Female.—Antennæ as in *variolosa*. Anterior tibiæ bidentate externally, middle tibia with a very distinct oblique ridge, posterior with a feeble trace of ridge.

This species might be mistaken for a debilitated form of *variolosa*, but its more slender form and the sexual characters mark it as abundantly distinct.

Occurs near Jacksonville, Florida; collected by W. H. Ashmead.

Notes on ELATERIDÆ, CEBRIONIDÆ, RHIPICERIDÆ and DASCYLLIDÆ.

BY GEORGE H. HORN, M. D.

ELATERIDÆ.

The genera of the above family to which especial reference is made in the following pages, are those considered most closely allied to the Cebrionidæ, so close in fact that they may be considered as entirely filling the gap which has been supposed to exist between the two families.

The notes are necessarily short, full descriptions of the males having already been given, the females as far as known claim more attention and it is hoped that the accompanying figures will give a better idea of these remarkable insects than description alone.

The females of *Aplastus* and *Euthysanius* are remarkable in having the elytra shorter than the abdomen, but not equally so in all as will be seen by an examination of the figures.

In the former genus there are but six visible ventral segments while in *Euthysanius* there are seven. In the ♀ of *E. lautus* however, the abdomen is so extended by the completeness of the egg development, that the membranous segment which is usually subcoxal becomes visible and eight segments appear. In all the females there is a similarity on the dorsal surface of the abdomen, eight segments being quite distinctly visible. Nor is this number peculiar to the female, the male having the same but the segments are more membranous. In an examination of several other true Elateridæ the number of dorsal segments is eight, therefore the presence of this number in the females of *Euthysanius* and *Aplastus* must be dismissed from the category of remarkable characters.

APHRICUS Lec.

Front slightly concave, anteriorly slightly arcuate, margined. Labrum short, transverse, emarginate and retracted, the suture distinct. Mandibles moderately prominent and toothed a little in front of middle. Maxillary palpi rather slender, the last three joints subequal, the terminal very little broader at tip. Antennæ slender not serrate, two-thirds as long as the body, eleven-jointed, last joint with a distinctly articulated short accessory piece, first joint obconical, slightly curved,

second small, third a little longer, fourth as long as first, 4—11 gradually more elongate. Eyes rather large, round and prominent. Tarsi slender, first joint on each foot shorter than the second and about equal to the fourth.

A. californicus Lec.—Piceo-testaceous, sparsely clothed with greyish pubescence. Head coarsely and densely punctured. Thorax a little longer than wide, sides in front arcuate, posteriorly slightly sinuate, lateral margin rounded without limiting edge, hind angles slightly divergent and with an extremely fine carina, surface sparsely punctate in front and nearly smooth posteriorly. Elytra striate, striæ with coarse and deep, closely placed punctures, intervals finely punctulate, the fifth subcarinate at apical third. Body beneath very sparsely punctulate. Length .24 inch; 6 mm. Pl. II, fig. 6.

Of this insect we know the male only. The female probably does not differ greatly. The general aspect is that of an elongate *Cardiophorus*.

Occurs from San Diego to Owen's Valley, California; but very rare.

APLASTUS Lec.

The species have been so recently the subject of a review that I merely repeat the table given in Trans. Am. Ent. Soc. 1874, p. 24, which applies to males only.

Third joint of antenna similar in size and shape to fourth.
- Antennæ slender, feebly serrate, three basal joints only pilose; sides of thorax parallel not margined, hind angles strongly divergent. Pl. I, fig. 9. **angusticollis** Horn.

Third joint always much smaller than fourth, sometimes globular never triangular; antennæ with short erect hairs.
- Thorax not margined.
  - Antennæ strongly serrate, joints 2—3 very small, equal, together slightly longer than half the fourth.
    - Elytra scarcely striate, thorax sparsely punctate..... **tenuiformis** Horn.
    - Elytra moderately deeply striate, thorax coarsely and moderately densely punctate..... **corymbitoides** Horn.
  - Antennæ serrate, joint three more than twice as long as second, the two together nearly as long as the fourth..... **speratus** Lec.
- Thorax distinctly margined, at least near base.
  - Antennæ stout, strongly serrate. Pl. I, fig. 6..... **optatus** Lec.
  - Antennæ more slender, feebly serrate..... **molestus** Horn.

The body is always fully winged in the males. In all the species the constriction of the eleventh joint of the antennæ near the tip is quite evident except in *molestus*.

There are but two females known, one of which belongs with reasonable certainty to *speratus*, the other probably to *optatus*. It may be needless to say that the characters given for the sexes (loc. cit. p. 26), are not valid, they are evidently variations of the male only.

A. speratus ♀ Lec.—Parallel, rufo-piceous, feebly shining, sparsely pubescent, body feebly winged. Head moderately densely and coarsely punctate. Antennæ passing slightly the middle of the thorax, subserrate, first joint stout, second small, round, third a little longer, fourth slightly longer than third, 4—8

gradually decreasing in length, ninth not longer than second, tenth and eleventh longer, less serrate, the latter slightly constricted at tip. Thorax not longer than wide, slightly broader at base than apex, sides nearly straight, hind angles feebly divergent, carinate, surface not densely punctate, a feeble median line posteriorly, an oblique moderately deep impression on each side at end of carina. Elytra about two and a half times the length of the thorax, shorter than the abdomen, striate, intervals alternately broader, the narrower intervals slightly more convex near the tip, surface moderately densely punctulate and near the tip somewhat wrinkled, apex obliquely prolonged. Prothorax beneath densely punctured at middle, sparsely at the sides, metathorax sparsely and finely punctate. Abdomen shining, very sparsely finely punctulate. Length .56 inch; 14 mm. Pl. I, fig. 8.

The maxillary palpi in addition to the normal four joints have a small, narrow joint at the end of the fourth. The structure of the antennæ above described is also somewhat abnormal, and I observe on one side that the eighth and ninth joints are connate and on the other mobile. The impressions in the thorax near the tip of the carina are probably not permanent in their occurrence, as I observe a variation in this respect in the two females of one *Euthysanius* before me.

The abdomen beneath is composed of six segments, the last being retractile and the first and fifth equal to the two adjacent ones. From the female of *Euthysanius* this differs in having one less segment to the abdomen and one less (eleventh) joint in the antennæ.

The reference of this female to *Aplastus speratus* is not without a little doubt, but from its size, general aspect, locality of occurrence, I think the propriety of the reference will be fully confirmed in the future.

One specimen, Marin Co., California; in the cabinet of Mr. Ulke.

A. optatus ♀.—Similar in form and sculpture to the preceding female but with the thorax more nearly square and much more convex. The hind angles have a short carina and the surface sparsely punctured a little more densely near the anterior angles. The elytra are striate, the intervals convex, the surface rather densely punctulate, and the apex less prolonged. Abdomen as in the preceding. Length .84 inch; 21 mm. Pl. I, fig. 7.

I refer this female to *optatus* from its size and the sculpture of the elytra, the preceding female is referred to *speratus* from the very distinct alternation of the elytral intervals. In this female I do not detect the small appendicular piece on the tip of the maxillary palpi nor is there that apparent deformity of the antennæ.

One specimen, in the cabinet of Mr. Ulke. This is the type of *Anamesus convexicollis* Lec.

PLASTOCERUS Lec.

This genus was originally described by Dr. Leconte, (Trans. Am. Philos. Soc. x, p. 502), on a species from California, *P. Schaumii*, at the same time remarking that a "specimen of this insect was sent by

me to Dr. Schaum, who pronounced it strictly congeneric with *Callirhipis angulosa* Germ., which forms the type of the unpublished genus PLASTOCERUS." Lacordaire and, following him, Duval both call *angulosa* the type of the genus, a position which cannot by any means be sustained, as Dr. Leconte did not see that species and probably has not even studied it since that time.

This would be a matter of very little moment if *angulosa* and *Schaumii* were really congeneric, of which I have very considerable doubt from the structure of the labrum and the antennæ and the form of the mandibles. I have not seen the *angulosa* and can go no further, and leave the development of the matter to European students.

Of our own species I have seen and studied many specimens, and conclude that all the forms constitute but one species in which three varieties may be indicated.

Hind angles of thorax strongly divergent and carinate.
Thorax rather narrow not very densely punctured. Pl. II, fig. 1...**Schaumii.**
Thorax as broad as long, coarsely and densely punctured. Pl. II, fig. 2...**frater.**
Hind angles not divergent feebly carinate.
Thorax narrow coarsely and densely punctured. Pl. II, fig. 3.....**macer.**

In the accompanying plate I have endeavored to represent the three characteristic forms with the details of sculpture and two additional outlines. There is no constancy in the form of the thorax nor in the sculpture of the elytra all intermediate degrees occurring in both particulars.

The figure given of *frater* (Pl. II, fig. 2), is undoubtedly a female, and I find no important difference from the male excepting in the structure of the antennæ and the last ventral segment. In the antennæ the branches are about half the length of those of the male and not ciliate at the sides, and with a few short ciliæ at tip only. The last ventral segment is merely shorter and broader than in the male.

If this is really the female, and I think there is no doubt, the species shows a wide divergence from *Euthysanius* in this sex, the males of the genera differing merely in the number of the joints of the antennæ.

Occurs in southwestern maritime California.

In fig. 4, will be found an illustration of a curious monstrosity which explains itself.

EUTHYSANIUS Lec.

The form of the labrum appears to have no value specific or otherwise, it may be truncate, sinuate or even triangularly emarginate and in the same species. There appear to be but two species in both of which I observe an amount of variation which, with fewer specimens, would

probably cause further subdivision, but it will be observed in all these aberrant and rather soft *Elateridæ*, that there is a certain elasticity in specific characteristics which must always be taken into account.

The two species are:

Terminal joint of antennæ decidedly shorter than the branch of the eleventh; thorax always longer than wide at middle.....**lautus** Lec.
Terminal joint as long as the branch of the eleventh; thorax usually as wide at middle as long.....**pretiosus** Lec.

E. LAUTUS ♂ Lec.—The accompanying plate shows what I consider merely varieties of this species, and it is well here to remark that the impressions in the thorax of one form and their absence in the other is not by any means constant. The typical form (fig. 1), is usually darker in color than the other, a little stouter in form and with the thorax a little more coarsely punctured. It is possible that the discovery of the female will show the variety (fig. 2), to be a distinct species, and if so the female will probably have elytra less short than in the true *lautus*, and more nearly squarely truncate at tip. Length ♂ .80—.92 inch; 20—23 mm. Pl. I, fig. 1, 2.

Occurs at San Diego, San Luis Obispo, Tejon and Owen's Valley, California.

E. lautus ♀.—Elongate, cylindrical, slightly depressed, rufous, moderately shining, sparsely pubescent, feebly winged. Head moderately densely and coarsely punctate. Antennæ passing slightly the middle of the thorax, serrate, first joint obconical, 2—5 small, nearly equal, not angulate in front, 6—11 longer with the free angle becoming gradually longer, twelve as long as the branch of the eleventh and slightly curved. Thorax nearly square, very little narrowed in front. hind angles slightly divergent and carinate, surface not very densely punctured and with a depression and smoother space on each side in front and at middle posteriorly. Elytra very little longer than wide conjointly and not extending beyond the first dorsal abdominal segment, suture slightly separated the angle rounded, apex obliquely truncate the outer angle rounded, striæ deep and distinctly punctate, the intervals convex sparsely punctate. Abdomen with eight free segments, the last two slightly shorter than the others, surface sparsely and finely punctate more densely on the sixth. Thorax beneath coarsely punctured at middle and very sparsely at the sides. Metathorax very sparsely punctate. Abdomen more shining not densely punctate. Length 1.44 inch; 36 mm. Pl. I, fig. 3.

In the only specimen I have seen which is a fully impregnated female the abdomen is greatly extended even beyond what I have shown in the figure, the connecting membranes between the abdominal segments both on the dorsal and ventral aspects are nearly half the length of the segments themselves, the abdomen is thus extended so as to equal very nearly two and a half times the thorax and elytra together. The figure is purposely drawn with less connecting membrane showing. There are

eight abdominal segments on the upper and lower faces, the first ventral is however entirely membranous and almost concealed by the coxæ.

The body is not apterous, but the wings are short and feeble.

One specimen, Fort Tejon, California; in cabinet of Dr. Leconte.

E. PRETIOSUS ♂ Lec.—This species excepting the antennæ has more the form of some of our *Asaphes*. The antennal character is the only constant one for the separation of this from *lautus*. The thorax is usually as broad as long but this is not constantly so. The surface is however less coarsely punctured and at base more finely than in *lautus*. Length .72 inch; 18 mm. Pl. I, fig. 4.

This species is the one referred to by Lacordaire, (Genera iv, p. 233, note), and through the kindness of Mr. Alexander Fry of London, I have one of the specimens.

Occurs in the Coast Range region at and north of Santa Barbara.

E. pretiosus ♀.—Elongate, cylindrical, slightly depressed, rufo-testaceous, moderately shining, very sparsely pubescent, body feebly winged. Head moderately densely punctate, vertex slightly impressed. Antennæ slightly passing the middle of the thorax, somewhat variable in structure. Thorax a little wider than long, anterior angles rounded, sides very feebly arcuate, hind angles slightly divergent and carinate, surface sparsely punctate and with a slight depression each side at the end of the carina. Elytra as long or a little longer than the head and thorax and covering the first two abdominal segments, sides arcuate, apex slightly prolonged, suture dehiscent, striate, striæ not punctate, intervals sparsely punctulate. Prosternum coarsely punctate, the side pieces quite smooth, metasternum and abdomen sparsely punctulate. Abdomen above very sparsely and finely punctulate. Length .80—90 inch; 20—23 mm. Pl. I, fig. 5.

The abdomen has eight distinct segments on the dorsal aspect and but seven on the ventral, the first or subcoxal segment not being apparent here, probably from the less extended condition of the abdomen.

The two specimens before me which are without any doubt the females of *E. pretiosus* Lec., show a slight amount of variation. The specimen in my cabinet from which fig. 5 was drawn has the thorax somewhat more convex and the depressions of the thorax well marked, the elytral striæ quite deep and the intervals convex. In Dr. Leconte's specimen the thorax more closely resembles that of the male, the striæ are feebler especially at base and the intervals less convex.

The antennæ show the most important differences. In my specimen the penultimate joint alone has the anterior angle prolonged, while in the other specimen (fig. 5 *a*), this joint and the three which precede are acute in front and are about intermediate in structure between figure 5 and that of *E. lautus*.

Two specimens from the coast region of Cal., south of San Francisco.

CEBRIONIDÆ.

Our genera in the books at present are three in number separated as follows:

Labrum entirely connate with the front.....**Anachilus.**
Labrum separated by a suture from the front.
Anterior tibiæ entire.....**Cebrio.**
Anterior tibiæ emarginate externally.....**Scaptolenus.**

In studying the specimens of *Anachilus* in the cabinet of Dr. Leconte all are without suture between the labrum and front, of the four in my cabinet, one has a distinct suture, one less distinct, and two no suture at all. Extending the study to *Cebrio* the same thing happens, and specimens occur with a very distinct and probably flexile suture to others where there is absolutely no trace whatever, the front and labrum being perfectly continuous. As there is no other difference between *Anachilus* and *Cebrio* the former must be suppressed.

The species of *Cebrio* have been separated by the form of the labrum (emarginate or not), and maxillary palpi, (terminal joint equal to a shorter than the preceding).

I have had before me about three dozen, perhaps more specimens, and besides observing that some have the labrum and front carinate, the labrum has the anterior margin arcuate in some, truncate in others or emarginate, and in several deeply triangularly incised, and between all these forms every intermediate degree. The maxillary palpi moreover do not possess that degree of difference in structure which enables us to separate species thereby, and I have therefore been compelled to abandon both the above mentioned characters and unite all three species in one.

By the suppression of *Anachilus* and the occurrence of one new, there are three species in *Cebrio* in our fauna as follows:

Antennæ distinctly serrate, the terminal joint rather suddenly constricted at tip; elytra distinctly striate.
Prosternum between the coxæ extremely narrow; mandibles very prominent not capable of closure beneath the labrum.....**mandibularis** Lec.
Prosternum between the coxæ not linear; mandibles more robust and when closed are in great part concealed at their base. Pl. II, fig. 7...**bicolor** Fab.
Antennæ feebly serrate, terminal joint not constricted at tip; elytra not striate.
Mandibles very feebly prominent.....**estriatus** n. sp.

In a revision of the *Cebrionidæ* (Ann. Fr. 1874, p. 534), Chevrolat retains the generic name *Selenodon* for our species, but for what reason he does not state nor can I find out.

C. bicolor Fab.—Upper side brownish, piceous or castaneous, sparsely pubescent, beneath and legs testaceous. Head coarsely and densely punctate. Thorax punctured but less densely than the head. Elytra moderately deeply

striate, striæ coarsely punctured especially near the apex, intervals slightly convex, densely punctate. Length .48—.80 inch, .90 ♀; 12—20 mm, 22.5 ♀. Pl. II, fig. 7.

The thorax is very variable in shape and convexity—usually nearly square slightly narrowed in front, sometimes slightly transverse, the hind angles are never strongly divergent. The disc may be either normally convex or variously impressed. The mandibles when closed leave but a small open space between them and the labrum.

C. mandibularis Lec. (*Anachilus*).—Moderately elongate, fusco-testaceous, sparsely pubescent. Head piceous or nearly black, moderately densely punctate. Labrum transverse, feebly emarginate, usually pale in color, either connate with the front without suture or with the suture more or less distinct. Mandibles slender, prominent, and when closed leaving a wide open space between them. Antennæ moderately serrate, terminal joint deeply constricted at tip. Thorax broader than long, sides moderately arcuate, hind angles acute, divergent, surface moderately densely punctate. Prosternum extremely narrow between the coxæ. Elytra a little broader than the thorax, deeply broadly striate, striæ coarsely punctured especially near the apex, intervals densely punctulate. Body beneath paler than above and moderately densely punctate. Length .44—.54 inch; 11—13.5 mm.

Of this species we know males only.

Occurs in Florida.

C. estriatus n. sp.—Moderately elongate, pale brownish testaceous, finely pubescent. Head moderately densely punctured. Labrum transverse, feebly emarginate, suture distinct. Mandibles rather short, when closed not leaving a space between them. Thorax nearly square, sides feebly arcuate, hind angles short, acute, divergent, surface not densely punctate. Prosternum very narrow between the coxæ. Elytra a little wider than the thorax, surface not striate but densely punctate and with faint traces of three discal costæ. Body beneath not densely punctate. Length .44 inch; 11 mm.

The antennæ are less serrate than in the two preceding species and the terminal joint is not constricted, this character with the absence of elytral striæ will serve to distinguish it.

One specimen, Texas.

SCAPTOLENUS Lec.

The species of this genus which occur in our fauna are from Texas. In the Annales de la Société Entom. de France, 1874, p. 523, Chevrolat cites *S. Gehini* from Texas? and p. 524, *S. Californicus* from California, while in the list of species p. 509, both are quoted from Mexico. I have no doubt that they are really Mexican.

Three species are otherwise known to me.

Last joint of maxillary palpus as long or longer than the preceding. Last joint of labial palpi longer.

Elytra rather deeply sulcate and subcostulate..... **Lecontei** Sallé.

Last joint of maxillary palpus very decidedly shorter than the preceding. Last joint of labial shorter.

Elytra feebly subsulcate posterior to the basal fourth; anterior tibiæ with the upper tooth strong; tibiæ and tarsi pitchy black. Pl. II, fig. 8.
ocreatus n. sp.

Elytra without traces of striæ, moderately densely punctured; anterior tibiæ with upper tooth feeble; legs pale brownish testaceous.....**estriatus** Lec.

S. Lecontei Sallé (*femoralis* Lec.)—Piceous, moderately shining, elytra pale castaneous. Head piceous, deeply and coarsely punctate and with erect brownish hairs. Thorax transverse, narrowed in front, apex slightly prolonged at middle, anterior angles rounded, sides feebly arcuate, hind angles long, slender and not divergent from the line of the sides, base lobed at middle, sinuate each side, surface densely punctate and with erect brown hairs. Elytra elongate, gradually convergent posteriorly, dehiscent at apical third, at base gibbous, surface moderately deeply sulcate and subcostate, except at base and moderately densely punctulate, sparsely clothed with short pubescence. Body beneath piceous, clothed with yellowish hair, abdomen less punctate and with fewer hairs. Legs piceous, the femora usually paler. Length .64—.72 inch; 16—18 mm.

Only males are known. The anterior tibiæ have the upper tooth strong. The antennæ are serrate. In both the maxillary and labial palpi the terminal joint is longer than the preceding.

The color of the abdomen varies from piceous to testaceous, the segments often being piceous with the posterior edge of the segments paler. In fully mature specimens the tibiæ and tarsi are piceous the femora paler, even pale yellow.

This is the most abundant species in Texas.

S. estriatus Lec.—Piceo-testaceous, less elongate than *Lecontei*. Head and thorax similar but with shorter yellowish hair. Elytra gibbous at base, without trace of striæ or costæ, surface moderately densely punctate. Body beneath paler than above and with the legs luteous. Length .56 inch; 14 mm.

The anterior tibiæ have the upper tooth rather feeble. In the maxillary palpi the last joint is shorter than the preceding, the last joint of the labial is also shorter but less distinctly so than the maxillary.

Occurs in Texas.

S. ocreatus n. sp.—Piceous, elytra testaceous, femora yellow. Head and thorax piceous, moderately densely punctate, clothed with moderately long, erect, yellowish hair. Elytra gibbous at base, pale testaceous, sutural and outer margins near the apex bordered with black, surface faintly subcostate posteriorly and not densely nor coarsely punctured, sparsely clothed with very short black pubescence. Body beneath piceous, clothed with yellowish hair. Legs pitchy black, femora yellow. Length .56 inch; 14 mm. Pl. II, fig. 8.

Very similar in form to *estriatus*, and therefore shorter and less attenuate than *Lecontei*. The anterior tibiæ have the upper tooth well marked. The palpi are as in *estriatus*.

One specimen, Texas.

I find it impossible to place either of the last two species in any of the groups suggested by Chevrolat, the characters given being very indefinite.

The maintenance of the *Cebrionidæ* as a family apart from the *Elateridæ*, is rather the result of universal agreement than from the presence of any good reasons.

"The principal differences between this and the preceding family is in the greater number (six) of the ventral segments, the well developed tibial spurs, the expansion of the anterior tibiæ at apex, and the close connection between the front and labrum. By the intermediate forms of the group Plastoceri, of the previous family, all the differences except those of the anterior tibiæ become evanescent; and I place the Cebrionidæ as a distinct family, only in deference to the views of the most distinguished foreign authorities."

In the above quotation from Leconte (Classification p. 175), I fully agree, and add that between the *Plastoceri* and *Cebrio* the dilatation of the anterior tibiæ is a matter of very little difference and almost null.

Chevrolat seems more satisfied with his results:

"For the family of Cebrionites, I think I have united the elements constituting a good classification and which present the most sharply defined characters: males notably different from the females, winged, elongate; females apterous, short, stout; the first having the antennæ slender, more or less elongate, flat, of variable form conical or triangular; the second having these members short, moniliform, gradually broader externally; the tarsi filiform in the two sexes."

I have no further criticism of this than to refer the reader to a comparison of the males and females of *Aplastus* and *Euthysanius*.

From the above extracts, which form the substance of all that has been said in defence of the retention of the *Cebrionidæ* apart from the *Elateridæ*, it will be inferred that there are no characters at present known which will separate these two families.

RHIPICERIDÆ.

This family is represented in our fauna by two genera, *Zenoa* with simple tarsi, *Sandalus* with lobed tarsi. *Brachypsectra* placed here by Dr. Leconte seems a veritable Dascyllide.

After a careful study of the characters of the family I can find nothing which will warrant us in retaining it apart from the Dascyllidæ. The presence of an onychium seems to be the only character at present relied on and this is present in *Stenocolus* (*Lichas* Ww.), a genus which one would not desire to separate from association with *Dascyllus*.

SANDALUS Knoch.

Four species are known to occur in our fauna which may be distinguished in the following manner:

Tarsi broad and flat, the joints deeply emarginate, the lamellæ long and very distinct.

Thorax obtusely subangulate behind the middle. Pl. II, figs. 12—13. **petrophyus** Knoch.

Thorax regularly conical.

Thorax densely punctured and opaque with numerous large punctures intermixed. **porosus** Lec.

Thorax finely punctulate and somewhat shining with very few coarser punctures intermixed **niger** Knoch.

Tarsi rather slender, the joints feebly emarginate, the lamellæ small and inconspicuous.

Thorax as in *niger*. Pl. II, figs. 10—11 **californicus** Lec.

The sculpture of all the species is similar, the head densely and coarsely punctured, thorax densely punctured with coarser punctures intermixed, the latter less evident in *niger*. The elytra are densely coarsely punctured, the punctures arranged in irregular rows, and on the disc are often three faint costæ.

In general form the last three species of the above table are quite similar as shown on Pl. II, figs. 10—11. *S. petrophyus* however is different in outline as shown in figs. 12—13.

In color they vary in the species from castaneous to nearly black, specimens occasionally occurring with the elytra testaceous. The antennal flabellum of the male usually piceous is sometimes reddish.

S. petrophyus Knoch, occurs from Pennsylvania to Illinois.

S. porosus Lec., Texas and New Mexico.

S. niger Knoch, Middle States to Texas.

S. californicus Lec., California and Nevada.

DASCYLLIDÆ.

ACNEUS Horn.

This genus was founded by me on a ♀ in my cabinet which suggested a form distinct from any of the genera known. For its characters I could only say that "the prosternum is depressed between the coxæ, the latter therefore more prominent than it."

The parts of the mouth are very similar to those of *Ectopria*, which it otherwise resembles except in the characters of the male which are as follows:

Male.—Antennæ with first joint stout, suddenly narrowed at base, second small, oval, third longer than the first two together, slender, slightly broader externally, fourth short, bearing a short branch, joints

5—11 flabellate, each joint bearing a long slender branch, those from 5—8 gradually longer, 9—11 gradually shorter. Tarsal claws broadly toothed at base, the anterior claw of each pair bifid at tip as in *Eubria*, the two parts divergent. Pl. II, fig. 14.

Female.—Antennæ with joints 1—3 as in the male, 4—11 short, subserrate. Claws slender and simple on all the feet.

For the privilege of examining the male I am indebted to the kindness of Mr. H. Ulke of Washington. His specimen is I belive from Oregon, showing a wide distribution.

Several unimportant errors have been observed in the "Revision of Dascyllidæ," (Trans. Am. Ent. Soc. vol. viii, 1880).

Page 77, top line, for Parinidæ read Parnidæ.

Page 81, middle of page, for *Dasypogon* read *Eurypogon*.

Page 91, the generic name EUCINETUS Germ., should be inserted at the middle of page, under *Eucinetini*.

Page 103, in the table, top line, for "wide as long," read "long as wide."

Page 112, in the synonymy of ANCHYTARSUS, for *fragilis* read *debilis*.

BRACHYPSECTRA Lec.

In a preceding page I have suggested the propriety of referring this genus to the Dascyllidæ. The entire absence of onychium excludes it from Rhipiceridæ, and while I have but little faith in the propriety of retaining the latter family as distinct, taking the characters as we find them the genus goes better with the Dascyllidæ.

The anterior coxæ are angulate externally and the trochantin quite distinct. The front is however narrowed by the insertion of the antennæ and the mouth is inferior as in Eubriini, two characters decidedly at variance with the Dascyllini. I would therefore suggest a change of the table proposed by me in a Revision of the Dascyllidæ (Trans. Am. Ent. Soc. 1880, p. 77), as follows:

Antennæ distant at base, front not narrowed.
  Epistoma prolonged, etc..... .....MACROPOGONINI.
  Epistoma short, etc..... .....DASCYLLINI.
Antennæ approximate at base, front narrowed.
  Labrum visible, mandibles not prolonged, mouth inferior.....BRACHYPSECTRINI.

The tribe thus suggested indicates a line of affinity between the subfamily Dascyllidæ and the Eubriini, which is otherwise quite wanting except through a series of other Helodide genera.

The specimens I have studied appear to be females only. The antennæ are formed in a manner leading us to expect the antenna of the ♂ to be pectinate. Pl. II, fig. 15.

While on the subject of the Dascyllidæ it might be as well to call attention to *Psephenus*, a genus at present placed among the Parnidæ. It is provided with a very large trochantin to the anterior coxæ, and there is an entire absence of the prosternal lobe which is seen in all the Parnidæ protecting the mouth beneath. The abdomen is also constructed on a plan entirely at variance with the latter family but considerably resembling many of the smaller Dascyllidæ. I do not feel fully prepared to defend a union of *Psephenus* with the Dascyllidæ, but merely to call attention to the obvious disturbance of the otherwise homogeneous structure of the Parnidæ by retaining it there.

In a paper which I hope to present in the future this genus will be more fully discussed and with it *Lara* also, which, though less irregular in its characters, introduces an element in the Parnidæ which does not seem to fully belong there. Having but recently seen an absolutely perfect specimen of this insect, the amount of study which I have been able to devote to it is not sufficient to warrant a decided expression of opinion either way.

Bibliography and Synonymy.

ELATERIDÆ.

APHRICUS Lec.

A. californicus Lec., Trans. Am. Philos. Soc. x, p. 501.

APLASTUS Lec.

A. angusticollis Horn, Trans. Am. Ent. Soc. 1874, p. 25.
A. tenuiformis Horn, loc. cit.
A. corymbitoides Horn, loc. cit.
A. speratus Lec., Proc. Acad. 1859, p. 73; Horn, loc. cit. p. 26; ♀ Horn, supra.
A. optatus Lec., Proc. Acad. 1861, p. 349; Cand. iv, p. 489, pl. 6, fig. 12; Horn, loc. cit. p. 26.
convexicollis ♀ Lec., (*Anamesus*), Proc. Acad. 1866, p. 393.
A. molestus Horn, loc. cit. p. 27.

PLASTOCERUS Lec.

P. Schaumii Lec., Trans. Am. Philos. Soc. x, p. 502.
var. *frater* Lec., Proc. Acad. 1859, p. 73; 1866, p. 393; ♀ Horn, supra.
var. *macer* Horn, supra.

EUTHYSANIUS Lec.

E. lautus Lec., Trans. Am. Philos. Soc. x, p. 502; ♀ Horn, supra.
E. pretiosus Lec., New Species, 1863, p. 86; ♀ Horn, supra.

CEBRIONIDÆ.

CEBRIO Oliv.

C. bicolor Fab., Syst. El. ii, p. 14; Beauv. Ins. p. 9, pl. 7, fig. 2 a—d; Latr. Ann. Ent. Soc. Fr. 1834, p. 163; Lec. Trans. Am. Philos. Soc. x, p. 503.
confusus Lec. loc. cit. p. 504.
simplex Lec. loc. cit. p. 503.
C. mandibularis Lec., (*Anachilus*), New Species, 1863, p. 86.
C. estriatus Horn, n. sp.

SCAPTOLENUS Lec.

S. Lecontei Sallé.
femoralis ‡ Lec., Trans. Am. Philos. Soc. x, p. 504.
S. estriatus Lec., Trans. Am. Ent. Soc. 1874, p. 55.
S. ocreatus Horn, n. sp.

RHIPICERIDÆ.

ZENOA Say.

Z. picea Beauv., (*Melasis*), Ins. Africa et America, p. 7, pl. 7, fig. 1; Lacordaire, Genera, Atlas pl. 43, fig. 1; *larva* Osten Sacken, Proc. Ent. Soc. Phil. i, p. 107, pl. 1, fig. 2.
brunnea Say, Bost. Journ. i, p. 152.
vulnerata Lec., Journ. Acad. ser. 2, i, p. 89; Proc. Acad. vi, p. 229.

SANDALUS Knoch.

S. petrophyus Knoch, Neue Beytr. p. 131; Cast. Mon. p. 267; Hald. Proc. Acad. vi, p. 363; Guérin, Spec. et Icon. nr. 2, p. 6, figs. 3, 6, 7, 9, 10, 12.
fulvus ♀ Cast. Mon. p. 236.
Proserpina Newm., Ent. Mag. vi, p. 383.
brevicollis ♀ Mels., Proc. Acad. ii, p. 220.
S. porosus Lec., Trans. Am. Ent. Soc. 1868, p. 52.
S. niger Knoch, loc. cit. p. 140; Cast. Mon. p. 269; Hald. Proc. Acad. vi, p. 362.
rufipennis ♀ Latr., Règne Anim. p. 461.
rubidus ♀ Mels., Proc. Acad. ii, p. 220.
Knochii Guér. loc. cit. p. 4, figs. 1, 4, 5, 8, 11, 13 ♂; 2, 14 ♀.
scabricollis ♀ Hald., Proc. Acad. 1853, p. 363.
S. californicus Lec., Proc. Acad. 1861, p. 349.

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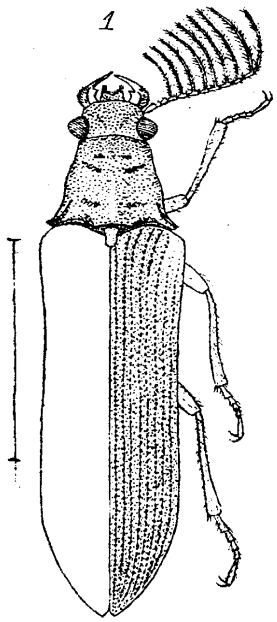
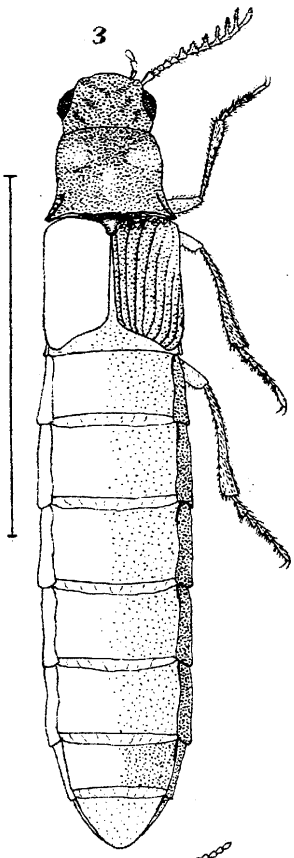
EXPLANATION OF PLATE I.

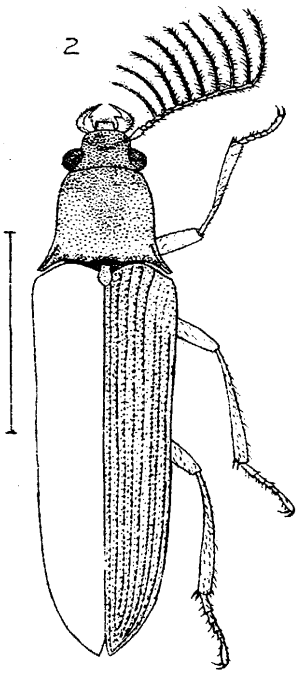
Fig. 1.—*Euthysanius lautus* ♂ Lec.
Fig. 2.—A variety of same.
Fig. 3.—Female of 1.
Fig. 4.—*E. pretiosus* ♂ Lec.
Fig. 5.—Same ♀; *a*, antennal variation.
Fig. 6.—*Aplastus optatus* ♂ Lec.
Fig. 7.—Same ♀, (*Anamesus convexicollis* Lec.).
Fig. 8.—*Aplastus speratus* ♀ Lec.; *a*, maxillary palpus, probably a monstrosity.
Fig. 9.—*A. angusticollis* ♂ Horn.

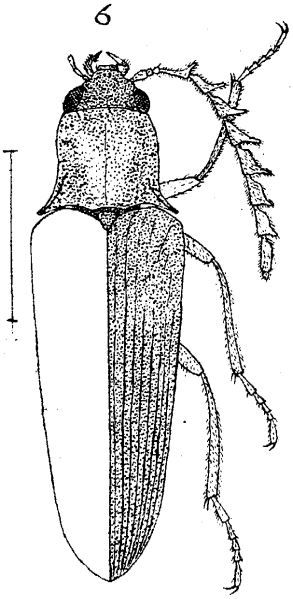
EXPLANATION OF PLATE II.

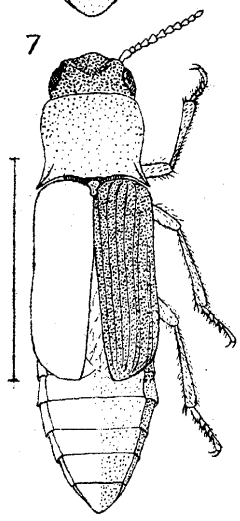
Fig. 1.—*Plastocerus Schaumii* ♂.
Fig. 2.—*P. frater* ♀ Lec., a variety of *Schaumii*.
Fig. 3.—*P. macer* ♂ Horn, a variety of *Schaumii*.
Fig. 4.—Outline of thorax showing further variation as well as a monstrosity of the antenna.
Fig. 5.—Another form of thorax.
Fig. 6.—*Aphricus californicus* ♂ Lec.
Fig. 7.—*Cebrio bicolor* ♂ Fab.
Fig. 8.—*Scaptolenus ocreatus* Horn.
Fig. 9.—*Zenoa picea* Beauv.
Fig. 10.—*Sandalus californicus* ♀ Lec.
Fig. 11.—Same ♂.
Fig. 12.—*S. petrophyus* ♀ Knoch.
Fig. 13.—Same ♂.
Fig. 14.—*Acneus quadrimaculatus* ♂ Horn; *a*, antenna more enlarged; *b*, anterior claw; *c*, posterior claw.
Fig. 15.—*Brachypsectra fulva* Lec. (♀ ?).

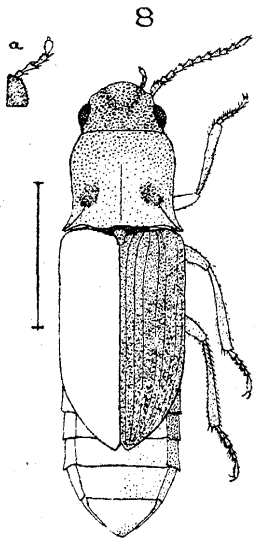


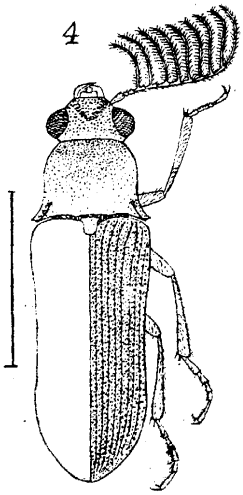


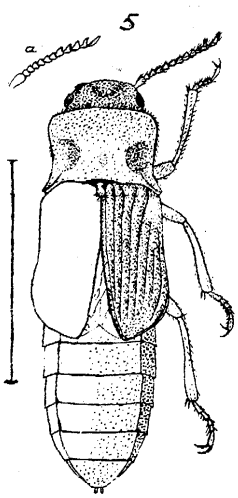


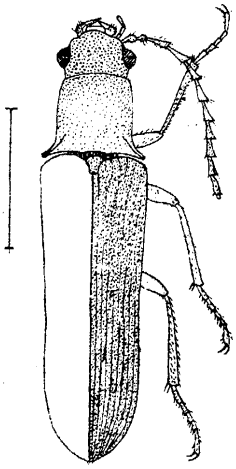












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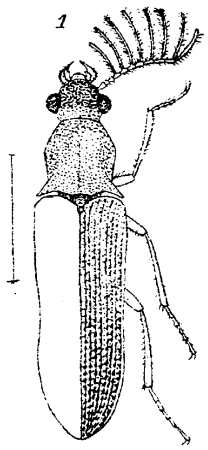
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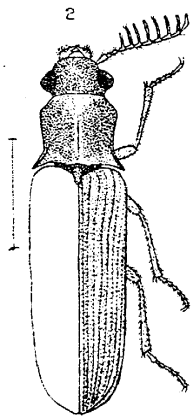
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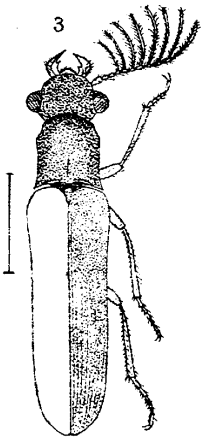
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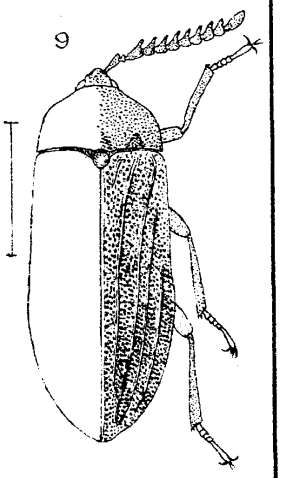
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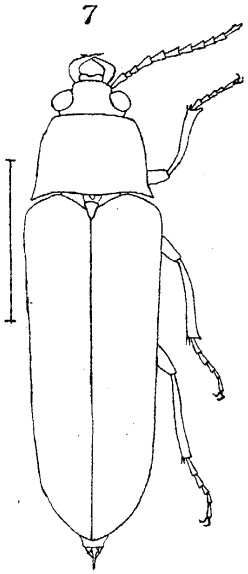
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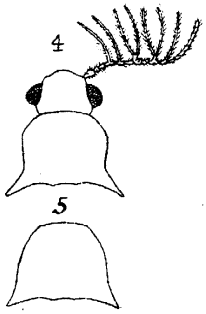
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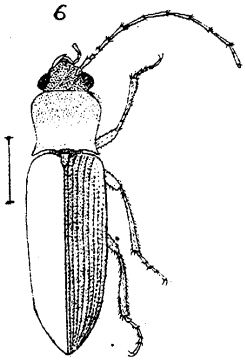
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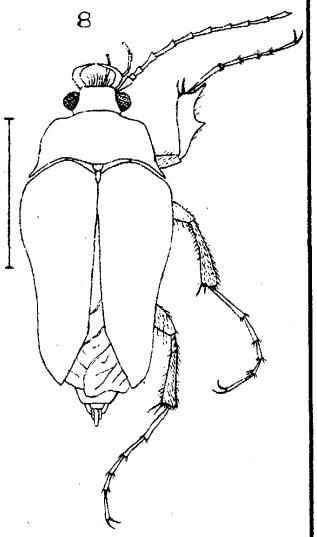
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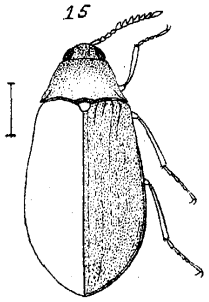
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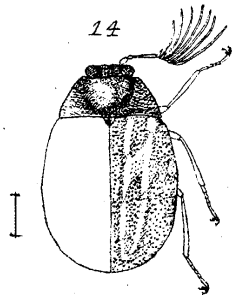
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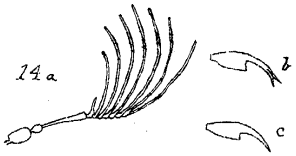
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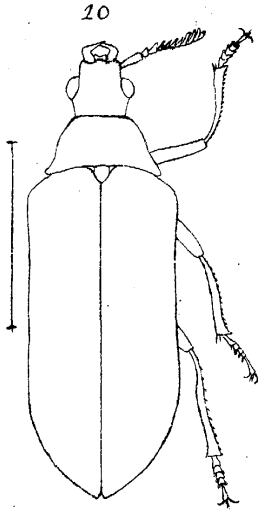
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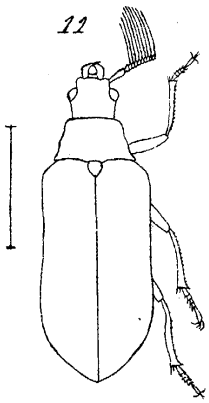
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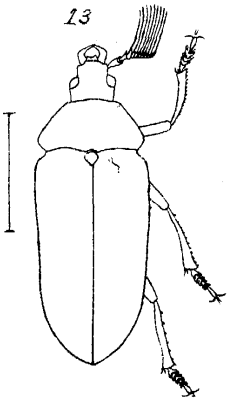
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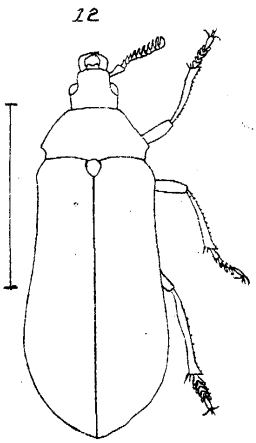
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