Lec., l. c. seem to be individual variations of *S. alpha*.

563. *S. crassulus*. Fusco-piceus, pube brevi cinerea dense vestitus prothorace longitudine plus duplo latiore, guttis 3 fuscis signato, spinis lateralibus acutis; elytris punctis parvis nigris triseriatim digestis, nebula laterali, lineaque transversa mox pone medium fuscis, apice rotundatis, hand prolongatis, viz truncatis. Long. 6 mm.

One specimen; Cape San Lucas, Lower California; Mr. Xantus. The antennæ are annulated, a little longer than the body. This species is more robust than the others, resembling a *Leplostylus*, from which it is immediately distinguished by the acute thoracic spines, and the 1st joint of hind tarsi equal to two following united.

EUTESSUS Lec.

This new genus is established upon a singular species from Lower California, of which only males are known to me. It is elongate in form, resembling in proportion the common *Graphisurus fasciatus*, but the prothoracic lateral spines are very near (about one-fifth of the length from) the base, as in *Liopus*; in front of the angle of the spines, the sides are straight and converge slightly; the base and apex are rectilinear. The elytra are elongate parallel somewhat compressed at the sides, obliquely truncate inwards at the tip; they have several rows of distant small

asperities (very much as in *Leptostylus aculifer*), and behind the middle several of these combine to form an elevation, which runs transversely from the side, and then bends abruptly backwards, and is curved to the suture. But the most striking characters are found in the antennæ; which are 4 or 5 times as long as the body, very slender, fringed with short fine hair beneath, as in the ♂ of the other genera of the group; with the scape extending to the base of the prothorax, the inner edge acute towards the base, 2d joint very short, 3d reaching to the extremity of the elytra, 4th joint excessively long, nearly or quite three times as long as the 3d, with an apical tuft of stiff bent black hairs on the inner side; the seven following joints united not longer than the 4th joint.

The legs are moderate, thighs very feebly clubbed, middle tibiæ with an oblique groove on the outer side, hind tarsi much shorter than the tibiæ, with the 1st joint as long as the others united.

564. *Eu. asper.* Niger, dense breviter cinereo-pubescent, haud pilosus, thorace subinæquali, parce punctato, variegato; elytris parce punctatis, granulis nigris, parvis asperatis, vittaque nigra sublaterali a basi ultra medium extensa ornatis. Long. 14 mm.

Cape San Lucas; Mr. Xantus. I have no doubt from the characters above detailed that the ♀ has a long ovipositor.

EUPOGONIUS LEC.

565. *Eu. pubescens.* Plumbeo-niger, æqualiter tenue cinereo-pubescent, et longe villosus, prothorace confertim punctato, latitudine longiore, spina laterali minuta; elytris latioribus fortiter punctatis, elongatis cylindricis. Long. 6.5 mm.

Ohio; Mr. Ulke. More slender than *Eu. vestitus* (Say) with the pubescence much finer, and altogether uniform and unmottled. *Eu. pauper* Lec. seem to be scarcely different from *vestitus* (Say).

To this genus belongs *Amphionycha subarmata* Lec. (Col. Kansas, 22), which as observed (Pr. Ac. Nat. Sci., Phil. 1861, 354), bears a deceptive resemblance to *A. flammata* Newm., but has the eyes coarsely granulated, and the claws simple and divaricate.

POGONOCHERUS SERV.

The following characters will serve to distinguish our species:

- A. Erect hairs, very long; elytra truncate and bispinose;
 Crests of elytra strongly marked;
 Scarcely variegated, crests feebly tufted. 1. *CRINITUS* n. sp.
 With a white fascia before the middle of elytra, crests with long tufts
 of hair. 2. *PENICELLATUS* Lec.
 Crests of elytra feeble, with a large anterior transverse white band,
 badly defined in front. 3. *OREGONUS* Lec.
- B. Erect hairs short; elytra with an anterior white blotch;
 Elytra rounded at tip. 4. *SIMPLEX* n. sp.
 Elytra truncate at tip, and subbispinose;
 Moderate sized, more strongly punctured. 5. *MIXTUS* Hald.
 Very small, less strongly punctured. 6. *PARVULUS* Lec.
- C. No erect hairs; pubescence uniform;
 Elytra rounded at tip. 7. *SORDIDUS* n. sp.

566. *P. crinitus*. Dense cinereo-pubescent, subvariegatus, pilis pal-
 lidis longissimis villosus; prothorace lateribus fortiter armato; elytris
 cristis solitis valde elevatis, vix penicellatis, apice bispinosis, spina ex-
 teriori longiore. Long. 9 mm.

California; Mr. Ulke. Easily recognized by the absence of con-
 spicuous white spots, the stronger armature of the prothorax and
 elytra, and the longer erect hairs.

567. *P. simplex*. Nigro-piceus, pube albida variegatus, parce nigro-
 pilosus; elytris versus suturam confuse, extrorsum seriatim punctatis,
 plaga majore obliqua alba ante medium signatis, apice rotundatis, haud
 truncatis, sutura prominula. Long. 6 mm.

Kansas and California; Resembles closely *P. mixtus*, but the
 usual ridges of the elytra are scarcely to be traced, and the tip
 is not truncate.

568. *P. sordidus*. Piceus pube minus subtili sordida dense vestitus,
 prothorace haud dense profunde punctato, latitudine vix brevior, spina
 laterali longa acuta; elytris parallelis apice rotundatis, punctis profun-
 dis subseriatim digestis; antennis sub-annulatis, parce ciliatis. Long.
 8-13 mm.

Cape San Lucas; Mr. Xantus. This species is quite unlike
 the others, on account of the absence of long erect hairs; in color
 and sculpture it bears a singular resemblance to *Ataxia*, but is
 of a different form, and the generic and tribal characters are very
 different. I can find nothing of importance to separate it from
Pogonocherus.

The pubescence is uniform dirty yellowish-brown, and rather coarse, intermixed with short suberect gray hairs proceeding from the punctures. The usual ridges of the elytra are entirely wanting. The front coxal cavities are angulated as in the other species. The body beneath is finely punctulate and pubescent, sparsely punctured with fuscous.

The antennæ are one-half longer in ♂, and but little longer than the body in ♀. The largest specimens are all males.

SAPERDA FABR.

The species in our fauna may be conveniently arranged as follows:—

I. Outer claw of front and middle tarsi ♂ with a large basal tooth or obtuse process;

A. Elytra separately acuminate at tip;

Process of ♂ unguis long; color yellow-brown, with four oblique darker bands.

1. *OBLIQUA* Say.

B. Elytra rounded at tip, with an acute sutural spine;

Cinereous, head and prothorax vittate, elytra spotted with ochreous-yellow pubescence; process of ♂ unguis long; a. Ground color brownish-yellow, spots not conspicuous, *adspersa* Lec.

2. *CALCARATA*.

C. Elytra slightly dehiscent, and separately rounded at tip;

More coarsely punctured, pubescence thin, varied with fulvous spots; process of ♂ unguis moderate.

3. *MUTICA* Say.

Pubescence fine and dense, concealing the punctures, brown, with white stripes or spots;

Under surface white, upper surface with two broad white stripes; process of ♂ unguis long, *bivittata* Say; a. With a brown spot upon the white vitta near the base of the elytra.

4. *CANDIDA* Fabr.

Prothorax with two white stripes, elytra each with two large white spots attaining neither margin nor suture, sides of under surface white; process of ♂ unguis very long.

5. *CRETATA* Newm.

Prothorax with two white stripes, elytra with a humeral, two subsutural white spots; sides of under surface white; process of ♂ unguis small.

6. *FAYI* Bland.

D. Elytra more broadly and conjointly rounded at tip;

More densely clothed with uniform yellow-brown pubescence; elytra each with three small denuded spots; process of ♂ unguis moderate.

7. *VESTITA* Say.

Less densely pubescent; ♀ with prothorax, transverse sinuated fascia, and sides of elytra brownish, legs dark; ♂ with thin cinereous pubescence, legs ferruginous; process of unguis, of front feet small, of middle feet large, *fuscipes* Say.

8. *DISCOIDEA* Fabr.

Lateral stripe of prothorax and elytra and three oblique bands of scarlet pubescence; process of ζ unguis of front feet small, of middle feet larger; α . Varies (ζ) with the bands narrower, more oblique and sometimes obsolete.

9. TRIDENTATA Fabr.

Lateral stripe of prothorax and elytra, and sutural line of scarlet pubescence; process of ζ unguis broad and short.

10. LATERALIS Fabr.

II. Claws simple in both sexes;

Lateral and sutural margin of elytra, prothorax, and head clothed with bright yellow pubescence, head with two, prothorax with six black spots; *trigeminata* Randall.

11. PUNCTICOLLIS Say.

Black, coarsely punctured, thinly clothed with fine cinereous pubescence; α . Pubescence fulvous, punctures rather coarser; (Cal. Oregon.)

12. MOESTA Lec.

Black, densely clothed with cinereous pubescence, less coarsely punctured.

13. CONCOLOR Lec.

MECAS Lec.

569. *M. marginella*. Atra subtiliter pubescens, et breviter villosa, prothoracis lateribus et vitta dorsali, elytrorum margine laterali apicali et suturali pube pallide flava dense vestitis. Long. 7—8 mm.

Western States and Texas. Easily distinguished by the above characters; the thoracic vittæ do not extend upon the head; the elytra are coarsely punctured, and rounded at tip; the inner division of the claws is acute, and a little shorter than the outer one, though more nearly equal than in *M. femoralis*.

STYLOXUS Lec.

Eyes coarsely granulated, very large, scarcely separated on the vertex, deeply emarginate, but not divided, upper lobe moderately wide; front deeply channelled, antennæ about twice as long as the body, slender, 11-jointed, scape shorter than the head, suddenly constricted at base, with the basal angle rectangular prominent, and the apical edge armed at the inner side with a short spine, there is also on the lower side a large well defined apical cicatrix; 2d joint distinct, but with condyle projecting, larger than the joint itself; following joints nearly equal, sparsely ciliate beneath, 11th shorter. Palpi very unequal, maxillary with the last joint oval pointed, labial very small; mandibles short, stout, pointed. Prothorax cylindrical, one-half longer than wide, slightly and obtusely dilated at the middle. Elytra three-fourths

as long as the abdomen, punctured with a feeble dorsal elevated line. Front coxæ prominent, cavities confluent, open behind; middle coxæ prominent, hind coxæ nearly contiguous, prominent, thighs gradually clubbed, front tibiæ feebly but distinctly grooved on the inner side, middle tibiæ not tuberculate, hind tarsi with 1st joint longer than the two following united. Ventral segments ♂ cylindrical, equal, 5th truncate, 6th emarginate, with the genital ring prominent.*

570. *S. lucanus*. Fuscus, cinereo-villosus, prothorace rugose punctato, callo parvo pone medium notato; elytris pubescentibus, punctatis ad dodrantem abdominis extensis, apice rotundatis. Long. 8.5 mm.

One ♂; Cape San Lucas. Mr. Xantus.

DYSPHAGA LEG.

571. *D. lævis*. Nigra, prothorace villosa, nitida, parce punctato, ad basin breviter impresso et bicalloso; elytris piceis, rugose punctatis, dimidium abdominis æquantibus, apice rotundatis, longe dehiscens, sutura late emarginata, pedibus testaceis: ventre flavo, apice obscuro. Long. 7 mm.

Illinois; the only specimen in my collection has the last ventral segment triangularly excavated, and hairy as in *D. ventralis*, which I consider as the ♀ of *D. tenuipes* Hald. It differs by the nearly smooth thorax, and by the elytra rather longer, narrowed and more dehiscent behind the middle.

* The following species is mentioned by Chevrolat, Ann. Ent. Soc. Fr., 1862, p. 256, as *M. pusilla*, which it replaces in the Antilles.

***Methia punctata*.** Fusco testacea, antennis femoribus elytrisque pallidi, his vitta obliqua a basi ad medium, altera submarginali, apiceque obscuris; prothorace dense punctato, latitudine longiore, lateribus fere rectis, postice transversim impresso, dorso haud calloso. Long. 7—10.

One ♀, San Domingo, Mr. Gabb; Cuba, Dr. Gundlach. Very similar to *M. pusilla*, but the sides of the prothorax are scarcely dilated at the middle, the front transverse impression is wanting, the posterior constriction is less deep, there are no dorsal callosities, and the elytra are comparatively shorter. The color of the head and prothorax is light and dark brown mixed; the elytral vittæ are connected transversely near the base, and about the middle, but frequently disappear, leaving only a humeral cloudy spot. The wings as in all the species of the tribe are very imperfectly folded at tip.

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