

**A revision of the SPHÆRIDIINI inhabiting
Boreal America.**

BY GEO. H. HORN, M. D.

The species known to inhabit our fauna have never received special study, the "Synopsis of the Hydrophilidæ" by Dr. LeConte, ending practically at this tribe with the description of a few new species. A new study of some of the genera allied to *Philydrus* has made it advisable to continue the investigation with the hope of arriving at a clear understanding of the relationship of the two tribes.

The most interesting and instructive structures are found on the under side of the body along the median line, especially in the modifications of the various forms and developments of the three sternal pieces.

The mesosternum is especially worthy of attention as we here find an explanation of the partially developed structures of some of the species of the tribe Hydrobiini.

In the preceding paper I have endeavored to show that the mesosternal elevation is of two distinct types—*first*, that forming a true longitudinal lamina, of which *Philydrus* is the type, and *secondly* the transverse ridge and its modifications, which at times assume a pseudolaminar form. In this latter series *Cymbiodyta* and *Hydrobius* furnish typical examples, although the modification of form in the former is gradual, its greatest development occurring in *C. marginella* and continuing still more in *Helocombus*. Attention is especially directed to these as occasion will be taken later on to refer to them.

Among the genera of the present tribe *Cercyon* alone has the laminate form of mesosternal elevation, all the others having a modification of the second type. In order to realize the relationship of the mesosternal forms other than *Cercyon* to the modification of the transverse ridge, it is merely necessary to trace the modifications already referred to in *Cymbiodyta* and *Helocombus*, in which there is a marked pyramidal elevation, entirely free and distant from the metasternum. If we now analyze the meso-metasternal elevation in *Phænonotum* it will be observed that the mesosternal portion by itself is quite that of the two genera above mentioned. In *Phænonotum* the mesosternum forms merely a small button on the end of

the metasternal prolongation. From this we have gradually a larger extent developed through *Dactyl. advectum* to the ordinary arrow-head type so often seen, of which the pentagonal form of *Cryptopleurum et al.* is plainly a further extension.

In the *Cyclonotum* series alone the metasternum is so extended as to practically form the entire separation of the middle coxæ, and in *Phænonotum* is still more prolonged. In the latter genus and *Dact. advectum* the structure imitates that of *Tropisternus* and *Hydrocharis* in form, although of different composition.

The prosternum is usually elevated along the median line in a carina which varies in height from scarcely more than an elevated line in many *Cercyon*, to a lamina of considerable elevation in *Dactylosternum*.

In the *Megasternum* group, however, the prosternum is rather broadly elevated at middle, forming an area of varying shape, which extends between the front coxæ and is on the same plane with the meso-metasternal surface.

The form of the metasternal episterna does not seem to have attracted attention. It will be observed in the *Cyclonoti* that this portion attains its fullest development in width. In the *Cercyones* the episternum is narrower, but with parallel sides, while in the *Megasterni* the inflexed elytra cover a portion of the episternum, so that it seems very narrow, and in *Cryptopleurum* is concealed in front.

In several species of *Cercyon* the metasternal area is extended by a sinuous oblique line directed toward the anterior angles. The meaning of this is fully explained in *Cryptopleurum* in which the entire area thus limited is abruptly, although slightly, elevated above the remainder of the metasternal area. Pl. ix, fig. 9.

The first ventral segment has a distinct carina in all the genera, except *Cyclonotum* and *Phænonotum*, and in these it will be observed there is no distinct prosternal carina. *Phænotypus* has no distinct prosternal carina, but a well marked ventral carina.

The elytra are extended beyond the lower margin of the body in all the *Cyclonoti*, in the *Cercyones* the acute edge of the elytra is the true margin of the body, while in the *Megasterni* the elytra have no well defined acute edge and clasp, the body concealing the metasternal episterna in part and without distinctly discernible epipleuræ.

There are other characters of note which seem to have restricted value, these will be mentioned under the genera to which they belong.

Dr. Sharp has observed that in one genus, *Cyloma*, the first joint of the middle and posterior tarsi is shorter than the second, while in *Perochthes* the first joint is lost entirely. The shortening and final loss of the first joint of the tarsus in a tribe in which that joint normally tends to be longer than the second is certainly very curious, and suggests the thought of relationship in other directions than the present tribe.

For the better study of the species, and as a means of showing the relationship between the genera, it is proposed to divide the tribe in three groups in the following manner:

Elytra extended below the lower surface of body, epipleuræ in great part vertical; metasternal side pieces wide.....Group **CYCLONOTI**.

Elytra not extended.

Elytra not inflexed, epipleuræ horizontal, distinct; metasternal side pieces moderate in width, parallel; prosternum carinate at middle.

Group **CERCYONES**.

Elytra inflexed, clasping the sides of body, without distinct epipleuræ; metasternal side pieces narrow, partly covered by the inflexed elytra; prosternum elevated at middle, forming an area.....Group **MEGASTERNI**.

Group **CYCLONOTI**.

In this group the metasternum is prolonged between the middle coxæ, closely united with the mesosternal elevation, the suture always distinct, and often impressed.

The following genera occur in our fauna:

Prosternum moderately wide in front of the coxæ and strongly carinate between them; elytra with distinct striæ of punctures and an impressed sutural stria; metasternal side pieces rather wide and with parallel sides; first ventral segment carinate..... **Dactylosternum**.

Prosternum extremely narrow in front of the coxæ and not carinate between them; elytra with confused punctuation and a well marked sutural stria; metasternal side pieces moderately wide, the suture slightly arcuate; first ventral segment carinate..... **Phænotypus**.

Prosternum short in front of the coxæ and not carinate between them; elytra with confused punctuation and no sutural stria; metasternal area very small; metasternal side pieces wide, widest at middle, the suture rather strongly arcuate; first ventral segment not carinate.... **Phænonotum**.

In addition to the characters given above it will be observed that the antennal club of *Phænonotum* is quite loosely articulated, that of *Dactylosternum* rather close, while in *Phænotypus* that member is quite compact.

Other genera have been suggested which should probably be referred to this group, viz., *Cyclonotum* *Er.*, *Cyloma*, *Perochthes* and

Heteryon *Sharp*. With the exception of the first I find it unsafe to attempt to correlate them with the others owing to the lack of data and the evident uncertainty with which others have been given.

DACTYLOSTERNUM Woll.

Mentum quadrate, broader than long, slightly narrower at base, broadly emarginate at apex, the angles rounded, surface broadly concave. Labrum scarcely visible; maxillary palpi moderate in length, the last two joints equal. Antennæ 9-jointed; tarsi 5-jointed on all the feet, the first joint nearly as long as the next two. Prosternum strongly carinate; metasternum prolonged in a process completely separating the middle legs, the episternum wide, the suture straight; mesosternum elevated in front of the metasternal process, usually in the form of an arrow-head (except in *advectum*), the suture between the two sterna well marked. First ventral segment distinctly carinate. Elytra prolonged downward beyond the body.

Although the more recent authorities, notably Dr. Sharp, have re-united the species separated by Wollaston with *Cyclonotum*; it seems better to retain them as distinct, or else go to the other extreme of suppressing nearly all the generic names proposed for species, which would, in the system of Lacordaire, be considered *Cyclonotum*.

There are several characters which seem quite important for use in separating the genera. *Cyclonotum* has not a well marked carina to the prosternum, nor on the first ventral segment. The antennal club is rather lax and the suture between the metasternum and its side piece is curved posteriorly. Wollaston indicates a difference in the tip of the mandibles, but this is extremely difficult to see without dissection.

Dactylosternum, on the other hand, has rather a close, but not compact club. The prosternum has a strong carina, and that of the first ventral segment is well marked. The lateral sutures of the metasternum are straight.

From what I can determine from description and the specimens in hand, *Dactylosternum* has the elytra striato-punctate, while *Cyclonotum* has a confused punctuation with the sutural stria alone evident.

One species described below has a form of mesosternal elevation differing materially from the usual arrow-head form, so that from a casual observation it would be supposed that the sternal arrangement

was that of *Phænonotum*. This might be considered sufficient groundwork for a new generic name, but from my study of the variation among the species of *Cercyon* and the other genera, it is quite likely that intermediate forms of mesosternum will be found.

The species known to me are the following:

Mesosternal elevation forming a pentagonal or arrow-head-shaped area, convex transversely. Pl. ix, fig. 11.

Prosternum with a slight trace of carination; elytra with distinctly punctured striæ.....**abdominale.**

Prosternum with a well marked carina, more elevated in front; elytra with rows of punctures.....**cacti.**
Mesosternal elevation continuous with that of the metasternum and gradually narrowed to its apex. Pl. ix, fig. 12.

Prosternum with a well elevated carina, higher in front; elytra with rows of punctures.....**advectum.**

D. abdominale Fab.—Oval, slightly oblong, moderately convex, piceous black, shining. Mouth parts rufo-testaceous, the palpi rather paler. Antennæ testaceous, club slightly darker. Head clearly punctate, more finely and densely on the clypeus. Thorax closely punctate, a little more coarsely than the head. Elytra ten-striate, striæ not deeply impressed on the disc, more deeply at the sides and apex, punctures of striæ coarse, nearly distant their own diameters on the disc, closer and coarser at the sides, intervals flat on the disc, slightly convex at sides and apex, closely punctate, the punctures a little coarser than those of the thorax. Body beneath piceous or brownish opaque. Legs piceo-rufous. Length .18—.20 inch.; 4.5—5 mm.

This insect was recognized by me some years ago as an inhabitant of our fauna by the description given by Wollaston. There does not seem to be an agreement between recent students as to which species Fabricius had before him, and Dr. Sharp (*Biol. Cent. Am.* i, 2, p. 769), while using the Fabrician name, quoted it in doubt, as well as *insulare* Cast. which, I infer, Bedel considers distinct. While the settlement of such a doubtful point is impossible at this time, I use the name adopted by Dr. Sharp, having used a specimen for comparison with our own sent me by Bedel as *insulare*, which Dr. Sharp considers synonymous with *abdominale*.

The facies of the species is not unlike several of our striate *Cymbiodyta*, as *dorsalis*. It may be at once known from any other in our fauna by the well impressed and rather coarsely punctured elytral striæ. The prosternum is not carinate in the sense in which it is observed in *cacti* or *advectum*, but is merely obtusely elevated along the middle. The mesosternal elevation seen directly from below is in the form of a broad arrow-head, convex transversely.

The species seems to be native to Brazil, whence it has been spread

to the Antilles and Mexico, and in the Eastern Hemisphere to Madeira and Madagascar. The specimens seen from our fauna are from Florida and North Carolina.

D. cacti Lec.—Oval, slightly oblong, piceous black, shining. Mouth parts rather dark rufo-testaceous. Antennæ paler testaceous with brownish club. Head closely punctate, more finely in front, usually a small group of coarser punctures on each side of the occiput. Thorax closely and equally, but not coarsely punctate. Elytra punctulate, a little more coarsely but less closely than the thorax, the striæ replaced by rows of coarser punctures not closely placed, these rather coarser and deeper at the sides, sutural stria distinctly impressed on its apical half. Body beneath piceous or brownish, opaque, the middle of the metasternum shining, closely, finely punctate. Mesosternal elevation similar in outline to that of *D. abdominale*, the lower edge on a continuous line with the metasternum. Prosternum carinate, the carina much more elevated in front. Legs pale piceo-rufous. Length .20—.24 inch.; 5—6 mm.

In this species the mentum is rather coarsely and closely punctate, while in *abdominale* it is nearly smooth. The sculpture varies a little in degree, the specimens from the hotter regions of Arizona being somewhat smoother. In nearly all the specimens there will be observed a small ante-basal fovea on the thorax opposite the fourth elytral interval, as in many *Cercyon*, a faint indication of the same will be observed in *abdominale*.

Occurs in southern California and Arizona under decomposing Cactus, more especially of the more massive forms (*Cereus*, etc.).

D. advectum n. sp.—Oval, oblong, slightly oblong, piceous black, shining. Mouth parts rufo-testaceous, antennæ and palpi paler. Head not coarsely punctate, moderately closely on the front, densely on the clypeus. Thorax equally punctate over the entire surface, a little more coarsely than the head. Elytra striato-punctate, the punctures of the discal rows finer and distant, those of the outer three rows much coarser and more deeply impressed, the sutural stria moderately impressed from apex nearly half to base, intervals closely punctate, more coarsely than the thorax. Body beneath piceous or brownish, opaque; metasternal area shining, finely punctate. Legs piceo-rufous. Length .18 inch.; 4.5 mm.

The mentum is opaque and punctulate, but less coarsely than in *cacti*, being intermediate between the latter and *abdominale*. The prosternum has a well marked carina, a little more elevated in front, but less so than in *cacti*. The mesosternal elevation is not at all pentagonal, but the sides are gradually divergent from the base to the obtuse apex, the form recalling that seen in *Hydrophilus*, the lower edge being on the same plane as that of the middle of the metasternum.

Occurs in Florida, special region unknown. This species may

possibly be an introduced one, but I have been unable to identify it. The Mexican species are certainly all different as the form of mesosternum would not have escaped the acute observation of Dr. Sharp, unless that of *C. posticatum* is similar.

PHÆNOTYPUS n. g.

Mentum broader than long, slightly narrowed posteriorly, slightly convex, sparsely punctate, finely transversely strigose, vaguely emarginate in front. Maxillary palpi moderate, the pseudo-basal joint slightly inflated, terminal joint a little longer than the preceding. Antennæ 9-jointed, terminated by a compact, elongate oval, scarcely flattened club, first joint as long as the club, the intermediate joints together a little more than half that length. Prosternum extremely narrow in front of the coxæ, forming a triangular area at middle which is obtusely carinate. Metasternum slightly elevated along its middle, prolonged between and entirely separating the middle coxæ, meeting the metasternum and closely united with it, the latter forming a pentagonal area. Suture between the metasternum and its episternum very slightly arcuate. First ventral segment carinate at middle. Legs rather short. Tarsi shorter than the tibiæ, rigid; the first joint scarcely longer than the second.

The above generic name is suggested for a species scarcely larger than *Creniphilus subcupreus*, which presents some peculiarities forbidding its reference to any of the genera at present proposed. It would have been referred to *Perochthes*, but Dr. Sharp asserts that but four joints can be detected in the tarsi.

If I interpret Dr. Sharp's meaning correctly, the antennal club is compact and not loose, as in the family generally; in fact, it resembles in form and appearance the club of a *Cuculionide* rather than a *Hydrophilide*.

The meso-metasternal region does not differ greatly from that of *Dactylosternum*, except that the two parts are more firmly and broadly joined at their line of union, and the metasternal prolongation relatively broader than usual in the *Cyclonotum* series.

The joints of the tarsi are by no means easy to determine, and from having at one time considered the number of joints four, I am now able to figure the five.

The mesosternal structure will readily separate the genus from *Phænonotum*, which has also the strongly arcuate lateral suture of metasternum and no ventral carina.

From *Cyclonotum* it differs in the very narrow prosternum in front of the coxæ, the compact antennal club and slightly convex mentum. From *Dactylosternum* it differs in the absence of the carina of the prosternum, the form of the antennal club, the slightly curved lateral suture of the metasternum.

One species is known in our fauna.

P. palmarum Schwarz.—Rather broadly oval, convex, piceous black, shining. Antennæ and palpi pale rufo-testaceous. Head minutely transversely strigose, sparsely punctulate. Thorax minutely alutaceous, sparsely punctulate. Elytra sparsely, obsoletely punctate, the punctures confused without tendency to form rows, sutural stria moderately well impressed from apex one-third toward base. Body beneath opaque. Legs bright rufo-testaceous. Length .07 inch.; 1.75 mm.

Not very different in form from *C. subcupreus*, although less distinctly punctured. The anterior part of the head is usually paler. The sides of thorax and tips of elytra are described as sometimes red, but this is rather a translucency than difference of color.

Occurs at Enterprise, Fla., feeding on the sap of Palmetto.

PHÆNONOTUM Sharp.

Mentum quadrate, a little wider than long, slightly narrowed behind, apex broadly emarginate, lower face concave, more or less punctured. Maxillary palpi moderate in length, the last joint slightly longer than the preceding. Antennæ 9-jointed, the club loosely articulated. Elytra confusedly punctate, without trace of striæ. Prosternum short in front of the coxæ; not carinate between them. Metasternum obtusely elevated along the median line, prolonged between and in front of the middle coxæ, meeting the mesosternal elevation, which forms but a very small part of the intercoxal carina. Tarsi 5-jointed, claws simple.

In addition to the characters given by Dr. Sharp, two others, seemingly of great importance, have been observed. The suture between the metasternum and its episternum is a curved line convex inwardly so that the episternum is narrower at either end than at middle. The first ventral segment is not carinate.

The first of these characters is only indicated in the posterior part of the episternum in *Cyclonotum orbiculare*, and it will be observed at the same time that its first ventral segment is also not carinate. These characters exhibit the intermediate position occupied by *orbiculare* in its relation to *Dactylosternum* and the present genus, and which is further emphasized by the absence of prosternal carina.

Two species are known in our fauna.

P. estriatum Say.—Rather broadly oval, strongly convex, piceous black, shining. Antennæ testaceous, club somewhat darker. Mouth parts pale, mentum piceous, sparsely punctate, shining. Head indistinctly, not closely punctate. Thorax very little more distinctly punctate than the head, punctures finer in front. Elytra more coarsely punctured than the thorax, the punctures not distant more than their own diameter, a little finer toward the apex. Body beneath piceous, opaque, metasternal carina shining, sparsely punctate. Legs piceous. Length .12—.14 inch.; 3—3.5 mm.

This insect has much the facies of *Cyclonotum orbiculare* Fab., although always smaller and rather broader. The anterior edge of the mesosternal plate is very nearly vertical.

Occurs in Maryland, Missouri, Florida, Louisiana and Texas.

P. semiglobosum Zimm.—Rather broadly oval, semiglobose, piceous black, shining. Mouth parts testaceous, mentum piceous, sparsely punctate, shining. Antennæ testaceous, club brown. Head sparsely indistinctly punctate. Thorax obsoletely, sparsely punctate. Elytra very distinctly punctate, a little more finely at apex, the punctures separated by more than their own diameters. Body beneath piceous, opaque, metasternal carina shining, sparsely punctate. Legs piceo-rufous. Length .10 inch.; 2.5 mm.

This species is very closely related to the preceding, and differs only in some minor details. It is smaller and more convex, the entire surface less distinctly punctate, and on the elytra the punctures are more widely separated.

Occurs in Florida.

Group CERCYONES.

In this group the metasternum is not at all, or extremely little extended between the middle coxæ. The prosternum moderately wide in front of the coxæ and carinate at middle. First ventral segment distinctly carinate. Elytra with distinct lateral edge, the epipleuræ distinct and horizontal. Metasternal side pieces of moderate width, the sides parallel.

The following genera occur in our fauna :

- Middle coxæ narrowly separated, the mesosternal elevation usually narrow, the suture between it and the metasternum well marked..... **Cercyon.**
 Middle coxæ widely separated, the mesosternal elevation forming a rather broad pentagonal area, which is closely united by its broad base with the metasternum, the suture barely distinct..... **Pelosoma.**

In these genera the joints of the antennal club are rather closely articulated. The elytra are usually striate, but a good number have merely rows of punctures. Several genera have been indicated, which may be referred here, but one of them, *Oosternum*, does not seem to me separable from *Cercyon*. *Sphæridium* belongs here, but

is not represented in our fauna, the introduction of the name in our lists is unnecessary, as the finding of a single specimen, and that even doubtful, does not entitle it to admission.

CERCYON Leach.

Prosternum scarcely separating the anterior coxæ, the median line carinate in a variable degree. Mesosternum elevated between and in front of the middle coxæ, its lower edge being either linear, lanceolate or narrowly oval, the suture between the meso- and metasternum being always well marked. Tibiæ spinulose on their outer edge, the front tibiæ entire on the outer edge, except in *littoralis*.

The metasternum does not project at all between the middle coxæ, but forms an acute angle or broadly rounded edge, in accordance with the form of the mesosternum and the width of the latter at base, as will be seen on the figures (Pl. ix, figs. 1 to 6). The mesosternum is entirely free from the metasternum and can readily on dissection be disarticulated without fracture.

In the other genera of the *Cercyon* series the mesosternum forms a broad plate, its base broad and closely united with the metasternum, the suture being at most an impressed line.

After a study of a typical species of *Oosternum*, kindly sent me by Dr. Sharp, and to which our *pubescens* belongs, I am unable to realize that there is sufficient grounds for retaining the genus apart from *Cercyon*. It is true the body of the prosternum is a little more elevated and the carina consequently less prominent than in the majority of *Cercyon*, but this is merely a variation in degree and not in structure. The mesosternum is not in any manner different from several species of *Cercyon*, as will be seen by examining those of the *granarius* group.

The characters made use of in the following table are sufficiently evident and easy to be detected by any one possessing a moderate series of the species.

The examination of species for the basal marginal line must be done with some care. When the thorax is somewhat deflexed the basal marginal line of the elytra assumes a position in relation to the base of the thorax that is very deceptive.

The use of the basal punctiform impressions as a means of separating species is of no value. These occur at the base of the median line and opposite the fourth elytral interval and seem to be the last

survival of the linear impressions of *Helophorus*, and are homologous with similar impressions, to which attention has been called in *Philydrus et al.*

There is considerable variation in color in nearly all the species, and to an extent which renders it troublesome to distinguish some of them without close reference to the structural characters, which are fortunately well marked, enabling groups to be formed.

In glancing over the list of species it will be a matter of surprise to many that so few of the forms are peculiar to our fauna. It may also be questionable how many of those common to our fauna and Europe have been introduced by means of commerce.

In studying Bedel's recent work (*Faune du Bassin de la Seine*) a large number of the species are noted as extending their habitat from temperate Europe through the north of Asia and in some instances to Japan. Every one of these has been found on our continent, and a certain number of other well-known European species having occurred leads to the inference that they should also be found in Siberia (*granarius*, *tristis*, *depressus*).

It seems to me that but a small number of the species owe their presence in our fauna to introduction by human agency. They appear to be rather members of a circum-polar fauna equally native in either hemisphere, distributed at a time when continental division was less abrupt than in the present geologic era. Many of the species connect directly with the northwestern regions as indicated above, while others seem restricted to the Atlantic; these latter, if any, are the truly introduced species (*melanocephalus*, *pygmæus*, *nigriceps*, *hæmorrhoidalis*). On the other hand it seems probable some of our Pacific coast species (*luniger*, *fimbriatus*, *fulvipennis*, *adumbratus*) occur likewise on the eastern Asiatic coast. In fact, several Japanese species look very like the first two named.

The species at present known to me have been arranged in accordance with the annexed table.

Anterior tibiæ emarginate on the outer edge near the apex, a conspicuous spur below the notch (Pl. ix, fig. 17).

Sides of thorax slightly sinuate posteriorly; form subdepressed...***littoralis***.

Anterior tibiæ not emarginate (Pl. ix, fig. 16).

Sides of thorax distinctly sinuate posteriorly; maritime species.....2.

Sides of thorax regularly arcuate and narrowed from base to apex.

Elytral intervals flat or slightly convex; species glabrous.....3.

Elytral intervals alternately subcostiform at apex; surface sparsely pubescent.14.

- 2.—Elytral striæ deeply impressed from base to apex, intervals slightly convex; maxillary palpi stout.....**fimbriatus.**
 Elytral striæ not deep; intervals flat.
 Form rather broadly oval; striæ fainter at base; elytra almost entirely pale; maxillary palpi stout.....**luniger.**
 Form rather oblong; striæ obliterated at apex; elytra dark, pale at tip; maxillary palpi slender.....**depressus.**
- 3.—Metasternal area limited to the middle of the metasternum (Pl. ix, fig. 2).
 Metasternal area extended by an oblique line which is directed obliquely toward the anterior angle (Pl. ix, fig. 1).....12.
- 4.—Lateral marginal line of thorax extended for a distance along the basal margin.5.
 Lateral marginal line reaching the hind angles only.....6.
- 5.—Elytra reddish testaceous, a large oval piceous spot on the suture behind the middle, which extends narrowly to the apex; thorax slightly narrowed at base.....**unipunctatus.**
 Elytra entirely rufo-testaceous or somewhat darker; thorax regularly narrowed from base to apex.....**quisquilius.**
- 6.—Interval between the seventh and eighth striæ normally wide, at least biserially punctate7.
 Interval between these striæ narrow and uniserially punctate.....11.
- 7.—Species oval, never very convex, head oblique.....8.
 Species short, very convex, head vertical; punctuation of the elytral intervals more indistinct than that of the thorax13.
- 8.—Elytra piceous black, with a sharply limited yellowish white space extending along the side toward the base.....9.
 Elytra rufo-testaceous, castaneous or piceous, the apex indefinitely paler; sides of thorax paler.....10.
- 9.—Eighth interval at least biserially punctulate; mesosternal elevation narrow.
 Elytral striæ rather deeply impressed at apex; apical pale region large, always extended to the humeral angle.....**prætextatus.**
 Elytral striæ very faint at apex; apical pale region narrower, rarely reaching the humeral angle.....**marinus.**
- 10.—Elytral intervals distinctly punctulate, nearly equally with the thorax.
 Palpi and antennæ piceous; elytra rufo-castaneous, paler at apex.
fulvipennis.
 Palpi and antennæ pale.
 Elytra rufo-castaneous, indefinitely paler at apex.....**lateralis.**
 Elytra piceous, a common indefinite pale space divided by the suture, near, but not reaching the apex, humeral umbone paler.
indistinctus.
 Elytral intervals scarcely at all punctulate; thorax distinctly punctulate.
adumbratus.
- 11.—Color almost entirely testaceous; head, median space of thorax and humeral space piceous.....**variegatus.**
 Color piceous, elytra with an indefinite pale space at apex..... **analis.**
 Elytral striæ rather feeble; apical pale space sharply limited by an arcuate line and not extending along the side margin; mesosternal elevation oval**ocellatus.**

12.—Thorax without basal marginal line; thorax entirely black.

Elytra piceous, with pale apex, varying to entirely rufo-castaneous; surface distinctly punctulate; palpi and antennæ piceous.

hæmorrhoidalis.

Elytra reddish, with a large scutellar triangle and humeral stripe piceous.

Palpi pale; epipleuræ piceous; elytra very distinctly punctulate.

melanocephalus.

Palpi pale, last joint piceous; epipleuræ pale; elytra indistinctly punctulate.....**pygmæus.**

Thorax with distinct basal marginal line; thorax paler at the sides; elytra pale, with a transverse piceous band behind the middle; palpi pale.

nigriceps.

13.—Surface opaque, more or less alutaceous.

Entire surface alutaceous; elytral striæ fine, but reaching the apex, which has a pale spot.....**lugubris.**

Elytra alone alutaceous, the striæ extremely fine and not reaching the apex, which has a pale spot.....**tristis.**

Surface shining.

Elytral striæ deeply impressed, the intervals convex at sides and apex, a sharply defined apical pale spot, which extends narrowly along the sides to base; intervals scarcely distinctly punctulate; body beneath opaque.....**floridanus.**

Elytral striæ moderately deeply impressed and deeper at apex, which has no pale spot, intervals sparsely punctulate; beneath opaque.

granarius.

Elytral striæ replaced by rows of fine punctures, intervals sparsely punctulate, apex with a rufous space extending slightly along the suture; beneath shining.....**navicularis.**

14.—Pale rufo-testaceous, head piceous; elytral striæ deep, especially at sides and apex; metasternal area not extended.....**pubescens.**

C. littoralis Gyll.—Oblong oval, moderately convex, piceous black, shining, elytra usually with a pale space at apex extending more or less along the side. Antennæ testaceous, club piceous, palpi piceo-testaceous, last joint darker. Head sparsely indistinctly punctate. Thorax transverse, sides arcuate at middle, narrowed at apex and base, hind angles slightly obtuse, no basal marginal line, disc regularly convex, without trace of basal impressions, surface not closely punctate, the punctures finer in front. Elytra striate, the tenth indistinct, striæ deeper at apex and with fine close punctures, intervals slightly convex on the disc, more so near apex, punctulate more finely and closely than the thorax. Body beneath piceous opaque, the metasternal area shining and sparsely punctulate. Prosternum feebly carinate, mesosternal elevation narrowly oval, sparsely punctulate. Legs rufo-piceous. Length .10—.12 inch.; 2.5—3 mm.

Several variations in color have been recorded for this species in Europe, but in the few that I have seen from our coasts very little difference has been observed, except that one specimen with a slightly paler thorax has a pale spot each side of the scutellum. The apical pale spot may be entirely absent. This species is remarkable in

having the outer edge of the front tibia emarginate near the apex, with a conspicuous spur below the emargination.

The specimens studied have been collected on Coney Island (Roberts) and Magdalen Island (Blanchard). Widely extended on the sea-coast of Europe, extending also into the Mediterranean. Specimens are in Mr. Ulke's cabinet from Illinois, but without designation of locality.

Since the above was written Dr. Hamilton has collected numerous specimens on the coast of New Jersey, at Longport, about equally divided between those having the apical white space and those totally black. It seems probable that other localities will produce variations similar to those observed in Europe.

C. fimbriatus Mann.—Oval, moderately convex, color variable. Antennæ testaceous, club brownish; palpi piceo-testaceous. Head always piceous, shining, moderately closely punctulate, clypeus slightly alutaceous and subopaque. Thorax transverse, the sides feebly arcuate, slightly oblique posteriorly, hind angles rectangular, base without marginal line, disc evenly convex, a faint depression at base opposite the scutellum and one each side opposite the base of the fourth stria, surface finely and closely punctate at middle, more coarsely and less closely at the sides. Elytra deeply striate, striæ not punctate, tenth stria scarcely evident, intervals moderately convex, finely and closely punctate on the disc, alutaceous at sides and apex without distinct punctures. Body beneath dark brown or black, opaque, metasternal area shining, punctate. Prosternum carinate; mesosternal carina narrowly fusiform. Legs variable in color from piceo-testaceous to yellowish. Length .10—.12 inch.; 2.5—3 mm.

This species varies considerably, more especially in color, as follows:

Var. *a*.—Upper surface piceous black, moderately shining, sides of thorax pale, either narrowly or widely. Elytra black, the margin and apex yellowish testaceous; at apex the border of the black space is very irregular. Body beneath entirely black.

This form will include very well several of the varieties into which Mannerheim separates the forms.

Var. *b*.—Head black, thorax yellowish, elytra yellowish, with an oblique piceous spot on each near the apex of variable size, the suture at apex narrowly black. Body beneath opaque, black, or dark brown, the metasternal area and metasternal elevation yellow.

Var. *c*.—Head piceous. Color of upper surface entirely yellowish testaceous. Body beneath as in *b*, but with the abdomen paler brown.

The elytral striæ in all the forms end near the base in an abrupt depression. In many specimens, both of the dark and pale forms, the first and second striæ unite at base by an arch, while in others

these two striæ are as well separated as the others. I can not find that this has any other than a varietal meaning.

The mesosternal elevation varies in form, being quite narrow in most specimens, while in others the lower edge forms a well marked punctured surface about one-third as wide at middle as long.

Occurs along the entire Pacific coast from Alaska to San Diego under sea-weed. Mr. Ulke has some labeled Arizona, but it is difficult to understand how a sea-coast species can occur there.

C. luniger Mann.—Elliptical, sub-depressed, piceous, moderately shining, thorax with a small pale spot near the front angles, elytra reddish yellow, with a narrow crescentic transverse space divided by the suture. Antennæ testaceous, club piceous. Palpi piceo-testaceous. Head sparsely indistinctly punctate. Thorax transverse, sides arcuate in front, oblique behind the middle, hind angles rectangular, base without marginal line, disc regularly convex, a vague depression each side slightly in front of the base, opposite the fourth elytral stria, surface moderately closely punctate, a little more coarsely near the sides. Elytra finely striate, the striæ finely punctate, intervals flat, finely and moderately closely punctate on the disc, alutaceous at apex and sides with the punctures indistinct. Body beneath opaque black, the metasternal area shining and sparsely punctate. Prosternum feebly carinate, mesosternal carina long and linear. Legs piceous, the femora sparsely punctate and indistinctly alutaceous. Length .16 inch.; 4 mm.

This species is the largest occurring within our faunal limits and with a more depressed form than *depressus*, which also occurs with us.

The elytral sculpture is remarkable in the fact that the dorsal region is distinctly punctulate in a triangle, which extends from the humeral angles to the lunate spot, while the space beyond to the apex and side is alutaceous with the punctuation very indistinct.

The coloration of the elytra varies notably. The typical form is that in which a narrow crescentic band crosses the suture one-third from the apex, with the concavity forward. This may entirely disappear so that the elytra are pale luteous. From specimens seen in Mr. Ulke's cabinet it is evident that the crescentic band is merely the remnant of a large discal space.

This species seems related to the eastern Asiatic type of forms, there being several species from Japan which I have seen in Dr. Sharp's collection which resemble it.

Occurs from Alaska southward to California, probably a sea-coast species.

C. depressus Steph.—Oval, slightly oblong, sub-depressed, piceous, elytra indefinitely paler at apex. Antennæ testaceous, the club very dark, palpi testaceous, the last joint darker. Head punctate, rather closely at the sides and apex,

smoother at middle. Thorax transverse, regularly convex, sides arcuate at middle, slightly oblique in front and faintly sinuate posteriorly, the angles distinct, but not acute, basal marginal line wanting, disc punctate, but not closely, a faint impression near the base opposite the 4th elytral stria. Elytra striate, 10th stria entirely wanting, striæ nearly obliterated at apex, finely punctate, intervals flat, sparsely and indistinctly punctate. Body beneath piceous, opaque, metasternal area shining, sparsely punctate. Legs rufo-piceous. Prosternum finely carinate, mesosternal elevation very narrowly fusiform. Length .08—.10 inch.; 2—2.5 mm.

In some of the specimens there is a faint ante-scutellar impression at the base of the thorax, but it is variable in extent and constancy. There seems to be very little variation, except that due to less maturity. One specimen in my cabinet has the first and second striæ united at base by an arch as in some *fimbriatus*.

Specimens have been collected by Mr. Ulke at Piney Point, Md. Two others from California are in my cabinet. In Europe it is widely distributed on the Atlantic and Mediterranean shores.

C. unipunctatus Linn.—Oval, slightly oblong, feebly convex, piceous black, shining, sides of thorax pale; elytra reddish yellow, with an oval, sutural, piceous spot behind the middle, extending narrowly along the suture to apex. Antennæ testaceous, club fuscous, palpi testaceous, last joint piceous. Head moderately closely punctate. Thorax transverse, sides rather strongly arcuate posteriorly, oblique in front, basal marginal line distinct, except at middle; basal impressions very vaguely indicated, surface moderately closely punctate, less so at the sides. Elytra ten striate, striæ punctate, but not closely, a little less deeply impressed at apex, intervals flat, not closely punctulate, the eighth narrow and with a single row of punctures. Body beneath black, opaque, metasternal area shining, sparsely punctate. Prosternum distinctly carinate, mesosternal elevation narrow, closely punctate. Legs rufo-testaceous. Length .12 inch.; 3 mm.

This species shows very little variation. The common piceous spot may vary in size and color, or the pale margin of the thorax may be greater or less. From its coloration this species may be very readily recognized.

Occurs in our fauna in Canada, New England and Middle States, westward to Illinois. It is widely distributed in Europe extending eastward to Siberia.

C. quisquilius Linn.—Oval, moderately convex, piceous, shining, sides of thorax pale, elytra variable from dark rufo-testaceous to nearly piceous. Antennæ and palpi piceous. Head moderately closely, but not coarsely punctate. Thorax transverse, the sides regularly arcuately narrowed from base to apex, the basal marginal line distinct at outer third, ante-basal impressions faintly distinct opposite the fourth stria, surface moderately closely punctate, less closely at the sides. Elytra ten-striate, striæ rather closely punctate, those of the disc indis-

tinct near base, deeper near apex, intervals flat, moderately closely punctate on the disc, but much more sparsely at sides and apex, eighth interval not narrow, biserially punctulate. Body beneath opaque, metasternal area shining, punctate. Prosternum distinctly carinate, mesosternal elevation linear. Legs reddish. Length .08 inch.; 2 mm.

The usual color of the elytra is reddish brown, but they may be paler, but from the specimens I have seen from our regions very rarely as pale as in *unipunctatus*. Superficially, the species resembles quite small *hæmorrhoidalis* (*nigricollis* Say), but that species has a basal marginal line and has the metasternal area extended by an oblique line.

Gyllenhal and Erichson considered this species the male of *unipunctatus*, but the form of the thorax and the difference in the eighth elytral interval will readily separate the two.

At the present time specimens are known to me from the Pacific coast alone, from Washington southward to California. In Europe it is widely distributed extending to Siberia and Japan. Its presence on our continent cannot be attributed to commerce as is doubtless the case with *impunctatus* in the Atlantic region.

C. prætextatus Say.—Oval, moderately convex, piceous black, shining; anterior angles of thorax and large sharply defined space at apex of elytra which extends along the margin to the humeri, yellow. Antennæ testaceous, club darker, palpi pale testaceous. Head piceous, shining, often with two small pale spots on the vertex, surface rather closely punctate. Thorax transverse, the sides arcuately narrowing from base to apex, basal marginal line wanting, disc regularly convex, without trace of basal impressions, surface closely and evenly punctate. Elytra ten-striate, striæ slightly deeper near the apex and closely punctate, intervals closely punctate in a large triangular space at base, but much more sparsely near the apex and sides. Body beneath piceous, opaque; metasternal area shining and punctate. Prosternum distinctly carinate, mesosternal elevation rather thick, the sides nearly parallel, punctate. Femora rufo-testaceous, tibiæ and tarsi darker. Length .10—.12 inch.; 2.5—3 mm.

This species exhibits comparatively little variation. The front angles of the thorax are usually tipped with yellow, but sometimes this color extends nearly to base, in which case the pale border is wider in front. The apical pale space of the elytra also varies in extent, but not greatly. The limit between the two colors is very sharply defined, but the line of demarcation is somewhat irregular.

The only species with which this might be confused is *analis*, which will be known by the indefiniteness of the apical pale space and the very narrow eighth interval with but one row of punctures.

Occurs from Canada to Florida and westward to Kansas.

C. marinus Thoms.—Oval, moderately convex, piceous black, shining; sides of thorax bordered with pale, elytra with yellowish testaceous space, well defined, extending along the side very nearly to the humeral angles. Antennæ piceo-testaceous, club darker, palpi piceo-testaceous. Head moderately punctate, not very closely. Thorax transverse, sides regularly narrowed from base to apex, basal marginal line wanting, lateral ante-basal impressions small, punctiform, surface rather more coarsely and closely punctured than the head, sparser toward the sides and a little finer in front. Elytra ten-striate, striæ punctate and indistinct at apex; intervals flat, closely punctate, more sparsely near apex and coarser at the sides; epipleuræ piceo-rufous. Body beneath opaque black, metasternal area shining, punctate. Prosternum distinctly carinate; mesosternal elevation very narrowly lanceolate. Legs piceo-rufous, the femora darker. Length .10—.12 inch.; 2.5—3 mm.

This species closely resembles *prætextatus*, and would readily be mistaken for it. The apical pale space is equally sharply defined in both species and in *prætextatus* always reaches the humeral angles, but in the present species is nearly always a little shorter. In the larger number of specimens the lateral pale border is narrow and dilates near the apex into the apical space, but in *prætextatus* the border is broad and becomes rapidly broader about one-third from the base. From this it will be seen that our native species has a much larger extent of pale area. It will be observed in *prætextatus* that the palpi and antennæ are pale, while both are piceous in *maritimus*. In *prætextatus* the striæ are deeper and more coarsely punctate and more distinct at apex, while in *maritimus* the striæ are faint at apex, and at the sides the interstrial punctures are nearly as coarse as those of the striæ.

Occurs in British Columbia at Lake Lahache, extending eastward to Dakota. The species is widely distributed in the north of Europe and Asia.

C. fulvipennis Mann.—Oval, moderately convex, piceous black, shining, sides of thorax pale, elytra brownish or piceo-testaceous, sides and apex somewhat paler. Palpi and antennæ piceous, the latter with a darker club. Head rather coarsely and moderately closely punctate. Thorax transverse, sides regularly arcuate, punctured similarly to the head, basal marginal line wanting, lateral ante-basal impressions very indistinct. Elytra ten-striate, the tenth stria represented by a row of punctures, striæ moderately deeply impressed even to apex, rather closely punctate and more coarsely at the sides, intervals flat, closely punctate on the disc near base, but more sparsely at apex and sides. Body beneath black, opaque; metasternal area shining, sparsely punctate. Prosternum distinctly carinate, metasternal elevation linear. Legs rufous. Length .10—.12 inch.; 2.5—3 mm.

This species bears a strong superficial resemblance to *quisquilius*, *hæmorrhoidalis* and *lateralis*. From the first it is known by the ab-

sence of the basal marginal line, from the second by the absence of the oblique metasternal line. To *lateralis* it is more closely related, and seems to differ only in the darker antennæ and palpi. It seems to be therefore intermediate between *lateralis* and *obsoletus*, the latter having similar palpi, but an entirely black thorax.

Occurs from Alaska southward to Washington and California.

C. *lateralis* Marsh.—Oval, moderately convex, piceous black, moderately shining, sides of thorax pale, elytra reddish brown, apex somewhat paler. Antennæ rufo-testaceous, club darker. Palpi pale testaceous. Head moderately punctate, not closely nor coarsely. Thorax transverse, regularly arcuate from base to apex, basal marginal line and ante-basal impressions wanting, surface moderately, not closely punctate, although a little variable. Elytra striate, striæ closely punctate, deeper near the apex, intervals flat, more convex at apex, closely punctulate, but more sparsely near the apex, tenth stria not impressed, replaced by a row of punctures. Body beneath black, opaque; metasternal area shining, sparsely punctate. Prosternum distinctly carinate, mesosternal elevation linear. Legs rufo-testaceous. Length .10—.12 inch.; 2.5—3 mm.

This species closely resembles *fulvipennis*, and is usually mixed with it in the specimens examined by me, but it may readily be known by the pale palpi and antennæ. The punctures of the elytra are also rather more distinct and closer than in that species. The sides of the thorax vary in the extent of the pale border. It is also similar to *hæmorrhoidalis*, but the latter has the metasternal area continued by the oblique line.

Occurs in Alaska and the coast regions to California. It is widely distributed in middle and northern Europe, extending to Siberia.

C. *indistinctus* n. sp.—Oval, moderately convex, piceous black, shining; sides of thorax slightly paler, an indistinct spot on umbone and a transversely oval pale spot near the apex of the elytra, divided by the suture, not reaching the apical margin. Palpi piceo testaceous, last joint piceous. Antennæ entirely pale rufo-testaceous. Head not closely nor coarsely punctate. Thorax transverse, the sides arcuately narrowed to the front, basal marginal line and basal impressions wanting; surface moderately not closely punctate, the punctures finer and more distant at sides and apex. Elytra ten-striate, the tenth feeble, striæ crenately punctate, slightly deeply at apex, intervals flat, moderately closely punctate on the disc, more finely than the thorax; epipleuræ piceo-rufous. Body beneath opaque, black; metasternal area smooth, sparsely punctulate. Prosternum distinctly carinate, mesosternal elevation very narrow. Legs piceo-rufous. Length .10—.12 inch.; 2.5—3 mm.

This species resembles *analis*, but differs in having the eighth interval with two rows of punctures. The subapical pale space of the elytra is always separated from the margin by a dark space, while in *analis* the spot is nearly always marginal. It could not be con-

founded with any of the forms allied to *hæmorrhoidalis*, as these have the metasternal area continued by an oblique line. The entire antennæ, including the club, are pale rufo-testaceous and will distinguish it from any species with which it could, by any possibility, be confounded.

Occurs at Grimsby, Canada (Pettit), and southward to Pennsylvania (Dietz).

C. adumbratus Mann.—Oval, moderately convex, variable in color from piceo-testaceous to piceous, but with the sides of thorax and elytral apex indefinitely paler. Palpi and antennæ piceo-testaceous, the latter with darker club. Head moderately, coarsely, not closely punctate, smoother at sides and apex. Thorax with sides a little more arcuate in front of the hind angles, basal marginal line wanting, ante-basal impressions very indistinct, disc moderately punctate, punctures finer in front and almost obsolete at the sides. Elytra striate, the tenth obsolete, striæ deeper at sides and apex, those of the disc scarcely visibly punctate, those at sides distinctly so, intervals of the disc almost absolutely smooth, those at sides very indistinctly punctate. Body beneath piceous, opaque; metasternal area shining, punctate. Prosternum distinctly carinate, mesosternal elevation very narrow, but with a distinctly punctate edge. Legs rufo-testaceous. Length .08—.10 inch.; 2—2.5 mm.

This species in its variation resembles several species, notably *lateralis* and *fulvipennis*, but may be at once known from all of them by the almost entire absence of interstrial punctuation.

The color varies greatly, as indicated, and Mannerheim describes it from ferruginous to fusco-piceous. In the curve of the sides of the thorax it resembles *unipunctatus*.

Occurs from Alaska southward to Vancouver and Washington.

C. variegatus Sharp.—Oval, convex, moderately shining, above testaceous, head piceous with a vertical yellow spot, thorax with a broad, median, piceous space, a spot on each side in front, these often confluent; elytra with a short piceous stripe at humerus below the umbone. Antennæ testaceous, club piceous, palpi testaceous. Head shining, moderately closely, but not coarsely punctate. Thorax transverse, the sides regularly arcuate from base to apex, disc regularly convex, a faint trace of an impression near the base opposite the fourth elytral stria, basal marginal line absent, surface moderately, coarsely and closely punctate, smoother near the sides. Elytra finely striate, more deeply near the apex, these faintly and distantly punctulate on the disc, but much more distinctly punctate at the sides, tenth stria nearly absent, intervals moderately closely punctate, except near apex, the eighth interval narrower, and with but a single row of punctures. Body beneath piceous opaque, abdomen sometimes much paler, metasternal area shining, sparsely punctulate. Prosternum feebly carinate, mesosternal elevation linear. Legs pale rufo-testaceous. Length .08—.10 inch.; 2—2.5 mm.

This species seems very consistent in color from my series, and

Dr. Sharp does not state to the contrary. The thoracic markings give the species somewhat the appearance of pale specimens of *Creniphilus infuscatus*. The striae are described by Dr. Sharp as being almost impunctate; this is true of those of the disc, but not at the sides. No mention is made of the fact that the eighth interval has but one series of punctures. The fact was observed by Bedel (Faune i, p. 337) in *analis*, but he erroneously states that it is the ninth interval, while in the present species and *analis* it is certainly the interspace between the seventh and eighth striae.

Occurs at New Orleans, La. Dr. Sharp records it in various places in Mexico, and as far south as Nicaragua.

C. analis Payk.—Oval, moderately convex, piceous black, shining, elytra with an indefinitely limited pale space at apex, which always reaches the apical border. Antennae testaceous, club pale brown, palpi testaceous. Head moderately coarsely and closely punctate, clypeus smoother. Thorax transverse, sides arcuately narrowing from base to apex, base with faint traces of impressions in front of the scutellum and the fourth elytral stria, the basal marginal line wanting, disc moderately closely punctate, the punctures less dense and less impressed at the sides. Elytra striate, equally from base to apex, tenth stria very distinct, striae closely, but not coarsely punctate, intervals flat, moderately closely punctate, the eighth interval narrow and with but a single row of punctures. Body beneath piceous, opaque; abdomen often brown; epipleurae pale, metasternal area shining, rather coarsely punctate. Prosternum distinctly carinate; mesosternal elevation narrow, but not linear. Legs piceous, or rufo-piceous. Length .08—.10 inch.; 2—2.5 mm.

This species may be quite black, varying to brownish, probably from less maturity. The apical pale spot is variable in size, being sometimes quite a narrow border, and from that covering the apical third of the elytra. It does not, however, extend along the side.

From any other of the species with pale apex this may readily be known by the narrow eighth interval, in which there is but a single series of punctures. As specimens occur almost entirely piceous, the epipleurae and legs are then very dark.

In our fauna this species is known to me from upper Canada, New England States, Pennsylvania, Illinois, Iowa and Louisiana. It is widely distributed in Europe, extending to Algeria and Siberia.

C. ocellatus Say.—Oval, slightly oblong, convex, piceous black, shining; elytra with yellowish white apical space occupying one-third the surface, sharply defined, limited in extent at the side to a point opposite the posterior coxae, suture piceous to apex. Antennae testaceous, club darker. Maxillary palpi pale, last joint usually darker. Head comparatively coarsely and moderately closely punctate. Thorax entirely piceous, or with apical angle alone paler, convex;

sides regularly arcuate from base to apex, surface punctate similarly to the head, base without marginal line or larger punctures. Elytral striæ scarcely at all impressed, but with moderate sized, closely placed punctures, which are equally distinct at apex, the outer rows of punctures coarser and deeper than those of the disc, intervals flat, distinctly punctulate near the base, but less coarsely than the thorax, and at apex very indistinctly, the interval between the seventh and eighth striæ narrow and with a single row of punctures. Body beneath piceous opaque, metasternal area shining, sparsely punctate, distinctly limited. Prosternum distinctly carinate, mesosternal elevation oval, nearly half as wide as long. Legs rufo-testaceous. Length .08 inch.; 2 mm.

This species is closely related to *analis* in many ways, more particularly in the fact that the eighth elytral interval is narrow and has but a single series of punctures. The apical pale space is better defined than in any species in our fauna, being limited in front by a regular arcuate line. In *marinus* and *prætextatus* the pale space is also sharply limited from the piceous, but the edge is somewhat irregular, and the pale tends toward the humeri in a narrow band.

From the descriptions at my command it is not possible to say in what manner this species differs from *bifenestratus* (*palustris* Th.) of Europe, but as Bedel places the latter in the series in which the eighth interval is at least biserially punctate, it is probable that our species is different.

Three specimens from Michigan and Illinois in Mr. Ulke's cabinet, also from Canada.

C. hæmorrhoidalis Fab.—Oval, moderately convex, piceous; elytra piceo-castaneous, brownish or somewhat paler, the apex usually paler than the disc. Palpi and antennæ piceous, the latter with very dark club. Head rather coarsely and closely punctate. Thorax entirely piceous, the sides regularly arcuate from base to apex, basal marginal line and ante-basal impressions wanting, surface closely punctate; elytra ten-striate, the tenth replaced by a row of punctures, striæ distinct at apex, moderately closely punctate, intervals flat, densely punctulate, more sparsely at the sides and apex; epipleuræ pale. Body beneath black, opaque; metasternal area shining, sparsely punctate and extended by a line directed toward the outer front angles. Prosternum carinate, mesosternal elevation elongate-lanceolate, punctate. Legs piceo-rufous, femora darker. Length .10—.12 inch.; 2.5—3 mm.

This species varies in the color of the elytra from piceous to castaneous, those which I have seen belong to the latter variety, but have usually a narrow dark border along the base, which extends along the suture nearly to apex. The sutural angle of the elytra shows a tendency in many specimens to be slightly prolonged, but this is by no means constant, nor does it have the value which Thomson assigned to it.

Several species have reddish brown elytra and very closely resemble this, but here the thorax has never a paler border and the metasternal area is prolonged by an oblique line.

This species is the one which has been known by us as *nigricolle* Say, or *flavipes* Fab. In Europe the species and the name have been equally misunderstood by all but the more recent authors, as will be apparent to any one who will seek for a good description of the species under the name adopted.

Occurs in our fauna from Canada and the New England States to North Carolina and westward to Illinois. It is widely distributed in Europe, also in the north of Africa and western Asia.

C. melanocephalus Linn.—Oval, slightly oblong, moderately convex, piceous, shining; elytra rufescent, or pale castaneous, with a triangular piceous space extending from the base two-thirds or more to apex, and a short humeral stripe piceous. Antennæ and palpi pale testaceous. Head indistinctly, not closely punctate. Thorax entirely piceous, sides regularly arcuate from base to apex, basal marginal line and ante-basal impressions wanting, disc rather finely, not closely punctate. Elytra ten-striate, the tenth replaced by indistinct punctures, striæ distinctly impressed to apex and punctate, intervals indistinctly punctulate; epipleuræ piceous. Body beneath opaque black, metasternal area shining, sparsely punctate, obliquely extended to the outer front angle by a line. Prosternum distinctly carinate, mesosternal elevation narrow, but with a distinctly punctate area. Legs pale rufous. Length .08—.10 inch.; 2—2.5 mm.

This species varies in the extent of the piceous triangle of the elytra, which is sometimes quite small and well defined, or covering the greater part of the disc of the elytra.

Smaller specimens resemble *pygmæus*, but are more convex and with a more distinctly punctate surface. In the present species the palpi are entirely pale, while in *pygmæus* the terminal joint is piceous.

Occurs from Canada to Pennsylvania and westward to Missouri. In Europe it is widely distributed, and extends to northern Africa and the north of Asia.

C. pygmæus Illig.—Oval, slightly oblong, piceous black, elytra piceo-rufous, or paler, with a large triangular basal space of variable extent and a humeral stripe piceous. Antennæ piceo-testaceous, club darker, palpi pale testaceous, the last joint piceous. Head distinctly, not closely punctate. Thorax entirely piceous, the sides regularly arcuate from base to apex, basal marginal line and ante-basal impressions wanting, sometimes a small ante-scutellar impression, surface moderately closely, but not deeply punctate. Elytra striate, the tenth very indistinct, striæ punctate and deeper at base, intervals flat, sparsely indistinctly punctate, much more finely than the thorax; epipleuræ pale. Body beneath piceous, opaque; metasternal area shining, punctate, continued by a well elevated line to the anterior angles. Prosternum distinctly carinate, mesosternal

elevation very narrow, but punctate. Legs pale rufo-piceous. Length .05—.08 inch.; 1.25—2 mm.

This species varies in the manner indicated for *melanocephalus*. The discal space of the elytra may cover fully half the entire area or it may be reduced to an indistinct cloud around the scutellum.

Resembles in general appearance and coloration *melanocephalus*, but is always smaller and with pale epipleuræ. The punctuation of the elytra is much less distinct than that of the thorax.

Widely distributed over the eastern United States from Canada to Maryland. In the eastern hemisphere it is spread throughout Europe, northern Africa and northern Asia. It seems to have a tendency to become cosmopolitan.

C. nigriceps Marsh.—Oval, moderately convex, piceous, shining, sides of thorax indefinitely paler; elytra reddish testaceous, with a common fuscous spot behind the middle. Antennæ and palpi pale testaceous. Head distinctly, not closely punctate. Thorax regularly convex, sides arcuately narrowed from base to apex, basal marginal line distinct at the sides, a slight impression in front of scutellum, surface finely not closely punctate. Elytra moderately deeply striate, the tenth obliterated, striæ relatively coarsely punctate, the intervals slightly convex, scarcely distinctly punctate; epipleuræ pale. Body beneath, opaque black, metasternal area shining, punctate, prolonged by an elevated line to the anterior angles. Prosternum distinctly carinate, mesosternal elevation linear, smooth. Legs rufo-testaceous. Length .05—.08 inch.; 1.25—2 mm.

In many specimens the metasternal area is pale. In the majority of the native specimens examined the median fuscous cloud of the elytra is very indistinct, but when distinct it forms a broadly crescentic transverse band, while specimens often occur with the elytra entirely pale.

From its small size this species cannot be mistaken for any other except, possibly, *pygmæus*, which, apart from color, differs in the absence of a basal marginal line.

In our country this species is widely diffused, and is known to me from Canada to Louisiana and Indiana, also from Los Angeles, Cal. In its distribution in the eastern hemisphere Bedel remarks that it is almost cosmopolitan.

C. lugubris Payk.—Oval, convex, narrower behind, piceous black, sub-opaque, entire surface finely alutaceous; elytra at apex with a well defined pale space extending along the side margin. Antennæ rufo-testaceous, club slightly darker, palpi testaceous, last joint darker. Head moderately, finely, closely punctate. Thorax piceous, near the side margin indistinctly paler, sides regularly arcuate and narrowed to apex; basal marginal line wanting, a faint basal

impression opposite the fourth stria, surface more distinctly punctate than the head and more decidedly alutaceous. Elytra finely striate on the disc, more distinctly impressed at sides and apex, the tenth stria wanting, striæ finely punctate on the disc, more coarsely and closely at sides, intervals flat, alutaceous, not distinctly punctate. Body beneath opaque black, metasternal area shining, punctate. Prosternum distinctly carinate, mesosternal elevation very narrowly oval, punctulate. Legs rufo-testaceous. Length .06 inch.; 1.5 mm.

This species resembles *granarius* in having the elytral striæ entire, but differs in its opaque surface and the presence of an apical pale spot. In the last two characters it resembles *tristis*, which has very fine striæ, not distinct at apex.

Specimens in my cabinet from Nevada have the striæ of the disc somewhat more distinct, and consequently more distinctly punctate than those from Canada or others from Sweden, but I can find no reason for separating them as a distinct species.

Occurs in our fauna in Canada and New England States to Maryland, also in California and Nevada. It is widely spread in middle and northern Europe, extending to Siberia.

C. tristis Illig.—Oval, convex, distinctly narrower behind, black, subopaque, alutaceous; elytra with an apical pale space. Antennæ testaceous, with darker club, palpi pale testaceous, the last joint piceous. Head shining, distinctly and moderately closely punctate. Thorax piceous, shining; sides arcuately narrowed from base to apex, basal marginal line and ante-basal impressions wanting; surface relatively coarsely punctate, a little closer at middle than at the sides. Elytra distinctly alutaceous and subopaque, the striæ replaced by rows of fine punctures not closely placed, which are almost entirely obliterated at the sides and apex, intervals flat, obsolete punctulate near the base only. Body beneath opaque black; metasternal area shining, sparsely punctate. Prosternum distinctly carinate, mesosternal elevation lanceolate, with a distinctly punctate surface. Legs rufo-testaceous. Length .06 inch.; 1.5 mm.

The difference between this species and *lugubris* have already been referred to. In addition, it will be observed that the mesosternal elevation presents a rather larger area than in either that species or *granarius*. The pale space at the apex of the elytra is not strongly defined and extends along the side nearly to base. The epipleuræ are pale in all three species.

Specimens are known to me from Ohio and Michigan, westward to Iowa, Dakota, California, Washington and Nevada. In the eastern hemisphere it occurs from northern Europe to Siberia.

C. floridanus n. sp.—Oval, slightly more narrowed behind, convex, head vertical, piceous black shining; elytra with a well defined apical pale space, which extends narrowly along the side to the humerus. Antennæ rufo-testace-

ous with darker club; maxillary palpi testaceous. Head moderately, coarsely and closely punctate. Thorax convex, arcuately narrowed from base to apex, the punctuation similar to that of the head, base without marginal line or larger punctures, color piceous, sometimes with the side indistinctly paler. Elytral striæ rather deeply impressed and entire, the inner five scarcely visibly punctate, the outer five gradually more coarsely and deeply punctate to the tenth; intervals slightly convex, especially laterally and at apex, the punctuation scarcely visible; the apical yellowish white spot is sharply defined, but the anterior edge is irregular, it extends along the side margin external to the tenth stria from the middle to the humeri. Body beneath piceous opaque, metasternal area limited, shining, sparsely punctate. Prosternum distinctly carinate; mesosternal elevation narrowly oval, coarsely punctate. Legs rufo-testaceous. Length .08 inch.; 2 mm.

This species falls very naturally into the *granarius* series by its form and convexity. Its entirely shining surface relates it to *granarius*, from which it is readily known by the much deeper striæ and the well defined apical pale space. In the last peculiarity it resembles *prætextatus* and its allies, but differs from them in the comparatively smooth elytral intervals, the punctuation being even less distinct than in *granarius*, so that the contrast between the punctate thorax is probably better marked than in any species of the *granarius* series.

Occurs in Florida.

C. granarius Erichs.—Oval, narrower behind, convex, piceous black, shining. Antennæ and palpi testaceous. Head very distinctly and moderately closely punctate. Thorax entirely piceous, sides arcuately narrowed from base to apex, basal marginal line and ante-basal impressions wanting, surface finely and indistinctly punctate at middle, more coarsely at the sides. Elytra striate, less deeply on the disc, much more deeply at sides and apex, tenth stria wanting, striæ punctate, rather coarsely crenately at sides and apex, intervals flatter on the disc, convex at sides and apex, scarcely perceptibly punctulate. Body beneath opaque black; metasternal area not prolonged. Prosternum distinctly carinate, mesosternal lamina narrowly oval, the lower edge longitudinally concave and distinctly punctate. Legs rufo-piceous. Length .06 inch.; 1.5 mm.

This small species presents nothing special, except a certain resemblance to *Cryptopleurum minutum*, on account of the deeper elytral striæ than the species with which it is associated. It is the *minusculum* Mels. and until now has not been recorded in our fauna under the European name.

Occurs in Massachusetts, Pennsylvania and District of Columbia. In Europe it occurs in France, Germany, Sweden, and probably in other regions whose references have escaped me.

C. navicularis Zimm.—Oval, narrower posteriorly, piceous black, shining; elytra slightly rufescent at tip and along the suture posteriorly, body very convex. Antennæ and palpi pale testaceous. Head sparsely, finely and indistinctly punctate. Thorax almost absolutely smooth, a few sparse and fine punctures near the sides, these regularly arcuate from base to apex; basal marginal line and impressions absent. Elytra very convex, rapidly declivous posteriorly, the sutural region slightly elevated on the declivity, surface with striæ of very fine punctures, which are, however, more distinct at sides and apex, the interstitial spaces very sparsely punctate. Body beneath piceous, shining sparsely punctate. Metasternal area with a fine, but distinct oblique line. Prosternum distinctly carinate, mesosternal elevation lanceolate, longitudinally sulcate, metasternum in front truncate. Legs rufo-testaceous. Length .06 inch.; 1.5 mm., or a little longer.

Zimmermann describes the species as having a slight bronze reflexion, but I have not observed this. He also states that there are eleven rows of punctures, which is true if the extreme marginal row is counted, but this is usually omitted in the count of discal striæ. In form the species is very convex, the sides of the elytra nearly vertical, in fact slightly clasping the body.

This insect has cost me some trouble, but with the result of leaving it with *Cercyon*. Two characters are, however, rather at variance with that genus. The metasternum at its junction with the mesosternal elevation is truncate and not acute, as in all other *Cercyons* examined and the under side of the body is shining and not opaque. The first of these characters is very plainly foreshadowed by *granarius*, which has a similarly shaped mesosternal elevation, although it is flat and not grooved as in the present species.

While the presence of the oblique metasternal line might cause it to be referred to the series under category 2 in the table, I prefer to associate it with the *granarius* series. In any event the shining underside will readily distinguish it from these or any other of our *Cercyones*.

Occurs from Canada and Michigan southward to the District of Columbia and Louisiana, westward to Kansas. A specimen in my cabinet labeled California, differs only in having the punctures of the striæ better marked.

C. pubescens Lec.—Oval, more attenuate posteriorly, moderately convex, rufo-testaceous, head piceous, surface sparsely pubescent. Antennæ and palpi rufo-testaceous. Head usually piceous, sometimes rufo-testaceous, surface sparsely, finely and very indistinctly punctate. Thorax narrowed in front, sides arcuate from base to apex, a faint basal marginal line and a slight impression opposite the base of the fourth stria, surface slightly rugose, but without punctures. Elytra with nine rather deeply impressed punctured striæ, the intervals

flat on the disc, convex at apex, and alternately subcostiform, the surface extremely minutely, sparsely punctulate. Body beneath a little darker than above, subopaque, metasternal area shining, sparsely punctate. Mesosternal elevation elongate oval, acute in front, truncate posteriorly. Prosternum rather strongly carinate. Legs rufo-testaceous. Length .06 inch.; 1.5 mm.

This is the smallest species of the genus known to me. The pubescence of the surface is quite sparse and easily removed, so that many specimens seem deprived of it, except on the thorax, where it seems more persistent. The elytral striæ are relatively more deeply impressed than in any other species, and the subcostiform apical intervals are peculiar to it. The mesosternal plate is not very unlike that seen in *granarius*. This form seems to lead from *Cercyon* slightly to *Cryptopleurum*, but I can find no valid characters separating it from *Cercyon*.

Occurs from the Middle States region to Tennessee, often abundantly in dried horse dung.

PELOSOMA Muls.

Prosternum scarcely separating the anterior coxæ, carinate on the median line in front of them. Mesosternum elevated between the middle coxæ in the form of a pentagonal plate (Pl. ix, fig. 8) and rather widely separating them, the base of the pentagon meeting a very short prolongation of the metasternum and very closely united with it. Tibiæ feebly spinulose on the outer edge, the anterior pair entire as in *Cercyon*.

The above characters seem to indicate the validity of *Pelosoma* as a genus apart from *Cercyon*, although most authors since Mulsant have seemed unwilling to admit it. In every other respect the characters are those of *Cercyon*. It will be observed from the figure (Pl. ix, fig. 25) that the pseudo-basal joint of the maxillary palpus is less pedunculate at base and far less inflated at apex, but this member is slightly variable in *Cercyon*, and to a degree which makes it unsafe to be insisted upon as a valuable difference.

One species is known in our southwestern regions which Dr. LeConte properly referred to this genus.

P. capillatum Lec.—Regularly oval, convex, piceous black, shining; surface very sparsely pubescent. Antennæ and palpi pale rufo-testaceous. Head rather finely, not closely punctate. Thorax narrowed from base to apex, the sides regularly arcuate, basal marginal line wanting, a faint ante-basal impression opposite the base of the fourth elytral stria, surface sparsely finely punctate, intervals smooth. Elytra with ten series of rather fine, not closely placed punc-

tures, which are more distinct at the sides, the intervals distinctly punctate in the scutellar region, but very indistinctly or smooth elsewhere. Body beneath piceous, semi-opaque, metasternal area shining, sparsely punctate, mesosternal area coarsely and closely punctate. Legs rufo-testaceous. Length .08—.10 inch.; 2—2.5 mm.

The prosternum is carinate on the median line as in *Cercyon*.

The pubescence of the surface is very fine, sparse and soft, in most of the specimens not visible and at best rarely seen, except on the sides of the elytra.

In some partly immature specimens the elytra are slightly paler at apex.

Occurs in Arizona and Texas in decomposing Cactus stems.

Group MEGASTERNI.

The elytra clasp the body and are slightly inflexed beneath it, there being no distinct lateral edge and the epipleuræ scarcely discernible. The side pieces of the metasternum are partly covered by the elytra so as to be much narrowed. The middle coxæ are widely separated, almost entirely by a large mesosternal area, which is pentagonal in two genera and oval in a third. Metasternum not or very little prolonged between the coxæ and very closely united with the metasternum the suture scarcely visible. Prosternum at middle elevated to the plane of the mesosternum forming an area differing in shape in the genera. First ventral segment carinate.

The following genera occur in our fauna :

Lateral margin of prothorax not inflexed.

Anterior tibiæ rather deeply excised on the outer edge near apex.

Megasternum.

Anterior tibiæ entire; elytra costate..... **Pemelus.**

Lateral margin of prothorax angularly inflexed; anterior tibiæ entire.

Cryptopleurum.

Megasternum has not a sharply defined metasternal area, Cryptopleurum has the area extended by a well defined elevated line, while Pemelus has an abruptly impressed area along the posterior margin. The metasternal episternum is completely covered in front, wider posteriorly in Cryptopleurum, wider in front and more covered posteriorly in Megasternum, while in Pemelus it is narrowest at middle and wider at each end.

The species of these genera seem to be the furthest extreme of the Hydrophilide type in both structure and habits.

MEGASTERNUM Muls.

Prosternum elevated, forming a somewhat hexagonal area, which rather widely separates the anterior coxæ, meeting the mesosternum and having a notch in its posterior margin. Middle coxæ widely separated by a process formed partly of the metasternum and partly by the mesosternum (Pl. ix, fig. 10), the latter being in the form of a broadly pentagonal plate, acute in front, the union between these two sterna being very close, although with distinct suture. Metasternal episternum very narrow, partly covered by the elytra; mesoepimera covered. Epipleuræ extremely narrow. Anterior tibiæ deeply notched on the outer edge near the apex, all the tibiæ very feebly spinulose on their outer side. Tibial spurs very inconspicuous even on the front tibiæ.

The characters, otherwise, are as in *Cercyon*, the palpi in no wise differing, excepting that the last joint is very distinctly longer than the penultimate (Pl. ix, fig. 26) and the pseudo-basal joint more inflated than is usual in *Cercyon*. The tibiæ are broader and flatter than in any of the genera to which it is related.

The genus seems a perfectly valid one. It is represented in our fauna by two species, which may be distinguished in the following manner:

Head and thorax scarcely visibly punctate; elytral striæ fine, but distinct; the intervals scarcely punctate, apex paler.....**posticatum**.
 Head and thorax densely punctulate; elytral striæ obliterated, except at the side, surface closely punctate.....**punctulatum**.

M. posticatum Mann.—Oval, slightly narrower behind, convex, piceous black, subopaque, sides of thorax and humeral spot indefinitely paler; elytra at apex distinctly paler. Antennæ rufo-testaceous, club piceous, palpi testaceous, last joint piceous. Head smooth, shining, entirely piceous. Thorax indistinctly paler at sides, these feebly arcuately narrowed from base to apex, basal marginal line absent, a distinct ante-basal impression opposite the fourth stria, sometimes indistinct or wanting, surface smooth, shining, a few sparsely placed, very fine punctures near the side. Elytra finely alutaceous, surface finely striate, striæ deeper near the apex, the punctures of the striæ extremely indistinct at middle of disc, but very obvious at sides and apex, intervals flat, not punctate. Body beneath piceous, slightly shining, metasternal area smooth behind and at its sides, punctate in front, the flanks of the metasternum coarsely punctate. Legs rufo-piceous. Length .08 inch.; 2 mm., a little more and less.

The pale area at the apex of the elytra is always distinct, although its limits are not sharply defined. The umbone may or may not have the pale spot, in the former case the species resembles *Cercyon ocellatus*.

Owing to the neglect of the species of this tribe this one has been retained in *Cercyon*, an error very properly corrected by Bedel.

Occurs from Alaska southward to the region about San Francisco.

M. punctulatum n. sp.—Oval, convex, slightly narrowed posteriorly, piceous black, shining. Antennæ and palpi rufo-testaceous, the former with darker club. Head and thorax densely punctulate. Elytra closely punctate, more coarsely than the thorax, the first and second striae very faintly indicated, the outer three striae short, distinctly impressed, coarsely punctate. Body beneath piceous, shining, metathorax coarsely, but not closely punctate, the punctures finer posteriorly. Legs rufo-piceous. Length .07 inch.; 1.75 mm.

In its superficial aspect this insect resembles a small member of the *Sphæridium* series of genera. The punctuation of the greater part of the elytral surface is close and confused, with scarcely any trace of striae, except at the sides. The differences between this species and *posticatum* are well marked in their sculpture and scarcely need mention here.

One specimen, Bayou Sara, La. Given me by Mr. E. A. Schwarz.

PEMELUS* n. g.

Prosternum elevated between the coxæ and rather widely separating them, forming an irregular quadrate area, which is abruptly narrowed in front, and rather deeply emarginate behind to receive the apex of the mesosternum, on each side of the prosternum in front an oblique tubercular elevation. Mesosternal plate elongate, pentagonal in form, rather widely separating the middle coxæ and prolonged in front into the apex of the prosternum and partly covering the front legs at their base. Metasternum not prolonged between the coxæ, separated from the mesosternum by a very indistinct suture. Anterior tibiæ as in normal *Cercyon*, without emargination at apex. Characters otherwise as in that genus.

Finding it impossible to associate the species described as *Megasternum costatum* Lec. with any of the genera which have been proposed the above name is suggested. It seems in many respects intermediate between *Cryptopleurum* and *Megasternum*, but lacks the inflexed sides of the pronotum of the former and the deeply emarginate front tibiæ of the latter, at the same time the sternal pieces are quite different from any of the genera which have been proposed.

The oblique line which is prolonged from the metasternal area in several species of *Cercyon* and other genera, has here its fullest de-

* Name without classical derivation.

velopment. This line which here extends less obliquely forward limits an area in front, which is coarsely sculptured, from an abruptly depressed area posterior to it, which is comparatively smooth, and with a surface similar to that of the abdomen. The posterior femora when at rest fill the depression.

The elytral sculpture is peculiar in that it consists of well marked costæ alternating in elevation, separated by deep grooves. The elytra clasp the body at the sides, so that more than the epipleural edge is visible from beneath.

P. costatus Lec.—Rather broadly oval, more acute posteriorly, moderately convex, piceous or brownish, subopaque, very sparsely pubescent. Antennæ and palpi pale testaceous. Head densely punctulate and opaque, with scabrous aspect. Thorax more than twice as wide as long, sides arcuately narrowed from base to apex, base arcuate at middle, slightly sinuate each side, apex emarginate; lateral margin slightly explanate and slightly reflexed, disc convex, median line rather deeply sulcate, limited each side by a vague costa, a vague oval depression at base each side of sulcus, exterior to which are two very vague, oblique costæ, near the margin a more distinctly elevated costa parallel with the margin, the surface closely punctate and scabrous. Elytra deeply sulcate, and with rather coarse punctures closely placed, the intervals acutely subcostiform, the alternate intervals 2-4-6-8 more strongly elevated. Body beneath in color as above. Mesosternal plate coarsely cribrate, the margins smoother. Metasternum coarsely punctate, cribrate; behind the mesosternum and at the sides, a small depressed area along the posterior margin much smoother. Legs rufo-testaceous. Length .05—.07 inch.: 1.25—1.75 mm. (Pl. ix, figs. 14 and 15)

This is one of the smallest members of the tribe. Its aspect is rather that of a Colydiidæ than an ally of Cercyon from the style of elytral sculpture. In some specimens the alternation of the elytral intervals in elevation is very well marked in their entire extent, while in others it is evident near the apex only. The thoracic sculpture is more vague than is represented in the figure, but is variable in distinctness.

Occurs in the District of Columbia and Tennessee.

CRYPTOPLEURUM Muls.

Prosternum elevated in front of the coxæ, forming a rather large pentagonal area, extending between and rather widely separating the coxæ, the apex notched to receive the point of the mesosternum. Mesosternum forming a broad pentagonal plate widely separating the coxæ and closely united with a broad process of the metasternum. Metasternal episterna in great part concealed in front by the elytra. Epipleuræ scarcely distinct. Tibiæ rather broad and thin, the spurs

small, outer edge feebly spinulose. Anterior tibiæ not emarginate; maxillary palpi with the pseudo-basal joint slender at base, inflated at apex, last two joints slender, the terminal slightly longer than the preceding.

On viewing the body from below it will be observed that the thorax has angulate sides, but the angle is reflected inferiorly and not at all visible from above. The metasternal oblique line illustrates here in its full development what is scarcely more than indicated in several of the species of *Cercyon*.

But two species are known to me, one of which has been introduced from Europe.

Elytral striæ not conspicuously coarsely punctured; intervals punctate in their entire extent; metasternum densely punctate.....**minutum**.
Elytra striæ conspicuously coarsely punctured at base; intervals at sides and apex nearly smooth; metasternum not densely punctate..**americanum**.

C. minutum Fab.—Rather broadly oval, more narrowed behind than in front, convex, piceous black, feebly shining, elytra with pale tip. Antennæ and palpi piceous. Head finely and closely punctate. Thorax, as seen from above, narrowed from base to apex, the sides feebly arcuate, basal marginal line wanting, a faint impression opposite the fourth stria, surface rather closely punctate. Elytra moderately deeply striate, striæ punctate, intervals slightly convex, rather closely punctulate and sparsely pubescent. Body beneath piceous, moderately shining. Metasternal area sharply limited by a well-elevated, sinuous, oblique line, which extends from the anterior outer angles to the coxal articulation, the entire surface of the metasternum very coarsely and rather closely punctate. Mesosternal area opaque, moderately densely punctate. Legs piceo-rufous, femora darker. Length .06—.08 inch.; 1.5—2 mm.

The pale region at the apex of the elytra is very indefinite, and may extend so as to leave only a triangular scutellar space black, as in many *Cercyon pygmæus*, or the elytra may be entirely pale. There is often a pale spot on the umbone. The pubescence of the surface is very easily removable, so that but few specimens show it, and then only when recently captured.

Occurs in the New England States, Canada, and as far south as Maryland. In Europe it is widely distributed, extending to Siberia, the Amur region and Japan. From the latter distribution it should be found on the Pacific coast.

C. americanum n. sp.—Rather broadly oval, convex, piceous black, shining, elytra at apex paler. Antennæ and maxillary palpi pale rufo-testaceous. Head finely and closely punctate. Thorax arcuately narrowed from base to apex, the sides angularly inflexed, surface more coarsely punctate than the head, especially at base and sides, more finely at apex. Elytra rather deeply striate, striæ

coarsely and closely punctate near the base and gradually more finely to apex; intervals convex, moderately coarsely punctate from the base beyond the middle, but comparatively smooth at apex and sides. Body beneath moderately shining, the metasternum coarsely and moderately closely punctate. Legs rufo-testaceous. Length .07 inch.; 1.75 mm.

This species resembles, superficially, *minutum*, but differs in some important details. The sculpture of the head and thorax is similar. The elytra are somewhat more deeply striate and the punctures much coarser, while the punctuation of the intervals is less close and less extended. In *minutum* the metasternum has a well marked oblique line, and the surface otherwise is densely coarsely punctate, in the present species the line is less marked and the punctuation well separated.

The pale apical region which extends along the sides to middle may not be specific, but varietal. There is no pubescence visible on the unique examined.

One specimen collected in Ross County, Ohio, was kindly given me by Mr. E. A. Schwarz.

The following species belongs to the tribe, but has not been positively identified:

Cybocephalus? unicolor Motsch., Bull. Mosc. 1845, iv, p. 364.—Ovatus, convexus, puntatissimus, fulvus, nitidus, palpis longissimis; thorace transverso antice angustato, lateribus arcuatis; elytris crenulato-striatis; tibiis externe spinosis. Long. 1 ligu.; larg. $\frac{3}{4}$ ligu.

Il ressemble beaucoup à une *Anisotoma*, mais il est pentamère. De Sitka.

Mannerheim states that this is probably a Cercyon (Bull. Mosc. 1853, iii, p. 110), and the description to me reads very like that of *Cryptopleurum minutum* when immature.

Before closing the present paper I desire to express my thanks to those who have kindly assisted its progress by either valuable suggestions or specimens. Messrs. Liebeck and Wenzel, associates of our Section; Dr. Dietz, of Hazleton; Blanchard, of Lowell; Dr. Hamilton, of Allegheny; and finally, but by no means least, Ulke and Schwarz, of Washington.

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insulare (Cœlostoma), Cast. Col. ii, p. 59.
D. *cacti* Lec., Proc. Acad. 1855, p. 373.
D. *advectum* n. sp.

PHÆNOTYPUS n. g.

- P. *palmarum* Schwarz, Trans. Am. Philos. Soc. 1878, p. 355.

PHÆNONOTUM Sharp.

- P. *estriatum* Say, Bost. Journ. i, p. 171; edit. Lec. ii, p. 646.
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CERCYON Leach.*

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C. *flmbriatus* Mann., Bull. Mosc. 1852, ii, p. 344.
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C. *variegatus* Sharp, Biol. Cent. Am. 1, 2, p. 107, pl. iii, fig. 13.
C. *analys* Payk., Fauna Suec. i, p. 187; Muls., Col. Fr. p. 183.
maculatus Mels., Proc. Acad. ii, p. 101.
C. *hæmorrhoidalis* Fab., Syst. Ent. p. 67; Muls., Col. Fr. 159; Thoms., Skand. Col. ii, p. 107; *flavipes*, Fab. et al.
nigricollis Say, Journ. Acad. v, 190; edit. Lec. ii, p. 294.
C. *melanocephalus* Linn., Faun. Suec. No. 425; Muls., Col. Fr. p. 178.
nanus Mels. Proc. Acad. ii, p. 102.
C. *pygmæus* Illig., Mag. i, p. 40; Muls., Col. Fr. p. 170; Thoms., Skand. Col. ii, p. 109.
apicalis Say, Journ. Acad. iii, p. 204; edit. Lec. ii, p. 130.

* As the great majority of the species occur in Europe, but few references are given, and no synonymy, except when it enables a reference to a good description to be cited.

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C. floridanus n. sp.
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C. navicularis Zimm., Trans. Am. Ent. Soc. ii, p. 250.
C. pubescens Lec., Proc. Acad. 1855, p. 374.

PELOSOMA Muls.

- P. capillatum* Lec., Proc. Acad. 1855, p. 374.

MEGASTERNUM Muls.

- M. posticatum* Mann., Bull. Mosc. 1852, ii, p. 354.
M. punctulatum n. sp.

PEMELUS n. g.

- P. costatus* Lec., Proc. Acad. 1855, p. 374.

CRYPTOPLEURUM Muls.

- C. minutum* Fab., Syst. Ent. p. 68.
atomarium ‡ Oliv., et auct. plur.
vagans Lec., Proc. Acad. 1855, p. 375.
C. americanum n. sp.

DESCRIPTION OF PLATE IX.

- Fig. 1.—Meso-metathorax of *Cercyon hæmorrhoidalis*.
 “ 2.— “ “ *C. fimbriatus*.
 “ 3.— “ “ *C. granarius*.
 “ 4.— “ “ *C. analis*.
 “ 5.— “ “ *C. fulvipennis*.
 “ 6.— “ “ *C. navicularis*.
 “ 7.— “ “ *Cryptopleurum minutum*.
 “ 8.— “ “ *Pelosoma capillatum*.
 “ 9.— “ “ *Pemelus costatus*.
 “ 10.— “ “ *Megasternum posticatum*.
 “ 11.— “ “ *Dactylosternum cacti*.
 “ 12.— “ “ *D. advectum*.
 “ 13.— “ “ *Phænonotum estriatum*.
 “ 14.— *Pemelus costatus*.
 “ 15.— idem. lateral view.
 “ 16.—Front tibia of *Cercyon fimbriatus*.
 “ 17.— “ “ *C. littoralis*.
 “ 18.— “ “ *Pelosoma capillatum*.
 “ 19.— “ “ *Megasternum posticatum*.
 “ 20.—Antenna of *Dactylosternum cacti*.
 “ 21.— “ “ *Cyclonotum orbiculare* (European).
 “ 22.— “ “ *Cercyon luniger*.
 “ 23.— “ “ *Phænotypus palmarum*.
 “ 24.—Hind leg of *P. palmarum*.
 “ 25.—Maxillary palpus of *Pelosoma capillatum*.
 “ 26.— “ “ *Megasternum posticatum*.
 “ 27.— “ “ *Cercyon hæmorrhoidalis*.
 “ 28.—Antenna of *Creniphilus degener*.

