DEPARTMENT OF THE INTERIOR.
UNITED STATES GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES.
F. V. HAYDEN, U. S. Geologist-in-Charge.

LIST

OF

HEMIPTERA

OF THE

REGION WEST OF THE MISSISSIPPI RIVER,

INCLUDING

THOSE COLLECTED DURING THE HAYDEN EXPLORATIONS OF 1873.

BY

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[EXTRACTED FROM BULLETIN OF THE GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES, No. 5, SECOND SERIES.]

WASHINGTON, JANUARY 11, 1876.

BALTIMORE, *October* 16, 1875.

DEAR SIR: Permit me to express my thanks for your many courtesies extended to me while I have been engaged in the delicate task of discriminating the forms of *Hemiptera* acquired by your surveys. It has seemed important to have a complete list of all the described species belonging to the regions west of the Mississippi Valley, to enable the rapidly-increasing number of western students to become acquainted with the work that has been done by those who have preceded them, and to furnish the preliminary means for an accurate acquaintance with the forms of life essential to the various localities. Accordingly I have given here a summary, as complete as possible, of all the *Heteroptera* known to occur in those regions. I have also included descriptions of the new species which have been brought home by your expeditions. In each case, the synonymy, references, and habitats have been supplied as far as they are known.

A large amount of labor yet remains to be done in securing the genera and species characteristic of and illustrating each life area in this vast territory. And it is to your enlightened enterprise that we must look for the information and discriminating aggregation of the materials necessary for the proper understanding of their meaning and history. The present time, as you know so well, is peculiarly the proper one to make extensive collections of the insects, &c., of the great Rocky Mountain system and its dependencies. The present may be the only time when it will be possible to obtain the forms of life truly representative of the areas of distribution, either as to their local associations in the development of the locality in the recent period, or as forming an integral part of the geological past.

No sooner has the agency of man impressed itself upon the natural characteristics of the country, than a host of changes becomes perceptible, and features which were before clear and stable become indistinct, or are completely blotted out and lost beyond recovery. New forms of life are thus made to take the place of a former fauna, and the conditions of surrounding existence are bent to the artificial status of man's requirements.

The older parts of our country are to-day lamentable instances of the artificial stamp which man impresses upon wild nature. Destruction of the vegetation and of animal life takes place on every side; and instead of a harmonizing and softening of the rougher features of creation, we see a blotting-out and reckless change. By these unfortunate disturbances of the balance of representative peculiarities, it has become impossible, in some parts of our Eastern States, to know what were the original inhabitants of the natural areas, and what was their agency in determining some of the conditions of soil and surface which we observe to-day.

To show whence the present forms of life have been derived, both

vegetable and animal, what causes have brought in their present appearances and habits, and how they may be made subservient to the best uses of our people, render it necessary that large collections of specimens, including all their varieties, stages of life, and peculiarities, be amassed from all the varieties of surface, soil, water, and climatal or chemical areas.

Certain Rocky Mountain cañons and gorges which have been made wider and deeper by the forces of nature, present level, or nearly level, shelves, ridges, or plateaus, along the sides of the streams that dash through them; and the soil prepared there by the grinding floods and decaying mineral masses has fitted up an abode for numerous creatures which formerly could not live there. Other forms of life may have lasted through less locally energetic changes of soil and surface from a time that may date back far in some geological period of the past.

The presence of *Liburnia vittatifrons* (a salt-marsh form of the Atlantic border in the warm-temperate zone) upon low spots in the prairies of Illinois and Nebraska, may serve to show that these localities were once the beds of salt-lakes. And may we not at least surmise that the extent and boundaries of such, and of other formations of the past, may be nearly determined by a careful search for the facts of distribution of similar creatures.

Why is it that the Elkhorn Cactus affects the plains and foot-hills of Colorado south of the Divide, stopping almost suddenly in the vicinity of Piñon, and scarcely, if at all, appearing north of this place? Three of its allies, of less discrimination, extend over the whole length of the plains, north and south, throughout the Territory of Colorado.

The voracious grasshoppers, which come sweeping down from the mountain-heights upon the plains, although identical in species over hundreds of miles of territory, have well-marked races affecting different sections, which make it easy for the practiced eye to distinguish a southern form from one found farther north.

A species of large sunflower grows on the plains of Kansas and Colorado. In the latter State, it occurs in patches here and there, over a distance of at least three hundred miles. Upon this sunflower, in the valley of the Arkansas, lives abundantly the *Gnathium minimum*, Say; but north of this, the most rigid search failed to detect a specimen of it.

Instances of similar import might be mentioned without number. But I beg that you will pardon me for these few suggestions made in behalf of the demands of modern science, and to encourage those who are favorably situated to help in bringing together materials for a full history of the great region from which you have extracted so much that conduces to the prosperity of our great country.

Very respectfully, yours,

P. R. UHLER.

Dr. F. V. HAYDEN,
Chief of the U. S. Geological and
Geographical Survey of the Territories.

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By P. R. Uhler.

Order HEMIPTERA.

Larva and nymph active, generally resembling the adult insect. Head set into the pronotum (in *Corisidæ* overlapping it anteriorly), provided with a stiff, jointed beak of three to four joints, inclosing four bristle-like sucking tubes. Wings four (entirely absent from a few species); the wing-covers either horizontal or declivous when at rest, generally opaque and thicker at base, with the apical portion membranous.

Suborder HETEROPTERA.

Rostrum attached beneath the anterior extremity of the head; the front generally situated superiorly; the hemelytra heteronomous, overlapping at tip.

Division GYMNOCERATA.

Antennæ free, not concealed beneath the head, 3- to 5-jointed (in a few 13-jointed). Legs adapted for creeping, running, leaping, balancing in flight, or for skimming over the surface of the water.

Superfamily SCUTELLEROIDEA.

Scutellum covering nearly the whole tergum; orbicular.

Family CORIMELÆNIDÆ.

Corimelæna, White.

1. *C. nitiduloides.*

Cimex nitiduloides, Wolff., Icones Cimicum, 98, pl. x, fig. 92.
Odontoscelis nitiduloides, H. Schf., Wanz. Ins. v, 12, tab. 149, fig. 47.
Corimelæna nitiduloides, Dallas, Brit. Mus. List Hemipt. i, 56, No. 2.

Obtained above timber-line in the mountains of Colorado, by Lieut. W. L. Carpenter. Although found at such a considerable altitude, it offers no important differences from the specimens common to Kansas, Texas, Missouri, and the Atlantic region.

2. *C. ciliata.* New sp.

Deep bluish-black, short and broad; margins of the head, pronotum, and abdomen ciliated with remote long hairs. Head large, broadly depressed in front; the anterior margin broadly rounded; punctures fine and close; the base almost impunctured; the edges narrowly recurved; antennæ rufo-piceous; rostrum reaching between the middle coxæ. Pronotum broad, not very convex, finely punctured; the punctures becoming deeper and denser at the sides; the lateral margins but moderately rounded; edges recurved; the surface a little uneven in places; intrahumeral impressions shallow, long; the posterior margin moderately elevated above the base of the scutellum. Scutellum moderately convex, not very high, broadly rounded; the sides near the base rather strongly, broadly sinuated; surface finely, distinctly punctured; the punctures coarser and denser each side at base. Corium moderately wide, very bluntly oblique at tip, closely punctured, except upon the inner margin, and with three impressed striæ, which are confluent at tip. Beneath finely punctured. Coxæ and legs rufo-piceous; tarsi yellowish.

Length, 5 millimeters. Breadth of pronotum, 3 millimeters.

Inhabits California (Dr. LeConte); San Francisco (James Behrens); Oregon (Dr. Horn).

3. *C. cyanea.* New sp.

Bright steel-blue, polished; in form similar to *C. ciliata.* Head broad, finely, densely, confluently punctured; each side faintly sinuated; the anterior margin and tylus very narrowly recurved; each side between the eye and ocellus is a short distinct sulcus; antennæ and rostrum piceous, the latter scarcely reaching the middle coxæ. Pronotum much broader than long, moderately convex; disk finely punctured, but each side of it coarsely punctured; humeri moderately high, a little produced backward; the adjoining impressions long, rather shallow, and with a single indistinct stria; the posterior margin but little higher than the scutellum. Scutellum a little purplish; each side of disk uneven and obsoletely ridged; punctures numerous, confluent each side and behind; the lateral edge moderately waved, a little sinuated at base. Corium broad, approximately bistriate, and, excepting the inner smooth margin, densely punctured. Pectus black, finely punctured. Venter finely, closely punctured, polished, steel-blue. Legs blue-black; tarsi testaceous.

Length, 5 millimeters. Width of pronotum, 3¼ millimeters.

Inhabits California (Dr. Horn); Arizona (J. Behrens).

4. *C. cœrulescens.*

Thyreocoris cœrulescens, Stål, Hemipt. Mex. Stettiner Ent. Zeit. xxiii, 94, No. 42.

Inhabits Mexico; Arizona (Dr. Horn); California (J. Behrens); Kansas; Colorado (J. Ridings).

5. *C. anthracina.* New sp.

Broad ovate, polished, intensely black, coarsely, in part confluently, deeply punctured; in form similar to *C. lateralis,* Fab. Head short, subtriangular, slightly convex, sinuated each side, subtruncated in front; surface coarsely, confluently punctured; the extreme base smooth and impunctured; tylus scarcely longer than the lateral lobes; lateral edges acute; antennæ pale rufo-piceous; the second joint less than one third as long as the third and not thicker than the slender base of that joint;

rostrum reaching to the posterior line of the intermediate coxæ. Pronotum symmetrically convex; the lateral margins obliquely arcuated; length a little more than one-half of the breadth of base; surface coarsely, closely punctured, here and there with minute punctures between, on the sides more coarsely, densely, and confluently punctured; on the base a little obsoletely punctured; posterior margin behind the sinus a little flattened; pectoral areas opaque black, confluently punctured; the meso- and metapleural pieces longitudinally wrinkled. Legs piceous-black; the femora obsoletely punctately-indented; tarsi testaceous. Scutellum short and broad, convex, bluntly rounded at tip; the sides at base contracted and sinuated, and bounded there by a smooth, slender frenum; the surface less densely and more obsoletely punctured than the pronotum, and still more finely and remotely at the apex; sides at base coarsely, densely, confluently punctured. Corium about two-thirds the length of the scutellum, of medium width, and blunt at tip, distinctly and not very coarsely punctured, more coarsely and closely at base. Venter convex, very highly polished, remotely and less distinctly punctured on the disk, but very distinctly, closely, and more coarsely so on the sides and posteriorly. ♀.

Length, 4¾ millimeters. Width of pronotum, 3 millimeters.

Inhabits California (James Behrens).

6. *C. extensa.*

Corimelæna extensa, Uhler, Proc. Amer. Ent. Soc. 1863, 155.

Inhabits Dakota (Mr. Pearsall); Oregon and Arizona (Dr. Horn); California (J. Behrens).

7. *C. lateralis.*

Tetyra lateralis, Fab., Syst. Rhyng. 142, No. 68.
Odontoscelis lateralis, H. Schf., Wanz. Ins. v, tab. 149, fig. 473.
Corimelæna lateralis, Dallas, Brit. Mus. List Hemipt. i, 59, No. 11.

A single specimen of the variety with very narrow, pale costal margin, collected in Kansas, was given to me by Mr. H. Ulke. It abounds on the prairies of Illinois, and is common in Michigan, New York, Massachusetts, Rhode Island, Pennsylvania, and farther south. In Maryland, specimens sometimes occur which are destitute of the lateral pale margin; and near Baltimore may be found all the varieties between the extremes of color and punctuation.

8. *C. pulicaria.*

Odontoscelis pulicarius, Germar, Zeits. i, 39, No. 6.
Corimelæna pulicaria, Dallas, Brit. Mus. List Hemipt. i, 59, No. 10.

Inhabits Kansas, Dakota, Minnesota, and is distributed over the whole length of Atlantic North America from Quebec to Florida, and westward to Louisiana and Texas.

9. *C.? albipennis.*

Thyreocoris albipennis, Say, Heteropt. New Harmony, 2, No. 2.

"Oval, pale fulvous. Pronotum blackish before and on each side; the lateral margin white. Scutellum each side at base with a small black spot. Hemelytra white, with a small rufous spot. Beneath piceous; the lateral margins of the pectus white."

Length less than one-fifth of an inch.

Obtained by Mr. Say in Nebraska near the Missouri River.

The specimen described by Mr. Say was a mutilated one, without a head. It may not belong to the genus to which it is here referred; but as it has been placed by its describer in *Thyreocoris*, it must be at least somewhat related to the genus *Corimelæna*.

The description is copied here with a view to call the attention of collectors to this remarkable insect, and to enlist those who are favorably situated to endeavor to recover it for the advancement of our knowledge in this branch of modern science.

Family PACHYCORIDÆ.

Homœmus, Dallas.

1. *H. æneifrons.*

Scutellera æneifrons, Say, Long's Exped. appendix, 299, No. 2.
Pachycoris exilis, H. Schf., Wanz. Ins. iv, tab. 110, fig. 346.

Inhabits Colorado, and the Atlantic region generally from Canada to Virginia. It occurs but rarely in Maryland, and seems to affect the colder parts of the State, where the vegetation is from a week to ten days later in developing than in the lowlands of the warm areas.

2. *H. bijugis.*

Homœmus bijugis, Uhler, Hayden's Geol. Surv. of Montana, 393.

Collected by the survey of 1871 in Colorado, and during 1873 by Lieutenant Carpenter, from the foot-hills of Colorado, in September; vicinity of Denver City, by B. H. Smith; also received from Dakota and Nebraska.

3. *H. consors.* New sp.

Testaceo-fulvous; pale yellowish beneath; more acute at both ends than *H. æneifrons*. Head more triangular and narrower, more finely punctured, sparingly pubescent, less convex; the surface brassy-black, greenish at base; the lateral submargin with a narrow yellow line extending to the apical margin each side of tylus; the lateral margins distinctly sinuated; antennæ and rostrum testaceous, with the tips fuscous. Pronotum testaceous, tinged with brown, finely and obsoletely punctured; the lateral margins rather broadly compressed; each side of disk with a forked fuscous ray, the ends diverging posteriorly; exterior to this anteriorly is a short fuscous line, on the middle a fainter fuscous line, and a similar one along the submargin; the spot in the anterior angles very distinct. Scutellum very much narrowed obliquely posteriorly, very finely, rather obsoletely punctured; on the base is a trifarious black spot, the middle end of which runs to a point a little way back; the lateral ends indistinctly connected with a gradually narrowed ray, which runs obliquely backward; each side of base with pale streaks, exterior to which is an angular, fuscous spot; on the middle is an interrupted pale line; and on the tip an oblong pale spot, which narrows to a point anteriorly, and placed on a fuscous cloud. Venter pale, remotely, finely punctured; the punctures denser and finer on the sides; the sixth segment strongly carinated on the posterior margin; connexivum superiorly, with a black spot on each segment.

Aulacostethus, Uhler.

A. simulans. New sp.

Oval; moderately long; convex in both diameters; testaceous; clouded with ochreous; densely, minutely punctured with fuscous. Head ochreous, confluently, and more coarsely punctured; the lateral edge inferiorly and the tylus at tip smooth, yellow; lateral margins deeply sinuated;

below this the cheeks deeply excavated and coarsely punctured with fuscous; the lower cheeks yellow, smooth inferiorly; above this with remote, deeply-sunken, coarse, rufous punctures; antennæ yellow; the apex of basal joint on the upper side with a fuscous ring; the second and third joints with a fuscous longitudinal line both above and below; the basal joint stouter, subequal to the second; the third a little shorter; fourth and fifth lost from the specimens. Bucculæ punctured with fuscous; rostrum yellow; labrum with a black streak; the third and fourth joints tinged with piceous; the apex of the latter almost black. Pronotum dull testaceous, ochreous anteriorly, rather remotely, minutely punctured with fuscous; the anterior slope steeply convex; the lateral margins convexly arcuated; humeral angles bluntly rounded; the posterior angles still more so; the disk with about four series of transverse, interrupted black lines; the anterior margin indented each side. Pectus testaceous, remotely punctured with rufous, punctured anteriorly more minutely in patches with fuscous, and more coarsely posteriorly; the outer extremity of the duct fuscous, and with a large deep puncture there. Legs short, stout, yellow; the femora and tibiæ dotted with fuscous, the dots coalescing on the middle of the posterior and intermediate femora, so as to form a ring; tarsi at tip tinged with piceous. Scutellum rather suddenly convexed at base; lateral margins parallel, obliquely narrowed toward the tip; the tip truncated, with the angles rounded, ochreous; base of the convexity having a large, pale-yellow crescent with the points directed backward, and slenderly and faintly continued backward to behind the middle of the lateral margins; anterior to this continuation each side is a large fuscous cloud, which is invaded on the outside posteriorly by a pale angular spot, and at base exteriorly by a darker patch, which runs back to the angular spot; at base each side of the lunule are several short, transverse black lines, and more exteriorly some black points; posterior surface reticulated with black; at the apex a transverse, oval, yellow spot, with a black dot on the middle posteriorly; the anterior edge of the spot bounded with black, and with a slender black line running forward from it. Venter pale, dull testaceous, punctured remotely with red, and with denser fuscous punctures in a broad band each side, upon which is a series of five spots composed of denser black punctures; the stigmatal orifices placed on small tubercles; connexivum with spots of crowded fuscous punctures near the apex of the segments; the postero-lateral angles slightly produced; last ventral segment elevated and produced in a truncated plate over the base of the first genital segment. ♀.

Length, 9 millimeters. Width of pronotum, 5⅓ millimeters.

Inhabits the vicinity of San Francisco in May (Henry Edwards).

PACHYCORIS, Burm.

P. Fabricii.

Cimex Fabricii, Linn., Mantis. Ins. 534.
Pachycoris Fabricii, H. Schf., Wanz. Ins. iv, 6, fig. 349.
Pachycoris Stalii, Uhler, Proc. Entom. Soc. Phila. ii, 159.

Inhabits California, Mexico, &c. It will no doubt hereafter be collected in Arizona and New Mexico.

SPHYROCORIS, Mayr.

S. obliquus.

Pachycoris obliquus, Germar, Zeits. i, 94, No. 24.
Sphyrocoris obliquus, Mayr, Novara Reise, Hem. 26.

Inhabits Arizona; but has been previously known only from the West Indies and Mexico.

ZOPHOESSA, Dallas.

1. *Z. consocia.* New sp.

Form of *Z. porosa*, Germar; brownish-black, with a brassy tinge; minutely sericeous pubescent. Head more broadly, less abruptly sinuated each side; antennæ piceous; the base and tip of the second, third, and fourth joints, and the basal joint entirely, testaceous; the basal and apical subequal, longer than the others; the third shortest; rostrum pale yellowish, invaded with piceous on the basal, third, and apical joints. Pronotum narrowly, transversely, but deeply and abruptly, incised; anterior to this is another incised line, which does not reach the lateral margins; the lateral margin less deeply sinuated than in *Z. porosa*. Corium testaceous at tip. Tarsi testaceous; the last joint and nails piceous. Scutellum widened posteriorly, crossed by several impressed lines between the base and the middle; the surface broken into reticulated ridges of more or less distinctness; on the base each side of the middle is an elongated spot; the middle line interruptedly, and several small, irregular spots at tip, yellow; the apical margin bluntly, a little obliquely, rounded. Yellow spots of the edge of connexivum small. ♀.

Length, 5 millimeters. Width of pronotum, scant 3 millimeters.

Inhabits Arizona (John Akhurst).

The surface is closely and deeply punctured, as in the other species.

2. *Z. porosa.*

Pachycoris porosus, Germar, Zeits. i, 108, No. 56.
Zophoessa porosa, Dallas, Brit. Mus. List Hemipt. i, 43.

Inhabits California, Texas, Florida, &c.

SUBFAMILY EURYGASTRINA.

EURYGASTER, Lap.

E. alternatus.

Tetyra alternata, Say, Amer. Ent. tab. iii, 43, fig. 3.
Eurygaster alternatus, Dallas, Brit. Mus. List Hemipt. i, 47, No. 1.

Inhabits the hills of Colorado in September. Collected by Lieut. W. L. Carpenter. It is quite common in many parts of the cold division of the north-temperate zone, extending quite across the continent from Maine to Puget Sound, and south to near San Francisco. On the eastern side of the continent, it has not yet been captured as far south as Maryland.

SUBFAMILY PODOPINA.

PODOPS, Lap.

P. dubius.

Scutellera dubia, Pal., Beauv. Ins. Afr. et Amer. 33, pl. 5, fig. 6.
Tetyra cinctipes, Say, Amer. Ent. iii, tab. 43, fig. 2.

Inhabits Nebraska, Minnesota, Texas, and generally throughout the Atlantic region from Massachusetts to Florida.

PHIMODERA, Germ.

P. torpida.

Phimodera torpida, Walker, Brit. Mus. Catal. of Hemipt. pt. i, 75, No. 4.

Black; dull; elliptical; slightly convex; minutely punctured. Head subquadrate, less than half the breadth of the pronotum; the tylus

hardly extending beyond the lateral lobes. Eyes rather prominent. Pronotum with a transverse furrow, in front of which it is transversely rugulose; on the middle with a very short, whitish, longitudinal line. Scutellum covering the whole of the tergum, and almost the whole of the hemelytra, with three longitudinal lines, the middle one extending along the whole length, the other two very short, extending from the fore border; each with a short, oblique ridge near its outer side.

Length, 7 millimeters.

One specimen from Colorado, collected by B. H. Smith. The original type came from the region of the Saskatchewan in British America.

The description is added in this place to call the attention of western collectors to this interesting and peculiar species, with a view to obtaining a series of both sexes for the better elucidation of its affinities, and to establish its position in the group.

In Europe, this genus is represented by two species—one in France and Hungary, and the other in Sweden and Russia; but this is the first time that we have had evidence of the presence of one of its representatives on this western continent.

Superfamily PENTATOMOIDEA.

Scutellum much narrower than the abdomen, contracted behind the middle, usually triangular, having a frænum running from the base along the sides.

Family CYDNIDÆ.

Cyrtomenus, Am. & Serv.

C. mutabilis.

Cydnus mutabilis, Perty, Delectus Anim. Artic. 33, fig. 6.
Cyrtomenus castaneus, Am. & Serv., Hemipt. 91, No. 1.

Inhabits Arizona, Mexico, Texas, California, Brazil, Florida, Georgia.

Pangæus, Stål.

1. *P. bilineatus.*

Cydnus bilineatus, Say, Journ. Acad. Phila. iv, 315, No. 1.
Æthus bilineatus, Dallas, Brit. Mus. List Hemipt. i, 119, No. 20.

Inhabits Indian Territory, Kansas, Texas, and Eastern Temperate North America as far south as Central Florida.

2. *P. piceatus.*

Pangæus piceatus, Stål, Hemipt. Mex. Stettiner Entom. Zeit. xxiii, 96, No. 47.

Inhabits New Mexico, Texas, and Mexico.

Microporus, Uhler.

Aspect of *Cydnus;* hairy and opaque, polished, oval, moderately convex. Head broadly rounded, feebly convex; the tylus shorter than the lateral lobes; lateral submargins closely armed with linear, stout teeth, fringed with long, stiff hairs; the edge sharp, recurved, but broad beneath. Antennæ, basal joint barely reaching the tip of head; second very short, a little more than one-half the length of the third; third more slender, fusiform; shorter than the basal, but about of the same

length as the fourth; fourth and fifth stouter, rounded at each end, subequal. Rostrum reaching between the intermediate coxæ; second joint longest; third and fourth subequal, a little shorter than the basal one; bucculæ narrow, sublinear. Pronotum transverse, obsoletely transversely impressed; surface curving uniformly with the head; the anterior angles bluntly rounded; the lateral margins fringed with long ciliæ. Anterior femora compressed; armed with very stout spines on the outer and inner edges; those of the tip longest. Odoriferous canal placed inwardly, very short, spoon-shaped, scooped out. Scutellum about two-thirds as long as the abdomen, bluntly triangular, bluntly rounded at tip, the apex a little bent down. Corium short and wide, the outer angle produced backward; embolium long, grooved quite, or almost, throughout. Outer margins of the venter compressed.

1. *M. obliquus.*

Microporus obliquus, Uhler, Hayden's Survey of Montana, 394.

Inhabits the vicinity of Ogden, Utah; also in Arizona (Dr. George Horn).

2. *M. testudinatus.* New sp.

Ovate, broadly rounded, more convex than in *M. obliquus.* Head convexly declining, conforming to the curve of the pronotum; the anterior margin broadly recurved and rounded, feebly emarginated in front; the submargin with long setæ and close stout spines, of which two are on the tip of the tylus; surface smooth, polished, impunctured; near the eye is a sunken point, and running obliquely forward each side from the tylus is an impressed line; tylus shorter than the lateral lobes; the latter bluntly rounded and obsoletely wrinkled; antennæ pale ferruginous; the second joint slender, much the shortest, cylindrical; the third, fourth, and fifth subequal in length; rostrum reaching between the intermediate coxæ, pale ferruginous; the third and fourth joints subequal, together longer than the second. Pronotum transverse, in front much narrower than behind; the anterior margin deeply sunken to receive the head; the angles moderately protracted forward, bluntly rounded; the lateral margin steeply declining, the edge very thin, convexly arcuated, closely fringed with long ferruginous hairs; posterior margin feebly rounded; the exterior angles slightly rounded, rectangular; surface smooth, polished, obsoletely punctured each side and behind the middle; the anterior lobe smoother, and with a very few minute punctures; behind each eye is a sunken point, and across the middle a series of six similar points. Pectus pale piceous; the disks of pleural pieces darker; sides of prosternum a little raised into slender, slightly-rounded lobes. Legs pale ferruginous, more or less tinged with piceous; the spines blackish-piceous; femora compressed, having two rows of punctures carrying ciliæ; anterior tibæ compressed, the spines of outer margin longer; the exterior submargin with a slender groove bearing coarse punctures; the posterior tibiæ long, feebly curved, hardly thicker toward the end; tarsi slender, yellow, the intermediate joint small. Scutellum very broad, short, polished, convex, remotely, finely, rather obsoletely punctured; the sides not distinctly sinuated; the tip broad, bluntly rounded. Corium short, much wider behind; the costal margin very convexly arcuated, moderately uniformly, deeply punctured; the sutures punctured in rows; the subcostal linear impression continued from the base to beyond the middle, and coarsely punctured; posterior margin bluntly oblique, a little bluntly produced at the outer angle; mem-

brane short, broadly rounded, pale brownish. Venter very convex, polished, ciliated across the segments, and with long hairs on the outer edge of the connexivum; the lateral and posterior surface minutely punctured.

Length, 4½ millimeters. Width of pronotum, 2½ millimeters. Width of venter, 3 millimeters.

Inhabits California (James Behrens).

In one specimen, there is a transverse, impressed line placed a little before the posterior margin of the pronotum; in another, this line is hardly visible.

TRICHOCORIS, Uhler.

Oval, moderately convex above, more or less hirsute, very convex beneath. Head bluntly semicircular, deeply seated in the pronotum; the anterior angles of the pronotum protracted as far as the middle of the eyes. Eyes sunk to the middle in the margin of the head; the ocelli placed not far from them, and on a line with their base. Submargin of the clypeus with erect, stout, short spines; the margin a little recurved; tylus broad, flat, not narrowed anteriorly, defined almost to the base of the cranium; the lateral lobes longer, but curving in front of it. Rostrum reaching beyond the anterior coxæ; the second joint longest, but not as long as the third and fourth united, compressed; the third and fourth subequal. Antennæ moderately stout; basal joint subcylindrical, slightly curved, as long as the fifth; second shortest; third somewhat longer, conical at base; the fourth and fifth equal, stouter, fusiform; the latter acute at tip. Pronotum transverse, trapezoidal; the lateral margins obliquely narrowing anteriorly, and gently curved. Odoriferous canal running outward almost half-way to the lateral margin, slenderly sulcated, situated rather remotely from the suture, becoming slightly tubular at the outer end; the plate on which it is placed narrow, acutely triangular beyond the osteole. Scutellum about two-thirds as long as the abdomen, broad and long, bluntly rounded at tip, the base convexly prominent, the sides not sinuated. Hemelytra broad, a little wider than the abdomen, shorter than the scutellum, the costal margin broadly arcuated; the posterior margin of the corium bluntly oblique, a little sinuated; membrane obliquely declining. Legs stout; femora compressed, ciliated, expanded before the tip; the anterior tibiæ a little less compressed than in *Cyrtomenus*, subtriquetral when seen from above; the long, stout spines arranged in a whorl at tip; posterior tibiæ much longer than the intermediate. Venter obesely convex; the segments fringed with long, remote ciliæ; the lateral margins densely set with long hairs.

T. conformis. New sp.

Moderately broad-oval, blackish-piceous, densely clothed exteriorly, and less densely superficially, with long ferruginous hair. Head flat, coarsely punctured in more or less oblique lines, or irregularly punctured and wrinkled, clothed each side with long, remote, erect hairs; spines of the submargin close-set, erect; the tip of the tylus armed with two spines; apex of the clypeus quadrately emarginate. Antennæ rust-brown; the basal joints somewhat piceous; the third, fourth, and fifth joints particularly clothed with fine yellow pubescence. Lateral margin and eyes reddish-brown. Rostrum reaching behind the anterior coxæ; the basal joint almost hid by the bucculæ; the second longest, almost as long as the third and fourth together; the third and fourth subequal. Pronotum blackish-piceous, sometimes tinged with rufous on the lateral

margins, almost twice as broad as long; the anterior angles broadly prominent, rounded; lateral margins oblique; posterior margin subtruncated; the surface variolosely punctate behind the middle, somewhat so on the anterior margin, and more densely on the sides; anterior part of the disk to behind the middle highly polished; the punctate surface and lateral margin invested with remote, long, rust-brown hairs, those of the sides longer. Scutellum almost as broad as long, remotely and more finely punctate, becoming finer posteriorly, with remote, long, rust-brown hairs. Sides of the prosternum anteriorly a little raised into flat lobes; medio- and post-pectus coarsely, remotely punctate. Corium broad, broader behind, finely, remotely, obsoletely, on the exterior area more densely and deeply, punctate, with remote long hairs; the lateral edge densely hirsute; membrane brownish. Legs rufo-piceous; the tarsi ferruginous and very slender, the intermediate joint very small; anterior femora on the upper side and exterior to the middle line with a series of broad, shallow pits; the femora and tibiæ ciliated with long ferruginous bristles. Venter obesely convex, polished, invested with long ferruginous hairs; the sides deeply, finely, and behind more closely, punctate; sides of the segments exteriorly with a line of coarse punctures; the middle broadly impunctate; connexivum roughly punctate; the edge posteriorly faintly waved. ♂. ♀.

Length, 5½ to 6½ millimeters. Breadth of pronotum, 3 to 3½ millimeters.

Inhabits California (Dr. G. Horn); San Francisco (James Behrens).

AMNESTUS, Dallas.

A. pusillus. New sp.

General form of *A. spinifrons*, Say; very pale ferruginous, polished. Pronotum a little narrower anteriorly; the lateral margin anteriorly abruptly rounded; transverse line deeply impressed; the surface coarsely punctured; the humeri and posterior margin more finely punctured; the lateral submargin more broadly depressed posteriorly. Scutellum small, triangular, pointed, rufo-piceous, closely punctured. Legs flavo-testaceous or pale ferruginous; the anterior femora unarmed, ciliated; the anterior tibiæ compressed, with the spines rather long and slender. Corium paler than the pronotum, coarsely, closely punctate; the disk more remotely so; posterior margin deeply sinuated; membrane transparent, faintly whitish, much shorter than the corium. Venter with prostrate pubescence, minutely rugulose, moderately convex.

Length, 2 to 2½ millimeters. Width of pronotum, 1 to 1¼ millimeters.

Inhabits Indian Territory, Texas, Cuba, and generally the Eastern United States south of Cape Cod. It lacks the femoral tooth, which is so conspicuous in *A. spinifrons*.

MACROPORUS, Uhler.

Broad-oval, feebly convex; the sides of the head and pronotum sparingly ciliated. Head broad, clypeate; the margins broadly reflexed, armed with short spines; tylus flattened, a little narrowed at tip, the recurved margin crossing its tip; bucculæ almost percurrent, not widened at tip; rostrum reaching between the intermediate coxæ; the basal joint a little shorter than the bucculæ, the second rather shorter than the third and fourth united; these latter subequal. Antennæ moniliform toward the apex; the basal and second joints slender, cylindrical; the second scarcely half as long as the third; the third, fourth, and fifth subequal, stouter; the fifth acute at tip. Pronotum transverse, quad-

rangular; the anterior margin deeply sinuated, bluntly carinated; the anterior angles rounded, and prolonged to before the middle of the eyes; the lateral margins a little oblique, anteriorly a little curved, remotely ciliated; the edge recurved; posterior margin a little convexly curved; the lateral angles moderately obliquely rounded; the margin interior to the humeri feebly sinuated; disk posteriorly obsoletely, transversely impressed, each end of the impression excavated, and behind each eye an excavated point. Corium broad, reaching to the penultimate segment of the abdomen; the costal margin broadly curving inward at tip. Scutellum short, almost as wide as long; the tip narrow, obliquely rounded, not extending beyond the inner angle of the corium; the sides feebly sinuated.

M. repetitus.

Castaneous or rufo-piceous; broader posteriorly. Head bluntly rounded in front, with short, close spines, and remotely hairy; the margins broadly recurved, rufescent; submargin grooved; disk a little convex, irregularly, rather finely punctured; the base almost impunctured; the posterior margin broadly excavated each side; adjoining each eye and in each basal corner of the tylus with a small, round pit; ocelli red, very remote, placed near and a little behind the line of the eyes; rostrum ferruginous or pale piceous, reaching between the intermediate coxæ; the second joint much compressed, and a little shorter than the third and fourth united; antennæ moderately stout; second joint scarcely half as long as the third; third gradually enlarged toward the tip; fourth and fifth joints subequal, subfusiform. Pronotum broader than long, narrowing anteriorly, transversely impressed, smooth, finely and closely punctured, excepting the anterior part of the disk; the anterior margin deeply excavated, with the whole edge recurved; anterior angles prominently prolonged, angularly rounded; lateral margins arcuated anteriorly; the edge recurved; the submargin depressed, ciliated with long, close hairs; lateral angles rectangular, smooth, with steep sides, and feebly rounded; the intra-humeral impressions shallow. Pectus rufo-piceous, darker on the posterior pleural pieces, smooth, impunctured; the lateral margins of the prosternum slightly elevated. Legs and coxæ pale flavo- or rufo-piceous; the anterior tibiæ moderately compressed, having about six spines on the outer edge; the spines of the posterior tibiæ black-piceous; tarsi testaceous; the intermediate joint small. Scutellum a little flattened, polished and impunctured on the disk; the remaining surface closely punctured, minutely rugulose, before the tip a little sinuated; the edge very narrowly recurved; tip faintly impressed; obsoletely carinated. Corium broad, moderately convex, smooth, coarsely, closely punctured, on the disk obsoletely punctured; the costal margin broadly, convexly arcuated; the edge broad and distinctly recurved; the posterior margin faintly sinuated, furnished with a thinner border, and with the outer angle a little produced; embolium broad, reaching to the second ventral segment, minutely scabrous; the membrane brownish, moderately declivous posteriorly. Venter polished, minutely shagreened, and wrinkled each side and behind; the genital segment almost vertical, and crowned with a few erect hairs.

Length, 3½ to 4 millimeters. Width of pronotum, 2 to 2⅔ millimeters.

Inhabits San Francisco; received from Messrs. Henry Edwards and James Behrens.

A single specimen was also found by myself on the side of a hill two miles west of Baltimore, beneath a stone. Thus far, only females have been obtained.

MELANÆTHUS, Uhler.

Elongate-oval; the margins remotely ciliated all around. Head semicircular in front; the margins either feebly or obsoletely recurved; the submargin ciliated, but destitute of spines; tylus as long as the lateral lobes; occiput broad; the base of the head each side of it not scooped out; bucculæ almost percurrent, distinctly higher at the posterior end; rostrum reaching almost or quite to the intermediate coxæ; basal joint as long as the bucculæ; the second longest, a little longer than the third; third longer than the fourth, and only a little shorter than the second; the fourth subequal to the basal joint; antennæ moderately stout and long; the basal joint stouter than the second, but not so stout as the fifth, a little narrowed at tip; second slender, either longer or shorter than the third; third thicker toward the tip; fourth longer; fifth longest, and, together with the preceding joint, subfusiform. Pronotum distinctly transverse, very feebly convex; the lateral margins almost straight, a very little curved inward anteriorly; the edge recurved; anterior margin broadly sinuated; posterior margin subtruncated. Scutellum longer than broad, acutely narrowing toward the tip; the tip narrow, acutely rounded, overlapping the inner apex of the corium. Exterior field of the corium broad, depressed; the costal margin curved inward toward the tip, leaving the connexivum exposed posteriorly; the posterior margin moderately oblique, feebly arcuated; the exterior tip a little produced. Legs normal; the anterior tibiæ very moderately compressed. Venter moderately convex; the connexivum impressed longitudinally; the edge sharp and prominent. Odoriferous tube very slender, running outward about two-thirds of the distance to the exterior edge, and terminating in a flat button.

M. elongatus. New sp.

Deep black, shining, elongate-oval; the sides very parallel. Head semicircular, a little convex on the cranium, densely punctured, remotely punctured at base; the submargin broadly depressed, remotely ciliated; the margin recurved; tylus very short, a little cylindrically elevated, reaching as far as the lateral lobes, minutely rugulose, each side of it and the surface near each eye having a small sunken point; antennæ stout, dark piceous; the joints paler at each end; the second most slender, shorter than the third; the third enlarging toward the tip, a little shorter than the fourth; fifth longest; rostrum reaching not quite to the intermediate coxæ, rufo-piceous; the second joint longest; the third a little shorter; fourth shortest. Pronotum subtrapezoidal, fully twice as broad as long; the lateral margins anteriorly very slightly oblique, more suddenly rounded at the anterior angles; the edge recurved, remotely ciliated; front part of disk a little convexly elevated, polished, minutely rugulose; the remaining surface coarsely punctured; a transverse, impressed line crossing just before the base connects each side with a coarsely punctured line running forward from near the humeri, and with two impressed points near the junction of these lines; posterior margin truncated; the edge narrowly but abruptly decurved; the lateral angles rectangular. Antepectus polished, having a few small punctures; the prosternum a little carinated; meso-sternum distinctly carinated. Legs dark piceous; the posterior tibiæ long and slender. Scutellum extending not quite two-thirds the length of the venter, acutely narrowing toward the tip, with a transverse hump at base, and a narrower lunate impression behind it; the surface polished, minutely punctured; the lateral impressed lines broad, shallow, roughly punc

tured; the tip narrow, acutely rounded, projecting a very little way over the membrane. Corium a little wider posteriorly; costal margin a little abruptly curved inward at tip; posterior margin moderately oblique, a little convexly arcuated near the inner angle; the outer angle a little prolonged, very blunt; membrane pale-brownish, hardly half as long as the corium, with three or four very indistinct nervures. Venter slightly convex, polished; the sides, connexivum, and genital segment minutely roughened and punctured; the connexivum broadly depressed; the edge prominent and trenchant.

Length, 3½ millimeters. Width of pronotum, 1¾ millimeters.

Inhabits California.

A single mutilated female was received from Henry Edwards.

SEHIRUS, Amyot & Serv.

S. cinctus.

Pentatoma cincta, Palisot-Beauv. Ins. Afr. et Amer. 114, pl. 8, fig. 7.
Cydnus lygatus, Say, Heteropt. New Harmony, 10, No. 1.
Sehirus albonotatus, Dallas, Brit. Mus. List Hemipt. i, 127, 2.
Sehirus cinctus, Stål, Hemipt. Afr. Note, i, 29.

Inhabits New Mexico, Texas, in Tamaulapas, Mexico, and the United States pretty generally. It has not yet, however, been brought from the territories north of New Mexico, although it is found in Canada, not far from Quebec. The males usually have a smaller emargination of the front of the clypeus than the females; and they are also more frequently destitute of the white spot of the corium.

SUBFAMILY ASOPINA.

STIRETRUS, Lap.

S. anchorago.

Cimex anchorago, Fab., Syst. Rhyng. 137, 44; Ent. Syst. 86.
Tetyra diana, Fab., Syst. Rhyng. 137, 45.
Pentatoma pulchella, Westw., Hope Catal. i, 42.
Asopus variegatus, H.-Schf., Wanz. Ins. iv, 90, fig. 427.
Stiretrus fimbriatus, Dallas, Brit. Mus. List Hemipt. i, 81, 10.
Tetyra violacea, Say, Amer. Ent. pl. 43, fig. 2.

Inhabits Texas, New Mexico, and the Southern States. The variety *S. fimbriatus*, Dallas, extends as far north as Massachusetts, while it is not uncommon in all the States north of Virginia. Almost all the varieties, from an almost uniform yellow *fimbriatus* through the red and blue *diana* to the uniform violet *violacea*, have passed through my hands. The latter variety has been taken once near Philadelphia; in Georgia; in Florida; and once, also, in Texas by Mr. Boll.

PERILLUS, Stål.

1. *P. claudus.*

Pentatoma clauda, Say, Journ. Acad. Phila. iv, 312, No. 2.

Inhabits Colorado, Dakota, Northern California, New Mexico, Utah, and Arizona (C. V. Riley).

2. *P. exaptus.*

Pentatoma exapta, Say, Journ. Acad. Phila. iv, 313, No. 3.
Zicrona marginella, Dallas, Brit. Mus. List, i, 109, 5.
Pentatoma variegata, Kirby, Fauna Bor.-Am. 276, No 384.

Inhabits Colorado, Dakota, Canada, New England, &c.

3. *P. circumcinctus.*

Perillus circumcinctus, Stål, Hemipt. Mex. Stettiner Ent. Zeit. 23, 89.

Inhabits Nebraska, Missouri, Canada, Dakota, New England, Panama, and the island of Trinidad.

4. *P. confluens.*

Asopus confluens, H.-Schf., Wanz. Ins. v, 77, fig. 522.
Perillus confluens, Stål, Enumeratio Hemipt. i, 32.

Inhabits Texas, New Mexico, and Mexico to Guatemala.

Thus far, only one type of variety of this species has been found in the Southwestern United States; but in Mexico it offers many varieties, some of which possess great brilliancy and richness of colors.

5. *P. splendidus.*

Zicrona splendida, Uhler, Proc. Ent. Soc. Phila. 1863, i, 22.

Inhabits California (James Behrens); San Diego (H. Edwards); Fort Crook (Dr. George Horn); Texas (G. W. Belfrage).

MINEUS, Stål.

M. strigipes.

Podisus strigipes, H.-Schf., Wanz. Ins. ix, 338.
Mineus strigipes, Stål, Enumeratio Hemipt. i, 32.

Inhabits Texas, New Mexico, New York, South Carolina, Georgia, and Maryland.

RHACOGNATHUS, Fieber.

R. americanus.

Rhacognathus americanus, Stål, Enumeratio Hemipt. i, 33, No. 2.

Inhabits Illinois, Nebraska, and Canada.

ZICRONA, Amyot & Serv.

Z. cuprea.

Zicrona cuprea, Dallas, Brit. Mus. List Hemipt. i, 108, No. 2.

Inhabits Arizona; Snake River region, Idaho; Fort Defiance, New Mexico; and British America.

PODISUS, Stål.

1. *P. cynicus.*

Pentatoma cynica, Say, Heteropt. New Harmony, 3, No. 1.
Arma grandis, Dallas, Brit. Mus. List Hemipt. i, 96, 3.

Inhabits Dakota, Nebraska, Arizona, Missouri, Illinois, Massachusetts, New York, &c.

2. *P. spinosus.*

Arma spinosa, Dallas, Brit. Mus. List Hemipt. i, 98, No. 7.

Inhabits Nebraska, Kansas, California, Texas, and the Atlantic region generally.

3. *P. pallens.*

Arma pallens, Stål, Eugenies Resa, Hemipt. 222, No. 6.

Inhabits California; San Francisco (James Behrens).

The small differences in the lateral angles of the pronotum and in puncturing do not seem to me sufficient to separate this from *P. modestus.*

4. *P. modestus.*

Arma modesta, Dallas, Brit. Mus. List Hemipt. i, 101, No. 13.
Podisus modestus, Stål, Enumeratio Hemipt. i, 51, No. 13.

Inhabits Dakota, Nebraska, Illinois, Canada, and the Eastern United States as far south as Georgia.

TYLOSPILUS, Stål.

T. acutissimus.

Tylospilus acutissimus, Stål, Enumeratio Hemipt. i, 53, No. 27.

Inhabits Texas, Colorado, and Mexico.

SUBFAMILY HALYDINA.

BROCHYMENA, Amyot & Serv.

1. *B. myops.*

Brochymena myops, Stål, Enumeratio Hemipt. ii, 16, No. 1.
Halys quadripustulata, H.-Schf., Wanz. Ins. vii, 57, fig. 729.

Inhabits Texas, New Mexico, Louisiana, and Mexico.

2. *B. annulata.*

Cimex annulatus, Fab., Syst. Ent. 704, No. 38.
Halys annulata, H.-Schf., Wanz. Ins. vii, 57, fig. 728.
Halys serrata, Wolff, Icones Cim. 184, fig. 178.

Inhabits Colorado, Texas, and a large part of the United States east of the Mississippi River.

3. *B. obscura.*

Halys obscura, H.-Schf., Wanz. Ins. v, 68, fig. 513.
Brochymena obscura, Stål, Enumeratio Hemipt. ii, 16, No. 4.

Inhabits Arizona, California, Mexico, &c.

4. *B. arborea.*

Pentatoma arborea, Say, Journ. Acad. Phila. iv, 311, No. 1; Complete Writings, ii, 239.
Halys erosa, H. Schf., Wanz. Ins. v, 70, fig. 515.
Brochymena arborea, Dallas, Brit. Mus. List Hemipt. i, 188, No. 1.

Inhabits Texas, New Mexico, Indian Territory, Mexico, Kansas, and most of the eastern regions of the United States from Maine to Florida.

PRIONOSOMA, Uhler.

P. podopioides.

Prionosoma podopioides, Uhler, Proc. Ent. Soc. Phila. 1863, ii, 364.
Prionosoma podopioides, Stål, Enumeratio Hemipt. ii, 32.

Inhabits California, Arizona, Colorado, and Nevada.
Specimens have been sent to me from Denver City by Mr. B. H. Smith.

SUBFAMILY PENTATOMINA.

MECIDEA, Dallas.

M. longula.

Mecidea longula, Stål, Öfv. Vet. Acad. Forhandl. 1854, 233, No. 2; *ib.* 1856, 57, No. 2.

Inhabits Texas; New Mexico (Dr. J. L. LeConte).

ÆLIA, Fab.

Æ. americana.

Ælia americana, Dallas, Brit. Mus. List, i, 223, No. 1.

Inhabits Nebraska, Dakota, and British America.

This interesting insect is almost unknown to our American entomologists; only two (damaged) specimens have thus far came to my notice.

We beg particularly to call the attention of western collectors to this interesting genus, which should yield other and perhaps new species in return for moderately close collecting in shrubby spots where the small growths are rank and dense.

In Europe, the genus is represented by more than a half-dozen species.

NEOTTIGLOSSA, Kirby.

N. undata.

Pentatoma undata, Say, Heteropt. New Harmony, 8, No. 17; Complete Writings, i, 319, 17.
Neottiglossa trilineata, Kirby, Fauna Bor.-Amer. iv, 276, pl. 6, fig. 6.

Inhabits Colorado, Nebraska, Canada, and the Northern United States.

MELANOSTOMA, Stål.

M. sulcifrons.

Melanostoma sulcifrons, Stål, Enumeratio Hemipt. ii, 18.

Inhabits Texas and New Mexico.

A single specimen of this interesting little insect was captured by me near Egg Harbor City, N. J.

COSMOPEPLA, Stål.

1. *C. carnifex.*

Cimex carnifex, Fab., Ent. Syst. Suppl. 535, No. 162.
Eysarcoris carnifex, Hahn, Wanz. Ins. ii, 117, fig. 198; Dallas, Brit. Mus. List Hemipt. i, 225, No 3.
Pentatoma carnifex, Kirby, Fauna Bor.-Amer. iv, 275, No. 1.
Cosmopepla carnifex, Stål, Enumeratio Hemipt. ii, 19, No. 1; Hemipt. Fab. i, 28.

Inhabits Texas; Indian Territory; Nebraska; eastern part of Washington Territory; Port Neuf, Canada (Abbé Provancher); Nova Scotia; Illinois; and Maine to Georgia.

2. *C. conspicillaris.*

Eysarcoris conspicillaris, Dallas, Brit. Mus. List Hemipt. i, 225, No. 2.
Cosmopepla conspicillaris, Stål, Enumeratio Hemipt. ii, 19, No. 4.

Inhabits California, Vancouver's Island, and Mexico. On the hills and plains of Colorado, September 19 and October 4; collected by Lieut. W. L. Carpenter.

3. *C. decorata.*

Eysarcoris decorata, Hahn, Wanz. Ins. ii, 117, fig. 198.
Pentatoma decorata, H.-Schf., Wanz. Ins. vii, 96.
Cosmopepla decorata, Stål, Enumeratio Hemipt. i, 19, No. 2.

Inhabits Texas, Arizona, Mexico, and Guatemala.

It will be of peculiar interest to have full series of the three forms enumerated above, as it is highly probable that they constitute in reality but a single species. The first seems to be the continental form, but

which does not cross the meridian of the Sierra Nevada Mountains; the second does not cross beyond the eastern base of the Rocky Mountains; while the third is the subtropical southern form.

MORMIDEA, Amyot & Serv.

1. *M. lugens.*

Cimex lugens, Fab., Syst. Ent. 716, No. 98.
Cimex albipes, Fab., Ent. Syst. Suppl. 535, 162.
Cydnus lugens, Fab., Syst. Rhyng. 187, No. 12; Wolff, Icones Cim. 186, fig. 180.
Cimex gamma, Fab., Syst. Rhyng. Index, 7.
Pentatoma punctipes, Palisot-Beauv. Ins. Afr. et Amer. 113, pl. 8, fig. 6.
Pentatoma punctipes, Say, Journ. Acad. Phila. iv, 313, No. 4.
Pentatoma lugens, H.-Schf., Wanz. Ins. vii, 96.
Mormidea lugens, Stål, Stettiner Ent. Zeit. xxiii, 103, No. 73.

Inhabits Texas, Indian Territory, Cheyenne, Dakota, Nebraska, Mexico, and almost the whole of North America east of the Missouri and Mississippi Rivers.

Specimens were captured on Mitchell's Peak, and on some of the other high mountains of North Carolina, in August, at an elevation of more than 6,000 feet above sea-level, by my lamented late friend Dr. James B. Bean.

2. *M. sordidula.*

Mormidea sordidula, Stål, Enumeratio Hemipt. ii, 21, No. 18.

Inhabits Texas and New Mexico.

ŒBALUS, Stål.

Œ. pugnax.

Cimex pugnax, Fab., Syst. Ent. 704, No. 41.
Cimex typhœus, Fab., Syst. Rhyng. 162, No. 34.
Pentatoma orthacantha, Palisot-Beauv. Ins. Afr. et Amer. 130, pl. 9, fig. 9
Cimex typhœus, Wolff, Icones Cim. 180, fig. 174.
Pentatoma augur, Say, Heteropt. New Harmony, 3, No. 2.
Œbalus typhœus, Stål, Hemipt. Fab. i, 27.
Œbalus pugnax, Stål, Enumeratio Hemipt. ii, 22, No. 1.

Inhabits Texas, Arizona, Matamoras, Mexico, the Eastern United States generally, Cuba, and New Granada. It occurs at considerable altitudes on the Black Mountains of North Carolina, and is not unfrequent upon grassy and shrubby spots in Georgia and Florida. Miss Modeste Hunter collected it near Orange Springs, Florida, in the month of July.

In Maryland, it may be found on low spots in the meadows where the plants and grass grow rich and dense, in June, August, September, and October. It appears to lay eggs in late spring and toward the latter part of summer.

The Cuban form is usually larger, and has the lateral angles longer and more slender than in those from the United States.

EUSCHISTUS, Dallas.

1. *E. variolarius.*

Pentatoma variolaria, Palisot-Beauv. Ins. Afr. et Amer. 149, pl. 10, fig. 6.
Pentatoma punctipes, Say, Journ. Acad. Phila. iv, 314, No. 5; Complete Writings, ii, 241, No. 5.
Cimex ictericus, H.-Schf., Wanz. Ins. vi, 71, fig 639.
Cimex sordidus, H.-Schf., Wanz. Ins. vi, 70, fig. 637.
Euschistus punctipes, Dallas, Brit. Mus. List Hemipt. i, 207, No. 16.

Inhabits Colorado, Texas, and generally throughout the eastern side of the United States.

2. *E. ictericus.*

Cimex ictericus, Linn., Cent. Ins. 16, No. 41.
Pentatoma rubro-fusca, Palisot, Beauv. Ins. Afr. et Amer. 185, pl. 11, fig. 3.
Euschistus cognatus, Dallas, Brit. Mus. List Hemipt. i, 204, No. 10.
Euschistus ictericus, Stål, Enumeratio Hemipt. ii, 26, No. 23.

Inhabits Texas, Nebraska, Illinois, and the Atlantic States.

3. *E. fissilis.*

Euschistus fissilis, Uhler, Hayden's Survey of Montana, 396, No. 1.
Dicerœus euschistoides, Voll., Versl. Akad. Amst. ser. 2, ii, 180, No. 24.
Euschistus fissilis, Stål, Enumeratio Hemipt. ii, 26, No. 18.

Inhabits Colorado, Nebraska, Illinois, and parts of the Atlantic region.

4. *E. tristigmus.*

Pentatoma tristigma, Say, Heteropt. New Harmony, 4, No. 4; Complete Writings, i, 314.
Pentatoma tristigma, H.-Schf., Wanz. Ins. vii, 101, fig. 767.
Cimex pyrrhocerus, H.-Schf., *l. c.* vi, 71, fig. 638.
Euschistus luridus, Dallas, Brit. Mus. List Hemipt. i, 207, pl. 7, fig. 6.
Euschistus tristigma, Dallas, *l. c.* i, 207, No. 18.

Inhabits Texas, Indian Territory, Kansas, Missouri, and from Florida to New York. Those with blunt lateral angles have been obtained in Washington Territory, Kansas, Canada, New England, Pennsylvania, Maryland, Iowa, and New York. It sometimes occurs in large numbers, in late summer, on bushes in damp situations. No species thus far discovered in this country exhibits such a wide range of differences in the form of the pronotum. The form most common in Maryland has acute and acuminate lateral angles, but longer than in others from Pennsylvania, Virginia, Louisiana, and some other parts of the South. The large specimens, with bluntly-rounded angles, have not yet been collected by me in company with the other form. A whitish bloom often covers the mature specimens in this region.

5. *E. crenator.*

Cimex crenator, Fab., Ent. Syst. iv, 101, No. 87.
Pentatoma obscura, Palisot-Beauv. Ins. Afr. et Amer. 149, pl. 10, figs. 7 and 9.
Pentatoma pustulata, Palisot-Beauv. *l. c.* pl. 11, fig. 2.
Euschistus obscurus, Dallas, Brit. Mus. List, i, 208, No. 19.
Mormidea pustulata, Guer., in La Sagra's Hist. Nat. Cuba, Ins. 368.
Mormidea obscura, Guer., *l. c.* 366.
Euschistus crenator, Stål, Hemipt. Fab. i, 26.

Inhabits Texas, Mexico, Cuba, Florida, and Arizona.

6. *E. servus.*

Pentatoma serva, Say, Heteropt. New Harmony, 4, No. 5.
Euschistus servus, Stål, Enumeratio Hemipt. ii, 26, No. 19.

Inhabits Texas, New Mexico, California, Dakota, Illinois, Maryland, and the Southern States generally. In Texas and Florida, it attains to a very large size, with a greater aggregation of the black punctures on the head.

PROXYS, Spin.

P. punctulatus.

Halys? punctulata, Palisot-Beauv. Ins. Afr. et Amer. Hem. 188, pl. 11, fig. 9.
Cimex victor, Wolff, Icones Cim. 181, fig. 175.
Pentatoma tenebrosa, Say, Ins. of Louisiana, 8, and Heteropt. New Harmony, 10, No. 25; Complete Writings, i, 304, No. 2.

Prooxys victor, Amyot et Serv., Hemipt. 140.
Prooxys delirator, Amyot et Serv., *ib.* 140, pl. 3, fig. 7.
Prooxys punctulata, Guer., La Sagra's Hist. de Cuba, Ins. 370.
Prooxys brevispinus, Guer., *ib.* 371.
Proxys geniculata, Stål, Stettiner Ent. Zeit. xxiii, 102, No. 67.

Inhabits Cuba, San Domingo, Mexico, Texas, Indian Territory, Louisiana, Georgia, and Florida. One specimen has been captured near Philadelphia. Further collecting in Arizona and New Mexico will most likely yield specimens of this conspicuous species.

HYMENARCYS, Amyot & Serv.

1. *H. nervosa.*

Pentatoma nervosa, Say, Heteropt. New Harmony, 9, No. 20.
Pentatoma Pennsylvaniæ, Westw., in Hope Catal. i, 35.
Hymenarcys perpunctata, Amyot et Serv., Hemipt. 124, No. 1.

Inhabits Mexico, Texas, Indian Territory, Dakota, Missouri, Illinois, and from Massachusetts to Florida. In Maryland, it occurs with moderate frequency upon rank low herbage in meadows and about the skirts of woods. Like *Euschistus variolarius* and other species, it becomes, when senile, suffused with red, is dusted with a whitish powder, and seems then to have a more decidedly penetrative odor in the fluid which it sprays from the aperture of its glands.

2. *H. æqualis.*

Pentatoma æqualis, Say, Heteropt. New Harmony, 7, No. 15.
Cimex dentatus, H.-Schf., Wanz. Ins. v, 64, fig. 507.
Pentatoma boxura, Dallas, Brit. Mus. List Hemipt. i, 244, No. 29.

Inhabits Texas, Indian Territory, Mexico, and the Southeastern United States. In Maryland, it hibernates beneath stones in sheltered valleys, but is much less common than the preceding species.

CŒNUS, Dallas.

C. delius.

Pentatoma delia, Say, Heteropt. New Harmony, 8, No. 18.
Cœnus tarsalis, Dallas, Brit. Mus. List Hemipt. i, 230, pl. 8, fig. 6.
Cœnus punctatissimus, Voll., Versl. Akad. Amst. ser. 2, ii, 183.

Inhabits Texas, Indian Territory, Illinois, Massachusetts, New York, &c.

MENECLES, Stål.

M. insertus.

Pentatoma inserta, Say, Heteropt. New Harmony, 6, No. 11.
Menecles insertus, Stål, Öfv. Vetensk. Akad. Förh. 1867, 527.

Inhabits Kansas, Nebraska, California, Illinois, Missouri, Massachusetts, and Pennsylvania.

It varies somewhat in the length of the anterior angles of the pronotum, and in the depth of the sinus, which receives the head.

RHYTIDOLOMIA, Stål.

R. Belfragii.

Rhytidolomia Belfragei, Stål, Enumeratio Hemipt. ii, 33, No. 3.

Inhabits Illinois, Canada, and Nebraska.

CHLOROCHROA, Stål.

1. *C. Sayi.*

Chlorochroa Sayi, Stål, Enumeratio Hemipt. ii, 33, No. 6 (1872).
Pentatoma granulosa, Uhler, Hayden's Survey of Montana, 398 (1872).

Inhabits California, Arizona, Nevada, &c. The present specimens

were collected by Lieutenant Carpenter on the foot-hills of Colorado in September.

This is quite variable in size, depth of colors, and in the number and size of the bald white spots which occur on the scutellum and hemelytra. I am unable to decide which of the two names should have preference; both were published in the same year; but, perhaps, the one was issued a few days or weeks earlier than the other.

2. *C. congrua.* New sp.

Broadly oval, bright grass-green; the upper surface and margins of the pleuræ finely and deeply punctate between slender transverse rugæ. Head having the surface impressed each side of the tylus; the lateral lobes a little longer than the tylus; exterior margins acute, elevated, more deeply sinuate than in *C. Sayi.* Antennæ green, but with the apical, the fourth, and the third, almost to its base blackish, and these joints particularly granulose and setose; the second joint twice as long as the third, the third much the shortest. Rostrum reaching to the posterior coxæ, green; the middle line and apical joint black; basal joint a little shorter than the head; the second longer, reaching to the middle coxæ; the third and fourth subequal, but much shorter. Pronotum very short and broad; the lateral margins very distinctly and evenly reflexed, and continued around the broadly-rounded humeral angles, the margin inferiorly appearing broadly tabulate and smooth. Pleuræ coarsely punctate, but more finely so on the elevated areas; the anterior submargin transversely linearly carinated from the anterior angle to the sternal boundary. Prosternum broadly, deeply scooped out, triangular behind; mesosternum slenderly carinate; the metasternum produced backward triangularly, and a little scooped out before the tip. Legs green, the tarsi slightly rufous. Scutellum slenderly margined and more broadly tipped with white. Corium more minutely rugulose, finely punctate, the punctures grading finer posteriorly; embolium smooth, having a few remote and obsolete punctures, and, together with the adjoining margin, white. Membrane soiled white, having eleven longitudinal nervures. Wings white, with the coarse costal nervure piceous. Tergum black as far as to the penultimate segment, very minutely and closely punctured and rugulose. Venter smooth, remotely, obsoletely punctured, but almost destitute of punctures along the middle.

In one specimen, the lateral margin of the pronotum is white, more broadly so beneath, and the edge of the venter is deep orange. The inferior genital segment is hairy and scooped out in the form of a crescent.

Length, 9 to 12 millimeters. Width of pronotum, 5½ to 6½ millimeters.

Inhabits Colorado. Collected by Lieutenant Carpenter on the foot-hills of Colorado in September.

3. *C. ligata.*

Pentatoma ligata, Say, Heteropt. New Harmony, 5, No. 6.
Cimex rufocinctus, H.-Schf., Wanz. Ins. iv, 94, fig. 436.
Pentatoma marginalis, Walk., Brit. Mus. Catal. of Hemipt. ii, 288.

Inhabits California, Mexico, Texas, New Mexico, Arizona, &c.

Varies greatly in size; the red color of the margin of the pronotum and abdomen and the tip of the venter is sometimes substituted by pale green or whitish.

I do not think this subgenus can stand. The species composing it are congeneric with *Pentatoma juniperi,* Linn., and must be associated with it. If that species is really the type of *Pentatoma,* Oliv., then all these species must be placed therein.

4. *C. Uhleri.*

Chlorochroa Uhleri, Stål, Enumeratio Hemipt. ii, 33, No. 5.

Inhabits Colorado and Mexico.

It varies very much in size, and is of a remarkably vivid-green color.

CARPOCORIS, Kol.

C. lynx.

Cimex lynx, Fab., Ent. Syst. 110, No. 118.
Carpocoris lynx, Muls., Pun. France, ii, 254, No. 5.

Inhabits California, Montana, and Arizona.

Very variable in size, pattern of markings, and somewhat in shape, particularly of the pronotum.

TRICHOPEPLA, Stål.

T. semivittata.

Pentatoma semivittata, Say, Heteropt. New Harmony, 9, No. 21.
Pentatoma semivittatum, H.-Schf., Wanz. Ins. vii, 93, fig. 766.
Pentatoma pilipes, Dallas, Brit. Mus. List Hemipt. i, 247, No. 37.
Trichopepla semivittata, Stål, Enumeratio Hemipt. ii, 34.

Inhabits Texas, Nebraska, and the whole Atlantic region.

PERIBALUS, Muls.

P. modestus.

Peribalus modestus, Uhler, in Hayden's Survey of Montana, 396.

Inhabits Arizona, Texas, Kansas, Colorado, and the Atlantic region of the United States.

HOLCOSTETHUS, Fieb.

H. abbreviatus.

Holcostethus abbreviatus, Uhler, *l. c.* 397.

Inhabits Kansas, Texas, California, Colorado, and British America.

THYANTA, Stål.

1. *T. perditor.*

Cimex perditor, Fab., Ent. Syst. iv, 102, No. 90.
Pentatoma fascifera, Palisot-Beauv. Ins. Afr. et Amer. Hem. 150, pl. 10, fig. 8.
Pentatoma collaris, Westw., Hope Catal. i, 40.
Cimex dimidiatus, H.-Schf., Wanz. Ins. vi, 65, fig. 629.
Euschistus perditor, Dallas, Brit. Mus. List Hemipt. i, 206.
Pentatoma (Mormidea) perditor, Guer., in La Sagra's Hist. de Cuba, Ins. 367.
Euschistus fasciatus, Walk., Brit. Mus. Catal. Heteropt. ii, 245, No. 12.
Thyanta perditor, Stål, Hemipt. Fab. i, 29.
Euschistus adjunctor, Walk., *l. c.* ii, 249, No. 39.

Inhabits Texas, Mexico, West Indies, Arizona, Colorado, and Nebraska.

Its southern limit is Venezuela; and, as far as at present known, its most northern is Nebraska. As might be expected in a species extending throughout such widely different climates, it offers much variation in form and size. The southern forms are largest, have the most prolonged lateral angles to the pronotum, and are more distinctly and broadly marked with crimson on the pronotum.

2. *T. custator.*

Cimex custator, Fab., Syst. Rhyng. 164, No. 43.
Pentatoma calceata, Say, Heteropt. New Harmony, 8, No. 19; Complete Writings, i, 320, No. 19.
Pentatoma custator, H.-Schf., Wanz. Ins. vii, 96, fig. 771; Dallas, Brit. Mus. List Hemipt. i, 251.

Inhabits Lower and Upper California, Texas, Arizona, Colorado, Dakota, and the Atlantic region generally from Quebec to Florida.

The southern specimens are usually larger and more clearly marked with the yellow and red. Those from Lower California seem to lack the pronotal red band.

3. *T. rugulosa.*

Pentatoma rugulosa, Say, Heteropt. New Harmony, 7, No. 16.

Inhabits Texas (Mr. Belfrage); Cape Saint Lucas, Cal. (John Xanthus); Colorado (B. H. Smith); Cuba (Professor Poey). The specimens from Lower California are a little less robust, and have the lateral angles of the pronotum a little more acute than in those from Colorado. One specimen from Dakota, too much damaged to show its particular features.

LOXA, Amyot & Serv.

L. flavicollis.

Cimex flavicollis, Drury, Illustr. ii, 67, pl. 36, fig. 4.
Cimex albicollis, Fab., Spec. Ins. ii, 347, No. 51.
Pentatoma viridis, Palisot-Beauv. Ins. Afr. et Amer. Hem. 111, pl. 8, fig. 1.
Loxa flavicollis, Amyot et Serv., Hemipt. 137, No. 1.
Loxa virescens, Amyot et Serv., *l. c.* 137, No. 2.
Pentatoma albicolla, H.-Schf., Wanz. Ins. vii, 94; Stoll, Punaises, figs. 196, 198, 200.

Inhabits South America, the West Indies, and Mexico; but specimens have been collected in Texas and New Mexico, which I have had the privilege of examining. They differed in no considerable degree from others brought from Rio and Surinam. They exhibit a certain amount of variation in the length and acuteness of the pronotal serrations and lateral angles, which, in the specimens from Rio, are often much prolonged and very acute.

MURGANTIA, Stål.

M. histrionica.

Strachia histrionica, Hahn, Wanz. Ins. ii, 116, fig. 196.
Murgantia histrionica, Stål, Enumeratio Hemipt. ii, 37, No. 4.

Inhabits Guatemala, Mexico, Texas, Arizona, Indian Territory, California, Nevada, Colorado, and from Delaware to Florida and Louisiana.

Various patterns of marking, and colors ranging from yellow to steel-blue, are conspicuously exhibited in this pretty but unstable and pernicious insect.

In the Atlantic region, this species seems to be steadily but slowly advancing northward. Its introduction into Maryland has been effected since the late war, and now it is known as far north as the vicinity of the Pennsylvania boundary-line in Delaware.

In the Mississippi Valley, it appears to be equally common, particularly in the States of Illinois and Missouri.

ARVELIUS, Spin.

A. albo-punctatus.

Cimex albopunctatus, De Geer., Mem. iii, 331, pl. 34, fig. 6.
Cimex gladiator, Fab., Syst. Ent. 705, No. 43.
Pentatoma gladiator, Palisot-Beauv. Ins. Hem. 127, pl. 9, fig. 1.
Cimex leucostictus, Gmelin, Syst. Nat. 2148, No. 282.
Acanthosoma gladiator, Burm., Handb. ii, 359.
Acanthosoma luteicornis, Westw., in Hope Catal. i, 30.
Arvelius gladiator, Spinola, Essai Hemipt. 346; H.-Schf., Wanz. Ins. v, 104, fig. 557.
Arvelius albo-punctatus, Amyot et Serv., Hist. Hem. 150.
Pentatoma (*Arvelius*) *albopunctata*, Guer., La Sagra's Hist. de Cuba, Ins. 374; Stoll, Punaises, fig. 12.

Inhabits South America, West Indies, Mexico, Texas, Cape Saint Lucas, California, Arizona, and Florida.

A specimen measuring in length only 11½ millimeters was sent from Cuba by Professor Poey. It is destitute of the black rings of the antennæ. As in some other species of which we have examined long series, the punctures and rugæ are coarser or finer according to the size of the specimen. The white band on the front of the pronotum is absent from some specimens.

BANASA, Stål.

1. *B. euchlora.*

Banasa euchlora, Stål, Enumeratio Hemipt. ii, 44, No. 8.

Inhabits Texas, Indian Territory, Florida, Maryland, &c. Mr. G. W. Belfrage met with this species beneath the bark of cedar-trees near Waco, Tex.

2. *B. calva.*

Pentatoma calva, Say, Heteropt. 7, No. 13.
Rhaphigaster catinus, Dallas, Brit. Mus. List Hemipt. i, 282, No. 25.

Inhabits Canada, New England, New York, Maryland, Texas, Washington Territory, and Fort Grant, Ariz. (Dr. G. H. Horn).

This is the most beautiful of our species of *Raphigastrines;* the highly-polished surface of clear green with the purple band across the pronotum give it a very lively and gay appearance.

3. *B. dimidiata.*

Pentatoma dimidiata, Say, Heteropt. New Harmony, 7, No. 14; Complete Writings, i, 318. Erroneously printed *P. dimiata* in Say's original description.

Inhabits Texas, Indian Territory, North Carolina, Massachusetts, &c.

It differs so little from the preceding species that, besides the greater convexity of the pronotum, and the more decided spotting of the venter in the latter, there is but little to separate it. The length of the joints of the antennæ is not an invariable character.

FAMILY COREIDÆ.

SUBFAMILY SPARTOCERINA.

SPARTOCERA, Lap.

S. cinnamomea.

Corecoris cinnamomeus, Hahn, Wanz. Ins. ii, 15, fig. 124; H.-Schf., *ib.* vi, 90.
Spartocerus subfulvus, Westw., Hope Catal. ii, 8.
Spartocera cinnamomea, Dallas, Brit. Mus. List, ii, 375, No. 9.
Coreus diffusus, Say, Heteropt. New Harmony, 11, No. 2.

Inhabits Texas, New Mexico, Florida, Mexico, Brazil, and Georgia.

SEPHINA, Amyot et Serv.

S. limbata.

Sephina limbata, Stål, Stettiner Ent. Zeit. xxiii, 273, No. 117.

Inhabits Mexico, Lower California, and Central America.

SUBFAMILY CHARIESTERINA.

CHARIESTERUS, Lap.

C. antennator.

Coreus antennator, Fab., Syst. Rhyng. 198, No. 33.
Gonocerus dubius, Say, Heteropt. New Harmony, 10.
Chariesterus moestus, H.-Schf., Wanz. Ins. vii, 3, fig. 681.
Chariesterus antennator, Dallas, Brit. Mus. List, ii, 510, No. 1.

Inhabits Texas, Colorado, Indian Territory, Florida, Cuba, &c., and in the Atlantic region generally.

SUBFAMILY COREINA.

MARGUS, Dallas.

M. inconspicuus.

Syromastes inconspicuus, H.-Schf., Wanz. Ins. vi, 14, fig. 570.
Margus inconspicuus, Stål, Stettiner Ent. Zeit. xxiii, 303.

Inhabits Colorado, Texas, California (J. Behrens), and Mexico.

CHELINIDEA, Uhler.

C. vittigera.

Chelinidea vittiger, Uhler, Proc. Ent. Soc. Phila. ii, 365.
Chelinidea vittigera, Stål, Enumeratio Hemipt. i, 180.

Inhabits Idaho, Utah, Colorado, Arizona, New Mexico, California, Texas, and Western Virginia.

In Texas, according to Mr. Belfrage, it lives on a species of *Opuntia*.

CATORHINTHA, Stål.

1. *C. guttula.*

Lygæus guttula, Fab., Ent. Syst. iv, 162, No. 92.
Gonocerus dorsiger, Westw., Hope Catal. Hemipt. ii, 25.
Anasa dorsigera, Dallas, Brit. Mus. List, ii, 504, No. 1.
Catorhintha guttula, Stål, Hem. Fab. i, 58, No. 1.

Inhabits Texas, New Mexico, Lower California, Cuba, and Florida.

2. *C. Texana.*

Catorhintha Texana, Stål, Enumeratio Hemipt. i, 188, No. 5.

Inhabits Texas, Indian Territory, and New Mexico.

3. *C. selector.*

Catorhintha selector, Stål, Öfv. Vet. Akad. Förh. 1859, 471; Enumeratio Hemipt. i, 188, No. 4.

Inhabits Arizona, Texas, and New Mexico.

4. *C. mendica.*

Catorhintha mendica, Stål, Enumeratio Hemipt. i, 187, No. 2.

Inhabits Colorado, Indian Territory, and Dakota.

FICANA, Stål.

F. apicalis.

Gonocerus apicalis, Dallas, Brit. Mus. List Hemipt. ii, 499, No. 19.
Ficana apicalis, Stål, Enumeratio Hemipt. i, 188.

Inhabits Arizona, California, and Mexico.

ANASA, Amyot & Serv.

1. *A. tristis.*

Cimex tristis, De Geer, Mém. iii, 340, pl. 34, fig. 20.
Cimex mœstus, Gmelin, Syst. Nat. i, 2168, No. 374.
Coreus rugator, Fab., Syst. Rhyng. 192, No. 4.
Oriterus destructor, Hahn, Wanz. Ins. i, 8, fig. 2.
Coreus ordinatus, Say, Journ. Acad. Phila. iv, 318, No. 2.
Gonocerus rugator, Burm., Handb. ii, 311, No. 4.
Gonocerus tristis, Dallas, Brit. Mus. List Hemipt. ii, 499, No. 17.
Anasa tristis, Stål, Hem. Fab. i, 56, No. 3.

Inhabits California, Mexico, Brazil, Texas, Arizona, Colorado, and the United States generally. Port Neuf, near Quebec (L. Provancher).

It varies very much in size, proportions, and colors, and also in the size of the punctures of the surface in conformity with its own dimen-

sions; those which are largest being most coarsely punctured, while those which are smallest are the most finely punctured.

In the larval stage, they are often guilty of cannibalism; the stronger ones sucking the juices of the weaker, and leaving only their dried empty skins to attest their places upon the squash-vines.

2. *A. Andresii.*

Coreus (Gonocerus) Andresii, Guer., in La Sagra's Cuba, Ins. 383.
Anasa lugens, Stål, Stettiner Ent. Zeit. xxiii, 301.

Inhabits Texas, New Mexico, Mexico, Cuba, Louisiana, and Southern Florida.

3. *A. armigera.*

Coreus armigerus, Say, Journ. Acad. Phila. iv, 319, No. 3.
Anasa terminalis, Dallas, Brit. Mus. List Hemipt. ii, 506, No. 4.
Anasa armigera, Stål, Hem. Fab. i, 57, No. 10; Enumeratio Hemipt. i, 192, No. 12.

Inhabits Texas, Indian Territory, Florida, North Carolina, Georgia, and Virginia. It is very rare in Maryland; only a single specimen having thus far been known to be captured in this State.

4. *A. scorbutica.*

Cimex scorbuticus, Fab., Syst. Ent. 706, No. 47.
Coreus scorbuticus, Fab., Ent. Syst. iv, 129, No. 9.
Acanthocerus nebulosus, Palisot-Beauv. Ins. Afr. et Amer. 205, pl. 12, fig. 6.
Anasa moesta, Dallas, Brit. Mus. List Hemipt. ii, 505, No. 2.
Anasa moesta, Guer., in La Sagra's Hist. de Cuba, Ins. 380.
Anasa spiniceps, Stål, Stettiner Ent. Zeit. xxiii, 300, No. 169.
Anasa scorbutica, Stål, Hem. Fab. i, 56, No. 2.

Inhabits Texas, Indian Territory, Cuba, Mexico, Central America, and Southern Florida.

5. *A. obliqua.*

Gonocerus obliquus, Uhler, Proc. Ent. Soc. Phila. i, 23.

Inhabits California.

Thus far only a single specimen has been obtained, which is in the cabinet of the Entomological Society of Philadelphia.

PARYPHES, Burm.

P. rufo-scutellatus.

Nematopus rufo-scutellatus, G. R. Gray, in Griffith's Anim. Kingd. xv, 241, pl. 97, fig. 1.

Inhabits California, Cape Saint Lucas (J. Xanthus), and Mexico.

SUBFAMILY ALYDINA.

ALYDUS, Fab.

1. *A. eurinus.*

Lygæus eurinus, Say, Journ. Acad. Phila. iv, 324, No. 5; Complete Writings, ii, 247.
Alydus ater, Dallas, Brit. Mus. List Hemipt. ii, 478, No. 30, ♀.

Inhabits Colorado, Texas, Dakota, and throughout most of the eastern part of the United States; also in Canada. Several specimens were collected on the foot-hills of Colorado by Lieutenant Carpenter.

The western specimens are often more spotted with black than those of the Atlantic region.

2. *A. pilosulus.*

Alydus pilosulus, H.-Schf., Wanz. Ins. viii, 101, fig. 870; Dallas, Brit. Mus. List Hemipt. ii, 478, No. 28.

Inhabits Texas, Indian Territory, Illinois, New England, Maryland, &c.

This species is quite distinct from the preceding in the acuteness of the lateral angles of the pronotum and in the spines of the femora, besides the more slender form and paler colors.

3. *A. pluto.*

Alydus pluto, Uhler, Hayden's Survey of Montana, 401, No. 2.

Inhabits Colorado, Texas, Louisiana, Idaho, and Kansas.

One specimen from the foot-hills, by Lieutenant Carpenter; also several from near Denver City, sent to me by B. H. Smith.

TOLLIUS, Stål.

T. curtulus.

Alydus curtulus, Stål, Eugenies Resa, Ins. 234, No. 37.
Tollius curtulus, Stål, Enumeratio Hemipt. i, 213.

Inhabits California.

A single specimen received from James Behrens, San Francisco.

MEGALOTOMUS, Fieb.

M. quinquespinosus.

Lygæus 5-spinosus, Say, Journ. Acad. Phila. iv, 323, No. 4.
Alydus cruentus, H.-Schf., Wanz. Ins. viii, 100, fig. 833.
Megalotomus quinquespinosus, Stål, Enumeratio Hemipt. i, 214, No. 4.

Inhabits Colorado. Collected on the foot-hills by Lieutenant Carpenter.

The only specimen collected by the expedition deviates a little from the form usual to the Atlantic region, but does not offer characters of sufficient importance to make it a different species.

HYALYMENUS, Amyot & Serv.

H. tarsatus.

Alydus tarsatus, Fab., Syst. Rhyng. 250, No. 9.
Alydus recurvus, H.-Schf., Wanz. Ins. viii, 93, fig. 866.
Alydus pallens, Dallas, Brit. Mus. List Hemipt. ii, 476, No. 20.

Inhabits California, West Indies, Mexico, Cape Saint Lucas. Collected by John Xanthus.

STACHYOCNEMUS, Stål.

S. apicalis.

Alydus apicalis, Dallas, Brit. Mus. List Hemipt. ii, 479.
Stachyocnemus apicalis, Stål, Enumeratio Hemipt. i, 215.

Inhabits California, Texas, and Florida.

SUBFAMILY LEPTOCORISINA.

LEPTOCORISA, Lat.

L. tipuloides.

Cimex tipuloides, De Geer, Mém. iii, 354, pl. 35, fig. 18.
Myodocha tipuloides, Lat., Gen. Crust. et Ins. iii, 126.
Myodochus tipuloides, Oliv., Enc. Méthod. viii, 106, No. 2.
Leptocorisa tipuloides, Amyot et Serv., Hist. des Hémipt. 220, No. 1; Stoll, Punaises, fig. 162.

Inhabits Texas, Mexico, and Central America.

PROTENOR, Stål.

P. Belfragei.

Protenor Belfragei, Haglund, Stettiner Ent. Zeit. xxix, 152; Stål, Enumeratio Hemipt. i, 217.

Inhabits Texas, Michigan, Illinois, Wisconsin, Colorado, and occurs rarely in Maryland.

SUBFAMILY MEROCORINA.

CORYNOCORIS, Mayr.

C. distinctus.

Crinocerus acridioides, H.-Schf., Wanz. Ins. vi, 20, fig. 575.
Merocoris distinctus, Dallas, Brit. Mus. List Hemipt. ii, 419, 2.

Inhabits Texas, Colorado, Indian Territory, Kansas, Illinois, Missouri, New England, Pennsylvania, New Jersey, Maryland, and Florida.

Very variable in depth of color, distinctness of marking, and in the shape and proportions of the head, antennæ, and legs. In Maryland, it is often common in corners of fields adjoining woods, where the small weeds and shrubs grow luxuriantly. It may be swept from the plants in such places as late as to the middle of the month of October.

SUBFAMILY MICTINA.

PACHYLIS, St. Farg. & Serv.

P. gigas.

Pachylis gigas, Burm., Handb. ii, 338, No. 3; Blanchard, Hist. Nat. Ins. 121; Dallas, Brit. Mus. List Hemipt. ii, 383.

Inhabits Arizona, New Mexico, and Mexico.

This is at once the grandest and showiest heteropterous insect yet discovered within the limits of the United States. It seems to be by no means rare in the regions where it occurs; and if its habits are similar to those of its less pretending brethren of the Eastern United States, it must make havoc with the shrubs of which it sucks the juices. The meaning of such a peculiar type of marking, including such a striking contrast of brilliant and different colors, has not yet been revealed to us. Certainly, it is not easy to see how such an arrangement of yellow lines of the corium upon a blackish ground, and of broad orange bands upon the still blacker surface of the legs, venter, and base of the third joint of the antennæ, could serve to disguise the insect so as to hide it from its enemies.

The nymph, probably in its fourth dress, is almost equally showy, but is differently painted. Its ground-color is dark steel-blue, velvety; the scutellum cadmium-orange; the venter with large broad bands along the middle; the tergum with transverse white streaks, and a row of short white lines on the middle, with a series of carmine spots each side of the middle line, and with the femora and tibiæ banded with cadmium, but with entirely blue-black antennæ.

These statements are introduced here to suggest to those who are favorably situated the importance of noting the manner of life of these exceedingly interesting insects.

MOZENA, Amyot & Serv.

1. *M. lunata.*

Archimerus lunatus, Burm., Handb. ii, 322, No. 2; H.-Schf., Wanz. Ins. vi, 24, fig. 580.
Mozena lunata, Stål, Enumeratio Hemipt. i, 134.

Inhabits Mexico, Texas, and New Mexico.

2. *M. lineolata.*

Archimerus lineolatus, H.-Schf., Wanz. Ins. vi, 25, fig. 581.
Mozena lineolata, Stål, Enumeratio Hemipt. i, 134, No. 4.

Inhabits Arizona, California, and Mexico.

In some of the less mature specimens, the apical joint is not fuscous, and the connexivum lacks the blackish spots.

3. *M. obtusa.* New sp.

Form similar to that of *M. lineolata;* dark grayish-fuscous, or pale brownish in less mature individuals. Head wrinkled, grayish pubescent, a little granulated behind the eyes; the cheeks anteriorly and the buculæ pale cinnamomeous; antennæ moderately slender, the basal joint grayish pubescent, the second and third subequal, pale orange, the apical joint fuscous; rostrum reaching behind the anterior coxæ, infuscated, the apex piceous. Pronotum punctured with fuscous, transversely wrinkled, coated with grayish prostrate pubescence, the interspaces of the rugæ yellowish-brown; lateral angle sublunately prominent, not slenderly produced, barely curved forward, blunt, but subacuminate on the extreme tip; transverse ridge near the base very distinct, the lateral margins anterior to the prominent angles sinuated, and anterior to this unevenly serrated. Scutellum coarsely, remotely punctured, yellowish at tip. Corium dull fuscous, remotely punctured, wrinkled, the disk a little sprinkled with whitish, and the subapex with a large uneven whitish patch; membrane bronzed blackish. Legs reddish-brown, sericeous pubescent; the tarsi and tibiæ dark brown or piceous; posterior femora with a triple series of pale granules on the upper side, and with a double series of short spines beneath; tibiæ of the male stout, and a little bent outward, on the inferior middle with a stout tooth, and beyond this a series of smaller teeth extending to the tip, the tip obliquely truncated, the ridges of the under side granulated. Venter minutely punctured and rugulose, each side with a series of oblique, smooth, whitish streaks; connexivum with a square, pale spot at the base of each segment. Genital segment of the male indented each side near the tip. Female with more slender, but bent, and subprismatic posterior tibiæ.

Length, 17 to 19 millimeters. Width between the angles of pronotum, 6½ to 7 millimeters. Width at base of hemelytra, 6 millimeters. Width of abdomen, 7½ millimeters.

Inhabits Texas (G. W. Belfrage); and collected in the region of the Rio Pecos River, New Mexico, by Captain (now General) Pope.

This species must approach the *M. luridus*, Dallas, of Honduras, but it lacks the prominent and acute lateral angles of the pronotum described by him; also, the angles are not infuscated, and the sides of the abdomen are not black, but spotted.

It is a neat and compact-looking little species, and serves to adorn this Mexican and Central American group of Coreoids which overlap our territory.

XUTHUS, Stål.

X. auriculatus.

Capaneus auriculatus, Stål, Stettiner Ent. Zeit. xxiii, 290.
Xuthus auriculatus, Stål, Enumeratio Hemipt. i, 136.

Inhabits Mexico, Texas, and New Mexico.

One damaged specimen was examined by me in the collection brought by Dr. Berlandier from the vicinity of Matamoras, Mexico.

This species exhibits a marked contrast to all others of the group in the widely-produced sides of the pronotum, which are drawn out into flattened and almost truncated square lobes.

ARCHIMERUS, Burm.

A. calcarator.

Coreus calcarator, Fab.. Syst. Rhyng. 192, No. 3.
Coreus alternatus, Say, Journ. Acad. Phila. iv, 317, No. 1.
Archimerus squalus, Burm., Handb. ii, 321.
Piezogaster albonotatus, Amyot et Serv., Hist. des Hémipt. 197.
Archimerus rubiginosus, H.-Schf., Wanz. Ins. vi, 83.
Archimerus muticus, H.-Schf., Wanz. Ins. vi, 52, fig. 612.
Archimerus calcarator, Stål, Hemipt. Fab. i, 47.

Inhabits Colorado. Collected on the foot-hills by Lieutenant Carpenter. Also found in Texas, Indian Territory, Wisconsin, Illinois, Michigan, and the Atlantic region generally.

SAGOTYLUS, Mayr.

S. confluentus.

Coreus confluentus, Say, Heteropt. New Harmony, 11, No. 1.
Crinocerus triguttatus, H.-Schf., Wanz. Ins. vi, 86, fig. 656.
Mictis? triguttata, Dallas, Brit. Mus. List Hemipt. ii, 402, No. 45.

Inhabits Arizona, California, Mexico, and Lower California.

EUTHOCTHA, Mayr.

E. galeator.

Coreus galeator, Fab., Syst. Rhyng. 191, No. 2.
Crinocerus tibialis, H.-Schf., Wanz. Ins. vi. 21, fig. 576.
Crinocerus galeator, Dallas, Brit. Mus. List Hemipt. ii, 408, No. 4.
Euthoctha galeator, Stål, Hemipt. Fab. i, 49, No. 1.

Inhabits Texas, Kansas, Nebraska, Illinois, Wisconsin, Michigan, and the Atlantic region generally.

SUBFAMILY ACANTHOCEPHALINA.

ACANTHOCEPHALA, Lap.

A. declivis.

Anisoscelis declivis, Say, Insects of Louisiana, 10; Complete Writings, i, 305.
Diactor alatus, Burm., Handb. ii, 334.
Rhynuchus declivis, Say, Heteropt. New Harmony, 12, No. 4.
Metapodius thoracicus, Dallas, Brit. Mus. List Hemipt. ii, 428.

Inhabits Texas, New Mexico, California, Mexico, Florida, Central America, Lower California, and Arizona.

This species varies greatly in size, in the shape and acuteness of the pronotal wings, in the number of spines of the femora, in the width and shape of the expansions of the tibiæ, and in the color of the antennæ. Colossal specimens from South Carolina and Florida measure as much as 34 millimeters in length. In the less mature state, the antennæ are entirely reddish-cinnamomeous. Old specimens are dark fuscous, powdered beneath with whitish.

METAPODIUS, Westw.

1. *M. femoratus.*

Cimex femoratus, Fab., Syst. Ent. 708, No. 55.
Lygæus femoratus, Fab., Ent. Syst. iv, 137, No. 10.
Anisoscelis nasulus, Say, Insects of Louisiana, 10; Complete Writings, i, 327.
Rhynuchus nasulus, Say, Heteropt. New Harmony, 13, No. 5.
Metapodius obscurus, Westw., in Hope Catal. Hemipt. ii, 15.
Metapodius femoratus, Dallas, Brit. Mus. List Hemipt. ii, 430, No. 5.
Lygæus femoratus, Wolff, Icones Cim. 195, fig. 189.

Inhabits Texas, Indian Territory, Florida, Louisiana, and North and South Carolina

This is the analogue of the South American *M. suratus*, and, like the other forms of the genus, becomes much more darkly-colored in the fully-matured condition, and the posterior tibiæ are widely different in the two sexes.

2. *M. granulosus.*

Metapodius granulosus, Dallas, Brit. Mus. List Hemipt. ii, 430, No. 7.
Diactor alatus, H.-Schf., Wanz. Ins. vi, 53, fig. 613.
Metapodius Thomasii, Uhler, Hayden's Survey of Montana, 399, No. 1.

Inhabits Texas, Arizona, Mexico, and San Diego, Cal.

3. *M. terminalis.*

Metapodius terminalis, Dallas, Brit. Mus. List, ii, 431, No. 10; Stål, Enumeratio Hemipt. i, 151, No. 10.

Inhabits Texas, Indian Territory, Louisiana, Missouri, Illinois, and the Atlantic region generally from Massachusetts to Florida.

In Maryland, it occurs, sometimes in large numbers, on the branches and twigs of bushes on the borders of oak-woods, in September and early October.

The immature female is often cinnamon-brown, and has the entire antennæ reddish-cinnamon color. In the fully-colored specimens of both sexes, the antennæ are fuscous, with the apical joint orange.

SUBFAMILY ANISOSCELIDINA.

LEPTOGLOSSUS, Guer.

L. phyllopus.

Cimex phyllopus, Linn., Syst. Nat. ed. 12, i, 731, No. 113.
Lygæus phyllopus, Fab., Ent. Syst. iv, 139.
Anisoscelis albicinctus, Say, Heteropt. New Harmony, 12, No. 2; Wolff, Icones Cim. 196, fig. 190.
Anisoscelis confusa, Dallas, Brit. Mus. List Hemipt. ii, 453, No. 4.
Theognis phyllopus, Mayr, Novara Reise, Hemipt. 103.
Leptoglossus albicinctus, Stål, Hemipt. Fab. i, 52, No. 5.
Anisoscelis phyllopus, Burm., Handb. ii, 332, No. 5; Westw., in Hope Catal. ii, 16.

Inhabits Texas, Arizona, Indian Territory, Mexico, Missouri, Louisiana, and the Southern States generally.

2. *L. zonatus.*

Anisoscelis zonata, Dallas. List of Hemipt. ii, 452, No. 3.
Leptoglossus zonatus, Stål, Enumeratio Hemipt. i, 162, No. 6.

Inhabits Arizona, California, Mexico, and Yaqui River (Dr. E. Palmer).

3. *L. corculus.*

Anisoscelis corculus, Say, Heteropt. New Harmony, 12, No. 1; Complete Writings, i, 326.
Theognis excellens, Mayr, Verhandl. zool.-botan. Gesell. Wien, xv, 434.

Inhabits Arizona, California, Florida, Tennessee, and Maryland. The western specimens are paler-colored than those from the southeast. One specimen was picked up in the city of Baltimore in June.

4. *L. oppositus.*

Anisoscelis oppositus, Say, Heteropt. New Harmony, 12, No. 3; Complete Writings, i, 327.
Anisoscelis tibialis, H.-Schf., Wanz. Ins. vii, 12.

Inhabits Texas, Indian Territory, North Carolina, Maryland, and Kentucky.

PTHIA, Stål.

P. picta.

Cimex pictus, Drury, Illust. i, 107, pl. 45, fig. 1.
Cimex ciliatus, Fab., Syst. Ent. 706, No. 46.
Cimex leprosus, Fab., Syst. Ent. 719, No. 112.
Cimex candelabrum, Goeze, Ent. Beytr. ii, 254, No. 2.
Cimex crenulatus, Fab., Ent. Syst. iv, 144, No. 33.
Lygæus leprosus, Fab., Ent. Syst. iv, 154, No. 65.
Lygæus dispar, Fab., Syst. Rhyng. 214, No. 43.
Alydus crenulatus, Fab., Syst. Rhyng. 250, No. 11.
Leptoscelis picta, Westw., in Hope Catal. Hemipt. ii, 17.
Anisoscelis divisus, H.-Schf., Wanz. Ins. vii, 9, fig. 685.
Anisoscelis pulverulentus, H.-Schf., Wanz. Ins. vii, 9.
Leptoscelis picta, Dallas, Brit. Mus. List Hemipt. ii, 457, No. 7.
Leptoscelis obscura, Dallas, List of Hemipt. ii, 458, No. 9.
Anisoscelis (Leptoscelis) annulipes, Guer., in La Sagra's Hist. de Cuba, Ins. 388.
Pthia picta, Stål, Hemipt. Fab. i, 53, No. 1.

Inhabits Texas, Lower California, Central America, Brazil, and the West Indies. One specimen from the Yaqui River, Mexico, collected by Dr. E. Palmer; Cuba (Professor Poey).

The enormous synonymy of this species has been occasioned by the great variability of its colors and pattern of marking. In the fresh full-colored varieties, the bright-orange bands of the pronotum contrast richly with the vivid steel-blue of the ground-color.

SUBFAMILY BERYTINA.

NEIDES, Latr.

1. *N. spinosus.*

Berytus spinosus, Say, Amer. Ent. i, pl. 14.
Neides trispinosus, Hope, Catal. Hemipt. ii, 24.

Inhabits Texas, Utah, Arizona, Nebraska, Wisconsin, Illinois, Michigan, Ohio, and the Atlantic region from Maine to Georgia.

2. *N. muticus.*

Berytus muticus, Say, Heteropt. New Harmony, 13.
Neides decurvatus, Uhler, in Hayden's Survey of Montana, 402.

Inhabits Colorado, Dakota, Washington Territory, New Hampshire, and the high mountains of North Carolina.

This is no doubt the subalpine analogue of the preceding species, and, while closely resembling it, may be at once recognized by the decurving frontal process.

SUBFAMILY PSEUDOPHLŒINA.

DASYCORIS, Dallas.

D. humilis.

Dasycoris humilis, Uhler, in Hayden's Survey of Montana, 403.

Inhabits Texas, Kansas, Colorado, California, and Arizona.

SCOLOPOCERUS, Uhler.

S. secundarius.

Scolopocerus secundarius, Uhler, in Lieutenant Wheeler's Survey of Arizona.

Inhabits Arizona. Nymph from Colorado, collected by B. H. Smith.

CERALEPTUS, Costa.

C. americanus.

Ceraleptus americanus, Stål, Enumeratio Hemipt. i, 219.

Inhabits Texas, California, Arizona, and Mexico.

This species varies greatly in size and in the thickness of the antennæ, and somewhat in colors and distinctness of markings.

The less mature specimens are pale dull ochreous, faintly shaded with black, and with the black of the connexivum obsolete. The old specimens are almost black; the fine deep punctures of the surface are quite black; the antennæ are wholly black, and vary in the amount of erect pubescence upon the joints, and in such specimens the pale bands of the connexivum are very distinct.

SUBFAMILY RHOPALINA.

HARMOSTES, Burm.

1. *H. reflexulus.*

Syromastes reflexulus, Say, Heteropt. New Harmony, 10, No. 1.
Harmostes costalis, H.-Schf., Wanz. Ins. ix, 270, fig. 992.
Harmostes virescens, Dallas, Brit. Mus. List Hemipt. ii, 520, No. 1.

Inhabits Colorado, Texas, Arizona, California, Dakota, Nebraska, Minnesota, Wisconsin, Illinois, and the Atlantic region from Maine to Florida. Foot-hills of Colorado, July to September (Lieutenant Carpenter).

2. *H. fraterculus.*

Syromastes fraterculus, Say, Heteropt. New Harmony, 10, No. 2.
Harmostes fraterculus, Stål, Enumeratio Hemipt. i, 221, No. 10.

Inhabits Texas, Indian Territory, Illinois, Georgia, and Maryland.

3. *H. serratus.*

Acanthia serrata, Fab., Ent. Syst. iv, 75, No. 32.
Coreus gravidator, Fab., Ent. Syst. iv, 133, No. 22.
Syrtis serrata, Fab., Syst. Rhyng. 123, No. 6.
Coreus gravidator, Fab., Syst. Rhyng. 199, No. 38.
Harmostes perpunctatus, Dallas, Brit. Mus. List Hemipt. ii, 521, No. 3.
Harmostes serratus, Stål, Hemipt. Fab. i, 67, No. 1.

Inhabits Arizona, Mexico, California, and Cuba.

AUFEIUS, Stål.

A. impressicollis.

Aufeius impressicollis, Stål, Enumeratio Hemipt. i, 222.

Inhabits Texas, Dakota, Arizona, and California.

CORIZUS, Fallen.

1. *C. hyalinus.*

Lygæus hyalinus, Fab., Ent. Syst. iv, 168, No. 115.
Coreus hyalinus, Fab., Syst. Rhyng. 201, No. 45.
Rhopalus truncatus, Fieber, Europ. Hemipt. 234, No. 4.
Corizus hyalinus, Stål, Hemipt. Fab. i, 68, No. 2.
Corizus viridicatus, Uhler, in Hayden's Survey of Montana, 404.

Inhabits Texas, Colorado, Nebraska, Dakota, Cuba, and Mexico.

This species is quite variable in colors, and somewhat in proportions. Specimens from Cuba and San Domingo are suffused with red and more distinctly pubescent than the others from Texas and Dakota. At the time when we described our *C. viridicatus*, the materials were not at hand in this country to connect the varieties with *C. hyalinus*, Fab. Specimens from the foot-hills of Colorado, by Lieutenant Carpenter.

2. *C. sidæ.*

Lygæus sidæ, Fab., Ent. Syst. iv, 160. No. 116.
Coreus sidæ, Fab., Syst. Rhyng. 201, No. 47.
Corizus sidæ, Signoret, Ann. Soc. Ent. France, ser. 3, vii, 95, No. 32; Stål, Hemipt. Fab. i, 69.
Rhopalus sidæ, Guer., in La Sagra's Hist. de Cuba, Ins. 385.

Inhabits Texas, Indian Territory, Arizona, Mexico, Cuba, Brazil, and Florida.

On one occasion, in the early part of June, this species occurred in considerable numbers near the city of Baltimore, but since that time not a single specimen has been captured in this vicinity.

3. *C. punctiventris.*

Corizus punctiventris, Dallas, Brit. Mus. List Hemipt. ii, 526, No. 3.
Corizus borealis, Uhler, Proc. Acad. Nat. Sci. Phila. 1851, 284.
Corizus punctiventris, Stål, Enumeratio Hemipt. i, 223, No. 8.

Inhabits Colorado, Arizona, California, Washington Territory, British America, Walrussia, Canada, Massachusetts, and south to Pennsylvania. In York County, in the latter State, I collected a few specimens, in the month of August.

It varies very much in color and in the amount of black upon the tergum, so that it seems to include the European *C. crassicornis*, Linn. One variety has the black bands of the connexivum reduced to mere points. Robert Kennicott collected specimens in the vicinity of the Mackenzie River, and also near the Yukon River. Mr. Scudder kindly gave me a specimen from the region of the Saskatchewan, and Mr. Kennicott collected others in the same locality. Unfortunately, his specimens have been lost to science by the great fire in Chicago.

Like *C. lateralis* and *C. hyalinus*, this species becomes suffused with a red color, which totally changes its appearance. This is also sometimes conspicuously the case in very soft recent specimens.

4. *C. lateralis.*

Coreus lateralis, Say, Journ. Acad. Phila. iv, 320, No. 4; Complete Writings, ii, 245, No. 4.
Corizus lateralis, Signoret, Ann. Soc. Ent. France, ser. 3, vii, 97, No. 36.

Inhabits Texas, Colorado, Kansas, Missouri, Illinois, and the Atlantic region generally.

The rufous stripe on the sides of the body underneath are sometimes changed from red to fuscous, and are occasionally obsolete.

In Maryland, it may be found by beating rank growths on the borders of woods; the first brood late in May to early in July, and a second brood in August, September, and October. It lives over winter in the adult state.

5. *C. nigristernum.*

Corizus nigristernum, Signoret, Ann. Soc. Ent. France, ser. 3, vii, 100, No. 41; Stål Enumeratio Hemipt. i, 225, No. 20.

Inhabits Arizona, Texas, Illinois, New England, New York, New Jersey, Pennsylvania, and Maryland.

Leptocoris, Hahn.

L. trivittatus.

Lygæus trivittatus, Say, Journ. Acad. Phila. iv, 322, No. 2.
Leptocoris trivittatus, Stål, Enumeratio Hemipt. i, 226.

Inhabits Colorado, Arizona, San Francisco, California, Kansas, Missouri, and Mexico.

JADERA, Stål.

J. hæmatoloma.

Leptocoris hæmatoloma, H.-Schf., Wanz. Ins. viii, 103, fig. 873.
Serinetha hæmatoloma, Dallas, Brit. Mus. List, ii, 463, No. 17.
Lygæus (Serinetha) hæmatolomus, Guer., in La Sagra's Hist. de Cuba, Ins. 393.

Inhabits Texas, Colorado, Arizona, California, Cuba, and Mexico.

There is a form of this with rudimentary wing-covers, which is moderately common in Texas, Arizona, and Cuba.

FAMILY LYGÆIDÆ.

LYGÆUS, Fab.

1. *L. turcicus.*

Lygæus turcicus, Fab., Syst. Rhyng. 118, No. 61.
Lygæus (Graptolomus) turcicus, Stål, Hemipt. Fab. i, 73, No. 10.

Inhabits Texas, Indian Territory, Illinois, Missouri, and the Atlantic and Gulf regions throughout.

2. *L. reclivatus.*

Lygæus reclivatus, Say, Journ. Acad. Phila. iv, 321, No. 1; Complete Writings, ii, 245.
Lygæus (Graptolomus) reclivatus, Stål, Enumeratio Hemipt. iii, 107.

Inhabits Colorado, Texas, California, Arizona, New Mexico, Kansas, Dakota, Oregon, and Washington Territory.

This form is placed apart provisionally from *L. turcicus*, Fab., merely because the full history of the species has not yet been elaborated. So far as the evidence from the Atlantic region goes, it is merely one of the forms of that species. The dusky variety, however, has not yet been discovered in the eastern regions of the United States. It lives in numbers, like its congeners, upon the species of *Asclepias*.

3. *L. costalis.*

Lygæus costalis, H.-Schf., Wanz. Ins. vii, 22, fig. 706.
Lygæus (Graptolomus) costalis, Stål, Enumeratio Hemipt. iv, 107, No. 17.

Inhabits Arizona, Texas, California, and Mexico.

Sufficient acquaintance with the nature of this form may establish it to be the form of *L. turcicus* dependent upon the table-lands of Southwestern North America.

4. *L. Kalmii.*

Lygæus (Graptolomus) Kalmii, Stål, Enumeratio Hemipt. iv, 107, No. 19.

Inhabits California, Mexico, and Eastern North America.

This is a variety still nearer than the preceding to *L. turcicus*, but differing from it in the amount of black on the hemelytra, and in having the membrane margined with white. It is retained here for the present merely in deference to the views of Dr. Stål.

5. *L. truculentus.*

Lygæus (Graptolomus) truculentus, Stål, Stettiner Ent. Zeit. xxiii, 308.

Inhabits California.

ONCOPELTUS, Stål.

1. *O. guttas.*

Lygæus gutta, H.-Schf., Wanz. Ins. vii, 20, fig. 703.
Oncopeltus gutta, Stål, Enumeratio Hemipt. iv, 101, No. 4.

Inhabits California, Arizona, and Mexico.

2. *O. varicolor.*

Lygæus varicolor, Fab., Ent. Syst. iv, 149, No. 49.
Lygæus alternans, H.-Schf., Wanz. Ins. ii, 20; fig. 704.
Oncopeltus varicolor, Stål, Hemipt. Fab. i, 70; Enumeratio Hemipt. iv, 102, No. 6.

Inhabits California, Mexico, Central America, Brazil, &c.

ERYTHRISCHIUS, Stål.

1. *E. sandarachatus.*

Lygæus sandarachatus, Say, Heteropt. New Harmony, 13.
Lygæus unifasciatus, H.-Schf., var., Wanz. Ins. viii, 105, fig. 376.
Erythrischius sandarachatus, Stål, Enumeratio Hemipt. iv, 103.

Inhabits California, Mexico, &c.

2. *E. fasciatus.*

Lygæus aulicus, H.-Schf., Wanz. Ins. vi, 76, fig. 646.
Lygæus fasciatus, Dallas, Brit. Mus. List, ii, 538, No. 17.
Erythrischius fasciatus, Stål, Enumeratio Hemipt. iv, 103, No. 14.

Inhabits Arizona, Texas, Mexico, and the Atlantic region generally. In Maryland, it is common on the purple *Asclepias*.

MELANOPLEURUS, Stål.

1. *M. Belfragii.*

M. Belfragii, Stål, Enumeratio Hemipt. iv, 109, No. 34.

Inhabits Texas.

2. *M. bistriangularis.*

Lygæus bistriangularis, Say, Heteropt. New Harmony, 14, No. 3.
Lygæus marginellus, Dallas, Brit. Mus. List, ii, 548, No. 51.
Lygæus vicinus, Dallas, Brit. Mus. List, ii, 549, No. 52.
Melanopleurus bistriangularis, Stål, and *M. marginellus*, Stål, Enumeratio Hemipt. iv, 109.

Inhabits Texas, Mexico, Arizona, California, and Central America.

OCHROSTOMUS, Stål.

1. *O. pyrrhopterus.*

Ochrostomus pyrrhopterus, Stål, Enumeratio Hemipt. iv, 110, No. 40.

Inhabits Texas and Mexico.

2. *O. lineola.*

Lygæus lineola, Dallas, Brit. Mus. List, ii, 549, No. 53.
Ochrostomus lineola, Stål, Enumeratio Hemipt. iv, 110.

Inhabits Texas, New Mexico, Florida, and Georgia.

MELANOCORYPHUS, Stål.

1. *M. pusio.*

Melanocoryphus pusio, Stål, Enumeratio Hemipt. iv, 112.

Inhabits Texas.

2. *M. obscuripennis.*

Melanocoryphus obscuripennis, Stål, Enumeratio Hemipt. iv, 112, No. 3.

Inhabits Texas.

3. *M. bicrucis.*

Lygæus bicrucis, Say, Journ. Acad. Phila. iv, 322, No. 3.
Lygæus flavomarginellus, Stål, Eugenies Resa, Ins. 241.
Lygæus rubescens, Stål, Rio Hemipt. Fauna, i, 37.
Lygæus bitransversus, Signoret, Ann. Soc. Ent. France, ser. 3, viii, 947.
Melanocoryphus bicrucis, Stål, Enumeratio Hemipt. iv, 113, No. 6.

Inhabits California (J. Behrens), Nevada, New Mexico, Texas, Louisiana, Kansas, Missouri, and the Southern States east into Georgia and Florida. It is rare in Maryland, and extends as far south as Rio Janeiro, Brazil.

Its food-plant has not yet been reported, and it is hoped that western collectors will direct their attention to its habits, and make them known.

4. *M. facetus.*

Lygæus facetus, Say, Heteropt. New Harmony, 13, No. 2.
Melanocoryphus facetus, Stål, Enumeratio Hemipt. iv, 113, No. 9.

Inhabits Texas, Mexico, California, Florida, New Jersey, Louisiana, the sea-coast of Maryland, &c. One specimen from the foot-hills of Colorado, collected by Lieutenant Carpenter in July.

5. *M. admirabilis.*

Lygæus admirabilis, Uhler, in Hayden's Survey of Montana, 405, No. 5.

Inhabits Colorado.

6. *M. lateralis.*

Lygæus lateralis, Dallas, Brit. Mus. List, ii, 550, No. 58.
Melanocoryphus lateralis, Stål, Enumeratio Hemipt. iv, 113, No. 12.

Inhabits Texas and Mexico.

7. *M. mimulus.*

Melanocoryphus (*Ochrimnus*) *mimulus*, Stål, Enumeratio Hemipt. iv, 113, No. 15.

Inhabits Texas.

SUBFAMILY NYSIINA.

NYSIUS, Dallas.

1. *N. californicus.*

Nysius californicus, Stål, Eugenies Resa, Hemipt. 242, No. 56.

Inhabits Texas, California, Arizona, Colorado, Dakota, South Carolina, and Maryland. Rare in the latter State, but common in California and Arizona.

2. *N. angustatus.*

Nysius angustatus, Uhler, in Hayden's Survey of Montana, 406, No. 2.

Inhabits Dakota, California, Texas, Kansas, &c. Collected above timber-line on the mountains of Colorado, in June, by Lieutenant Carpenter.

3. *N. grœnlandicus.*

Lygæus grœnlandicus, Zett., Insecta Lapponica, 262, No. 3.
Nysius grœnlandicus, Stål, Enumeratio Hemipt. iv, 3.

Inhabits Greenland, Labrador, British America, and Unalaska.

Sufficiently large series for full comparison may show that this and the preceding are only varieties of a single species, in which case the latter name will have priority.

BELONOCHILUS, Uhler.

B. numenius.

Lygæus numenius, Say, Heteropt. New Harmony, 15, No. 9.
Belonochilus numenius, Uhler, Proc. Boston Soc. Nat. Hist. 1871, p. 12.

Inhabits Arizona, Ohio, Illinois, and New England. Very rare in Maryland.

ORSILLUS, Dallas.

O. scolopax.

Lygæus scolopax, Say, Heteropt. New Harmony, 15, No. 8.

Inhabits Texas, Kansas, Missouri, Nebraska, Illinois, and Maine. Common upon dry grass and sedges near Portland, Me., in the month of August. Met with in Maryland, a few miles south of Baltimore, while I was sweeping stubble-fields in August and September. Usually, it is rare in this region.

SUBFAMILY CYMINA.

ISCHNORHYNCHUS, Fieb.

I. didymus.

Lygæus didymus, Zett., Vet. Ak. Handl., 1819, 71, No. 20.
Lygæus geminatus, Say, Heteropt. New Harmony, 14, No. 7.
Cymus franciscanus, Stål, Engenies Resa, Ins. 252, No. 84.
Ischnorhynchus didymus, Stål, Enumeratio Hemipt. iv, 124, No. 1.

Inhabits California, Texas, Kansas, Nebraska, Illinois, the Eastern United States, and Canada. Europe and Siberia.

In Maryland, it is found sparingly upon bushes and shrubbery near the edges of woods.

CYMUS, Hahn.

1. *C. angustatus.*

Cymus angustatus, Stål, Enumeratio Hemipt. iv, 126, No. 2.

Inhabits Texas, Kansas, and the Atlantic region.

2. *C. breviceps.*

Cymus breviceps, Stål, Enumeratio Hemipt. iv, 127, No. 4.

Inhabits Texas and the Southern States.

CYMODEMA, Spin.

C. tabida.

Cymodema tabida, Spinola, Essai, 213.
Cymodema tabida, Fieb., Europ. Hemipt. 204.

Inhabits California, Texas, New Jersey, and Maryland, in July and August, upon undergrowth in thin woods.

After close comparison with specimens from Europe, I do not find differences of sufficient importance to separate the two forms.

SUBFAMILY BLISSINA.

ISCHNODEMUS, Fieb.

I. falicus.

Lygæus falicus, Say, Heteropt. New Harmony, 15, No. 10; Complete Writings, i, 331.
Micropus falicus, Signoret, Ann. Soc. Ent. France, 3d ser. v, 27, pl. 2, fig. 5.

Inhabits Texas, Dakota, Kansas, Louisiana, and the United States generally east of the Mississippi basin. In Maryland, it passes the

winter beneath stones in sheltered places, and may be swept from plants in damp situations in June and July.

Specimens from the sea-coasts of Maryland and North Carolina sometimes attain to a size twice as great as that commonly found farther inland. Moisture combined with warmth seems most favorable to its greatest development.

BLISSUS, Burm.

B. leucopterus.

Lygæus leucopterus, Say, Heteropt. New Harmony, 14, No. 5; Complete Writings, i, 329.
Micropus leucopterus, Signoret, Ann. Soc. Ent. France, 3d ser. v, 31, pl. 2, fig. 11.

Inhabits Texas, California, Kansas, Nebraska, Wisconsin, Minnesota, Illinois, Michigan, and generally throughout the Atlantic region.

The short-winged form seems to be more common in New England than in the Southern States.

SUBFAMILY GEOCORINA.

GEOCORIS, Fallen.

1. *G. Scudderi.*

Geocoris Scudderi, Stål, Enumeratio Hemipt. iv, 135, No. 7.

Inhabits Texas.

2. *G. punctipes.*

Salda bullata var. *punctipes*, Say, Heteropt. New Harmony, p. 19. Complete Writings, i, 336.
Ophthalmicus luniger, Fieb., Wien. Entom. Monats. v, 269, No. 4.

Inhabits Texas, Indian Territory, Colorado, and the Atlantic region.

3. *G. bullata.*

Salda bullata, Say, Heteropt. New Harmony, 18, No. 2; Complete Writings, i, 336.
Ophthalmicus borealis, Dallas, Brit. Mus. List Hemipt. ii, p. 585, No. 8.

Inhabits Illinois, Canada, &c. One specimen from the foot-hills of Colorado, in July, by Lieutenant Carpenter. Very rare in the vicinity of Baltimore.

The color of the legs, antennæ, rostrum, head, and pleural pieces vary considerably in the amount of black or piceous color upon them. The legs are occasionally destitute of black, or they have only a few black points, or they may be black, excepting only the base and tip of femora.

4. *G. pallens.*

Geocoris pallens, Stål, Eugenies Resa, Hemipt. 250; Öfv. Vetensk. Akad. Förhandl. 1854, 236; Enumeratio Hemipt. iii, 136, No. 13.

Inhabits California.

This will probably prove to be only a form of the preceding species; but at present, in the absence of a sufficient series for comparison, it will be best to keep the two separate.

5. *G. tristis.*

Geocoris tristis, Stål, Öfv. Vetensk, Akad. Forhandl. 1854, 236; Eugenies Resa, Hemipt. 249, No. 77.

Inhabits California.

6. *G. piceus.*

Salda picea, Say, Heteropt. New Harmony, 18, No. 1; Complete Writings, i, 336, No. 1.

Inhabits Colorado, Illinois, New York, Massachusetts, Pennsylvania; and a single specimen only, thus far, from Maryland.

7. *G. uliginosus.*

Salda uliginosa, Say, Heteropt. New Harmony, 19, No. 3; Complete Writings, i, 337.
Ophthalmicus niger, Dallas, Brit. Mus. List Hemipt. ii, 586, No. 9.
Ophthalmicus lateralis, Fieb., Wien. Entom. Monats. v, 271, No. 9.

Inhabits Texas, Kansas, Dakota, Missouri, Illinois, New England, New Jersey, Maryland, and Georgia.

8. *G. limbatus.*

Geocoris limbatus, Stål, Enumeratio Hemipt. iv, 136, No. 16.

Inhabits Dakota, Illinois, Massachusetts, and New Jersey.

SUBFAMILY PACHYGRONTHINA.

PHLEGYAS, Stål.

P. annulicrus.

Phlegyas annulicrus, Stål, Enumeratio Hemipt. iv, 138.

Inhabits Texas, South Carolina, and New Jersey.

OEDANCALA, Amyot & Serv.

1. *O. dorsalis.*

Pamera dorsalis, Say, Heteropt. New Harmony, 17, No. 8.
Oedancala dorsilinea, Amyot & Serv., Hemipt. 258, pl. 12, fig. 6.

Inhabits Texas, Indian Territory, and the Eastern United States from Maine to Florida; common in Maryland.

2. *O. crassimana.*

Lygæus crassimanus, Fab., Syst. Rhyng. 233, No. 145.
Oedancala crassimana, Stål, Enumeratio Hemipt. iv, 139, No. 3.

Inhabits Texas, Georgia, Maryland, and New Jersey.

3. *O. Cubana.*

Oedancala Cubana, Stål, Enumeratio Hemipt. iv, 139, No. 1.

Inhabits Texas, Cuba, and Florida.

SUBFAMILY OXYCARENINA.

CROPHIUS, Stål.

C. Bohemani.

Cymus Bohemani, Stål, Eugenies Resa, Hemipt. 251.
Crophius Bohemani, Stål, Enumeratio Hemipt. iv, 142, No. 2.

Inhabits California and Arizona.

SUBFAMILY MYODOCHINA.

PTOCHIOMERA, Say.

1. *P. nodosa.*

Ptochiomera nodosic, Say, Heteropt. New Harmony, 18; Complete Writings, i, 335, No. 9.
Aphanus clavatus, Dal'as, Brit. Mus. List Hemipt. ii, 560, No. 5.
Plociomera nodosa, Stål, Enumeratio Hemipt. iv, 153, No. 3.

Inhabits Texas, Missouri, Louisiana, Florida, Georgia, &c.

In Maryland, it is common beneath stones, and is one of the first to become active in spring when the severe cold of winter is past. In the autumn, it may be met with beneath the stems of dried or drying plants and bushes which have dropped their leaves.

The short-winged form is common in the granitic and primitive regions of this State, but it is generally full-winged in the newer and more southern portions of this region, while farther south it is always (?) full-winged.

2. *P. minima.*

Lygæus (*Beosus*) *minimus*, Guer., in La Sagra's Hist. de Cuba, Ins. 398.
Plociomera minima, Stål, Enumeratio Hemipt. ii, 153.

Inhabits Cuba, Florida, Louisiana, and Texas.

3. *P. puberula.*

Plociomera puberula, Stal, Enumeratio Hemipt. iv, 153, No. 8.

Inhabits Texas.

4. *P. fuscicornis.*

Plociomera fuscicornis, Stål, Enumeratio Hemipt. iv, 152, No. 2.

Inhabits Texas.

CNEMODUS, H.-Schf.

C. mavortius.

Astemma mavortia, Say, Heteropt. New Harmony, 19; Complete Writings, i, 337.
Cnemodus brevipennis, H.-Schf., Wanz. Ins. ix, 184, fig. 948.

Inhabits Texas, Missouri, and the Atlantic region throughout. In Maryland, it is common beneath stones and rubbish from March to November.

CARPILIS, Stål.

C. ferruginea.

Carpilis ferruginea, Stål, Enumeratio Hemipt. iv, 153, No. 1.

Inhabits Texas and New Mexico.

LIGYROCORIS, Stål.

1. *L. sylvestris.*

Cimex sylvestris, Linn., Faun. Suec. 256.
Plociomerus sylvestris, Fieb., Europ. Hemipt. 171.
Plociomerus diffusus, Uhler, Proc. Boston Soc. Nat. Hist. 1871, 9.
Pamera contracta, Say, Heteropt. New Harmony, 16, No. 2.

Inhabits almost the whole continent of North America, and not uncommon in various parts of continental Europe.

We have examined specimens which were collected in British and

Russian America, by Robert Kennicott; from near Quebec, by the Abbé Provancher; from the foot-hills of Colorado, by Lieutenant Carpenter; and I have myself collected numerous specimens in various parts of Eastern Maine, Massachusetts, Rhode Island, Connecticut, Pennsylvania, New Jersey, and Maryland. In the latter State, it may be swept from grassy wild spots adjacent to *Sphagnum* swamps. It occurs also on the high mountains of North Carolina.

2. *L. constrictus.*

Pamera constricta, Say, Heteropt. New Harmony, 15, No. 1; Complete Writings, i, 332.
Beosus abdominalis, Guer., in La Sagra's Hist. de Cuba, Ins. 397.
Plociomera piligera, Stål, Stettin. Ent. Zeit. xxiii, 312.

Inhabits Mexico, Cuba, Florida, Louisiana, Texas, and the Atlantic region from Massachusetts southward.

The spines beneath the anterior femora are variable in size and number; and much allowance must be made for the color and pattern of marking of specimens, as much depends upon their maturity.

I have collected specimens on the Atlantic peninsula of Maryland and Virginia, which had been mutilated before attaining maturity. Such specimens had one side, or some part of the pronotum, abdomen, or wing-covers, indented, distorted, or forced away; and, in two or more instances, the antenna of one side was much shortened and thickened, causing the basal and middle joints to be abnormally short. The females are proportionally shorter and stouter than the males; but, in this respect, there is also much variation. Some males are almost as robust as the females.

MYODOCHA, Latr.

M. serripes.

Myodochus serripes, Oliv., Encyc. Méthod. viii, 106.
Myodocha petiolata, Say, Heteropt. New Harmony, 19 [erroneously reprinted by Dr. Fitch, in Trans. N. Y. State Agric. Soc., *M. opetilata*]; Complete Writings, i, 337.
Chiroleptes raptor, Kirby, Fauna Bor.-Amer. iv, 281.
Myodocha serripes, Amyot et Serv., Hemipt. 258; H.-Schf., Wanz. Ins. ix, 213, fig. 966.

Inhabits Texas, Mexico, Indian Territory, Illinois, Missouri, Louisiana, and the Atlantic region generally.

In Maryland, it lives beneath stones in the spring and early summer. When the warm weather sets in, it spreads into the adjoining meadows and grassy spots to find sustenance. In the autumn, it may again be found beneath stones and rubbish; and, as the severe weather approaches, it hybernates in crevices of bark, beneath leaves, and under the stones in sheltered places.

HERÆUS, Stål.

1. *H. plebejus.*

Herœus plebejus, Stål, Enumeratio Hemipt. iv, 147, No. 2.

Inhabits Texas, Arizona, New Jersey, &c.

2. *H. insignis.*

Herœus insignis, Uhler, in Hayden's Survey of Montana, 407.

Inhabits Utah, Colorado, Minnesota, and Canada.

PAMERA, Say.

1. *P. longula.*

Rhyparochromus longulus, Dallas, Brit. Mus. List, ii, 578, No. 50.
Pamera longula, Stål, Enumeratio Hemipt. iii, 148, No. 5.

Inhabits Cuba, Florida, Texas, Mexico, Louisiana, and the Southern States.

2. *P. parvula.*

Rhyparochromus parvulus, Dallas, Brit. Mus. List, ii, 576, No. 45.
Plociomerus Amyoti, Guer., in La Sagra's Hist. de Cuba, Ins. 400.
Plociomerus vinulus, Stål, Eugenies Resa, Hemipt. 246, No. 66.

Inhabits Cuba, Hayti, Florida, Texas, Mexico, Georgia, and North Carolina. In the latter State, it occurs upon the Black Mountain range.

It is abundant in Florida in the month of June; and, in the western part of Hayti, it occurs in small swarms upon low plants in damp spots and in gardens.

3. *P. curvipes.*

Pamera curvipes, Stål, Enumeratio Hemipt. iv, 148, No. 9.

Inhabits Texas, New Mexico, and South Carolina.

4. *P. bilobata.*

Pamera bilobata, Say, Heteropt. New Harmony, 17, No. 7; Complete Writings, i, 334, No. 7.
Rhyparochromus scutellatus, Dallas, Brit. Mus. List, ii, 575, No. 43.
Plociomerus Servillei, Guer., in La Sagra's Hist. de Cuba, Ins. 399.
Plociomerus ochroceras, Stål, Eugenies Resa, Hemipt. 245, No. 64.

Inhabits Texas, Louisiana, Florida, Georgia, South Carolina, the Black Mountain region of North Carolina, Cuba, and Mexico.

Several specimens were swept by myself from low plants in a wet spot south of Baltimore, in August.

5. *P. setosa.*

Pamera setosa, Stål, Enumeratio Hemipt. iv, 150, No. 21.

Inhabits Texas.

6. *P. nitidicollis.*

Pamera nitidicollis, Stål, Enumeratio Hemipt. iv, 150, No. 22.

Inhabits Texas.

7. *P. basalis.*

Rhyparochromus basalis, Dallas, Brit. Mus. List, ii, 575, No. 42.
Pamera basalis, Stål, Enumeratio Hemipt. iv, 152, No. 37.

Inhabits Texas, Nebraska, Minnesota, Illinois, Pennsylvania, Missouri (C. V. Riley), and Maryland. It is common near Baltimore on the soils in the region of the metamorphic rocks; living in the wheat and grass fields during spring and summer, and hybernating beneath the rocks upon the arrival of cold weather.

OZOPHORA, Uhler.

O. picturata.

Ozophora picturata, Uhler, Proc. Boston Soc. Nat. Hist. 1871, p. 10.

Inhabits Texas, Maryland, and Pennsylvania.

Very rare near Baltimore; obtained from spots covered with rank growths late in July.

TEMPYRA, Stål.

T. biguttula.

Tempyra biguttula, Stål, Enumeratio Hemipt. iv, 157.

Inhabits Texas.

TRAPEZONOTUS, Fieb.

1. *T. nebulosus.*

Lygæus nebulosus, Fallen, Mon. Cim. 65, No. 7.
Pamera fallax, Say, Heteropt. New Harmony, 17, No. 6; Complete Writings, i, 334.
Trapezonotus nebulosus, Fieb., Europ. Hemipt. 190.

Inhabits Europe, Texas, Colorado, Montana, Illinois, British America, Canada, New England, and California.

2. *T. rufipes.*

Trapezonotus rufipes, Stål, Enumeratio Hemipt. iv, 159, No. 2.

Inhabits Texas.

EREMOCORIS, Fieb.

E. ferus.

Pamera fera, Say, Heteropt. New Harmony, 16, No. 4.
Rhyparochromus borealis, Dallas, Brit. Mus. List, ii, 565.

Inhabits Texas, California, Montana, Illinois, New England, New York, Canada, South Carolina, White Mountains (Mr. Samuel H. Scudder); very rare in Maryland.

This species varies considerably in the shape of the pronotum, in the relative length of its two lobes, and in the width of the lateral margins. The legs also vary from pale piceous to deep black.

MEGALONOTUS, Fieb.

M. unus.

Pamera una, Say, Heteropt. New Harmony, 16, No. 5.

Inhabits Texas, Maryland, Pennsylvania, and New York.
One specimen captured, October 22, near Baltimore.

EMBLETHIS, Fieb.

E. arenarius.

Cimex arenarius, Linn., Fauna Suecica, 955.
Emblethis arenarius, Fieb., Europ. Hemipt. 198, No. 2.

Inhabits Europe, where it lives on sandy spots about the roots of plants. In Colorado, it seems to be quite common; also from Texas, Illinois, Nevada, Massachusetts, and Georgia.

CISTALIA, Stål.

C. Signoretii.

Platygaster Signoretii, Guer., in La Sagra's Hist. de Cuba, Ins. 296.
Cistalia Signoretii, Stål, Enumeratio Hemipt. iv, 165.

Inhabits Texas, Cuba, Nevada, and California.

CRYPHULA, Stål.

C. parallelogramma.

Cryphula parallelogramma, Stål, Enumeratio Hemipt. iv 165.

Inhabits Texas.

SUBFAMILY HETEROGASTRINA.

PHYGADICUS, Fieb.

P. Behrensii. New sp.

Form and general appearance of *P. urticæ*, Fieb. Bronze-black, closely pubescent. Head black, very convex, densely, somewhat coarsely, roughly punctured, the base with a small yellow point; base of the head not so much narrowed as in *P. urticæ;* antennæ stout, testaceous or pale piceous; the basal joint black, excepting at its base and tip; second joint longest, a little blackish near each end; third and fourth joints equal, the former black on the middle, the latter infuscated almost throughout; rostrum reaching behind the anterior coxæ, piceous; the apex of the first and second joints testaceous. Pronotum moderately flat, black, closely, rather coarsely punctured, less closely behind, narrower and less rounded at and behind the anterior angles than in *P. urticæ;* the lateral margins yellow, moderately sinuated; the posterior margin broadly sinuated; running forward from its middle are three short, yellow lines; humeral angles moderately prominent, black, slenderly margined with yellow. Beneath, densely hoary pubescent, opaque black; posterior margins of the pro- and meta-pleuræ, coxæ, trochanters, osteoles, and legs testaceous. Femora largely pitchy-black or pointed with black, roughly indented over the outer and inner surfaces; tibiæ on the base, middle, and apex banded with black; the chief part of the last tarsal joint and the apex of the basal joint piceous. Scutellum black, densely and finely punctured at base, more remotely and coarsely toward the apex; the apex and adjoining edge testaceous. Corium grayish testaceous, with a large blackish cloud on the disk and a black spot at tip, also a black band invading the base of the membrane, but omitting most or all of the bounding thick nervule; the punctures remote, black, moderately coarse; the clavus black, excepting its edges. Abdomen dull black, minutely, densely punctured and shagreened, the outer edge, a spot on the middle of the outer margin of the segments, the inner margins of the ovipositor valves and segments and the adjoining edges yellow; genital segments more or less rufous apically.

Length, 7 to 7½ millimeters. Width of pronotum, 1¾ to 2 millimeters.

Inhabits California (James Behrens).

To Mr. James Behrens we are indebted for this interesting representative of an eastern genus, hitherto undiscovered on the American continent. Through his indefatigable exertions much has been contributed to the knowledge of the Pacific forms of many of the groups of insects, and it is with peculiar pleasure that we signalize his services in the depart ment of the *Hemiptera* by giving his name to this species.

HELONOTUS. New gen.

Aspect similar to *Henestaris.* Elongate-ovate. Head a little wider than long; the face convexly decurving; inferior cheeks tumid, separated from the superior ones by a deep groove; eyes round, very prominent, projecting wider than the fore sides of the pronotum; tylus forming a much projecting, cylindrical peak, the surface each side of it depressed; bucculæ disk-like, limited to the tip of the superior cheeks; gular surface obliquely ridged each side of the base. Rostrum stout; basal joint scarcely more than one-half the length of the throat; second joint hardly longer than the apical one; the middle joint shorter than the apical one. Antennæ stout, about as long as from the front to the

base of the pronotum; the antenniferous ridge stout and running directly down from the eye; basal joint very short, hardly reaching beyond the tip of the tylus, second longest, apical one thickest, fusiform, not quite as long as the second. Pronotum long, trapezoidal, gradually narrowing anteriorly, the transverse diameter convex, the longitudinal one feebly convex, the surface much more elevated than the plane of the corium and scutellum; collum contracted, flattened, on the under side, divided on the prosternum; plagæ placed far back on a convex ridge, which is continued to the lateral margin; behind this the surface is transversely grooved, causing the lateral margins to be sinuated; behind this to the posterior margin is a still more elevated, wider, transverse ridge; the lateral margins bluntly rounded, not recurved, deep; posterior margin truncated. Corium broad, blunt, sinuated on the posterior margin, scarcely longer than the membrane, punctate in longitudinal rows; membrane with about five long straight nervures, of which the next to the outer one is forked, and at the ends of the nervures are several small closed cells [these are sometimes absent]. Anterior femora very stout and short; the under surface rough, with a curved channel on the outer side, and a row of uneven teeth on the inner.

H. abbreviatus. New sp.

Thick, deep, long-ovate, grayish pale brown. Head coarsely, remotely punctured, the punctures deeply sunken and with raised margins; surface very uneven, depressed near the eyes, rufous or piceous; bucculæ and antennæ ochre-yellow; tylus blackish, with rows of coarse, uneven punctures; antennæ annulated with black, once on the basil joint, twice on the second, and all but the base and tip of the third blackish, the fourth rufo-piceous or fuscous. Rostrum reaching between the anterior and middle coxæ, brownish-yellow, piceous along the middle of the joints and at tip. Pronotum tawny or rust-brown, obsoletely carinated; the callosities, two short steaks adjoining the humeral angles, and sometimes a trace or two on the middle of the sides and on the anterior margin piceous; surface deeply, unevenly, coarsely punctured; humeral angles distinctly tumid, the anterior angles rectangular; lateral margins bluntly rounded; pectus and under side of head powdered with white, coarsely, rather remotely punctured; the mesosternum each side and one or more spots on the metapleura piceous. Femora black, excepting at base and tip, and a ring at base and another near the tip of tibiæ black; the tarsi faintly tinged with piceous. Scutellum tawney, tinged with rufous, infuscated and carinated on the middle line, coarsely, closely punctured. Hemelytra ochre-yellow, a little infuscated at base, the posterior, raised boundary-edge of the corium with angulated black line extending inward as far as the clavus; both corium and clavus coarsely punctured in longitudinal rows; membrane whitish. Tergum piceous-blackish or chestnut-brown, coarsely, a little remotely, punctured; connexivum with alternate quadrangular spots of whitish and black. Venter chestnut-brown or piceous, more or less tinged with rufous, erodedly, deeply, remotely punctured, the base more or less infuscated, pruinose. ♂ ♀.

Length, 3 to 5¼ millimeters. Width of pronotum, 1½ to 2 millimeters.

Inhabits Nebraska, Missouri, Illinois, Michigan, Massachusetts, New York, Grimsby, Canada (Mr. Petit), New Jersey, Maryland, and North Carolina.

It occurs in Maryland very abundantly in places where the plants and weeds grow rank, and also on small bushes forming the undergrowth in open woods.

In Central Maryland and Eastern Pennsylvania, it may be swept from the bushes as early as the middle of May and as late as November. Occasionally it swarms in clover-fields, and no doubt does considerable injury to that crop by withdrawing the sap from the tender heads before they have become full-blown. On the other hand, it and the common *Lygus lineolaris* and *Plagiognathus obscurus* no doubt help to fertilize the flowers by their active movements in the heads and frequent flying from one to the other, carrying masses of pollen on their bodies and bristly legs. Sometimes these insects are literally powdered with the pollen which adheres to their bodies.

SUBFAMILY PYRRHOCORINA.

DYSDERCUS, Amyot et Serv.

1. *D. mimus.*

Capsus mimus, Say, Heteropt. New Harmony, 20, No. 3; Complete Writings, 338.
Dysdercus mimus, Stål, Enumeratio Hemipt. i, 121, No. 14.

Inhabits Texas, Mexico, California, Cuba, Hayti, and Central America.

This species varies in color, but most strikingly so in the width and proportions of the head, pronotum, and abdomen, including the hemelytra.

The two varieties cited by Mr. Say belong really to this, and do not constitute a second species as indicated by Dr. Stål in the place referred to above.

In some varieties from Mexico, the head, pronotum, and corium are entirely black, and from this to the variety with only a point of black on the middle of the corium every variety occurs. In Hayti, they abound in gardens, and affect small growths in damp or low grounds. The males are in general narrower that the females.

2. *D. albidiventris.*

Dysdercus albidiventris, Stål, Öfv. Vetensk. Akad. Förh. 1854, 236; Stettiner Ent. Zeit. 23, 315 [exclusive of his reference to Say's *C. mimus*].
Dysdercus lunulatus, Uhler, Proc. Ent. Soc. Phila. i, 24.

Inhabits Mexico, Texas, California, Central America, and Panama.

This also varies in the same manner as the preceding species, and, although inhabiting some of the same localities in large numbers, it is of a larger size, and has the sides of the pronotum more deeply sinuated. One beautiful variety from California has the whole base of the pronotum back of the callosities, and the entire corium, blood-red.

3. *D. peruvianus.*

Lygæus peruvianus, Guer., Voyage de la Coquille, 178, pl. 12; fig. 16.
Dysdercus peruvianus, Stål, Enumeratio Hemipt. i, 121, No. 20.

Inhabits California, Peru, and the Sandwich Islands.

4. *D. obliquus.*

Pyrrhocoris obliquus, H.-Schf., Wanz. Ins. vii, 19, fig. 701.
Dysdercus bimaculatus, Stål, Öfv. Vetensk. Akad. Förh. 1854, 236.
Dysdercus obliquus Stål, Enumeratio Hemipt. i, 121, No. 20.

Inhabits California, Mexico, Central America, Panama, &c.

A variety of this species lacks the two black dots of the corium.

SUBFAMILY LARGINA.

ACINOCORIS, Hahn.

A. lunatas.

Cimex lunatus, Fab., Mantissa Ins. ii, 302, No. 237.
Lygæus calidus, Fab., Syst. Rhyng. 230.
Acinocoris calidus, Hahn, Wanz. Ins. ii, 114, fig. 194.
Largus interruptus, H.-Schf., Wanz. Ins. ix, 181, fig. 978.
Largus lunulatus, Burm., Handb. ii, 282, No. 1.
Largus (Acinocoris) lunatus, Stål, Enumeratio Hemipt. i, 92, No. 1.

Inhabits Brazil, Surinam, Mexico, and has been once found in California. It seems to be common in the valley of the Amazonas.

LARGUS, Hahn.

1. *L. cinctus.*

Largus cinctus, H.-Schf., Wanz. Ins. vii. 6, fig. 683; Stål, Enumeratio Hemipt. i, 94, No. 11.
Capsus succinctus, var. *a*, Say, Heteropt. 20.

Inhabits Mexico, California, Oregon, Nevada, and Arizona.

This differs only in a slight degree from the following species, and will no doubt hereafter prove to be only the extreme western form of it.

2. *L. succinctus.*

Cimex succinctus, Linn., Cent. Ins. Rarior. 17, No. 44.
Cimex rubrocinctus, De Geer, Mém. iii, 339, pl. 34, fig. 19.
Lygæus succinctus, Fab., Ent. Syst. iv, 170.
Largus succinctus, H.-Schf., Wanz. Ins. vi. 78, fig. 648.

Inhabits Pennsylvania to Florida, and westward to Texas, Arizona, and Southern Colorado.

The western specimens are blacker and not so brightly red-margined as those from the coasts of Georgia and Florida. In the sea islands of the latter State, a variety occurs which is of a dirty sand-red. This conforms with our experiences respecting other insects which belong to sandy regions adjacent to the sea; for example, *Œdipoda eucerata*, Harris, *Gryllus abbreviatus*, *Salda Signorete*, and many others, which are all paler and more nearly of the color of sand than their brethren who live farther inland upon the dark soils.

This genus is essentially American, and ranges between the northern warm-temperate zone and the southern warm-temperate zone. Each geographical province has one or more species. The insular and equatorial ones of the lowlands are marked with yellow spots, while the others are more uniform and plainer in their pattern.

FAMILY PHYTOCORIDÆ.

MONALOCORIS, Dahlb.

M. *filicis.*

Cimex filicis, Linn., Syst. Nat. 718, No. 20.
Acanthia filicis, Wolff, Icon., Cim. 46, tab. 5, fig. 43.
Bryocoris filicis, Kolenati, Melet. Entom. ii, 129.
Monalocoris filicis, Fieb., Europ. Hemipt. 237; Douglas & Scott, British Hemipt. 279, pl. 10, fig. 2.

Inhabits Nebraska, Texas, Illinois, Maine, and Maryland; and Europe.

It is sometimes quite common in late summer and early autumn on several kinds of ferns.

MEGALOCERÆA, Fieb.

1. *M. Debilis.*

Megaloceræa debilis, Uhler, in Hayden's Survey of Montana, 408, No. 1.

Inhabits Colorado, Montana, and Wyoming.

2. *M. rubicunda.*

Megaloceræa rubicunda, Uhler, *ib.* 408, No. 2.

Inhabits Colorado.

TRIGONOTYLUS, Fieb.

T. Ruficornis.

Miris ruficornis, Fallen, Hemipt. Suec. i, 133, No. 8.
Miris ruficornis, Douglas & Scott, British Hempt. 290, 6.
Trigonotylus ruficornis, Fieb., Eur. Hemipt. 243.

Inhabits Idaho, Colorado, Illinois, Texas, Massachusetts, and Maryland; and Europe.

It inhabits the grass and weeds in brackish marshes in Maryland, and the salt-marshes near the coast in Massachusetts.

LEPTOPTERNA, Fieb.

L. amœna.

Leptopterna amœna, Uhler, in Hayden's Survey of Montana, 409.

Inhabits Idaho and Dakota.

BRACHYTROPIS, Fieb.

B. Calcarata.

Miris calcaratus, Fallen, Hemipt. Suec. 131, No. 5.
Brachytropis calcarata, Fieb., Europ. Hemipt. 241.

Inhabits Texas, Indian Territory, Illinois, Massachusetts, Canada, New Jersey, Pennsylvania, and Maryland; and Europe. Common on rank weeds in low pastures and woods.

MIRIS, Auctor.

M. instabilis. New sp.

Form and general appearance of *M. virens*, Linn. Green, greenish-testaceous, or pale dull straw-yellow, clothed with close yellow pubescence. Head broadly conical, with a blackish vitta each side, which is usually continued backward over the pronotum and scutellum to the apex of the corium; apex of the head a little upturned, the vertex densely pubescent, minutely, confluently punctured, at the base bald, impunctate, and with a central impressed line. Antennæ robust, rufous, the basal joint a little longer than the head, sometimes greenish, beset with long stiff hairs. Eyes round, prominent, in contact posteriorly with the pronotum. Rostrum reaching behind the middle coxæ. Pronotum convex behind, finely, deeply, and in part confluently punctured, the lateral margins broadly sinuated, and the carinate edge sharply prominent; the anterior angles callous exteriorly, and destitute of the carinate edge. Humeral angles slightly recurved behind; median line pale. Propleura coarsely and confluently punctured, with a slender brown or red line each side continued interruptedly along the venter; meso-and meta-pleura punctate on the middle. Hemelytra almost white on the costal margin and inner edge; the surface pubescent, minutely

and closely punctate; the cuneus usually pale green, and the membrane hyaline, with rufous or pale-brown nervures, sometimes having a pale-brown streak protracted beyond the nervure. Scutellum more finely punctate than the pronotum, often having the punctures of the middle and base fuscous; the middle line pale and smooth. Tergum green or pale rufous, with the disk more or less infuscated. Venter green or testaceous, invested with close-set sericeous pubescence. Legs pale green, usually having the tarsi and tip of the tibiæ rufous; posterior femora usually having two series of piceous dots above and two similar series beneath; the nails and adjacent joint piceous.

Length, 6 to 7½ millimeters. Breadth of pronotum, 1¾ to 2 millimeters.

Collected on the hills of Colorado in July (Lieutenant Carpenter). It is very common on low meadows in many parts of the Atlantic region.

Although this insect was referred to *Miris dorsalis*, Say, by Dr. Harris, it does not sufficiently agree with the description of that species to enable us to accept the determination. *M. dorsalis*, Say, still remains undetected by modern entomologists.

PHYTOCORIS, Fallen.

1. *P. nubilus.*

Capsus nubilus, Say, Heteropt. New Harmony, 22, No. 10.

Inhabits Texas; Mexico, near Matamoras, in the collection of Dr. Berlandier; Canada; New England; New York; Pennsylvania; New Jersey, in August; Maryland, on *Eupatorium*, in July and August; Georgia, and North Carolina.

2. *P. scrupeus.*

Capsus scrupeus, Say, Heteropt. New Harmony, 23, No. 13.
Capsus tetrastigma, H.-Schf., Wanz. Ins. ix, 166, fig. 959.
Capsus externus, H.-Schf., Wanz. Ins. viii, 16, fig. 791.

Inhabits Texas, Indian Territory, Mexico, Nebraska, Illinois, New England, Maryland, New Jersey, and Georgia.

This is a very variable insect, both in colors and in the width and thickness of the body and members. Pigmy specimens often occur in Eastern Massachusetts. I have found it in July on the grape-vines north of Baltimore.

The two figures of Herrich-Schaeffer represent varieties which are occasionally found in Maryland. Neither of them represents accurately the shape of the joints of the antennæ, although figure 791 is more nearly correct than the other.

LOPIDEA, Uhler.

L. media.

Capsus medius, Say, Heteropt. New Harmony, 22, No. 11.

Found on the foot-hills and plains of Colorado, September 19 and October 4, by Lieutenant Carpenter.

HADRONEMA, Uhler.

H. militaris.

Hadronema militaris, Uhler, Hayden's Survey of Montana, 412.

Collected July to September on the hills of Colorado.

LYGUS, Hahn.

1. *L. lineolaris.*

Capsus lineolaris, Palisot-Beauvois Ins. Afr. et Amér. 187, pl. xi, fig. 7.

Distributed over all the district traversed by the survey, as well upon the high mountains as on the hills and in the valleys.

It varies in the length and thickness of the antennæ and in the length of rostrum and hemelytra.

Specimens were collected above the timber-line in Colorado by Lieutenant Carpenter; and it occurs on the bald summits of the highest mountains in North Carolina.

2. *L. annexus.*

Lygus annexus, Uhler, in Hayden's Survey of Montana, 413.

Inhabits Colorado on the foot-hills (Lieutenant Carpenter).

CALOCORIS, Fieb.

1. *C. rapidus.*

Capsus rapidus, Say, Heteropt. New Harmony, 20, No. 4.
Capsus multicolor, H.-Schf., Wanz. Ins. viii, 19, fig. 795.

Inhabits Colorado, Arizona, Texas, and California.

2. *C. Palmeri.*

Calocoris Palmeri, Uhler, in Hayden's Survey of Montana, 410.

Inhabits Arizona and Southern Colorado.

RESTHENIA, Amyot & Serv.

1. *R. insignis.*

Capsus insignis, Say, Heteropt. New Harmony, 22, No. 12.

Inhabits Colorado and the Atlantic region.

2. *R. confraterna.*

Resthenia confraterna, Uhler, in Hayden's Survey of Montana, 411.

Inhabits Colorado, Wisconsin, Illinois, Maryland, &c.

DACOTA, Uhler.

D. hesperia.

Dacota hesperia, Uhler, in Hayden's Survey of Montana, 413.

Inhabits Colorado and Dakota.

PŒCILOSCYTUS, Fieb.

1. *P. venaticus.*

Pœciloscytus venaticus, Uhler, in Hayden's Survey of Montana, 414.

Inhabits Colorado, Illinois, New England, and Canada.

2. *P. diffusus.*

Pœciloscytus diffusus, Uhler, in Hayden's Survey of Montana, 415.

Inhabits Utah and Idaho.

RHOPALOTOMUS, Fieb.

1. *R. pacificus.*

Rhopalotomus pacificus, Uhler, in Hayden's Survey of Montana, 415.

Inhabits Montana, Idaho, and California.

2. *R. brachycerus.*

Rhopalotomus brachycerus, Uhler, in Hayden's Survey of Montana, 416.

Inhabits California and Colorado.

LABOPS, Burm.

L. hesperius.

Labops hesperius, Uhler, in Hayden's Survey of Montana, 416.

Inhabits Colorado, Montana, and British America.

It varies somewhat in the breadth of the head and in the amount of yellow marking of the head, &c. Collected by Lieutenant Carpenter, in July and September, on the mountains and foot-hills.

CAMPTOBROCHIS, Fieb.

C. nebulosus.

Camptobrochis nebulosus, Uhler, in Hayden's Survey of Montana, 417.

Inhabits Dakota, Colorado, Kansas, Missouri, Illinois, New England, and Maryland.

In the city of Baltimore, it is sometimes common in the crevices of the bark of linden trees; and in Massachusetts, it preys upon the females, and perhaps also upon the eggs, of the canker-moth.

TINICEPHALUS, Fieb.

T. simplex.

Tinicephalus simplex, Uhler, in Hayden's Survey of Montana, 417.

Inhabits Colorado, in July, on the foot-hills. Collected by Lieutenant Carpenter.

PLAGIOGNATHUS, Fieb.

P. obscurus.

Plagiognathus obscurus, Uhler, in Hayden's Survey of Montana, 418.

Inhabits Texas, Colorado, and the Atlantic States.

AGALLIASTES, Fieb.

A. associatus.

Agalliastes associatus, Uhler, in Hayden's Survey of Montana, 419.

Inhabits Colorado and Utah.

ORECTODERUS. New gen.

Elongate, narrow; hemelytra contracted before the middle. Head long, obliquely declining and curving anteriorly, ♂; shorter and with the front almost vertical, ♀; behind the eyes narrowed into a neck, ♂; protracted, but scarcely narrowed, ♀; face from the eyes to tip forming a long, acute triangle ♂, but shorter in the ♀; the surface between the eyes very broad and somewhat flattened, ♂. Eyes prominent, long, oval, placed obliquely; inferior cheek-lobes ridged and tapering to a slender point, bounded above by a long deep groove, which carries the linear, carinate, superior cheek-lobe; jugum forming a slender, tapering, prominent ridge, separated from the tylus by a long groove; the tylus long

and slender. Rostrum long and slender, reaching to the intermediate coxæ; the basal joint somewhat more than one-half as long as the under side of head; second joint much longer, reaching to the tip of anterior coxæ; third and fourth subequal, each a little shorter than the second. Antennæ long and slender, nearly as long as the hemelytra; the basal joint about as long as the width of head between the eyes, ♂; or somewhat longer, ♀; second joint as long as the inner margin of the clavus, gradually thickening from beyond the middle to the tip; third much more slender, longer than the basal joint; the fourth shortest. Pronotum very long trapeziform, ♂; or long subcampanulate, ♀; in the latter separated into two divisions by a transverse constriction behind the middle, leaving the posterior lobe high and suborbicular. Scutellum almost equilateral, humped at base, the apex very acute. Hemelytra widest behind the middle, the cuneus long and narrow. Abdomen much contracted at base. Legs long and slender.

All the specimens thus far observed, of both sexes, have had fully-developed hemelytra and wings.

O. obliquus. New sp.

Long and slender, resembling *Systellonotus*, black or blue-black, polished. Face and cranium transversely obsoletely rugulose, indented on the vertex, and longitudinally impressed next the inner line of the eyes. Antennæ yellow or pale piceous, the apical half blackish-piceous; the third joint, excepting the base, and the fourth fuscous; eyes brown; rostrum piceous, paler on the middle, sometimes yellow, with a piceous tip. Pronotum minutely rugulose, densely so in the ♀, in which latter the surface is often dull opaque-black. Legs orange or pale piceous, the posterior pair usually darker; the coxæ pale or white, but darker or black on the anterior and intermediate ones in the ♀, while the posterior are conspicuously white; tarsi piceous at tip. Scutellum pale yellow or white on the apical division, ♀; or black, ♂. Hemelytra black, obsoletely punctured, remotely pubescent; the base of the corium having white streak running along parallel with the margin of the clavus; base of cuneus with a large white spot, ♂. The female lacks the white streak of the corium. Membrane piceous or smoke-black; wings a little infuscated. Venter black, polished, sometimes with a central row of rufo-piceous dots. Genital process of the male projecting laterally, long and wide, falcate.

Length, 6 to 7½ millimeters. Width across pronotum, 1 to 1½ millimeters.

A variety of the male lacks the white marks of the hemelytra, and at the same time has deep-orange legs. Immature specimens are chestnut-brown, with the white markings less distinct.

One male was obtained on the hills of Colorado, June to September, by Lieutenant Carpenter.

I have examined both sexes, from Massachusetts, Connecticut, Pennsylvania, Lower Canada, Illinois, Kansas, and Washington Territory.

FAMILY ANTHOCORIDÆ.

TRIPHLEPS.

T. insidiosus.

Reduvius insidiosus, Say, Heteropt. New Harmony, 32, No. 5.
Anthocoris pseudochinche, Fitch. Second Report on Nox. Ins. of New York, 295.

Inhabits Texas, Nebraska, Kansas, Illinois, Missouri, the Atlantic region, and Cuba.

ANTHOCORIS, Fallen.

A. musculus.

Reduvius musculus, Say, Heteropt. New Harmony, 32, No. 6.

Collected above timber-line, in the mountains of Colorado, by Lieutenant Carpenter.

FAMILY ARADIDÆ.

ARADUS, Fab.

1. *A. acutus.*

Aradus acutus, Say, Heteropt. New Harmony, 28, No. 2.
Aradus americanus, H.-Schf., Wanz. Ins. viii, 115, fig. 889.

Found above timber-line, in the mountains of Colorado, by Lieutenant Carpenter. Common also in Florida, Indiana, &c.

This species is found under very contrasting climatal conditions. In the subalpine regions of the western Territories, it is liable to be suddenly caught by the frosts and severely cold winds of those exposed situations; while on the sea-coast of Florida, it exists in a climate loaded with moisture, of subtropical warmth and of perpetual mildness. In Southern Indiana, it is subject to the blasts of torrid heat, which rush over the plains from the farther South. But in all these different conditions it retains a very steady uniformity of appearance, and does not exhibit much variation in the details of structure.

2. *A. tuberculifer.*

Aradus tuberculifer, Kirby, Fauna Bor.-Amer. iv, 278, pl. 6, fig. 5.

Inhabits Colorado; British America, California, &c.

Specimens were collected above timber-line in the first-named State. Mr. Kirby's came from the Hudson's Bay Territory.

The late Robert Kennicott obtained specimens in the vicinity of the Yukon River in Walrussia, and near the Great Bear Lake and Mackenzie River in British America.

3. *A. rectus.*

Aradus rectus, Say, Heteropt. New Harmony, 29, No. 4.

Inhabits Colorado, New Mexico, British America, New England, Georgia, North Carolina, and Florida.

4. *A. æqualis.*

Aradus æqualis, Say, Heteropt. 29, No. 6.

Inhabits Texas, Indian Territory, New Jersey, Illinois, &c.

5. *A. cinnamomeus.*

Aradus cinnamomeus, Panzer, Fauna German. 100, No. 20; Fieb. Europ. Hemipt. 111; H.-Schf., Wanz. Ins. v, 91, fig. 539.

Inhabits Texas, Missouri, and Southern Europe.

6. *A. ampliatus.* New sp.

Broad and thin; grayish-black; form similar to *A. crenatus*, Say. Head densely granulated; to the tip of the protuberance longer than the width across the eyes, the protuberance slightly tapering toward the tip; processes of the antenniferous tubercles slender, very acute, and not quite

as long as the basal joint of antennæ; antennæ black, stout, subcylindrical, the joints all of nearly equal thickness; first joint very short, the second very long, almost equal to the third and fourth united, the third orange on the apical half and longer than the fourth; surface in front of each eye raised into a blunt tooth; rostrum rust-brown, fuscous at tip. Pronotum transverse subreniform, the anterior margin widest, arcuated, and broadly recurved each side, the margin irregularly and minutely toothed, the anterior angles a little acutely prominent; lateral obliquely narrowing posteriorly; posterior angles forming broad, rounded lobes, the posterior margin deeply sinuated; surface deeply depressed each side, irregularly and coarsely granulated, the disk with two longitudinal, approximate, raised lines, each side of which is a subinterrupted, less distinct, raised line. Scutellum coarsely and irregularly granulated, tumidly elevated on the disk, sunken behind the disk, and with the lateral margins very prominently elevated. Legs black; the coxæ, base of femora and a ring before their tip, the tip of tibiæ, and the tarsi ochreous yellow. Hemelytra deep black, more finely granulated, extending almost to the tip of the abdomen; base of corium exteriorly expanded into a wide, oval flap, which is broadly recurved, and the edge minutely serrated. Venter a little ferruginous; the central carina paler; the outer angles of the segments and a small part of the edges of the incisures of the connexivum both above and below ocher-yellow.

Length, 11 millimeters. Width of pronotum, 4 millimeters.

Inhabits California (James Behrens).

7. *A. debilis.* New sp.

Long, narrowing posteriorly, pale rust-brown; form similar to *A. acutus*, Say. Head long, longer than the width across the eyes, minutely and densely granulated; the protuberance entire, cylindrical, thick; cranium with a few coarse granules on the central ridge; processes of the antennal base short, acute; surface adjoining the eyes infuscated; before the eyes is a blunt, vertical process; antennæ very slender, the joints cylindrical, densely and evenly granulated, the second joint longer than the head, third and fourth joints a little stouter, the third whitish except at base, the fourth fuscous, a little shorter than the third, conical at tip; rostrum chestnut-brown, minutely, evenly granulated, reaching to the incisure between the meso- and meta-sternum. Pronotum wide sublunate, almost twice as wide as its length; the antero-lateral arcuated margin irregularly and remotely denticulated, broadly recurved, infuscated; posterior margin widely sinuated; behind the humeri produced into rounded flaps; disk infuscated, crossed by four longitudinal, anteriorly approximating, subentire, carinate lines; callosities very prominent, and bounded by sharply-defined lines. Scutellum infuscated, the basal angles tumidly elevated, the sides bounded from the base to beyond the middle by prominent, thick, carinate edges, the disk triangularly tumid, and sending backward a carinate longitudinal line. Legs irregularly granulated, faintly marbled with fuscous; the tips of tibiæ and a faint band on their middle yellow. Hemelytra clouded and marbled with fuscous; the base of the corium somewhat expanded into rounded, upturned lobes; membrane slightly net-veined, marbled, and clouded with fuscous. Venter almost uniform pale ferruginous; tergum a little darker; the connexivum faintly clouded with fuscous, and with a fuscous spot at the base of the segments adjoining the incisures. ♀

Length, 11 millimeters. Width of pronotum, 3¼ millimeters.

Inhabits Vancouver's Island.

A single female was kindly given to me by Mr. W. V. Andrews.

8. *A. inornatus.* New sp.

Dull fuscous; outline similar to *A. acutus*, Say. Differs from that species in being destitute of ochreous spots; the head and antennæ agree with it, except in the absence of the two rounded prominences of the cranium, which are in this replaced by linear protuberances; the postero-lateral margins of the pronotum narrowed obliquely posteriorly; the antero-lateral margins are arcuated, and armed with three or four large teeth, and with numerous irregular minute teeth. Rostrum barely reaching beyond the incisure between the pro- and meso-sternum,

Length, 9 to 10 millimeters. Width of pronotum, $2\frac{3}{4}$ to $3\frac{1}{2}$ millimeters.

Inhabits Nebraska, British Columbia, Wisconsin, Illinois, Pennsylvania; and in Maryland quite rare.

In one female, the incisures of the connexivum were a little cinereous, and the disks of the segments showed a faint cinereous spot.

9. *A. fuscomaculatus.*

Aradus fuscomaculatus, Stål, Eugenies Resa, 260, No. 210.

Inhabits California, near San Francisco.

This species seems to be similar to *A. ornatus*, Say. Only a few fragments of what I believe to belong to it have thus far been available to me for examination, and I desire to call particular attention to it, that it may not continue to be overlooked by western entomologists.

At least five other species of the genus *Aradus*, from California, have been examined by me; but all the specimens were too imperfect for accurate description.

BRACHYRHYNCHUS, Lap.

1. *B. granulatus.*

Aradus granulatus, Say, Heteropt. New Harmony, 30, No. 7; Complete Writings, i, p. 353.
Dysodius parvulus, H.-Schf., Wanz. Ins. ix, 139, fig. 956.

Inhabits Texas, Cuba, Florida, Maryland, and Missouri.

2. *B. lobatus.*

Aradus lobatus, Say, Heteropt. New Harmony, 30, No. 8; Complete Writings, i, 354.

Inhabits Texas, Illinois, Michigan, Canada, Pennslyvania, and one specimen from Maryland.

3. *B. mœstus.*

Mezira mœsta, Stål, Hemipt. Mex. Stettin. En. Zeit. xxiii, 438.

Inhabits California, Arizona, and Mexico.

Perhaps this will prove to be the same as *B. americanus*, Spinola, from Chili. The differences between them are only such as occur in varieties of other species.

4. *B. simplex.* New sp.

Dark brunneous; minutely and densely granulated. Head a little widened at tip; the lateral lobes a little longer than the tylus; the lateral edges a little serrate-granulate, and longitudinally grooved; the tylus cylindrically raised above the plane of the cheeks, tinged with rufous; processes of the antennal base short, acute at tip, divaricating; antennæ short, robust, the third joint a very little longer than the sec-

ond, the rest subequal in length; under side of head coarsely granulated; rostrum ochreous-yellow. Pronotum trapezoidal; the lateral margins oblique, not distinctly emarginated; the anterior angles rounded, scarcely prominent; the posterior margin very feebly sinuated; the surface remotely and irregularly granulated. Pleural pieces and prosternum coarsely granulated; meso- and meta-sternum minutely rastrated and granulated. Femora roughly granulated, incrassated in the middle; tibiæ minutely granulated, coxæ, trochanters, base of femora, apex of tibiæ, and tarsi ocher-yellow. Base of membrane with a whitish cunous-mark, behind which is a brown spot. Venter granulated on the connexivum, minutely rastrated, and obsoletely granulated on the disk; superior edge of the connexivum tinged with rufous; genital segment of the male bluntly rounded. ♂ ♀.

Length 4½ to 6½ millimeters. Width of pronotum 1¾ to 2¼ millimeters.

Inhabits Texas, Indian Territory, Cuba, Missouri, Florida, New England, Pennsylvania, Illinois; and Maryland, beneath the bark of oak-trees, in February and March.

It differs from *B. granulatus*, Say, in not having the genital segment of the male long and obliquely rounded, but short and blunt, and in the third antennal joint being scarcely longer than the second, &c.

Family PHYMATIDÆ.

Phymata, Lat.

P. erosa.

Cimex erosus, Linn., Syst. Nat. ed. 12, ii, 718, No. 19.
Cimex scorpio, De Geer, Mémoires, iii, 350, pl. 35, fig. 13.
Syrtis erosa, Fab., Syst. Rhyng. 121, No. 2.
Acanthia erosa, Wolff, Icon. Cim. 89, pl. 9, fig. 83.
Phymata erosa, Amyot et Serv., Hemipt. 290, No. 2.

Inhabits the greater part of North America, including the West Indies, Mexico, and Nicaragua. It seems to be not less common on the Pacific coast than in the Atlantic region.

In Maryland, it is very useful in destroying caterpillars and other vegetable-feeding insects; but is not very discriminating in its tastes, and would as soon seize the useful honey-bee as the pernicious saw-fly. It lurks about in the thick foliage of the gardens, and, concealed in the axil of a leaf or stem, it grasps suddenly with its fore claws the insect which may get near it, and then, thrusting the stout beak into the body of its victim, proceeds leisurely to withdraw its life-juices.

Macrocephalus, Swed.

1. *M. prehensilis.*

Syrtis prehensilis, Fab., Syst. Rhyng. 123, No. 8.
Macrocephalus prehensilis, Amyot et Serv., Hemipt. 293, No. 2.

Inhabits Texas, Indian Territory, Mexico, and the Southern States generally. Its most northern limit at present known is the State of Tennessee.

2. *M. cimicoides.*

Macrocephalus cimicoides, Swederus, Nova Acta Holm. 1787, 3, tab. 8, fig. 1.
Syrtis manicatus, Fab., Syst. Rhyng. 123, No. 7; Burm., Handb. ii, 252; Wolff, Icon. Cim. 167, fig. 163; H.-Schf., Wanz. Ins. viii, 107, fig. 878.

Inhabits Texas and the Southern States; but will no doubt be found in Arizona, New Mexico, &c.

Family NABIDÆ.

Pagasa, Stål.

P. pallipes.

Pagasa pallipes, Stål, Enumeratio Hemipt. iii, 108, No. 3.

Inhabits Texas, Kansas, &c.

As this species has been commonly found in company with *Coriscus subcoleoptratus*, we may expect to find it in Colorado and Dakota.

Metatropiphorus, Reuter.

M. Belfragei.

Metatropiphorus Belfragei, Reuter, Öfvers. Vetens. Akad. Forhandl. 1872, 91, No. 1; Stål, Enumeratio Hemipt. iii, 111.

Inhabits Texas and the Southern States.

Coriscus, Schrank (1801).

(*Nabis*, Lat. 1807.)

1. *C. subcoleoptratus.*

Nabicula subcoleoptratus, Kirby, Fauna Bor.-Amer. iv, 282.
Nabis subcoleoptratus, Reuter, Öfvers. Veterns. Akad. Forhandl. 1872, 81, No. 1.
Coriscus subcoleoptratus, Stål, Enumeratio Hemipt. iii, 112, No. 1.
Nabis canadensis, Provancher, Canad. Nat. 1869.

Inhabits Colorado, Dakota, Kansas, Nebraska, Canada, New England, Texas, &c.

2. *C. crassipes.*

Nabis crassipes, Reuter, l. c. 29, 6, p. 83, No. 5.

Inhabits Mexico, Texas, &c.

3. *C. sericans.*

Nabis sericans, Reuter, l. c. 29, 6, p. 83, No. 6.

Inhabits Texas.

4. *C. inscriptus.*

Reduviolus inscriptus, Kirby, Fauna Bor.-Amer. iv, 280, 1, pl. 6, fig. 7.

Inhabits British America, Maine, and Dakota.

5. *C. ferus.*

Cimex ferus, Linn., Fauna Suecicæ, 256, No. 962.
Nabis ferus, Fieb., Europ. Hemipt. 161, No. 9.

Inhabits California, Nebraska, Colorado, New England, the Atlantic region generally, including Maryland and Western North Carolina. In Europe, it occurs throughout most of the northern and central countries, and is not unknown in France, Italy, &c.

6. *C. Kalmii.*

Nabis Kalmii, Reuter, l. c. 29, 6, p. 91, No. 24.

Inhabits Wisconsin, Nebraska, &c.

7. *C. punctipes.*

Nabis punctipes, Reuter, l. c. 29, 6, p. 89, No. 20.

Inhabits Wisconsin, Nebraska, New Jersey, &c.

8. *C. nigriventris.*

Nabis nigriventris, Stål, Stettin. Ent. Zeit. xiii, 458.

Inhabits Mexico and Texas.

Superfamily REDUVIOIDEA.

Rostrum free, curved, thick, and short. Antennæ many-jointed, 4–13, long and geniculate. Fore tibiæ expanded at tip. Hemelytra thin, with very large and long areoles; the membrane very large, and continued on the inner side of the corium.

Subfamily REDUVIINA.

Sinea, Amyot et Serv.

1. *S. diadema.*

Reduvius diadema, Fab., Genera Ins. 302; Ent. Syst. iv, 206, No. 46.
Cimex multispinosus, De Geer, Mém. iii, 348, No. 23, pl. 35, fig. 11.
Cimex hispidus, Thunb., Nov. Ins. Spec. ii, 33.
Cimex setosus, Gmelin, Syst. Nat. i, pt. 4, 2144, No. 250.
Cimex diadema, Gmelin, Syst. Nat. i, pt. 4, 2196, No. 550.
Zelus diadema, Fab., Syst. Rhyng. 286, No. 18.
Reduvius raptatorius, Say, Amer. Ent. ii, pl. 31; Complete Writings, i, 72, pl. 31; Journ. Acad. Phila. iv, 327, No. 1.
Sinea multispinosa, Amyot et Serv., Hemipt. 375, No. 1.
Irantha hispida, Stål, Öfv. Vetensk. Akad. Forhandl. 1866, 264, No. 3.

Inhabits Texas, Nebraska, Colorado, Mexico, Indian Territory, and from Canada to Florida in the Atlantic region.

2. *S. coronata.*

Sinea coronata, Stål, Stettin. Ent. Zeit. xxiii, 444, No. 283.

Inhabits Mexico and California.

3 *S. raptoria.*

Sinea raptoria, Stål, l. c. xxiii, 444, No. 285.

Inhabits Texas, Mexico, and California.

Acholla, Stål.

1. *A. multispinosa.*

Cimex muiltispinosus, De Geer, Mém. iii, 348, p. 23, pl. 35, fig. 10.
Reduvius sexspinosus, Wolff, Icones Cimicum, iii, 124, No. 118, fig. 118.
Harpactor subarmatus, H.-Schf., Wanz. Ins. viii, 83, fig. 852.
Acholla sexspinosa, Stål, Stettin. Ent. Zeit. xxiii, 445 (note).

Inhabits Nebraska, Wisconsin, Illinois, New England, New York, &c.

2. *A. tabida.*

Ascra tabida, Stål, Stettin. Ent. Zeit. xxiii, 446, No. 287.
Acholla tabida, Stål, Enumeratio Hemipt. ii, 72, No. 3.

Inhabits Mexico and California.

PRIONOTUS, Lap.

P. cristatus.

Cimex cristatus, Linn., Cent. Ins. Rar. 16, No. 42; Amœn. Acad. vi, 399, No. 42; Syst. Nat. ed. 12 (1767), i, pt. 2, 723, No. 62.
Reduvius novenarius, Say, Amer. Ent. i, pl. 31, No. 2; Complete Writings, i, 71, pl. 31; Heteropt. New Harmony, 33 (reference under *Nabis*).
Arilus denticulatus, Westw., in Drury's Illustr. new ed. ii, 73.

Inhabits Southern States, Texas, Indian Territory, and Atlantic region south of New York.

One specimen from Mexico, not differing essentially from the common type. In Maryland, it dwells upon the small pine-trees, and makes havoc with the caterpillars and other insects which come within its reach.

ATRACHELUS, Amyot et Serv.

A. cinereus.

Reduvius cinereus, Fab., Ent. Syst. suppl. 545, 48–49.
Zelus cinereus, Fab., Syst. Rhyng. 287, No. 24.
Atrachelus heterogeneus, Amyot et Serv., Hémipt. 374, 1, pl. 7, fig. 4.

Inhabits the Southern States, Texas, and Mexico.

FITCHIA, Stål.

1. *F. nigro-vittata.*

Fitchia aptera, Stål, Öfvers. Vetensk. Akad. Forhandl. 1859, 371, No. 1.
Fitchia nigro-vittata, Stål, Öfvers. Vetensk. Akad. Forhandl. 1866, 296, No. 1.

Inhabits Texas, Kansas, Indian Territory, and Colorado.

2. *F. spinosula.*

Fitchia spinosula, Stål, Enumeratio Hémipt. ii, 79, No. 2.

Inhabits Texas, Colorado, &c.

REPIPTA, Stål.

R. taurus.

Zelus taurus, Fab., Syst. Rhyng. 291, No. 39.
Zelus lineatus, Amyot et Serv., Hémipt. 373, No. 2.
Repipta taurus, Stål, Stettin. Ent. Zeit. xxiii, 446, No. 291.

Inhabits Texas, Mexico, Florida, &c.

ZELUS, Fab.

1. *Z. bilobus.*

Zelus bilobus, Say, New Sp. Ins. of Louisiana, 12; Complete Writings, i, 306.

Inhabits Louisiana, Texas, and Mexico.

2. *Z. cervicalis.*

Zelus cervicalis, Stål, Enumeratio Hémipt. ii, 90, No. 15.

Inhabits Texas, California, Mexico, and Florida.

DIPLODUS, Stål.

1. *D. luridus.*

Diplodus luridus, Stål, Stettin. Ent. Zeit. xxiii, 452 (foot-note).

Inhabits the Atlantic region, and extends westward into Texas and Colorado.

2 *D. Renardii.*

Zelus Renardii, Kolenati, Meletemata Entom. 1857, vi, 42, tab. 3, fig. 2.
Diplodus Renardii, Stål, Enumeratio Hemipt. ii, 91, No. 36.

Inhabits California.

PINDUS, Stål.

P. socius.

Pindus socius, Uhler, in Hayden's Survey of Montana, 420.

Inhabits near Snake River, Idaho, and Dakota, Kansas, and Arizona.

MILYAS, Stål.

1. *M. cinctus.*

Reduvius cinctus, Fab., Gen. Ins., 302, Nos. 5–6; Ent. Syst. iv, 199, Nos. 20.
Cimex præcinctus, Gmelin, Syst. Nat. i, pt. 4, 2198, No. 565.
Harpactor cinctus, H.-Schf., Wanz. Ins. viii, 83, fig. 853.
Milyas cinctus, Stål, Hemipt. Fabriciana, i, 106, No. 1.

Inhabits the Atlantic region from Massachusetts to Georgia, and westward into Texas and the Indian Territory. One specimen from Cheyenne.

2. *M. zebra.*

Milyas zebra, Stål, Stettin. Ent. Zeit, xxiii, 448, No. 299.

Inhabits California, Lower California, and Mexico. Closely related to the preceding species, but differing from it in being darker-colored, more hairy, and with four whitish rings on the first joint of the antennæ.

SUBFAMILY APIOMERINA.

APIOMERUS, Hahn.

1. *A. spissipes.*

Reduvius spissipes, Say, Journ. Acad. Phila. iv, 199, No. 20; Amer. Ent. ii, pl. 31, fig. 3.
Apiomerus spissipes, Stål, Enumeratio Hemipt. ii, 98, No. 15.

Inhabits Texas, Colorado, Mexico, and Arizona.

2. *A. crassipes.*

Reduvius crassipes, Fab., Syst. Rhyng. 273, No. 35; Say, Amer. Ent. ii, pl. 31, fig. 4.
Reduvius linitaris, Say, Heteropt. New Harmony, 31, No. 1.
Herega rubrolimbata, Amyot et Serv., Hémipt. 354, No. 1.
Apiomerus crassipes, Stål, Hemipt. Fabr. i, 117, No. 3.

Inhabits Texas, Kansas, Nebraska, the Atlantic region, and Canada.

3. *A. flaviventris.*

Apiomerus flaviventris, H.-Schf., Wanz. Ins. viii, 77, fig. 847.
Apiomerus flaviventris, Stål, Enumeratio Hemipt. ii, 98, No. 16.

Inhabits Arizona, California, New Mexico, Texas.

4. *A. ventralis.*

Reduvius ventralis, Say, Heteropt. New Harmony, 31, No. 2.

Inhabits Missouri, Nebraska, region of the Saskatchewan River. Collected by Robert Kennicott.

5. *A. repletus.* New sp.

Form of *A. hirtipes*, Hahn. Black, robust, densely invested with brownish-black, erect pubescence. Head and surface of the pronotum polished; eyes brown; antennæ brownish-piceous, excepting the basal joint, which is deep black. Lateral margins and humeral angles of the pronotum densely beset with stiff bristles; the anterior lobe longitudinally, deeply, and widely scooped out, each side with high oblique ridges, defined by deep furrows. Hemelytra velvety; the dense pile short, black. On the disk of each corium is a crimson-red, large, triangular spot. Abdomen with dense, erect, moderately short pile; the connexivum, both above and below, almost bald, polished, only the base pubescent, the incisures pale yellow; anal lobes large, lamellate, circular, pale yellow, the margin thickened.

Length, 21 millimeters. Width of pronotum, 7 millimeters.

Inhabits California.

SUBFAMILY HAMMATOCERINA.

HAMMATOCERUS, Burm.

1. *H. purcis.*

Cimex purcis, Drury, Illustr. iii, 63, tab. 45, fig. 4.
Hammatocerus nycthemerus, Burm., Handb. ii, pt. 1, 236, No. 1.
Hammatocerus furcis, Blanch., Hist. des Ins. iii, 105, No. 1; Amyot et Serv., Hémipt, 346, No. 1.

Inhabits Virginia and the region south and southwest, through Texas, into Mexico, and Indian Territory. This species varies much in the extent of the red color of the femora; and no doubt the *H. luctuosus*, Stål, of Mexico, will yet prove to be only a variety of it. Dr. Edward Palmer collected one specimen in the vicinity of the old Fort Cobb.

SUBFAMILY ECTRICHODIINA.

ECTRICHODIA, St. Farg. & Serv.

1. *E. cruciata.*

Petalocheirus cruciatus, Say, Heteropt. New Harmony, 33, No. 1; Complete Writings, i, 358, 1.
Ectrichodia cruciata, Stål, Enumeratio Hemipt. ii, 103, No. 4.
Ectrychotes bicolor, H.-Schf., Wanz. Ins. viii, 53, fig. 822.
Rhiginia crudelis, Stål, Stettin. Ent. Zeit. xxiii, 455, No. 319.

Inhabits Pennsylvania, Maryland, and the region south and west into Texas, Mexico, and New Mexico.

2. *E. cinctiventris.*

Ectrichodia cinctiventris, Stål, Enumeratio Hemipt. ii, 103, No. 5.

Inhabits Texas, New Mexico, and Mexico.

It is the largest species thus far detected in the United States; but it varies extraordinarily in size and somewhat also in color.

Dr. Lincecum met with it in Washington County, Texas, and I have received it from several other parts of this State.

SUBFAMILY PIRATINA.

SIRTHENEA, Spin.

S. carinata.

Reduvius carinatus, Fab., Ent. Syst. suppl. 545, Nos. 36–37; Coquebert, Illust. i, 42, pl. 10, fig. 15.
Peirates carinatus, Serv., Ann. Sci. Nat. xxiii, 221, No. 10.
Rasahus carinatus, Amyot et Serv., Hist. Hémipt. 326, No. 1.
Sirthenea carinata, Stål, Hem. Fabr. i, 120, No. 2.

Inhabits California, Mexico, Texas, and the Southern States.

RASAHUS, Amyot & Serv.

1. *R. biguttatus.*

Petalochirus biguttatus, Say, Ins. of Louisiana, 13; Heteropt. New Harmony, 33, No. 2.
Pirates mutillarius, Guer., in Sagra's Hist. de Cuba, 410 (excluding the synonymy).

Inhabits Arizona, California, Mexico, Louisiana, Texas, Panama, Para, Cuba, and West Virginia.

This insect affords an excellent example of the changes which a species undergoes in being adjusted to the conditions which prevail in each comparatively small region of its habitat. There are small differences in the specimens from each locality, which enable us to link together the forms from these widely remote places. In general, the form from Cuba contrasts strongly with that from California both in color and structure.

At Para, it acquires more distinctly the blackish obscuration of the apical part of the femora; but there is a tendency to this observable in some of the specimens from near San Francisco. This same blackening of the femora is also seen in specimens of *Sirthenea carinata* from the basin of the Amazonas.

An intimate acquaintance with these and similar insects will, no doubt, add much to our knowledge of the origin and structure of the regions which they affect, and may give a clew to the place of their origin, and determine the reasons of their present distribution. A pressing need of the present time is a systematic and accurate survey of our still wild territories, including the proper preservation of large series of specimens from every kind of locality. This would clear away many of the difficulties which now obstruct the study of the present life-areas of the great West, and settle upon a secure basis our knowledge of the dependence of organisms upon the structure of the country they inhabit, and the extent and nature of their reactions upon the productions of that country.

MELANOLESTES, Stål.

1. *M. picipes.*

Pirates picipes, H.-Schf., Wanz. Ins. viii, 62, fig. 831.
Melanolestes picipes, Stål, Enumeratio Hemipt. ii, 107, No. 3
Reduvius pungens, LeConte, Proc. Acad. Phila. 1855, 404.

Inhabits California, Texas, Indian Territory, and the Atlantic region from Maine to Florida and Louisiana, and Para, Brazil.

2. *M. abdominalis.*

Pirates abdominalis, H.-Schf., Wanz. Ins. viii, 63, fig. 832.

Inhabits California, Mexico, and the Atlantic region; also, from old Fort Cobb, Indian Territory, by Dr. E. Palmer.

The evidence at present in my possession does not warrant the uniting of these two species. Both are quite common in Maryland, sometimes occurring under the same stone; but while I have seen the sexes united, I have never seen a male of the one caress or unite with a female of the other. The width and proportions of the head and pronotum and abdomen vary considerably in the specimens of both of these species, so that, in the absence of a long series of them, they might be made to constitute a number of species.

SUBFAMILY ACANTHASPIDINA.

MECCUS, Stål.

M. phyllosomus.

Conorhinus phyllosomus, Burm., Handb. ii, 1, 246, No. 3.
Meccus phyllosoma, Stål, Berlin. Ent. Zeit. iii, 105.

Inhabits California and Mexico.

A single specimen from near San Diego is deep black, highly polished on the surface of pronotum, and the only red present is upon the outer edge of the abdomen.

CONORHINUS, Lap.

1. *C. rubrofasciatus.*

Cimex rubrofasciatus, De Geer, Mém. iii, 349, pl. 35, fig. 12.
Reduvius gigas, Fab., Syst. Ent. 729, No. 1.
Cimex erythrozonias, Gmelin, Syst. Nat. i, pt. 4, 2181, No. 456.
Cimex gigas, Gmelin, *ib.* 2195, No. 544.
Conorhinus gigas, Burm., Handb. ii, pt. 1, 246, No. 1; Blanchard, Hist. des Insectes, iii, 108, No. 2.
Conorhinus rubrofasciatus, Amyot et Serv., Hémipt. 384, No. 1, pl. 8, fig. 2.
Conorhinus gigas, H.-Schf., Wanz. Ins. viii, 72, figs. 841, 842.
Conorhinus Stâlii, Signoret, Ann. Soc. Ent. France, 3d ser., viii, 967, No. 184.
Conorhinus rubrofasciatus, Stål, Berlin. Ent. Zeit. iii, 106, No. 1.

Inhabits California, Texas, Kansas, Mexico, Brazil, Asia, and Africa.

The specimens from California and Mexico have the anterior angles of the pronotum less produced than in the African and South American. Occasionally a specimen obtained in California is almost uniformly deep or rusty black. Whether this is a feature of all the specimens from a particular locality, or only a peculiarity of sporadic examples, has not yet been determined.

2. *C. variegatus.*

Cimex variegatus, Drury, Illust. i, 109, pl. 45, fig. 5.
Cimex claviger, Gmelin, Syst. Nat. i, pt. 4, 2179, No. 441.
Conorhinus lecticularius, Stål, Berlin. Ent. Zeit. iii, 107, No. 2; Hemipt. Fabr. i, 124, No. 3.

Inhabits Texas, Indian Territory (Dr. Palmer), California, Georgia, Louisiana, and Illinois.

3. *C. sanguisugus.*

Conorhinus sanguisuga, LeConte, Proc. Acad. Phila. vii, 404.
Conorhinus lateralis, Stål, Berlin. Ent. Zeit. iii, 107, No. 3.

Inhabits Virginia, Maryland, Ohio, Texas, Florida, Illinois, and Panama.

The extended geographical range of this blood-thirsty tenant of the beds in houses is noteworthy, and no doubt it has, like its congener, *C. gigas*, been aided in its range by human agency.

4. *C. Gerstæckeri.*

Conorhinus Gerstæckeri, Stål, Berlin. Ent. Zeit. iii, 111, No. 9; Hemipt. Fabr., i, 124, No. 8.

Inhabits Texas.

FAMILY STENOPODIDÆ.

CENTROMELUS, Fieb.

C. languidus.

Pnirontis languida, Stål, Öfvers. Vetensk. Akad. Forhandl. 1859, 382, No. 2.
Centromelus languida, Stål, Enumeratio Hemipt. ii, 120, No. 1.

Inhabits Texas, Florida, South Carolina, and Brazil.

PYGOLAMPIS, Germ.

1. *P. pectoralis.*

Reduvius pectoralis, Say, Ins. of Louisiana, 11; Complete Writings, i, 306.
Pygolampis fuscipennis, Stål, Öfvers. Akad. 1859, 379, No. 4.
Pygolampis pectoralis, Uhler, Proc. Boston Soc. Nat. Hist. 1871, 15.

Inhabits Texas, California, Louisiana, Maryland, Florida, Massachusetts, Cuba, and New York.

2. *P. sericea.*

Pygolampis sericea, Stål, Öfvers. Vetensk. Akad. Forhandl. 1859, 380, No. 5.

Inhabits Texas, Maryland, Pennsylvania, and South Carolina.

GNATHOBLEDA, Stål.

G. tumidula.

Gnathobleda tumidula, Stål, Enumeratio Hemipt. ii, 121, No. 3.

Inhabits Texas, Cuba, &c.

STENOPODA, Lap.

S. culiciformis.

Cimex culiciformis, Fab., Syst. Ent. 728, No. 162; Species Ins. ii, 376, No. 231.
Gerris culiciformis, Fab., Ent. Syst. iv, 189, No. 7.
Stenopoda cinerea, Lap., Ess. 26, pl. 52, fig. 2.
Stenopoda culiciformis, Stål, Hemipt. Fabr., i, 129, No. 1.

Inhabits Texas, Florida, Georgia, Alabama, Cuba, Mexico, Indian Territory, Panama, and Arkansas.

SPILALONIUS, Stål.

S. geniculatus.

Spilalonius geniculatus, Stål, Enumeratio Hemipt. ii, 123, 1.

Inhabits Texas.

NARVESUS, Stål.

N. carolinensis.

Narvesus carolinensis, Stål, Öfvers. Akad. Forhandl. 1859, 385, 1; Enumeratio Hemipt., 124.

Inhabits Texas, Missouri, South Carolina, and Cuba.

FAMILY EMESIDÆ.

EMESA, Fab.

E. longipes.

Cimex longipes, De Geer, Mém. iii, 352, No. 326, pl. 35, figs. 16, 17.
Ploiaria brevipennis, Say, Amer. Ent. iii, pl. 47; Complete Writings, i, 106.
Emesa filum, G. R. Gray, Griffith's Animal Kingdom, xv, 244, pl. 97, fig. 3.
Emesa pia, Amyot et Serv., Hémipt. 394, No. 2; H.-Schf., Wanz. Ins. ix, 114, fig. 937; Dohrn, Linnæa Ent. xiv, 231.
Emesa longipes, Dohrn, Linnæa Ent. xiv, 221, No. 4; Uhler, Proc. Boston Soc. Nat. Hist. 1871, 15.

Inhabits Texas, Pennsylvania, New York, Indiana, Illinois, and Connecticut.

This species has, within a few years, spread into the region adjoining Baltimore, living in the branches of small pine-trees and in out-houses and barns.

Professor Verrill kindly permitted me to examine a large series of specimens of both sexes belonging to the museum of Yale College, collected in that vicinity. There are small differences in the punctation and rugosities of the surface, and some in the width and distinctness of the white bands upon the legs. Older specimens are often suffused with red, a sort of ripening toward the autumn, which we have observed to be common in *Euschistus*, *Coreus*, *Euthoctha*, &c.

Family SALDIDÆ.

Salda, Fab.

1. *S. Signoretii.*

Salda Signoretii, Guer., in Sagra's Hist. de Cuba, 401, pl. 13, fig. 10.

Inhabits Cuba, Mexico, sea-coast of Texas, of Maryland, and of Massachusetts on the southern side of Cape Cod. It does not occur on the sea-shore north of Cape Ann, as far as I have been able to discover, although I made diligent search there and on and near Old Orchard Beach, on the coast of Maine. Its present meridional range is known to be from Cape Cod to the sand-beaches near Havana, in the island of Cuba. It is interesting to record that this pale-colored species inhabits the white, sandy spots near the beaches, while the *S. ligata* lives on the blackish gneiss bowlders of our streams, and the *S. interstitialis* and other black species select the black, sandy loam adjacent to water for their dwelling-places.

On Chelsea Beach, or, rather, on the marshes there, where there are spots of earth and soil of black, grayish-brown, and almost white, the colors of the *Saldæ* found at rest are mainly black, pale brown, or largely white, according generally with the color of the soil.

A form of *Salda* closely allied to *S. ligata* is found in great numbers on the black mud of the salt-marshes in Eastern Massachusetts, but while adhering to the general pattern of ornamentation of its group, the black color prevails and the white spots are reduced to a minimum. Also, in these places where the conditions of soil and surroundings are so uniform and persistent, there is scarcely any variation observable in the individuals of this species. An examination of many hundreds collected over a surface of a mile or more in extent yielded but very slight variations in the shape, size, or arrangement of their markings.

2. *S. interstitialis.*

Acanthia interstitialis, Say, Journ. Acad. Phila. iv, 324, No. 1.

Inhabits Texas, New Mexico, California, Colorado, Nebraska, Missouri, Canada, British Columbia, Illinois, Michigan, Maine to Florida, Cuba, and Hayti.

3. *S. lugubris.*

Acanthia lugubris, Say, Heteropt. New Harmony, 34, No. 3.

Inhabits New Mexico, Texas, Missouri, Wisconsin, Michigan, Illinois, Maine, Canada, Massachusetts, Rhode Island, British America near Bear Lake; Saskatchewan, New York, Pennsylvania. Maryland, in September, on a black, marshy spot, overgrown with cresses, near a stream of clear water.

4. *S. ligata.*

Acanthia ligata, Say, Heteropt. New Harmony, 34, No. 1.

Inhabits Nebraska, Minnesota, Illinois, Indiana; near Quebec, Abbé

Provancher; Maine, Andover, Cambridge, Waltham, in Massachusetts, F. G. Sanborn; Maryland, May 28 until September 20, P. R. Uhler; North Carolina, James B. Bean.

5. *S. humilis.*

Acanthia humilis, Say, Heteropt. New Harmony, 35, No. 4.

Inhabits Texas, Florida, Maryland (May and June), Pennsylvania, Massachusetts, Maine, Rhode Island, California, and Illinois.

6. *S. coriacea.*

Salda coriacea, Uhler, in Hayden's Survey of Montana, 421, No. 2.

Inhabits Utah, British America, Illinois, and New England.

7. *S. luctuosa.*

Salda luctuosa, Stål, Freg, Eugenies Resa, 263, No. 123.
Acanthia luctuosa, Stål, Enumeratio. Hemipt. iii, 149, No. 8.

Inhabits California.

8. *S. saltatoria.*

Cimex saltatorius, Linn., Fauna Suec. 964; Syst. Nat. (1767), 500, No. 93.
Salda saltatoria, Fab., Syst. Rhyng. 239 H. Schf., Wanz, Ins. ii, 83, fig. 167; Wolff, Icon. Cim. 77, tab. 8, fig. 74.

Inhabits Nebraska, Illinois, Northern New York, Maine, Canada, British Columbia, and Europe.

FAMILY VELIIDÆ.

MACROVELIA, Uhler.

M. Hornii.

Macrovelia Hornii, Uhler, in Hayden's Survey of Montana, 422.

Inhabits California, Arizona, and New Mexico.

VELIA, Latr.

V. armata.

Velia armata, Burm., Handb. ii, pt. 1, 212, No. 4.

Inhabits Texas and Mexico.

Only two specimens, females, have thus far been brought to my notice. They were collected near Waco by G. W. Belfrage.

RHAGOVELIA, Mayr.

R. collaris.

Velia collaris, Burm., Handb. ii, pt. 1, 212, No. 5.
Rhagovelia collaris, Mayr, Novara Reise, Hemipt. 180.
Velia Fieberi, Guer., in Sagra's Hist. de Cuba, Ins. 416.

Inhabits the Atlantic region, Florida, Texas, Mexico, Cuba, and Hayti.

Dr. Burmeister's types came from near Port au Prince. One hundred and fifty miles west of that place I found them quite abundant upon a quiet land-locked place in the Grand Anse River, where they were very abundant, and where they occurred both winged and unwinged.

FAMILY HYGROMETRIDÆ.

HYGROTRECHUS, Stål.

1. *H. remigis.*

Gerris remigis, Say, Heteropt. New Harmony, 35, No. 1.

Inhabits Texas, Arizona, Colorado, and the Atlantic region.

Lieutenant Carpenter collected specimens in the mountains of Colorado in July.

2. *H. robustus.*

Hygrotrechus robustus, Uhler, in Packard's Insects Inhabiting Salt-Water, Silliman's Journal, 1871, i, 105.

Inhabits Clear Lake, California.

It is of much interest to know whether the pale colors of this and of the other *Hemiptera* of salt-lakes are caused by the presence of alkaline substances in the waters; or, have only immature specimens been met with by those who have collected there?

LIMNOPORUS, Stål.

L. rufoscutellatus.

Limnoporus rufoscutellatus, Lat., Genera et Sp. Ins. iii, 134, 2.

Mountains of Colorado, July, Lieutenant Carpenter.

From the numerous specimens which I have examined, this species seems to be common in Colorado. In that region, it attains to full proportions, and puts on its clearest russet-brown coat. It is quite common on still waters in early summer in Eastern Massachusetts. But near Baltimore I have met with it only twice—in early spring, and then only in the most dwarfed specimens that I have ever seen. The wide distribution of these insects may be brought about by the agency of birds and reptiles. The cranes and wild ducks frequent occasionally the pools in the fresh-water marshes where these insects live, and on the eastern side of our continent it is within the limits of the range of these birds that this species has been found most frequently. Our toads and frogs cram themselves with insects of the water and marsh, and to the rough backs and flanks of these creatures the ova and young of our water-skimmers might readily adhere, and be transported to a considerable distance from their original habitat.

FAMILY PELOGONIDÆ.

PELOGONUS, Latr.

P. americanus. New sp.

Broadly oval, slaty-blackish, opaque, the pronotum a little narrower than the abdomen. Head polished, minutely punctured in part, invested with very sparse silvery prostrate pubescence, which is more dense beneath; rostrum reaching the end of the second ventral segment, blackish-piceous on the swelled base, the remainder pale rufo-testaceous; antennæ pale piceous; face obsoletely carinate, each side with a series of oblique wrinkles, its anterior and lateral boundaries carinated. Pronotum transverse, velvety blackish, with a few short wavy lines and some dots of bluish lead-color, and remotely golden pubescent; the lateral margins slightly oblique, only a little narrowing anteriorly, and rounding against the anterior angles, which are distinct and almost

acute; touching the margin a little way back, each side, is a small triangular yellow spot; posterior angles subrectangular; the posterior margin waved each side of the center, where it is also a little yellowish. Pectoral surface dull black, with very sparse sericeous scales exteriorly; the spots of the dorsal margin equally visible beneath; sternal margins piceous. Legs dull pale piceous-yellow. Hemelytra broad, widening posteriorly, velvety black, pubescent, sprinkled with golden pubescence, spotted and dotted with bluish lead-color; the costal margin yellow, and with five small yellow spots; membrane bluish lead-color, with the nervures black. Venter piceous black, densely, minutely sericeous pubescent, the edges of the segments and the tip of the last one a little reddish-ipceous. The connexivum is unspotted, and the surface of the tergum black, polished, with rufo-piceous edges to the segments.

Length, 5 millimeters. Width of pronotum, 2½ millimeters. Width across the hemelytra, scantily 3 millimeters.

Inhabits Texas, Illinois, Eastern Massachusetts, Pennsylvania, and Cuba. A specimen from near Dedham, Mass., collected near water, in April, was sent to me by F. G. Sanborn; also, an immature one from near a spring, in York County, Pennsylvania, was kindly given to me by Dr. F. E. Melsheimer.

The species has thus far been detected in but a very few places, and only by the most scrutinizing collectors. It occurs near water in places which are overgrown with marsh-plants. It may be at once known from the European one by being wider posteriorly than in front, and by the absence of the quadrate yellow spots from the connexivum.

A specimen from Cuba, obtained by Professor Poey, has the spots of the costal margin of the hemelytra almost obsolete; but it agrees with the United States form in all other respects.

The pattern of marking on the costal margin of the hemelytra is in close imitation of that commonly seen upon the connexivum of various Pentatomids, Scutellerids, and Coreids. It can serve no purpose in protecting the creature from its enemies, and does not belong to one sex more than to the other. Characters of this kind are usually acquired at the time of changing the last nymph-skin to become an imago.

Family GALGULIDÆ.

Galgulus, Latr.

1. *G. oculatus.*

Naucoris oculata, Fab., Syst. Rhyng. 111, No. 5.
Galgulus oculatus, Latr., Hist. Nat. Ins. xii, 285, pl. 95, fig. 9; Fab., Ent. Syst. suppl. 525, Nos. 3–4.
Galgulus bufo, H.-Schf., Wanz. Ins. v, 88, fig. 536.

Inhabits Texas, Arizona, Indian Territory, Missouri, Illinois, Michigan, and the Atlantic region generally. In New Jersey, and in some sections of Maryland, there are two broods annually, the one in May and the other in August.

Prof. Cyrus Thomas observed this species leaping to seize (as he supposed) *Xya terminalis*, in the State of Illinois.

2. *G. variegatus.*

Galgulus variegatus, Guer., Iconog. Règne Animal, 352.
Galgulus pulcher, Stål, Öfv. Vetensk. Akad. Förhandl. 1854, 239, No. 1.

Inhabits Southern Texas, Mexico, California, Florida, Cuba, Georgia, South Carolina, and Maryland. In the last-mentioned State, a single

specimen occasionally occurred in the flocks of these creatures which affected the marshy and damp margins of some of our streams; but recently they have failed to appear, and only the *G. oculatus* remains in smaller numbers.

MONONYX, Lap.

M. badius.

Mononyx badius, H.-Schf., Wanz. Ins. ix, 27, fig. 894.
Mononyx obscura, Stål, Öfv. Vetensk. Akad. Förhandl. 1854, 239, No. 3.

Inhabits San Diego, California, Mexico, Panama, &c.
It varies considerably in the depth and clearness of the brown color.

FAMILY NAUCORIDÆ.

NAUCORIS, Geoff.

N. Poeyi.

Naucoris Poeyi, Guer. (*nec* Amyot), Icones Règne Animal, 352, pl. 57, fig. 5; La Sagra's Hist. Île de Cuba, 175.

Inhabits Texas, Mexico, Cuba, Rio in Brazil, Illinois, Michigan, and the Atlantic region from Cape Cod to Southern Florida. *Ambrysus Poeyi* from Mexico is quite different from this.

AMBRYSUS, Stål.

1. *A. Signoreti.*

Ambrysus Signoreti, Stål, Hemipt. Mex. Stettiner Ent. Zeit. xxiii, 460, No. 336.
Naucoris Poeyi, Amyot et Serv., Hémipt. 434, pl. 8, fig. 5 (*nec* Guerin).

Inhabits California, Mexico, Arizona, and New Mexico.

2. *A. melanopterus.*

Ambrysus melanopterus, Stål, Hemipt. Mex. 460, No. 337.

Inhabits Mexico and Arizona.

FAMILY BELOSTOMIDÆ.

BELOSTOMA, auctor.

1. *B. americanum.*

Belostoma americanum, Leidy, Journ. Acad. Phila. new ser. i, 66.

Inhabits Texas, and the Atlantic region from Massachusetts toFlorida.

2. *B. annulipes.*

Belostoma annulipes, H.-Schf., Wanz. Ins. viii, 28, figs. 803, 804.

Inhabits Western United States, Mexico, Central America and Northern South America, Texas, and occurs more rarely in the Atlantic region.

BENACUS, Stål.

B. griseus.

Belostoma grisea, Say, Heteropt. New Harmony, 37, No. 2.
Belostoma haldemanum, Leidy, Journ. Acad. Phila. new ser. i, 66 (plate).
Benacus haldemanus, Stål, Öfv. Vetensk. Akad. Förhandl. 1861, 205.
Belostoma angustatum, Guer., La Sagra's Hist. de Cuba, 420.

Inhabits Texas, Cuba, and the Eastern United States from Massachusetts to Florida inclusive.

ZAITHA, Amyot & Serv.

1. *Z. fluminea.*

Belostoma fluminea, Say, Heteropt. New Harmony, 37, No. 1.
Perthostoma aurantiacum, Leidy, Journ. Acad. Phila. new ser. i, 60.

Inhabits almost all the region east of the great plains, Texas, and Louisiana.

2. *Z. fusciventris.*

Zaitha fusciventris, Dufour, Ann. Soc. Ent. France, 4th ser. iii, 389, No. 11.

Inhabits Arizona, California, and Mexico.

SERPHUS, Stål.

1. *S. dilatatus.*

Belostoma dilatata, Say, Heteropt. New Harmony, p. 38, No. 3, 3.
Serphus dilatatus, Stål, Hemipt. Mex. Stettiner Ent. Zeit. xxiii, 462.
Zaitha Stollii, H.-Schf., Wanz. Ins. ix, 35, fig. 898.

Inhabits California, Arizona, and Mexico.

PEDINOCORIS, Mayr.

1. *P. brachonyx.*

Pedinocoris brachonyx, Mayr, Verhandl. Wien. zool.-botan. Gesells. 1863, 351, tab. 11, fig. 5.
Zaitha indentata, Hald., Proc. Acad. Phila. vi. p. 364.

Inhabits California.

2. *P. macronyx.*

Pedinocoris macronyx, Mayr, Verhandl. Wien. zool.-botan. Gesells. 1863, 350, tab. 11, figs. 1–4.

Inhabits California.

ABEDUS, Stål.

A. ovatus.

Abedus ovatus, Stål, Stettiner Ent. Zeit. xxiii, 461.
Stenoscytus mexicanus, Mayr, Verhandl. Wien. zool.-botan. Gesells. 1863, 347, tab. xi., figs. 6–10.

Inhabits Arizona, Texas, Mexico, and Central America.

FAMILY NEPIDÆ.

RANATRA, Fab.

1. *R. fusca.*

Ranatra fusca, Beauv., Ins. Afr. et Amer. 235, pl. 20, fig. 1.
Ranatra nigra, H.-Schf., Wanz. Ins. ix, 32, tab. 290. fig. L.

Inhabits Texas, the Southern States, and the Atlantic region.

2. *R. quadridentata.*

Ranatra quadridentata, Stål, Öfv. Vetensk. Akad. Förhandl. 1861, 204.

Inhabits Texas, Mexico, California, Arizona, Illinois, and the Southern States.

NOTONECTIDÆ.

NOTONECTA, Linn.

N. insulata.

Notonecta insulata, Kirby, Fauna Bor.-Amer. iv, 285, No. 399
Notonecta rugosa, Fieb., Rhynchotographien, 52, No. 7.

Mountains of Colorado, July (Lieutenant Carpenter).

The immediate vicinity of Baltimore no longer admits this species, although it at one time inhabited the pools of spring-water, as well as the little basins themselves which the springs excavated in their outward flow. Now, the waters are polluted by the foulness of the drainage, while many of them have become obliterated by drying up. Still, at a distance of twenty miles or more from the city, here and there a basin of clear cold spring-water still remains, and in this a few specimens may be occasionally met with.

Our common species, the *N. undulate*, Say, on the contrary, inhabits the foulest pools. And in the dirty slush occasioned by the drainage of slaughter-houses, and in the slimy ponds attached to some of our brick-yards, it revels as if in full enjoyment of the filth.

CORISIDÆ.

CORIXA, Geoff.

1. *C. sutilis.* New sp.

Long and moderately narrow; dark brown, opaque, marked with testaceous. Head angular; face moderately broad, pale testaceous, with a range of golden bristles along the margins, inferiorly, of the fovea of the male, and at the apex of the epistoma is a dense tuft of similar, but longer, bristles. Outer margins of the fovea carinated, and the adjoining surface coarsely punctate; the fore part of cranium embrowned, and with three or four series of coarse shallow punctures each side; middle line elevated, tapering posteriorly, and terminating in an acute point on the angular tip of the occiput; posterior edges of the head carinately elevated. Pronotum short, broad-cordate, emarginate in front, rastrated, with twelve to fourteen closely-placed yellow lines, of which two or three on the middle are forked at the ends; medial line acutely, almost percurrently, carinate; lateral margins brown. Pleura dull black, the upper part of the pieces more or less broadly testaceous. Legs pale testaceous; palæ falcate, a little curved at tip, moderately narrow, tapering, acute, scarcely differing in the two sexes. Clavus and base of the corium finely rastrated, the apical part of the latter minutely shagreened, yellow lines of the former complete at base, sometimes a little forked at both ends; those farther back are broken into two ranges, and appear more or less angularly sigmoid; lines of the corium forming four or five longitudinal series of close, angularly sigmoid lines; those of the membrane longer, vermiculate. Tergum dull black, but the connexivum and posterior margin of the segments testaceous. Venter black at base, sometimes black as far as to the posterior part of the fourth segment. The ventral surface is usually less marked with black in the females than in the males.

Length to tip of hemelytra, 10 millimeters; width across the pronotum, 3 millimeters.

Collected in the mountains of Colorado, by Lieutenant Carpenter, July to September.

The very acutely angular occiput, with its carina and raised edges,

and the sharply-defined carina of the pronotum, will readily distinguish this species from its congeners.

At the extreme apex of the occiput is a minute notch to fit over and admit the carina of the pronotum.

2. *C. vulnerata.*

Corixa vulnerata, Uhler, Proc. Acad. Phila. 1861, 284.

Inhabits Montana, Oregon, and Northern Illinois. Common in many sections of the Northwestern Territories of the United States, and no doubt yet to be discovered in British Columbia and Canada.

3. *C. interrupta.*

Corixa interrupta, Say, Journ. Acad. Phila. iv, 328, No. 1.
Corisa interrupta, Fieb. Species Generis Corisa, 27, No. 28.

Inhabits California, Missouri, Illinois, New England, New York, Maryland, and Minnesota. Said by Fieber to be found also in Mexico and Brazil.

It presents some variation in the depth of color, and in the distinctness of the lines of the pronotum and hemelytra.

4. *C. decolor.*

Corixa decolor, Uhler, in Packard's Insects Inhabiting Salt-Water, Silliman's Journal, 1871, 106.

From Clear Lake, California; collected by Professor Torrey.

The soft and tender condition of the two specimens examined leaves a doubt of their being in fully-matured condition. It is important to have full series of these insects from the various kinds of lakes, ponds, and streams, particularly from the alkaline ones, so that something may be settled respecting the influence of such waters upon them.

5. *C. calva.*

Corixa calva, Say, Heteropt. New Harmony, 38, No. 1; Fieb., Generis Corisa, 19, No. 12.

Inhabits Pennsylvania, Massachusetts, Canada, Texas, and Alaska (*teste* Fieber).

6. *C. abdominalis.*

Corixa abdominalis, Say, Heteropt. New Harmony, 38, No. 2.
Corixa bimaculata, Guér., Iconographie Règne Animal, 353.

Inhabits Mexico, California, and Texas.

7. *C. præusta.*

Corixa præusta, Fieb., Species Generis Corisa, 28, No. 30, tab. i, 17, figs. 1-18.

Inhabits Sitka and Alaska.

8. *C. striata.*

Corixa striata, Kirby, Fauna Bor.-Amer. iv, 283, No. 1.
Notonecta striata, Linn., Fauna Suecicæ, 904.

Inhabits British America and Nebraska, and seems to extend around the world in the northern division of the north-temperate zone.

9. *C. fossarum.*

Corixa fossarum, Leach, Linn. Trans. xii, 17, No. 4; *idem*, Fieb., l. c., 32, No. 37.

Inhabits California and Northern Europe.