
Synopsis of the Atopidæ, Rhipiceridæ and Cyphonitæ of the United States.

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A large mass of pentamerous serricorn Coleoptera may be distinguished by having the anterior coxæ inserted in deep acetabula between the pro- and meso-sternum, and the prosternum although sometimes very narrow, entirely corneous. The abdomen has five visible ventral segments, except in Cebriionidæ,

where the 5th is truncate and the 6th exserted. This portion may be divided as follows:

A. *Coxæ anticæ globosæ.*

Abdomen articulis 2 primis connatis	Buprestidæ.
Abdomen articulis omnibus liberis, 5to rotundato	Elateridæ.
Abdomen articulis omnibus liberis, 5to truncato	Cebrionidæ.

B. *Coxæ anticæ magnæ transversæ.*

<i>Coxæ anticæ transversæ, trochantino magno</i>	Atopidæ.
<i>Coxæ anticæ conicæ, prosterno brevi, mesosterno protenso</i>	Rhipiceridæ.
<i>Coxæ anticæ conicæ, prosterno integro, mesosterno simplici</i>	Cyphonidæ.

The first two families under (A.) are very extensive, and must form the subject of special essays. In the Elateridæ I include both Eucnemides and Throscites, as those groups do not appear sufficiently distinct to rank as families. There are also strong reasons for considering the Cebrionidæ as a group of the same value. In them the anterior acetabula are more confined to the prothorax than in the remaining three families, which are small in extent, and will be now considered.

ATOPIDÆ.

Coleoptera pentamera, antennis serratis, 11-articulatis, articulo 2do brevi; ligula quadrifida; coxis anticis transversis non prominulis, trochantino magno, consp. duo, in acetabulis e prosterno et mesosterno compositis proinde insertis; prosterno corneo, postice prolongato; mesosterno concavo; abdomine segmentis 5 ventralibus liberis; tarsis articulo 1mo 5toque elongatis, hoc paranychio parvo bisetoso.

1. Tarsi elongati simplices, ungues integri.

Antennæ approximatae, fronte elongata angusta, clypeo nullo	Ectopria Lec.
Antennæ distantes; palpi maxillares cylindrici	Stenocolus Lec.
Antennæ distantes; palpi maxillares dilatati	Anchytarsus Guér.

2. Tarsi elongati, ungues serrati

Antennæ distantes, art. tarsorum 1—4 subtus lobatis	Dascillus Latr.
Antennæ approximatae, art. tarsorum 2—4 breviter lobatis	Eurea Lec.

Stenocolus, Anchytarsus, Dascillus and Odontonyx are sufficiently explained at p. 229 of the present volume. I must add, however.

1. To the synonyms of Anchytarsus bicolor, must be placed *Elodes debilis* Ziegler, Proc. Ac. Nat. Sc. 2, 269.

2. To Odontonyx ornata Guér., Schaum refers *Dasytes trivittis* Germar, Ins. Nov. 76. The species must therefore be called *Odontonyx trivittis* Schaum, (Bericht. Entom. 1849.)

ECTOPRIA Lec.

Antennæ basi approximatae, elongatae, articulo 1mo crasso, 2 et 3 minutis, 4—10 triangularibus, gradatim subangustioribus, 11mo ovali. Frons angusta, elongata; labrum rotundatum, mandibulas obtegens; palpi filiformes, maxillares elongati, labiales breviusculi. Pedes tenues, tarsi filiformes, articulis 1mo et 5to elongatis, intermediis coniunctis aequalibus, his gradatim paulo brevioribus, ungues parvi simplices; tibiæ calcaribus apicalibus obsolete.

The body is short, convex, narrowed in front; the thorax is transverse and trapezoidal, with all the angles acute; the prosternum is produced posteriorly, and the mesosternum is concave. The species live on bushes near water.

1. *E. thoracica*, atra, subtiliter pubescens, thoracis lateribus tarsisque flavis. Long. .15.

Eubria thoracica Ziegler, Proc. Acad. Nat. Sc. 2, 269.

Georgia and Pennsylvania, on plants near water. This very pretty little insect continues still farther the affinity between Atopidæ and Parnidæ, referred to under Stenocolus (p. 229.) To the genus Eurypalpus Lec. it shows strong

resemblance in general form, and to some extent in details of structure, but differs in the number of abdominal segments, and in the form of the head, as well as in the elongation of the first tarsal joint.

In the male the antennæ are larger and almost pectinate, and the sides of the thorax are sinuate; in the female the antennæ are strongly serrate, and the sides of the thorax are broadly rounded.

2. *E. tibialis*, atro-fusca, subtiliter pubescens, thoracis lateribus obsolete piceo-testaceis, tibiis tarsisque flavis. Long. .15.

Pennsylvania, Dr. Melsheimer. This species is very similar to the preceding; it is, however, more dilated posteriorly, and the depression each side at the base of the thorax is less deep. The sides of the thorax above and beneath, and the tip of the abdomen, are indistinctly testaceous; the tibiæ and tarsi are pale yellow, while in the preceding, as in the next species, the tibiæ are black. The sides of the thorax in the male are nearly straight, in the female they are broadly rounded.

3. *E. tarsalis*, atra subtiliter pubescens postice minus dilatata, thorace postice utrinque latius profunde impresso, margine tenui antico, tibiæ basi tarsisque testaceis. Long. .15.

One specimen, Georgia. This species is more oblong than either of the others. The sides of the thorax are slightly rounded towards the base, and not at all testaceous; the anterior margin is narrowly bordered with testaceous; the basal impressions are large and deep, so that the whole region of the anterior angles appears depressed; the elytra, as in the two preceding species, are coarsely, not deeply punctured; at the base they are a little wider than the base of the thorax; posteriorly they are about one fifth wider than at the base; the legs are black, the base of the tibiæ and the tarsi testaceous; the prosternum is pale testaceous.

EUREA Lec.

Antennæ basi approximatae, articulo 1mo cylindrico 2do (2 et 3?) parvo rotundato, sequentibus longioribus triangularibus. Frons angusta deflexa, apice emarginata. Labrum rotundatum, mandibulas obtegens; palpi filiformes, maxillares elongati. Pedes tenues, tibiæ calcaribus obsolete; tarsi articulo 1mo elongato, 2—4 brevibus, subtus breviter lobatis, unguiculari præcedentibus tribus æquali, unguibus parvis, integris.

The body is very broad, subquadrate and moderately convex; the thorax very short, strongly narrowed in front, with the angles acute, and the sides broadly rounded. The head is small and deflexed, the eyes entire; the prosternum is posteriorly produced, and rounded at the extremity, the mesosternum is scarcely concave.

E. nervosa, atra, subtiliter cinereo-pubescens, scutello, elytrorumque lineis paucis subreticulatis distinctius cinereis, prosterno testaceo, tarsi flavis. Long. .17; lat. .11.

Eubria? nervosa Mels. Proc. Ac. Nat. Sc. 2, 222.

Pennsylvania; a typical specimen of this very rare insect was given me by Dr. Melsheimer. The antennæ are, unfortunately, broken, so that, not knowing the number of long joints, I cannot determine whether the small round mass following the basal joint should be considered as a single joint, or two joints closely united.

RHIPICERIDÆ.

Coleoptera pentamera, antennis flabellatis, rarius serratis, sub frontis margine ante oculos insertis, coxis anticis conicis, prominulis, acetabulis inter pro- et mesosternum receptis, prosterno corneo, inter coxas angusto, abbreviato, ad mesosternum antice extensum applicatum; abdomine segmentis ventralibus 5 liberis; tarsi articulo ultimo elongato, puranychio magno, dense setoso.

Of this little family we have but two genera within our limits; in both of them the antennæ are 11-jointed. In *Sandalus* the joints of the tarsi are lobed

beneath, in Zenoa they are without lobes. Zenoa is also remarkable for its protuberant front, and less exerted mandibles.

CYPHONIDÆ.

Coleoptera pentamera, antennis 11-articulatis, rarius biramosis, minus approximatissimis; ligula emarginata; coxis anticis conicis prominulis, acetabulis inter pro- et mesosternum receptis; prosterno corneo, inter coxas angustissimo, non abbreviato; mesosterno nec concavo, nec profenso; abdomine segmentis ventralibus 5 liberis; coxis posticis plus minusve laminatis; tarsi articulo 4to præcipue bilobato, ultimo brevi, unguibus parvis integris.

A. Tarsi articulo 4to bilobo:

Tarsi omnes articulo 3io distincto; (thorax non clypeatus.)

Tibiæ calcaribus obsoletis Helodes Latr.

Tibiæ calcaribus elongatis armatæ Scirtes Illiger.

Tarsi postici articulo 3io vix distincto; (thorax cly-

peatus) Sacodes Lec.

B. Tarsi filiformes, tibiæ calcaratæ Eucinetus Schupp.

HELODES Latr. (Elodes,) 1796.

Cyphon Fabr. 1798.

From the genus as defined by Guérin in his very beautiful monograph, contained in the "Species et Iconographie générale des Animaux Articulés," I have removed certain species having the thorax extended over the head, to form a new genus Sacodes. The remaining species may be grouped in the following manner:

a. Antennæ articulo 1mo dilatato, 2 et 3io parvis, hoc minutissimo Sp. 1.

b. Antennæ articulis 2 et 3 parvis, illo maiore Sp. 2—4.

c. Antennæ articulis 2 et 3 sequentibus paulo brevioribus Sp. 5—12.

a.

1. *H. discoidea*, oblongo-ovalis, modice convexa, rufo-flava, pubescens, elytris dense punctatis macula maxima nigra communi notatis. Long. .16—.18. Guérin, Spec. et Icon. An. Art. No. 9, p. 9.

Cyphon discoideus Say, Journ. Ac. Nat. Sc. 5, 161.

Georgia, Pennsylvania and Missouri. The antennæ of the male are biramosæ, the third and following joints being furnished with two long cylindrical basal processes. The suture of the elytra is frequently yellow, so as to divide the large black spot. The male is very rare; the only specimen seen by me was kindly given me by Dr. Melsheimer.

b.

2. *H. concinna*, elongato-ovalis, minus convexa, nigra, tenuiter griseo-pubescent, thorace punctulato, elytris dense punctatis, læte rufis, basi trienteque puncto nigris. Long. 16.

San Francisco, California, June. Body oblong, very distinctly convex, rounded at each end, black, sparsely pubescent. Head scarcely punctured; antennæ half as long as the body, entirely black, 2d and 3d joints nearly equal, together scarcely two thirds the length of the 4th joint. Thorax nearly three times wider than long, emarginate in front, very slightly rounded on the sides, broadly rounded at the base, surface finely punctulate. Elytra one third wider than the thorax, almost parallel, tolerably densely punctured, with very faint traces of two lines; black, with a very broad transverse red band, extending from near the base to within one third of the apex, and being a little dilated towards the suture; epipleuræ, under surface and feet black.

3. *H. ruficollis*, oblongo-elongata, atra pubescens, thorace subtilissime punctulato, rufo sæpe nigro notato, vel nigro elytris densius punctatis, obsoletissime tricostatis, tibiis tarsisque testaceis, antennis basi plus minusve testaceis, articulis 2 et 3io coniunctis 4to duplo brevioribus. Long. .15.

Lampyris ruficollis Say, Journ. Ac. Nat. Sc. 5, 162.

Elodes fragilis Ziegler, Proc. Ac. Nat. Sc. 2, 269.

Elodes marginicollis Guérin, Spec. et Icon. An. Art. No. 9, p. 3.

Middle and Southern States: two specimens from Missouri Territory have the feet entirely rufous, but otherwise do not differ. One specimen with entirely black thorax was found by me in Georgia; I am strongly inclined to believe that this last variety is *H. oblonga* Guérin, which, however, is said to have the 3d joint of the antennæ less than half the size of the second. Where both the second and third joints are small, it is difficult to determine their relative proportions, and on this account too great reliance should not be placed on the characters given by Guérin in his division of the genus into groups.

It is certain that this insect must be Say's *Lampyr. ruficollis*, as we have no other that will agree with his description; from *H. collaris* and *bicolor* it differs in having the thorax always slightly dusky in front; Say's observation that the species has not the power of giving light, added to the fact that the thorax is not produced over the head, point conclusively to the present genus.

4. *H. pallipes*, oblongo-ovalis, atra nitida fere hispido-pubescent, thorace parvo, vix punctulato, elytris minus dense punctatis, obsolete sat distincte tricotatis, pedibus, antennisque flavis, his articulis 2 et 3 coniunctis 4to vix brevioribus. Long. .11.

Common in the Southern States, and occasionally found at New York. This species is very distinct from those of the following division, which it resembles in form; I cannot, therefore, consider it as *H. contracta* Guérin. The third joint of the antennæ is thinner, but not shorter than the second; the sides of the thorax are rounded and very finely margined.

c.

5. *H. fusciceps*, oblongo-ovalis, nigro-picea, dense hispide pubescens, antennarum basi, pedibus, thorace elytrisq; pallidioribus, his dense punctatis, minime costatis, thorace subtiliter punctulato, lateribus subtiliter marginato, antennarum articulis 2 et 3 coniunctis 4to longioribus. Long. .12.

Guérin, Spec. et Icon. An. Art. No. 9, p. 15.

Cyphon fusciceps Kirby, Fauna Bor. Am. 245.

One specimen from Lake Superior and another from New York. Body above luteo-testaceous, tolerably densely clothed with suberect grayish hair. Head nearly black, densely punctulate; antennæ black, four basal joints testaceous, 2d joint equal in length but thicker than the 3d; together they are a little longer than the 4th. Thorax short, very transverse, very finely punctulate, sides rounded very finely margined, not concave. Elytra densely, tolerably finely punctulate, without any trace of raised lines. Body beneath blackish, subsericeous with brown hair; feet testaceous.

On examining a series of specimens, which I considered as belonging to *H. variabilis* Guér., I find differences which appear to have been heretofore overlooked, and which seem sufficient for the definition of several species. As these characters, which are derived from the thorax and from the nature of the pubescence, are not alluded to in previous descriptions, I cannot be certain of the identity of any of our native species with those of Europe.

6. *H. picea*, oblongo-ovalis picea, breviter griseo-pubescent, thorace punctulato, lateribus rotundato, subtiliter marginato, leviter concavo, elytris dense punctatis, minime costatis, antennæ basi testaceis, articulis 2 et 3 coniunctis 4to longioribus, pedibus testaceis femoribus obscuris. Long. .10.

One specimen, Lake Superior. This species is similar to the preceding, but the pubescence is shorter and scarcely erect. The thorax is more densely punctulate, and the sides are reflexed, so as to cause a slight concavity along the margin. The antennæ are as in the preceding, but the second joint appears somewhat thicker.

7. *H. punctata*, oblongo-ovalis, picea, dense subhispide griseo-pubescent, capite thoraceque valde punctulatis, hoc lateribus distincte punctulatis, elytris

dense punctatis, vix obsolete tricotatis, pedibus testaceis, femoribus infuscatis, antennæ basi testaceis, articulis 2 et 3 coniunctis 4to longioribus. Long. .11.

South Carolina and New York, Dr. Zimmerman. Piceous, densely covered with moderately long, slightly erect yellowish hair. Head densely punctulate; antennæ with the basal joints testaceous, the 2d and 3d nearly equal in length and thickness, together they are longer than the fourth. Thorax very short, densely punctulate, sides margined, scarcely rounded except at the angles. Elytra densely punctured, with very faint traces of three elevated lines. Beneath piceous, with the legs paler and femora somewhat obscure.

8. *H. nebulosa*, oblongo-ovalis, nigro-picea, parcius griseo-pubescentis, capite punctulato, thorace obsolete punctulato, lateribus vix rotundatis, subconcavis, elytris dense punctatis, testaceis, macula scutellari, sutura postice, marginæque late infuscatis, antennæ tuscis basi pallidis, 2 et 3 æqualibus, coniunctis 4to longioribus, pedibus testaceis, femoribus infuscatis. Long. .10—.11.

Abundant in the Northern and Middle States. This species is readily distinguished by the punctuation of the thorax being less obvious than that of the head, and by the peculiar marking of the elytra, which are punctured as in the three preceding species, and entirely destitute of raised lines. It cannot be *H. pardi* of Europe, as the 3d joint of the antennæ is equal in size and thickness to the 2d. If Guérin did not describe the head of *H. obscura* as smooth, I should refer my specimens to that species.

9. *H. modesta*, oblongo-ovalis, rufo-testacea, dense pubescens, thorace capiteque subtilius punctulatis, illo lateribus distincte marginatis, elytris dense punctatis, antennarum articulis 2 et 3 æqualibus, 4to coniunctis longioribus. Long. .09.

South Carolina, Dr. Zimmerman. This species resembles the two preceding, but is smaller; the head and thorax are equally finely punctulate; the antennæ have the 3d joint as long and as thick as the 2d. The side margin of the thorax is distinct and slightly reflexed.

10. *H. pusilla*, ovalis, nigro-picea, griseo-pubescentis, capite thoraceque punctulatis, hoc lateribus fere rectis, distincte marginatis, elytris sat dense punctatis, macula apicali læte flava, pedibus testaceis, femoribus infuscatis, antennarum basi flava, articulis 2 et 3 coniunctis 4to longioribus, illo crassiore. Long. .08.

Two specimens, Indiana, near Evansville. This species is more regularly oval than any of those above described; the antennæ are as in *H. fusciceps* and picea—that is, the 2d joint is evidently thicker than the 3d.

11. *H. collaris*, elongato-oblonga, atra nitida, parce pubescens, thorace rufo, vix punctulato, lateribus subrotundatis, reflexis, elytris minus dense punctatis, minime costatis, antennarum articulis 2 et 3 testaceis, æqualibus, 4to coniunctis longioribus, tibiis tarsisque piceis. Long. .16.

Guérin, Spec. et Icon. An. Art. No. 9, p. 4.

Georgia, three specimens. Very distinct from *H. ruficollis*, not only by the form of the antennæ and thorax, but by the coarser punctuation of the elytra. The thorax is entirely bright yellow, without any tendency to become dark in the middle. The third joint of the antennæ is not thinner than the second.

12. *H. bicolor*, elongato-oblonga, atra nitida, parce pubescens, thorace rufo, parce punctulato, lateribus subrotundatis, latius reflexis, elytris minus dense punctatis, minime costatis, antennæ basi flavis, articulis 2 et 3 æqualibus, 4to coniunctis longioribus, pedibus flavis. Long. .15.

Two specimens, from Georgia. Resembles the preceding, but at first sight distinguished by the yellow feet.

The two following I cannot identify:

H. obscura Guérin, Spec. et Icon. An. Art. No. 9, p. 4, and *H. oblonga* Guér. ib. 13. Fresh evidence is required before the European *H. variabilis* and

H. coarctata can be admitted into our fauna, into which they have been introduced by Guérin.

SCIRTES III.

1. *S. tibialis*, late ovalis, niger, subtiliter pubescens, capite thoraceque vix punctulatis, elytris dense punctulatis, antennis, tibiis tarsisque testaceis, illis versus apicem fuscis. Long. ·13.

Guérin, Spec. et Icon. An. Art. No. 3, p. 3.

S. solstitialis Mels. Proc. Ac. Nat. Sc. 2, 223.

Georgia, New York, Lake Superior.

2. *S. lateralis*, late ovalis niger nitidus, subtilissime pubescens, thorace subtiliter punctulato, lateribus late flavis, elytris sat dense punctatis, sutura ad medium rufa, antennis tibiis tarsisque testaceis. Long. ·13—10.

S. suturalis|| Ziegler, Proc. Ac. Nat. Sc. 2, 44.

Pennsylvania, Georgia and Missouri Territory. This insect is most probably *S. orbiculatus* Guér. (*Cyphon orbiculatus* Fabr. Syst. El. 1, 503), but as the description of that species gives the feet as ferruginous, a new examination of the typical specimens is required before the synonymy can be established.

S. suturalis Guér. (p. 3,) is unknown to me; it corresponds with *S. lateralis*, except the thorax is entirely black.

S. californicus Motsch. (Bull. Mosc. 1844, part 1, p. 35) is unknown to me. His classical description reads as follows:

"Subovatus, convexus, nigro-castaneus glaber, ore, antennis, pedibusque anteriores testaceis, pedibus posteriores nigro-fuscis; femoribus incrassatis." Long. 1½ lin.

SACODES Lec.

Palpi maxillares longiusculi, articulo ultimo acuto; labiales breves articulo penultimo maiore ovali, ultimo laterali, parvo. Antennæ subserratæ, articulis 2to et 3io parvis (hoc minore), 4to reliquis longiore; tibiæ calcaribus obsoletis; pedes postici non saltatorii, tarsi postici articulo 3io minuto vix conspicuo.

The body in this genus is regularly elliptical, and moderately convex; the thorax is semicircular, produced over the head, and strongly reflexed at the margin.

1. *S. pulchella*, longius elliptica, flava, tenuiter pubescens, elytris sat dense punctatis, macula utrinque basali, alteraque maxima posteriore nigris, capite antennisque fuscis, his basi flavis. Long. ·12—·15.

Elodes pulchella Guérin, Spec. et Icon. An. Art. No. 9, p. 13.

Middle, Southern and Western States. The posterior spots are very large, extending in front of the middle of the elytra; varieties occur in which they are so much extended as to become confluent on each elytron with the basal spot.

2. *S. fuscipennis*, testaceo-flava, tenuiter pubescens, thorace medio sub-
infuscato; elytris dense subtilius punctatis, fusco piceis. Long. ·18.

Elodes fuscipennis Guérin, Sp. et Icon. An. Art. No. 9, p. 9.

Nycteus? thoracicus Mels. Proc. Ac. Nat. Sc. 2, 222.

Pennsylvania: a typical specimen from Dr. Melsheimer.

3. *S. thoracica*, latius elliptica, nigra, parce tenuiter pubescens, thorace flavo, scutello elytris nigris, minus subtiliter punctatis, antennis pedibusque flavis, femoribus plus minusve infuscatis. Long. ·11—13.

Elodes thoracica Guérin, Spec. et Icon. An. Art. No. 9, p. 14.

Pennsylvania and Georgia.

EUCINETUS Schuppel.

1. *E. infumatus*, piceus, fusco-pubescens, elongato-ovalis, utrinque rotundatus, elytris dense scabro-punctatis, vix obsoletissime striatis, ore elongato, pedibus antennisque basi testaceis, his articulo 3io brevi. Long. ·16.

San Francisco, California, February, under bark. This is the largest species

of the genus yet discovered. It is more regularly and obtusely rounded posteriorly than the other species. The head is more prolonged, and the third joint of the antennæ is only half as long as the fourth. The thorax is half as wide as the middle part of the elytra. In recently developed specimens, the sides of the thorax, and the under surface of the body are pale.

A number of pupæ found with the insects have the thorax, the dorsal abdominal line, and the margin fringed with long spines. The specimens have dried so much that no examination of the mouth can be made.

2. *E. ———*, niger ovatus, postice acutus, tenuiter pubescens, elytris obsolete striatis, transversim dense strigosis, apice ferrugineis, antennis pedibusque piceo-rufis, illis articulo 3io sequente vix brevior. Long. .11.

One specimen, Vermont; collected by the late Prof. C. B. Adams. I can find no character to separate this species from *E. hæmorrhoidalis* of Europe; with the figures and description given by various authors it accords perfectly, but I have not yet had an opportunity of comparing it with European specimens, and therefore do not propose a name.

3. *E. morio*, longiusculus, ovatus, niger, postice acutus, tenuiter dense pubescens, elytris obsolete striatis, transversim strigosis, tarsi anticis, antennarumque basi testaceo-rufis, his articulo 3io sequente vix brevior. Long .11.

Alabama, collected by Hentz, and given me by Prof. S. S. Haldeman. This species is narrower than the preceding, and more acutely attenuated posteriorly, otherwise the differences appear to be entirely in color.