

one-half longer on middle than next eyes. Elytra long, greatly exceeding abdomen in both sexes.

Color: Varying in different specimens, pale straw to dull green, unmarked. Often with pale green mottling on vertex and pronotum.

Genitalia: Female last ventral segment with side margins rather short, rounding to posterior margin which is notched either side of a pair of rounded, slightly produced median teeth which occupy the middle-fourth, whole segment strongly convex ventrally, almost keeled, having the appearance from a ventral aspect of four teeth. Male valve rather short, bluntly angled. Plates broad at base, convexly rounding half their length, then rather abruptly constricted and produced as narrow parallel tips with blunt apices.

Described from four female and two male specimens collected July 3, 1919, near Washington, D. C., in a marshy meadow close to College Park, Md., by the senior author.

EXPLANATION OF PLATE.

- Fig. 1 *Phlepsius palustris* n. sp.; 1a-female genitalia; 1b-male genitalia.
 Fig. 2 *Phlepsius hemicolor* n. sp.; 2a-female; 2b and 2c-male.
 Fig. 3 *Phlepsius marmor* n. sp.; 3a-female; 3b-male.
 Fig. 4 *Chlorotettix dentatus* n. sp.; 4a-female; 4b-male.
 Fig. 5 *Thamnotettix taxodii* n. sp.; 5a-female; 5b-male.
 Fig. 6 *Thamnotettix albovenosus* n. sp.; 6a-female; 6b-male.
 Fig. 7 *Euscelis divaricatus* n. sp.; male genitalia.
 Fig. 8 *Dorycephalus knulli* n. sp.; adult female, female and male genital segments; 8a-head, side view.
 Fig. 9 *Thamnotettix bisignatus* n. sp.; 9a-male.

THE PRESENT STATUS OF THE COLEOPTERUS FAMILY PLASTOCERIDAE.

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Candeze in his "Monographie des Elaterides" (1863) erected a tribe Campylides which he defined as follows: "Front carinate or not (carinate) on forward part. Mandibles protuberant, straight at the base and abruptly recurved at the tip for the most part. Eyes often globose and protuberant. Prosternum lacking a chin piece.¹

"Median coxae nearly contiguous and narrowing strongly the mesosternal fossa in front, and the anterior projection of the metasternum in back. Tarsi pubescent beneath."

This tribe included *Campylus* Fisch., *Oestodes* LeC., *Campylomorphus* Duv., *Plastocerus* LeC., *Octinodes* Cand., *Aplastus* LeC., *Euthysanius* LeC., *Aphricus* Lec., *Plectrosterus* Lacord, *Hemiops* Lap., *Pleonomus* Menet., *Macromalocera* Hope, *Cylindroderus* Esch., *Stichotomus* Cand., *Campyloxenus* Fairm.,

¹The genera *Campylomorphus* and *Campyloxenus* excepted.

Dironychus Lap., and *Isosoma* Fald. Of these genera the type genus *Campylus* Fisher is undoubtedly a true Elaterid. This genus is isogenotypic with *Lepturoides* Hbst., which having priority suppresses the tribe name. In my arrangement of the Elateridae based on larval characters (Annals Entomological Society of America X p. 250, 1917) this tribe is referred to as the *Lepturoidinae*. The larvae of the type genus have very strong affinities with the genus *Athous* Esch. The genus *Oestodes* LeConte is in no way related to the *Lepturoidinae*. I have figured the larva of this genus (L. C. page 251) and placed the genus in a new tribe, *Oestodini* in my sub-family *Phyrophorinae*. I am inclined, however, to question the position of this genus.

Candeze in his later work (Catalog Methodique, 1891) recognized the heterogeneity of this tribe and separated the genera *Lepturoides* Hbst., *Oestodes* LeC., *Bladus* LeC., *Phanophorus* Sol., *Campylomorphus* Duv., *Macromalocera* Hope, *Pleonomus* Menet., *Nomopleus* Cand., *Cylindroderus* Esch., *Stichotomus* Cand., *Octinodes* Cand., *Plestrostermus* Lacord., *Hemiops* Lap., *Adolesches* Cand., *Parhemiops* Cand., *Hemiopsida* MacLeay, and *Isosoma* Menetr., as the tribe *Campylites* (though he remarked in a foot-note that *Lepturoidites* should be employed if strict priority was adhered to) from the remaining genera *Plastocerus* LeC., *Aplastus* LeC., *Euthysanius* Lec., *Aphricus* LeC., and *Eniconyx* Horn, for which he erected a new tribe the *Plastocerites*.

Schwarz (Gen. Ins. fasc. 50, 1907) characterized the family, which he called *Plastoceridae*, as having the abdomen of males with 6 or 7 segments, and the females with 5 or 6 segments. The segments, from the 3d on, are freely movable; the posterior border of 2d, 3d and 4th segments are provided with a shining intersegmental membrane. The antennae of the males are often more or less pectinate. The elytra of the females are in some genera shortened. Mandibles are protuberant and abruptly bent inwardly from the middle to form right angles. The last joint of the maxillary palpi is cylindrical. He includes *Dodecaciis* Schwarz (Peru, 2 sp.), *Euthysanius* LeConte (California, 2 sp.), *Cepholodendron* Latr. (Africa and Madagascar, 5 sp.), *Ceroplastus* Heyden to include *P. angulosa* Germar (Asia Minor), *Octinodes* Cand. (*Plastocerus* Lec. not Schaum) (1 Californian, and 6 South and Central American sp.), *Phyllocerus* Serv. (Southern Europe and Caucasus, 3 sp.), *Diplophoenicus* Cand. (Madagascar 1 sp.), *Eniconyx* Horn (United States, 2 sp.), *Aplastus* LeC. (California, 6 sp.), *Euplastius* Schw. (1 sp. from California and 1 sp. from Alabama), *Aphricus* Lec. (California, 1 sp.).

Eniconyx Horn and *Aphricus* LeC., are two North American genera, which Horn believed to be very closely related, and to show a distinct relationship between the *Gardiophorinae* and

the other Elaterids, a position which I do not believe will be substantiated when the larval forms are finally recognized.

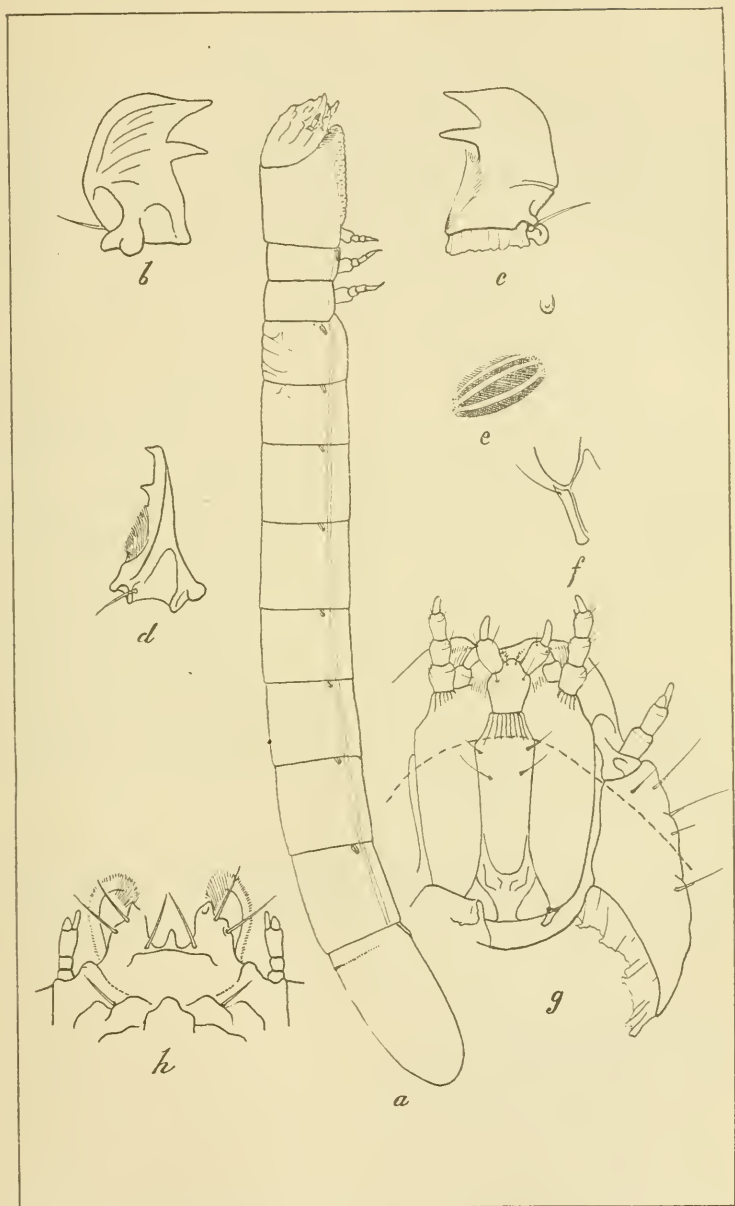
In addition to these two genera, the genera *Aplastus* LeC., *Octinodes* Candèze (*Plastocerus* LeC. not Schaum) and *Euthysanius* LeC. are of particular interest to North American entomologists. These genera all occur on the West Coast and in the southwestern United States and Mexico, and have always been a source of perplexity to workers in the Serricornia.

During the spring of 1923, Mr. W. B. Turner, who was formerly associated with me at the Hagerstown Laboratory and is now located at the Sacramento Laboratory of the Office of Cereal and Forage Crop Insect Investigations, sent in a report of the serious depredations of Cebrionid larvae in wheat fields in several parts of California. This note seemed most remarkable as no true Cebrionids were known to occur in California. Through Mr. Walton I suggested to Mr. Turner that there was a possibility that these insects which he determined as Cebrionids were larvae of the Californian Plastocerid genus *Euthysanius*. Knowing Mr. Turner to be a keen and careful observer I was sure that he was not mistaken as to the Cebrionid type of these larvae, as he had reared *Cebrio bicolor* Fab. at the Hagerstown Laboratory.

Later a consignment of material was received from Mr. Turner at the Office of Cereal and Forage Crop Insect Investigations and was very generously loaned me by Mr. Walton. Two different larvae, though extremely similar, were found which both Dr. Adam Böving and myself have examined very carefully. These are, without the slightest possibility of doubt, true *Cebrionids*.

Among the material was a reared specimen from a mass of material collected in October, 1915, by Mr. E. L. Barrett, who mistook the larvae for *Eleodes*. These larvae were collected in an alfalfa field near Laguna, California, in damp soil. On April 19, 1916, in examining the rearing cage in which these larvae were placed a pupa was found from which an adult emerged on April 28. This adult is *Aplastus speratus* LeC. In the same shipment were several larvae much too large to be larvae *Aplastus*; these were collected in 1919 at Tracey, California, and are undoubtedly the larvae of *Euthysanius* Lec., as the affinities of this genus and *Aplastus* are clearly indicated by the brachypterous females of both genera as figured by Horn (Transactions American Ent. Soc. Vol. 9, plate 1, 1881). I am also very much inclined to place *Octinodes* in this same group of Cebrionids. *Octinodes* is the type genus of the so-called *Plastoceridae*.

We, therefore, no longer have reason to maintain a family of Coleoptera known as *Plastoceridae* as the more important genera and the type genus of this family are undoubtedly either true Cebrionids, true Elaterids, or insects of which the affinities are



HYSLOP—APLASTUS SPERATUS.

so extremely doubtful that their grouping into a family is misleading.

This present development, on the one hand, removes the *Plastoceridae* as an intermediate family between the two families Elateridae and Cebriionidae; on the other hand, the adult characters used to separate the *Elateridae* and *Cebriionidae* are extremely ephemeral and the larvae of the two families have so many characters in common that there is not much reason for considering them as more than sub-families of a broader *Elateridae*.

The principal differences between the *Cebriionidae* and *Elateridae* as now recognized are as follows:

CEBRIONIDAE.	ELATERIDAE.
Adult.	Adult.
Mandibles protuberant.	Mandibles not strongly protuberant.
5 or more visible ventral abdominal segments at least in female.	5 visible ventral abdominal segments, both sexes.
Well developed to feebly developed tibial spurs.	Tibial spurs lacking or very feeble.
Anterior tibia more or less expanded at the tip.	Anterior tibia not expanded at the tip.
Meso coxae approximate.	Meso coxae distinctly separated.
Larvae.	Larvae.
Most of stipes and mentum concealed by but not fused with a very pronounced projection of prosternum.	Stipes and mentum visible in toto from below.
Cervical membrane very large and eversible forming a balloon-shaped sack when the head is raised.	Cervical membrane not eversible.

LeConte (1853) quite correctly classified these insects when he placed *Aphricus*, *Plastocerus* (*Octinodes*) and *Euthysanius* with *Cebrio* and *Scaptolenus* in his 5th Division of the Elateridae, the *Cebriionites*.

EXPLANATION OF PLATE.

Larva of *Aplastus speratus* Lec.

- Fig. a. Lateral aspect of larva.
 " b. Ventral aspect of right mandible.
 " c. Dorsal aspect of right mandible.
 " d. Lateral aspect of right mandible.
 " e. Abdominal spiracle.
 " f. Cardo.
 " g. Ventral aspect of head.
 " h. Fronto clypeal region and antennae.