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NOTE ON THE SECONDARY ABDOMINAL LEGS IN THE MEGALOPYGIDÆ.

PLATE II, FIGS. 1–3.

By Harrison G. Dyar.

I have contended that the additional pairs of abdominal legs present in Megalopygidæ on abdominal segments 2 and 7 are secondary structures, leading up to the form shown in the Eucleidæ. Recently in watching the progression of a larva of *M. opercularis* on a smooth glass surface, I observed that the parts of the feet bearing crotchets were not used, but a small disk on the anterior side of each foot was applied to the glass in the same way as the membranous feet of segments 2 and 7. There is no disk on the last segment. Thus the Megalopygidæ have two distinct sets of abdominal feet, the normal ones, with crotchets, on segments 3 to 6 and 10 and the secondary membranous ones, functioning more as sucking disks, on segments 2 to 7. The larvæ are adapted to walk both on rough surfaces with their hooked feet, or on smooth ones with the membanous disks. The structures which I mention have been detected by Burmeister and accurately described. He says that segments 2 and 7 have "un coussin rond aplati, qui ressemble à la plante d'un pied;" on segments 3 to 6 "il y a un *second* coussin plus grand, qui ressemble, à une veritable patte membraneuse porvue d'une plante *sineuse* et d'une couronne de petits crochets cornés;" on segments 10 a normal foot "complètement conformée comme les quatres moyennes des six anneaux antérieurs mais *sans la petite plante accessoire* de celles-ci." I have italicized the important words. Fig. 1 shows the ventral aspect of the membranous foot of *M. opercularis* on abdominal segments 2 and 7; Fig. 2 the foot of segments 3 to 6 with the disk in front and the bent line of crotchets behind; Fig. 3 shows the normally formed foot of segment 10. I wish to emphasize this interpretation of these peculiar abdominal feet, as I believe that it shows very well the origin of the creeping disk of the Eucleidæ. *Me-*

galopyge differs from the Anthroceridæ and Pyromorphidæ only in the addition of the membranous pads to the ordinary feet. We have only to imagine the loss of the crochets and the extension of the pads till they touch each other, to give essentially the Eucleid structure.*

NOTE ON TWO HYDRŒCIA LARVÆ.

PLATE II, FIGS. 4–6.

By Harrison G. Dyar.

Mr. H. Bird has recently presented to the National Museum larvæ of *Hydrœcia nitela* and *H. purpurifascia*. A remarkable difference is seen between them in the position of one tubercle on the seventh abdominal segment. The general rule in the Noctuidæ is to have tubercle iv on the seventh segment low down near tubercle v, and this position is seen in *H. nitela* (Plate II, Fig. 5) In *H. purpurifascia*, however, this tubercle has been moved upward to the upper corner of the spiracle as on the other segments (Plate II, Fig. 4). The *Hydrœcia* larvæ are borers, and it is apparently requisite that such larvæ should protect the extremities and surround the spiracles by corneous shields. For this purpose all the tubercles are large and distinct, even the ordinarily obscure tubercle iiia is plainly seen before the spiracle (compare the otherwise generalized *Hypena humuli* (Plate II, Fig. 6), which does not show iiia). On most of the segments tubercle iv behind the spiracle, iii above it, iiia before and v below form sufficient protection; but on the seventh abdominal segment there is a lack of protection behind, apparently in a place where it is most needed. It would appear that the two *Hydrœcia* larvæ before me have independently attempted to correct this defect, and owing to some inherent difference of organization, have used different means to this end. *H. purpurifascia* has moved tubercle iv bodily upward into the place of greatest efficiency. *H. nitela*, on the other hand, has developed an additional small tubercle at the upper corner of the spiracle, which bears no seta. This little shield varies in size in different larvæ, its character being still not firmly fixed in the species. It would be interesting to examine the other species of *Hydrœcia* in this respect.

* It is to be noted that there are no feet on the anal segment in the Eucleidæ. The suckers are on the first eight abdominal segments, the first and last not so well developed as the others. These (*i. e.*, on abdominal segments 1 and 8) are in excess of those present in *Megalopyge*, but their less degree of development favors the view of their recent acquisition.

A REVISION OF THE AMERICAN COCCINELLIDÆ.

By THOS. L. CASEY.

The object of the following pages is to give a short outline or sketch of every species occurring within the limits of the United States accessible to me at the present time, and also to invite attention to certain features in the taxonomy of the family which do not seem to have been hitherto brought to notice. In an appendix a list of African species is given, containing quite a number of novelties, and the descriptions of certain new species from other parts of the world are also appended.

COCCINELLIDÆ.

The separation of this family into two parts based upon mandibular structure has never seemed entirely satisfactory to me; first, because of the difficulty of observing the character, causing the classification of Chapuis to be unpractical, and, secondly, because *Epilachna* and related genera are merely pubescent halyziids, slightly modified by reason of perverted food habits and attendant environments. Many of the Harpalini of the Carabidæ are known to be either wholly or partially phytophagous, but no one has proposed to divide the Carabidæ on these lines, and would scarcely do so even if a minute structural divergence in the mandibles existed, and it has never been demonstrated that the mandibular teeth serving as the basis of the Chapuisian classification are not found elsewhere in the family. The Epilachnini, in fact, resemble the Psylloborini in all external structures, including the long antennæ, a character of more importance than has apparently been conceded. In view of these facts I have not employed the classification of Chapuis in the following pages.

The latter author appeared also to be constantly striving to reduce the generic groups hitherto proposed, but this cannot be done with propriety, and many more will be needed, both of genera and tribes, before the taxonomy of the family can be made entirely clear. This is well shown by some small species which we had held to belong to the genus *Pentilia*, until Weise recently proved that they were in no way related, and separated them under the name *Smilia*; as a matter of fact they do not resemble *Pentilia* at all, and are much more closely allied

to *Scymnus*. Again, our representatives of *Cryptognatha* are likewise widely separated from the *Cryptognatha* of Mulsant, and form in reality one of the most isolated types of the family, the special character relating to the prosternum, which caused LeConte to associate them, being of subordinate value and liable to appear in any tribe ; it exists, for instance, in *Stethorus* of the Scymnini, and in *Nipus* of the Cranophorini, though not the distinguishing feature of that remarkable type. In *Zagloba* of the Scymnillini it also tends to reappear. Again the genus *Rhyzobius* is tribally distinct from *Scymnus* in the structure of the eyes, antennæ and epipleuræ.

The character relating to the anterior coxal cavities, announced by LeConte, is apparently of no significance even if wholly true, as it would bring together genera with no special affiliation otherwise, and the character made use of by Mulsant to separate Coccinellini from Cariini is of no value, there being no tribal difference between *Coccinella* and *Synonycha*, in spite of their general dissimilarity of habitus.

The abdomen is composed throughout of five segments, but the genital armature sometimes becomes distinct and assumes the form of a sixth segment. This character is very useful in the classification of the tribes related to Chilocorini, and of the compact Coccinellidæ having narrow epipleuræ, as will appear ; it generally affects both sexes and is particularly developed in the Hyperaspini. The Hyperaspini of Chapuis include several distinct tribes, and those with but five ventral segments should be removed, the retractility of the legs and epipleural depressions not being tribal characters necessarily, but appearing in several tribes with the legs generally free.

The tarsi in this family are in reality 4-jointed, the third small and generally forming a rigidly anchylosed basal lobe of the last, but it is sometimes free or partially so. The second is lobed beneath, the lobe truncate at tip and hollowed on its upper surface, not bilobed as stated by Crotch (Rev. Cocc., p. 53).

In the following pages I have made use of all generic types, foreign and native, which have been accessible to me, and regret that my exotic material might not have been more extensive. Where names not belonging to the fauna of the United States are introduced they are preceded by an asterisk.

Crotch employs the name *affinis* Rand., for the species *venusta* and *notulata*, but in error, as *affinis*, of Randall, is simply a synonym of *Hyperaspis binotata* Say.

The family may be divided into numerous tribes, as follows: —

Middle coxæ narrowly separated; body glabrous, elongate-oval, the epipleuræ moderately wide, horizontal; legs long, free, the femora extending beyond the sides of the body; abdomen with the genital or sixth segment visible in both sexes; head not deeply inserted, the prothorax strongly sinuate but not covering the eyes; epistoma, eyes and antennæ as in Coccinellini . . . . . HIPPODAMIINI

Middle coxæ widely separated; legs shorter, the femora generally not extending beyond the sides of the body; head deeply inserted, the pronotum covering a considerable part of the eyes except in certain rare cases such as *Selvadius*. 2

2—Eyes finely faceted. 3

Eyes coarsely faceted; antennæ long, with the club loose; body pubescent; abdomen with the sixth segment visible in both sexes. 18

3—Epipleuræ wide, concave, strongly descending externally; body loosely articulated, generally rounded in form. 4

Epipleuræ narrow, generally horizontal, flat or feebly concave; body compact, generally oval in form 14

4—Fourth joint of the maxillary palpi securiform. 5

Fourth joint narrow, elongate with circular section, finely acuminate at tip. 13

5—Epistoma narrowed from the base, sometimes expanded slightly at apex, the antennal fossæ more or less exposed 6

Epistoma broadly dilated, concealing the antennæ and subdividing the eyes. 11

6—Legs free; antennæ more or less elongate; sixth ventral segment small but visible in both sexes. 7

Legs retractile and lodged in moderately deep to shallow depressions; antennæ short; abdomen with five segments, the fifth longer, the sixth always invisible. 10

7—Upper surface of the body glabrous. 8

Upper surface pubescent. 9

8—Epistoma more or less sinuate at apex and obliquely dentiform at the sides, the sinus generally more or less closed by a semi-corneous additional piece united to the front without visible suture; antennæ more or less approximate to the eyes, which are narrowly and rather deeply emarginate, the fossæ large, with distinctly overreaching superior ridge; prothorax deeply emarginate; body moderate to large in size. . . . . COCCINELLINI

Epistoma narrower, truncate, without semi-corneous additional piece and not obliquely denticulate at the sides, the antennæ more frontal in insertion and more distant from the eyes, which are broadly and more feebly sinuate, the fossæ small, more exposed frontally and with very slight superior ridge; body smaller, with thinner integuments, the head small, the prothorax smaller, very feebly sinuate at apex, with broadly rounded apical angles; antennæ slender, with the last joint elongate . . . . . PSYLLOBORINI

9—Antennæ long, with loosely articulated club, inserted within very small and completely exposed subfrontal foveæ remote from the eyes, nearly as in Psylloborini, the eyes not or only very feebly sinuato-truncate; epistoma truncate, not denticulate at the sides; prothorax deeply emarginate at apex; mandibles bifid at tip and denticulate within; body rounded or elongate-oval, the legs free.

EPILACHNINI

10—Epistoma feebly sinuate, with rounded lateral angles and coriaceous margin within the sinus, the sides sinuate above the moderate exposed antennal foveæ, the eyes deeply but very narrowly emarginated by the post-antennal canthus; mandibles simple and finely acuminate at tip; body rounded, very convex, the prothorax very deeply emarginate and formed as in Chilocorini ....*PENTILIINI

11—Upper surface glabrous; body very convex or subcompressed, rounded, the abdomen with five segments, a small genital segment visible in the males; antennæ very short, more or less bent, the club with four connate joints; legs free or feebly retractile.....CHILOCORINI

Upper surface pubescent; legs retractile within shallow depressions; antennæ very short, bent 12

12—Abdomen composed of six segments nearly as in Hyperaspini, the fifth short. *PLATYNASPINI

Abdomen composed of five segment, the fifth large and rounded, the sixth wholly invisible in both sexes; body very small, rounded.....*TELSIMIINI

13—Body rounded or oval, very convex, pubescent or partially so; epistoma large but not dilated, broadly rounding from the base into the apex, which is feebly sinuate medially; eyes entire, the antennæ short and slender, straight, inserted in small exposed foveæ very close to the eyes; prosternum widely separating the coxæ, bicarinate, flat; abdomen composed of but five segments, the fifth large, rounded; basal node of the last tarsal joint free; legs retractile, the impressions feebly concave; prothorax deeply emarginate.....*PHARINI

14—Abdomen composed of only five segments, the genital segment wholly obsolete in both sexes, the fifth segment large, ogival or rounded..... ...15

Abdomen with the sixth segment well developed and distinct in both sexes, the fifth shorter 16

15—Legs strongly retractile within deep concavities of the under surface; prosternum widely separating the coxæ, strongy deflexed at tip, forming a protection to the mouth in repose; eyes entire; antennæ with exposed insertion; body oval, moderately convex, glabrous or only partially pubescent.....(ENEINI

Legs free; prosternum flat, remotely separating the coxæ, the apex not deflexed or with feeble tendency thereto; antennal foveæ shallow, the eyes narrowly and deeply emarginate; body rounded or oval, moderately convex, pubescent or partially so.....SCYMNILLINI

16—Body glabrous; epipleuræ generally slightly descending externally but relatively narrow; legs moderately retractile or free; eyes emarginate or entire. HYPERASPINI

Body pubescent; epipleuræ generally flat and horizontal; legs always free.....17

17—Pronotum covering the head, rounded or feebly truncate in front; body oval or elongate-oval, moderately convex, subglabrous in *Nipus*.....CRANOPHORINI

Pronotum deeply sinuate at apex and never produced; body oval or oblong-oval. SCYMNINI

18—Prothorax narrowed anteriorly from the base; epipleuræ moderately wide and more or less concave, descending externally.....RHYZOBIINI

Prothorax narrowed at base; body elongate; epipleuræ very narrow, flat and horizontal..... COCCIDULINI

The Rhyzobiini are not marked with an asterisk as they have been to some extent acclimated in California; they are not however, as far as known, endemic.

HIPPODAMIINI.

The characters heretofore used to distinguish this tribe from the Coccinellini are of little or no value, as the sternal and ventral post-coxal plates or arcs are frequently both as distinct in the former as in the latter, but the ventral plates are always short, as in those Coccinellini allied to *Adalia*.

The Hippodamiini are not relatively very numerous and are almost essentially American. They may be distinguished at once from the Coccinellini by the elongate-oval form of the body, narrowly separated intermediate coxæ and the other characters given in the table. The frequently obsolete or ill-defined post-coxal lines are the obvious result of long disuse, as the legs are unusually developed for the present family and perfectly non-retractile. The genera before me may be distinguished as follows:—

Tarsal claws simple, being evenly arcuate, slender and very acutely pointed, with a more or less slight bulbiform enlargement at base.....2

Tarsal claws acutely pointed, with a large quadrate basal tooth within, separated from the slender apical part by a deep acute fissure—a very usual structure in Coccinellidæ..... 6

Tarsal claws slender, bifid within behind the apex, the two lobes unequal in length and both acutely pointed..... 7

2—Sternal and ventral coxal plates both distinct; basal angles of the prothorax obtuse but distinct and not rounded..... 3

Sternal plates distinct, the abdominal obsolete.....4

Sternal and ventral plates both completely obsolete.....5

3—Body oval, the elytra maculate and strongly punctate; side margins all strongly and quite broadly reflexed..... **Anisosticta**

Body elongate and subparallel, the elytra vittate and finely punctate; side margins very narrowly reflexed..... **Macronæmia**

4—Basal angles of the prothorax broadly rounded..... **Næmia**

5—Basal angles broadly rounded as in *Næmia*..... **Paranæmia**

6—Body nearly as in *Næmia*, the elytra and pronotum almost similarly ornamented; sternal and ventral plates both completely obsolete..... **Megilla**

7—Base of the prothorax rounded in the middle; sternal and ventral plates variously developed or wanting..... **Hippodamia**

Another genus of our fauna,—*Ceratomegilla* of Crotch,—is unknown to me but is said to differ from *Megilla* in having the third joint of the antennæ dilated and triangular. *Eriopis*, which is said to

occur here, differs from *Hippodamia* only in having the base of the prothorax sinuate at the middle. *Anisosticta* is represented within our confines by *bitriangularis* Say (=*multiguttata* Rand.), related to the European *19-punctata*, and still more closely to *strigata*, but distinct from either. *Macronæmia* (gen. nov.) has for its unique representative the *Coccinella episcopalis* of Kirby, assigned to *Næmia* by Mulsant. *Næmia* has for its type, and only species within the United States, the *Coccinella seriata* of Melsheimer (=*litigiosa* Muls.).

Paranæmia, gen. nov.

The type of this genus is the *Hippodamia vittigera*, of Mannerheim, assigned to *Næmia* by Mulsant. The specimens in my cabinet may be grouped in the two following closely allied species or perhaps subspecies:—

Form short and broadly suboval, the prothorax twice as wide as long and broadly rounded at base; elytra rather shining and distinctly punctate. Length 4.8–5.2 mm.; width 2.9–3.0 mm. California. ..... **vittigera** *Mann.*

Form more elongate but broad and subparallel, larger, though similarly ornamented with black, the prothorax much less than twice as wide as long and more strongly rounded at base; elytra strongly alutaceous and more finely and very much more sparsely punctate. Length 5.2–6.4 mm.; width 2.9–3.4 mm. Colorado and Arizona. ..... **similis**, sp. nov.

Megilla *Muls.*

The type assumed by Mulsant is the *M. maculata*, of De Geer (Spec., p. 24), but this name was applied by its author to one of the large South American forms, which are in all probability specifically distinct from our familar and very constant modification, and it is therefore proper to apply the name *fuscilabris* to the latter. The material before me indicates three species or subspecies as follows:—

Head finely and feebly punctured; surface lustre alutaceous; pronotum narrowly reflexed at the sides 2

Head strongly and closely punctured; lustre much more shining, the pronotum more broadly reflexed at the sides 3

2—Prothorax less than twice as wide as long. Length 4.7–6.2 mm.; width 2.7–3.4 mm. Delaware, North Carolina, Iowa, Arizona and California (Yuma). **fuscilabris** *Muls.*

Prothorax twice as wide as long; body larger and much more broadly oval. Length 5.2–7.2 mm.; width 3.0–4.0 mm. Texas (Brownsville)... **strenua**, sp. nov.

3—Body in form and size nearly as in *fuscilabris*, the ground color of the type yellowish, the discal transverse spot of the elytra posteriorly angulate; punctures of the elytra fine and rather close. Length 5 7 mm.; width 2.9 mm. Honduras..... ..... **medialis**, sp. nov.

These forms are all virtually similar in ornamentation to the common *fuscilabris*.

Hippodamia *Chev.*

The species of this genus are rather numerous, and constitute by far the larger part of the tribe; they are frequently closely allied among themselves and are common to the arctic and subarctic faunas of both hemispheres, although poorly represented in the palæarctic provinces. The sternal and ventral plates lose all value in a generic sense, and the *Adonia* of Mulsant, must consequently be suppressed, as suggested by Crotch. Sometimes, as in *parenthesis* and *apicalis*, both the sternal and ventral plates are distinct and as perfect as in *Anisosticta*. In *obliqua* and *convergens*, also, they are similar, though more feebly outlined. In *lecontei*, *quinquesignata*, with related species, and in the *sinuata* group, the sternal plates become obsolete or very indistinct, but the ventral are still complete or very nearly. In *glacialis* the sternal plates are completely obliterated and the ventral are only represented by an oblique and isolated external line, and finally in *tredecempunctata*, the type of the genus, both plates become obsolete.

Hippodamia (*Adonia*) *variegata* of Goeze, (*constellata* Laich.), is a European species which is said to occur within the United States; this is probably an error, however, and it is omitted from the following table of the American species known to me by actual examples. The sternal and ventral plates are exactly as in *parenthesis* and *apicalis*, but in habitus and ornamentation it agrees with the majority of species much better than they:—

Pronotum with a broad pale lateral border enclosing an isolated black dot or dot-like spur from the central black area, the latter without trace of the usual white discal diverging lines; elytra each very constantly with six rounded black dots, and also a small common scutellar spot; femora black, the tibiæ and tarsi pale throughout; claws rather thicker and more feebly arcuate than usual. Length 4.3–5.3 mm.; width 2.4–3.3 mm. Europe, Siberia and the United States. [*tibialis* Say] ..... **13-punctata** *Linn.*

Pronotum with a narrower white lateral margin which is intruded upon by a more or less pronounced angulation of the central black area, occasionally completely dividing the white area, in which case the white near the basal angles also frequently disappears; legs black throughout, the anterior sometimes in part pale, especially in those species with distinctly formed sternal and ventral plates..... 2

2—Pronotum without trace of a median white spot at the basal margin; sternal and abdominal plates very variable in development..... 3

Pronotum with a white or whitish median spot at the basal margin; sternal and abdominal plates both distinct, the latter complete but short, extending to about the middle of the segment..... 21

3—Elytra completely black, with two small and obsolescent transverse whitish spots at the basal margin and one on each elytron, larger and triangular, at the lateral margin and apical fourth. Length 6.0 mm.; width 4.0 mm. California to Vancouver Island..... **mœsta** *Lec.*

Elytra red, with a transverse basal fascia of black, either complete and constant, or formed occasionally and in certain individuals by the coalescence of the small scutellar and two post-scutellar spots with the two humeral.....4

Elytra never with a transverse basal fascia, the two post-scutellar points when present never coalescent with the scutellar spot, the latter always very small or obsolete; elytra frequently immaculate, generally very finely and inconspicuously punctured.....11

Elytra never with a tranverse basal band or post-scutellar spots, the scutellar spot larger and more or less elongate-oval or rhomboidal, sometimes involving almost the entire suture; discal and humeral spots tending to unite to form a black vitta; marginal white area of the pronotum narrow and subequal in width throughout, the diverging discal lines distinct, the outer post-median spot when disconnected always small, the inner large.....17

4—Subapical black spot of the elytra constantly large and distinct; body generally more broadly oval 5

Subapical black spot constantly wanting or extremely rudimentary; body generally more narrowly oval; lateral angulation of the pronotal black area pronounced, the white margin very broad anteriorly, frequently interrupted in the middle, the basal part sometimes obsolete as in typical *extensa*.....8

5—Lateral angulation of the black pronotal area strong, frequently dividing the white marginal area, the apical and basal parts of the latter wider, the basal becoming obsolete in typical examples of *5-signata*; body larger and more broadly oval, the pronotal punctures very fine and not close-set.....6

Lateral angulation of the central black area very obtuse, the marginal white area narrow throughout but entire.....7

6—Basal band of the elytra broad, very constant and almost equally wide throughout, obtusely truncate at its lateral limits on the callus and angularly involving the scutellum; post-median black spot large, somewhat obliquely transverse, straight, even, extending nearer to the side margin than the suture. Length 6.2 mm.; width 4.0 mm. Colorado, Lake Superior and Hudson Bay [*mulsanti* Lec.].....**5-signata** *Kirby*

Basal band of the elytra rarely entire and then very irregular, the scutellar and post-scutellar points generally coalescent, forming a trilobed star, which is generally isolated from the humeral spots; post-median black spot transversely arcuate or sinuate, evidently formed by the amalgamation of two transverse spots, the subsutural slightly the more basal. Length 4.9–6.0 mm.; width 3.2–4.0 mm. New Mexico, Colorado, Utah and Oregon.....**lecontei** *Muls.*

7—Pronotum more strongly and quite densely punctate; basal band of the elytra strongly developed and entire, the humeral dilatation well marked; post-median spot composite, consisting of a large, outwardly and anteriorly oblique spot, united behind its anterior limit, with a smaller external, inwardly and anteriorly oblique spot; subapical spot transversely oval, with an internal posterior angulation; body smaller. Length 4.7 mm.; width 2.9 mm. Canadian Rocky Mts.....**puncticollis,** sp. nov.

8—Pronotum closely punctulate; basal band of the elytra equally broad throughout, with a scutellar angulation as in *5-signata*; post-median spot broad, slightly oblique and oval, the subapical wholly obsolete; surface of the elytra strongly alutaceous and rugulose; body small and more depressed. Length 4.5 mm.; width 2.7 mm. Colorado.....**dispar**, sp. nov.

Pronotum minutely and sparsely punctulate, more convex and polished; basal band of the elytra crescentiform, acuminate at the callus, with an anterior scutellar angulation; elytra polished 9

9—Elytra undulato-rugulose externally and toward apex, without trace of black spots behind the basal band. Length 5.1 mm.; width 3.1 mm. California (Alameda).....**extensa** *Muls.*

Elytra smooth throughout.....10

10—Elytra closely punctate; post-median feebly oblique line narrow and composed of two slightly confluent transverse spots; subapical spot of *5-signata* and allies visible as a minute and feeble point. Length 4.75 mm.; width 3.1 mm. California?.....**subsimilis**, sp. nov.

Elytra sparsely punctate, the post-median spot almost transverse, narrow and subentire, the subsutural part not more basal—as it evidently is in *subsimilis*—the subapical spot completely obsolete; surface very highly polished throughout. Length 5.8 mm.; width 3.6 mm. Wyoming—Mr. Wickham...**vernix**, sp. nov.

11—Pale lateral margin of the pronotum wider anteriorly and posteriorly, the angular extension of the black area strongly marked.....12

Pale margin narrower and much less unequal in width from apex to base, the angular extension of the black area more obtuse; diverging discal pale spots distinct; elytra each with six black spots nearly as in *13-punctata*, the three posterior generally more developed and constant, the lustre faintly alutaceous.....16

12—Subapical spot of the elytra large, constant and conspicuous, the two post-median spots large and obliquely coalescent; anterior spots always wanting, the scutellum alone black; body large and rather broadly oval. Length 5.9–7.0 mm.; width 3.75–4.7 mm. New Jersey and Indiana.....**glacialis** *Fabr.*

Subapical spot of the elytra invariably wanting.....13

13—Elytra very feebly alutaceous, being distinctly microreticulate under sufficient amplifying power.....14

Elytra very highly polished and rather more distinctly, though not more closely, punctate, the punctures rather more impressed, the interspaces devoid of distinct microreticulation.....15

14—Form broadly oval, the elytra wholly devoid of black spots, excepting a small scutellar sutural dash; pronotum frequently devoid of diverging discal pale spots. Length 5.2–6.6 mm.; width 3.6–4.5 mm. Coast regions of California from San Diego to Sonoma [*punctulata* Lec.].....**ambigua** *Lec.*

Form narrowly oval, the elytra generally with a small subsutural transverse spot behind the middle which is sometimes joined to another external and more posterior, frequently wholly immaculate or with only a small scutellar dash and, rarely, exhibiting very minute post-scutellar points; scutellum always black; discal diverging lines of the pronotum always very fully developed, sometimes coalescing anteriorly with the lateral pale area. Length 4.2–5.0 mm.; width 2.5–3.5 mm. California (Sonoma Co.).....**obliqua**, sp. nov.

15—Form rather short and broadly oval, the prothorax relatively small, with largely developed pale diverging discal spots; elytra wholly immaculate, the scutellum alone dark. Length 4.7 mm.; width 2.8 mm. California (Monterey Co.)· **politissima**, sp. nov.

16—Three posterior spots of each elytron invariably isolated among themselves. Length 4.6–6.4 mm.; width 2.7–4.4 mm. New Jersey to California (Sonoma Co.), Texas (Brownsville) [*obsoleta* Cr.]..... **convergens** *Guér.*

Three posterior spots much larger and coalescent; humeral spot distinct, the two at basal fourth equal and extremely minute, the two post-median very large and slightly coalescent, the subapical also large and joined to the inner—not the outer as usual—of the post-median spots by a short straight vitta parallel to the suture. Length 5.2 mm.; width 3.2 mm. California (Sonoma Co.).. **juncta**, sp. nov.

17—Scutellar spot shorter and broad, abruptly terminating at or before basal third.. 18

Scutellar spot narrower and elongate..... 19

18—Elytra opaque, finely rugose and minutely punctate, each with a black vitta from the callus abruptly ending in a bifurcation at three-fifths from the base, the inner branch not truncate opposite the suture, also with a detached transversely triangular subapical spot; pronotum polished, minutely punctate. Length 5.1 mm.; width 3.0 mm. California (Lake Co.)..... .**crotchi**, sp. nov.

Elytra more convex, nearly smooth, shining though feebly alutaceous and more distinctly, though not strongly, punctate; elytra each with a very irregular continuous vitta from the callus to apical sixth or seventh, the vitta strongly constricted just behind the callus, then much dilated inwardly just behind the middle, this part presenting a very broad rectilinearly truncate face opposite and close to the suture, also slightly dilated externally at three-fifths from the base, thence curving in almost regular arc, becoming transverse, and ending at a short distance from the suture at a considerable distance from the apex, this apical part probably being isolated in less fully developed specimens. Length 4.9 mm.; width 3.0 mm. Vancouver Island..... **complex**, sp. nov.

19—The scutellar spot extending to about basal third; elytra more elongate and more acutely rounded behind, the spots four in number, one at the callus, one larger and anteriorly angulate slightly post-median, another, very small and more external, at three-fifths, and the fourth transverse, rather small, submedian, and at apical fifth or sixth, the first and second of these doubtless frequently connected. Length 5.6 mm.; width 3.2 mm. Colorado..... **spuria** *Lec.*

The scutellar spot very elongate, extending to apical fourth or fifth, with a slight rhomboidal enlargement near the base..... 20

20—Elytral spots generally not greatly tending to confluence; inner post-median sometimes uniting with the spot on the callus to form the usual broad vitta, the subapical always isolated and distant from the apical angles; lustre of the elytra generally dull, but with the surface almost smooth, the punctures fine, but distinct and rather close-set. Length 5.0 mm.; width 3.1 mm. New Mexico (Fort Wingate)..... **americana** *Cr.*

Elytral spots all confluent, forming a broad and nearly even straight vitta from the callus to within a very short distance of the apical angles, slightly angulate externally behind the middle, and thence moderately oblique nearly to the sutural angle, the entire design nearly as in *Paranæmia vittigera*; lustre of the elytra

alutaceous, the punctuation sparse and almost obsolete. Length 4.5 mm.; width 2.7 mm. California (Sonoma Co.).....**trivittata,** sp. nov.

21—Subapical arcuate spot of the elytra not attaining the suture or apical angles. Length 3.8–5.0 mm.; width 2.3–3.2 mm. New Jersey to Puget Sound [*tridens* Kirby; *lunatomaculata* Mots.].....**parenthesis** *Say*

Subapical arcuate spot flexed posteriorly and inwardly, attaining the suture and apical angles; body smaller and more distinctly punctate. Length 3.7–4.75 mm.; width 2.25–2.6 mm. Nevada and California (valley of the Truckee River).

apicalis, sp. nov.

Of the described species not included above, *15-maculata*, of Mulsant, has a scutellar dash and generally six spots on each elytron, the anterior juxtasutural dilated and apparently formed of two; it is said by Crotch to occur in Missouri and may be inserted after *convergens; leporina* Muls., has a subbasal band from one callus to the other and the elytra each two black spots, the anterior transverse and almost triangular, the posterior smaller, obtriangular and joined to the anterior; it is described from California and may be placed after *vernix*. *Sinuata*, of Mulsant, has the elytral suture black for three-fourths and the elytra each a vitta from the callus for five-sixths the length, almost semicircularly curved in its posterior half and dilated opposite the suture near the anterior limit of the arcuate portion; its dimensions are said to be 5.9 × 3.3 mm., which is larger than any of the allied species known to me; it belongs near *trivittata* in the table; *interrogans* is placed as a synonym of *sinuata* by Crotch. Finally, *oregonensis*, of Crotch, is similar to *spuria*, but lacks the discal white spots of the pronotum and *falcigera* is allied to *trivittata*, but is also devoid of the discal diverging lines.

The sexual characters are well marked, the anterior and middle tarsi being distinctly dilated and the abdomen emarginate at apex in the males. *Extensa*, *subsimilis* and *vernix*, together with *leporina* Muls., may all be subspecies of the last, but I have no means of stating this with certitude. *Mœsta* is said to be a variety of *lecontei* by Crotch, but in my opinion there is no reason for this assumption, as there is no individual known to me which can be considered a connective bond, my series of both being quite homogeneous; the elytra in *mœsta* are more elongate and more pointed behind than in *lecontei*. The last two species of the table are almost generically distinct from the others.

Eriopis connexa Germ., of our lists, is a South American species which is said by Crotch to occur also in California and Vancouver

Island, but is not recorded from Mexico or any other intervening region. It should be removed from the lists, as there is almost certainly some error of indentification or locality.

COCCINELLINI.

This is by far the most extensive tribe of the family, containing also the largest species and is the most difficult to treat taxonomically, because of the slight amount of structural variety and the evidently great number of groups, which must be accorded generic rank because of habitus or summation of minor characteristics. Type of ornamentation has not been regarded as a generic character hitherto, but is in reality one of the most important, especially that of the pronotum. All of our numerous species of *Coccinella*, for instance, have precisely the same type of pronotal ornamentation and this is true also of *Adalia*, *Cycloneda*, *Anatis*, and all others which comprise enough specific forms to admit of generalization. Where two forms exist, therefore, which seem to belong to different generic types but which do not differ structurally to any decisive extent, I have regarded the general scheme of pronotal ornamentation, and, to a less degree, that of the elytra, as the deciding criterion.

In the following table all the genera accessible to me are included, the exotic ones having an asterisk affixed:—

Metacoxal lines arcuate or feebly angulate, continuous, not quite entire, the plates distinctly shorter than the first ventral segment; body oval (Subtribe ADALIÆ)..2

Metacoxal lines curving outward to the sides of the body along the first suture, the included area frequently divided by an oblique line, which may or may not join the curve posteriorly; body rounded, rarely oval or suboblong. 5

2—Tarsal claws simple, long and well developed; body broadly oval, distinctly punctured, pale, maculate with black spots, the scutellum moderate in size; antennæ moderately short, with a rather broadly obtriangular compressed 3-jointed club; metacoxal lines arcuate, the plates slightly shorter than the segment; basal node of the last tarsal joint partially free. Palæarctic . . . . . ***Bulæa**

Tarsal claws with a large subquadrate basal tooth; antennæ slightly longer, with an obtriangular and more closely connate club, the last joint as wide as long. 3

3—Scutellum very small and equilaterally triangular; body distinctly punctate; prosternal process not distinctly bicarinate. Subarctic of both hemispheres. **Adalia**

Scutellum slightly larger, acutely pointed and longer than wide. Austral Africa. . .4

4—Body oval, subimpunctate; prosternal process not evidently bicarinate. ***Lioadalia**

Body more rounded, finely punctate; prosternal process very narrow, with two strong parallel carinæ extending almost to the apex. . . . . ***Isora**

5—Tarsal claws with a large subquadrate internal tooth at base.....6
Tarsal claws cleft within.....21
6—Scutellum very minute; body small, rounded, pale with black spots, the metacoxal plates without an oblique dividing line; prosternal process very narrow, strongly bicarinate to apical third or fourth; antennæ with a narrow, obtriangular club, the last joint rather longer than wide; claws slender, the basal tooth but slightly developed transversely. Africa.....***Micraspis**
Scutellum not extremely minute or punctiform; basal tooth of the claws large and conspicuous.....7
7—Epistoma truncate or subtruncate at the apex of the coriaceous or semi-corneous margin (Subtribe COCCINELLÆ).....8
Epistoma deeply sinuate. (Subtribe CYDONIÆ).....18
8—Metacoxal plate divided by an oblique line joining the bounding arc at about its middle point, forming an angulate inner plate.....9
Metacoxal plate not or only partially divided, the oblique line either wholly obsolete or feeble, or, when more distinct, not joining the boundary curve posteriorly..14
9—Oblique line meeting the bounding curve at a point which is but little beyond the middle of the segment; body oval, rather depressed, with coarse and unequal punctuation, the side margins abruptly but very finely reflexed; prosternal process concave along the axial line; mesosternum with a very small, circularly rounded median notch; antennal club large, obtriangular, compact, the last joint nearly as long as wide and obliquely truncate.....**Agrabia**
Oblique line meeting the bounding curve at or very near the hind margin of the segment.....10
10—Mesosternum transversely truncate anteriorly; body strongly convex, oval, more or less finely and equally punctate, the side margins very finely reflexed; pronotum solidly black, with a more or less subquadrate pale spot at the apical angles; hind angles rather narrowly rounded.....**Coccinella**
Mesosternum broadly sinuate at the anterior margin; side margins more broadly reflexed.....11
11—Pronotum solidly black, with broad pale side margins; body oval, rather strongly convex, the elytra sometimes having a transverse subapical plica; punctures fine and subequal. Palæarctic.....***Ptychanatis**
Pronotum variegated throughout its extent with black and pale markings, or pale with small black spots.....12
12—Body globularly convex and very broadly rounded, minutely and equally punctate, the pronotum pale with small black points, the elytra with transverse series of spots on a pale ground, or, by extension, of pale spots on a dark ground; prosternum with two fine carinæ converging anteriorly and extending slightly beyond the middle. Africa.....***Stictoleis**
Body moderately convex or somewhat depressed, oval in form; pronotum pale, variegated with black.....13
13—Elytral punctures strong and unequal; prosternum not bicarinate.
Neoharmonia
Elytral punctures finer and equal; prosternum with two fine approximate carinæ, converging slightly in front and extending to about the middle of the length. Africa.
***Œnopia**

14—Elytral punctures very minute and inconspicuous, equal; side margins distinctly reflexed 15

Elytral punctures strong, conspicuous and more or less unequal 16

15—Mesosternum truncate anteriorly; body broadly rounded and very convex; pronotum black with pale lateral markings, the elytra immaculate as in *Œnopia*; metacoxal plates very rarely with a distinct trace of the dividing line.

Cycloneda

Mesosternum broadly and rather feebly sinuate; body as in *Cycloneda* and similarly punctulate, but having a feeble longitudinal submarginal furrow somewhat as in *Chilocorus*, disappearing behind the middle and particularly pronounced in the black forms; ornamentation dimorphous; oblique line of the metacoxal plates distinct but not united with the bounding curve posteriorly.....**Olla**

Mesosternum truncate but with a very small, shallow and circularly rounded median notch; body broadly rounded but rather depressed; pronotum pale, variegated with black, the elytra pale, usually with black vittæ. Africa .....* **Verania**

16—Mesosternum truncate, with a very minute shallow rounded notch at the middle as in *Verania*; body oblong-oval, moderately convex; pronotum pale, variegated with black markings, the elytra pale, with an irregular dark design.

Cleis

Mesosternum broadly and deeply sinuate; body more or less broadly oval, moderately convex 17

17—Prosternal process narrow, strongly bicarinate; pronotum with two large subquadrate black spots, narrowly and rectilinearly separated; elytra spotted with black, or dark with pale spots .....**Anisocalvia**

Prosternal process broad, strongly convex in a transverse direction and prominent at the apical margin; pronotum black, with pale lateral or sublateral and basal areas, the elytra generally pale with black spots or immaculate; body large in size..... **Anatis**

18—Hypomera with a well-marked but shallow rounded antennal depression; pronotum ornamented almost exactly as in *Coccinella*; body moderate in size, very broadly rounded 19

Hypomera without an antennal depression; body more broadly oval, the pronotum nearly as in *Anatis*..... 20

19—Antennæ inserted very close to the eyes, the latter broadly and feebly sinuated by the large antennal cavity; epistoma without a semi-corneous margin at the bottom of the sinus; body moderately convex, the elytra pale with black vittæ. South Africa. (Type *4-lineata*.)..... * **Cydonia**

Antennæ not quite so close to the eyes, which are more deeply and narrowly sinuated by the post-antennal canthus; epistoma with the usual semi-corneous apical margin at the bottom of the sinus; body strongly convex, the elytra black, irregularly ornamented with large red areas. Africa. (Type *lunatus*.)

*** Cheilomenes**

20—Antennæ and eyes as in *Cydonia*; epistoma with a narrow coriaceous apical margin at the bottom of the sinus; elytra very finely punctulate, black, ornamented with large irregular red blotches; sides gradually less declivous to the edge, which is not reflexed or thickened; prosternum narrowly excavated along the median line to beyond the middle. Siberia. (Type *hexaspilota*.)...* **Ithone**

21—Body very broadly rounded, minutely punctulate, the elytra very broadly explanate at the sides, the edge not thickened, pale, spotted with black, the epipleuræ very broad, continuing to the sutural angles, with a large deep impression internally at about basal third; prosternum transversely convex along the median line, not bicarinate; metacoxal plates as in *Cycloneda*; epistoma feebly emarginate, with coriaceous margin, the sides strongly dentate; antennæ and eyes as in *Cydonia*. Asia and East Indies. (Subtribe SYNONYCHÆ.).....* **Synonycha**

Body oval, rather strongly convex, minutely punctulate; epistoma obliquely denticulate at the sides, the extreme margin subtruncate; antennæ and eyes as in *Coccinella*; pronotum ornamented nearly as in *Anatis*, the apex less deeply sinuate and the apical angles less pronounced; elytra pale, or ornamented with irregular or interrupted dark vittæ, the side margins very narrowly reflexed, with the edge thickened, the epipleuræ narrower and simple; metacoxal plates as in *Cycloneda*; prosternum feebly convex along the median line. (Subtribe MYSLÆ.)

Neomysia

Adalia *Muls.*

The type of this genus is the *Coccinella bipunctata* of Linné, which is now distributed very widely over the world through commerce. The species before me are as follows:—

Elytra without transverse series of spots; metacoxal plates rounded or parabolic; elytral punctures fine.....2

Elytra with transverse series of spots or transverse bands; metacoxal plates frequently somewhat angular postero-externally; pronotum pale, with an M-shaped black design and a submarginal black spot.....3

2—Elytra red, each with a rounded or oval black spot at the centre of the disk; pronotum with a broad M-shaped median black design, the broad pale margins immaculate; metacoxal plates rounded, extending but slightly beyond the middle of the segment. Length 3.8–5.2 mm.; width 2.9–3.9 mm. United States (except Pacific Coast)..... **bipunctata** *Linn.*

Elytra red throughout and immaculate, the reflexed lateral margins usually yellowish; pronotum with M-shaped design and a black point at the centre of the broad yellow margin; metacoxal plates rounded, extending nearly to apical fourth of the segment. Length 3.2–4.3 mm.; width 2.3–3.2 mm. California.

melanopleura *Lec.*

Elytra black with fine yellow side margins, each with a large oblong yellow spot at the humerus and another, smaller and rounded, at three-fifths and close to the suture; pronotum black with narrow apical and side margins pale; metacoxal plates parabolic, extending nearly to apical third. Length 3.9–4.6 mm.; width 2.8–3.25 mm. Utah to California (Siskiyou Co.)..... **humeralis** *Say*

3—Submarginal black spot of the pronotum rounded and isolated, or only connected to the black design by a narrow isthmus.....4

Submarginal black spot broadly amalgamated with the central black design, forming a parallel-sided lateral extension of the latter; elytra reddish-yellow with black bands.....5

4—Elytra red, coarsely punctured, each with two small black points arranged transversely a little before the middle, the outer one on the median line and not quite so basal; metacoxal plates evenly parabolic, extending nearly to apical fourth. Length 4.8 mm.; width 3.6 mm. Nebraska.....**ophthalmica** *Muls.*

Elytra pale reddish-yellow, rather feebly punctured, each with a small oblique black dash from the scutellum and two small subbasal spots, the inner the larger and both oblique and uniting on the humeral callus, also with three widely isolated black spots in a transverse line just before the middle, the inner more basal and the outer very close to the margin, and two, very small, on a transverse line at apical fourth, very near the margin and at inner third; metacoxal plates extending nearly to apical fourth, obtusely angulate postero externally. Length 4.5 mm.; width 3.0 mm. California (Sonoma Co.).....**ovipennis**, sp. nov.

Elytra reddish-yellow, rather sparsely and moderately strongly punctate, each with a longitudinal posteriorly pointed dash at each side of the suture from the base, and two subbasal spots generally disconnected, the outer more basal and on the callus, also with a transverse series of three rather large spots just before the middle, the outer two generally connected, and two at apical fourth nearly as large, the outer slightly more apical, transverse and very close to the margin; metacoxal plates rounded though a little more narrowly so postero-externally, extending nearly to apical fourth. Length 3.9–4.6 mm.; width 2.8–3.5 mm. Colorado.....**annectans** *Cr.*

5—Elytra coarsely and closely punctured, each with a transverse basal spot acuminate externally and extending from the suture to inner third, and a large triangular subbasal spot involving the callus, also with a transverse uneven band near the middle of the length, not interrupted at the suture, extending to lateral ninth or tenth, the outer two-thirds straight and transverse, the inner third more basal and posteriorly oblique toward the suture, and a transverse, somewhat bilobed spot at apical fourth, equidistant from the suture and margin; metacoxal plates but slightly angulated, extending fully to apical fourth. Length 4.0 mm; width 3.1 mm. New Mexico (Las Vegas).....**transversalis**, sp. nov.

Elytra coarsely but rather less closely punctured, completely devoid of any trace of basal or subbasal black spots, each with an irregular transverse band just before the middle, extending from inner sixth to outer third, and a small rounded spot in the same line at outer fourth or fifth, also with an uneven transverse spot at apical fourth, extending from inner fifth or sixth very nearly to the margin; metacoxal plates parabolic, extending to apical third. Length 3.8 mm.; width 2.7 mm. Colorado.....**ornatella**, sp. nov.

Humeralis is said to be a variety of *bipunctata* by Crotch, and is even omitted entirely from the Henshaw list, but my ample series of each is perfectly homogeneous and without trace of any evidence of relationship, the only variation from the normal being a small red point in one example just behind the middle and near the side margin; it is smaller and more narrowly oval than *bipunctata*, has a differently formed metacoxal plate, and inhabits a different geographical region. The last five species of the table are related closely to *frigida*, but they

are distinct among themselves and therefore probably not mere varietal forms of that species. *Annectans* is quite unaccountably placed in *Coccinella* by Crotch. *Ludovicæ* of Mulsant, cannot be identified and has a different type of pronotal ornamentation from any noted in the table. The *Coccinella disjuncta* of Randall, is evidently an *Adalia*, allied to *frigida*, but I have not been able to identify it; it must resemble *ornatella* very closely.

Agrabia, gen. nov.

The species given below, together perhaps with the Mexican *viridipennis* Muls., is the only known representative of this genus, which resembles *Adalia* in the oval, moderately convex form of the body. The side margins are exceedingly narrowly and finely reflexed:—

Oval, moderately convex, pale rufo-testaceous throughout above and beneath, except the elytra which are bright blue, sometimes with a feeble greenish tinge, the side-margins very narrowly testaceous from the humeral angles to apical four-fifths, where the pale margin is inwardly dilated, forming an elongate, internally arcuate spot, which narrows and disappears completely very near the sutural angles; punctures strong and rather close-set, somewhat unequal. Length 5.5 mm.; width 3.9 mm. New Mexico ..... **cyanoptera** *Muls.*

The description of Crotch is very inexact, especially in regard to the antennæ, which are not unusually short for the Coccinellini, and the mesosternum, also in stating that the body is "subhemispherical."

Coccinella *Linn.*

This genus is still a receptacle for many discordant elements; *venusta*, which is assigned to it by Crotch (Trans. Am. Ent. Soc., 1873), is the type of a distinct genus, named *Neoharmonia* in the table, and, in the "Revision," *picta* belongs to *Cleis* and not to *Harmonia*, where is was subsequently placed, and *cyanoptera* to *Agrabia* and not to *Harmonia*. Even as restricted in the present essay, however, the genus is still a large one and our species may be conveniently separated as follows:—

Elytra without trace of a basal fascia, the spot on the callus wanting or moderately developed; body large, usually broadly oval or elliptic..... 2

Elytra with a transverse subbasal fascia, sometimes disintegrating; body large, strongly convex and broadly oval..... 11

Elytra with a transverse subbasal fascia, sometimes disintegrating into three spots; body smaller and generally more narrowly oval, polished; pronotum with the apical margin and a subquadrate externally broader spot at each apical angle pale in color..... 12

Elytra with a broad subbasal fascia, not quite attaining the side margins, broadly sinuate medially at its posterior margin and deeply emarginate at each side at base by two triangular pale areas; body very small, narrowly elliptic. 13

2—Scutellar spot small and oblong or rhomboidal. 3

Scutellar spot large, transversely suboval or elliptical, the subhumeral always wanting; suture never black 8

3—Pronotum distinctly margined with yellowish-white along the apical margin; each elytron with four spots, no one of which is ever altogether wanting, that on the callus and the post-humeral small, the medio-juxtasutural and subapical large; suture finely black 4

Pronotum without a pale apical margin toward the middle 5

4—Elytral spots well developed, the juxtasutural rounded or oval and subequal to the subapical, the subhumeral and post-humeral sometimes connected by a fine line extending from the outer side of the former to the inner side of the latter, which rarely shows also a tendency to extend forward externally in a fine line; under surface and legs black, the meso- and met-epimera white. Length 5.5–6.7 mm.; width 4.2–5.0 mm. New York, New Jersey, Virginia, Indiana and Iowa.

9-notata *Host.*

Elytral spots very small and feebly developed, the subhumeral and post-humeral reduced to small points, the juxtasutural transversely linear and much smaller than the transverse subapical, which is the largest; coloration as in *9-notata*, the body smaller. Length 4.7–6.3 mm.; width 3.8–5.0 mm. New Mexico (Fort Wingate), Arizona (Cañon of the Colorado River) and Colorado.

degener, sp. nov.

5—Elytral suture not at all darker in color; body broadly oval, strongly convex, the pronotum black with a subquadrate pale spot at each apical angle, the punctures fine and unusually close-set, giving a feebly alutaceous lustre; elytra immaculate, except a small black scutellar spot flanked at each side by a paler spot at the basal margin, the punctures fine and rather close-set, becoming quite strong laterally; abdominal plates strongly defined, broadly ogival in form internally. Length 5.8 mm.; width 4.5 mm. Nevada (Reno) ..... **nevadica,** sp. nov.

Elytral suture darker in color but extremely finely so, the scutellar spot, when well developed, sharply rhomboidal; elytral punctures very fine, sparse, the elytra frequently immaculate. 6

Elytral suture broadly black from the rhomboidal scutellar spot to the apex, toward which the vitta is noticeably broader. 7

6—Base of the prothorax very strongly arcuate, the sides scarcely more than two-thirds as long as the median length, the apical angles very obtuse and broadly rounded, with the pale spot large, transverse, somewhat prolonged and sharply angulate at its inner posterior limit; elytra with spots nearly as in *9-notata*, but smaller, the median discal rather more transverse, and the subhumeral frequently wanting. Length 6.4 mm.; width 4.7 mm. Utah ..... **prolongata** *Cr.*

Base of the prothorax very broadly arcuate, the sides but slightly shorter than the median length; apical angles more prominent and narrowly rounded, the pale spot small and subquadrate; elytra generally wholly immaculate, but in rare instances when spots are present they are rounded and disposed nearly as in *9-no-*

tata. Length 5.2–6.2 mm.; width 3.9–4.7 mm. California (Coast regions from Sonoma to San Diego) [*franciscana* Muls.]..... **californica** *Mann.*

7—Body more narrowly oval than usual in this group and very much less convex, the pronotum finely but strongly and closely punctured, with the pale spot at the apical angles small and subquadrate; elytra with an even oblique band just before the middle, terminating at equal distances from the suture and margin, and also with a short transverse spot at apical fourth or fifth; subhumeral spot completely obsolete, the punctures rather strong and close-set. Length 5.7 mm.; width 4.1 mm. Colorado..... **suturalis,** sp. nov.

8—Pronotum polished, the minute punctures well separated, the pale spot at the apical angles moderate in size and subquadrate; elytra each with a long oblique spot just before the middle and another shorter near the apex..... 9

Pronotum strongly alutaceous, the minute punctures deep and close-set, the pale spot at the apical angles large, extending to basal third..... 10

9—Submedian oblique fascia broad, entire and very conspicuous; pronotum evenly convex toward the sides. Length 6.0 mm.; width 4.6 mm. Vancouver Island [*lacustris* Lec.]..... **monticola** *Muls.*

Submedian oblique fascia tending to disintegrate into an outer smaller and inner and larger spot; body more broadly oval, polished, strongly punctured toward the sides of the elytra, the impression along the side margin of the pronotum extending arcuately inward just before the middle, disappearing at some distance from the edge; inner part of the abdominal plates acutely angulate behind. Length 6.4 mm.; width 5.0 mm. California..... **impressa,** sp. nov.

10—Body oval, very strongly convex, the elytra dull, finely and feebly punctate, each with a transverse spot at the middle as in *5-notata*, and a small rounded spot near the margin and somewhat more anterior, the two sometimes subunited, the subapical transverse spot nearer the margin than the suture. Length 6.7 mm.; width 5.2 mm. New Mexico..... **alutacea** sp. nov.

11—Elytral punctures rather strong, moderately close and conspicuous, finer toward the suture; besides the common subbasal fascia, each elytron has a transverse spot from the center of the disk to inner fifth, and a similar or rather wider transverse spot near the apex; submarginal spot before the middle extremely rare; suture always pale; pronotum with a subquadrate pale spot at each apical angle. Length 5.8–7.5 mm.; width 4.5–5.8 mm. Colorado, Utah, Wyoming, Montana and northward, and probably also northern California; [*transversoguttata* Cr. nec Fald., *nugatoria* Muls.]..... **5-notata** *Kirby*

12—Elytra with a broad subbasal fascia, equally wide throughout and but little prone to disintegration, each also with a broad oblique fascia at the middle and another near the apex; punctures strong and close-set. Length 4.9 mm.; width 3.75 mm. Rhode Island and Wisconsin [*trifasciata* Cr. nec Linn.]..... **perplexa** *Mls.*

Elytra with a narrower and more irregular subbasal fascia tending to disintegrate into three spots, and each also with two oblique bands as in *perplexa* but narrower and frequently altogether obsolete, the punctures fine, sparse and feeble. Length 4.0–5.2 mm.; width 2.9–3.8 mm. California (northern and middle coast regions); [*barda* Lec.]..... **juliana** *Muls.*

Elytra with a small and evenly equilatero-triangular black scutellar spot widely de-

tached from the subhumeral spots, which are well developed, and each also with the two oblique bands of the preceding species, which are here rather narrow; body more narrowly oval, the elytra sparsely but more strongly punctured. Length 4.5 mm.; width 3.2 mm. California (Siskiyou Co).

eugenii *Muls.*

13—Body strongly convex, the pronotum with a transverse pale spot at each anterior angle extending narrowly across the median parts of the apical margin; elytra rather strongly punctured, each with a large irregular transverse discal spot at apical third in addition to the broad basal fascia. Length 4.1 mm.; width 2.9 mm. Lake Superior [*kirbyi* Cr.]. ..... **tricuspis** *Kirby*

Perplexa, *juliana* and *eugenii* are related to *trifasciata*, but are all distinguishable at once by the form of the white apical area of the pronotum, which is expanded into a larger transverse spot in the American forms, but only narrowly and nearer the edge in the European. *Californica* is in no wise related to *5-notata* or *transversoguttata* as stated by Crotch and others, the occurrence of the very rare spotted examples showing that it is more closely allied to *9-notata*. *Quinquenotata* is certainly distinct enough from *transversoguttata* to be entitled to specific rank, and the variety *transversalis* seems to be identical with *nugatoria*; at any rate the name must disappear as it is preoccupied by Fabricius. *Difficilis* Crotch, I have failed to identify; it appears to resemble *prolongata* completely and may be synonymous. *Subversa* Lec., is probably allied closely to *degener*, but the author states "elytris distincte et subtiliter punctulatis, scutello nigro, et præcipue macula obliqua ad medium nigra notatis," which will not agree, as the most conspicuous spot in *degener* is the subapical; Crotch states that it is a variety of *trifasciata*, and that the elytra are spotless. Mulsant describes *eugenii* as being subhemispherical; this would be very inexact for the example before me, which seems to be typical in every other way; the appearance of the spots indicates that they never coalesce to form the subbasal fascia of *perplexa* and *juliana*.

Neoharmonia, gen. nov.

The genus *Harmonia* is not considered sufficiently distinct by European authors, and Crotch, while admitting the name to the American lists, assigned to it a number of species belonging to several different genera, no one of which appears to be a true *Harmonia*. The *Harmonia* of Mulsant is also composed of numerous dissimilar elements. In view of this confusion of judgment, it seems best to separate our two species as a distinct genus, allied to *Harmonia*, but differing apparently in the more widely reflexed side margins. The

form and ornamentation of the body, more broadly reflexed side margins, more depressed surface and emarginate mesosternum are all departures from *Coccinella*, to which these species have been attached, and the two genera are not even closely allied. The genus *Neoharmonia* probably includes also the Mexican *ampla* Muls., which I have not been able to examine. Our two species are the following: —

Broadly rounded, feebly convex, relatively strongly and unequally punctate; head black, yellow along the eyes; pronotum pale, with a large oblique fascia of black at each side extending from near the sides to the scutellum, gradually narrowing inwardly and departing slightly from the basal margin externally, also with two approximate median spots before the middle, which are sometimes united with the basal fasciæ at about their medial points; scutellum black; elytra pale yellow or reddish, each with two large subquadrate subbasal black spots and one still larger just before the middle, subtriangular and near the margin, also a large subquadrate spot near the margin at apical fourth, extending to inner third, where it is united with a common sutural vitta extending from near the apex to just behind the middle, also with a rounded spot just before the middle and near the suture, prolonged internally obliquely forward meeting—but not quite amalgamating with—its duplicate of the other elytron at the suture some distance behind the scutellum, forming two oblique inverted commas; under surface and legs blackish. Length 6.0 mm.; width 4.7–5.0 mm. Indiana; [*notulata* var. A Muls.]. . **venusta** *Mel h.*

Similar in form to *venusta* but smaller and less strongly and less unequally punctured, black above, the elytra with violaceous reflection, the pronotum with a rather wide oblique pale border, becoming very narrow basally and extending very finely along the apex, with a small medial dilatation; elytra each with a transverse pale fascia extending from inner third or two-fifths to and enveloping the margin, its posterior limit transverse and feebly sinuate, especially toward the margin, its anterior limit deeply sinuate, forming two acute points, one on the margin and one on the medial line, the inner flank of the inner point straight and oblique; legs black; epipleuræ with the outer edge black toward base. Length 5.0 mm.; width 4.0 mm. Louisiana; [*notulata* var. B Muls.]..... **notulata** *Muls.*

These two species seem to be amply distinct and not varietal forms of one—at least no intermediate forms are known. This may however be another case of dimorphism.

Cycloneda *Crotch.*

The type of this genus is the *Coccinella sanguinea* of Linné, described from Surinam. *Sanguinea* is therefore in all probability specifically different from any of our forms, and it is not included in the table given below. The species are all very closely allied; they have the elytra pale red or yellow or black and immaculate, those with spotted elytra belonging to other genera. The metacoxal plates generally have no trace of the oblique dividing line, but in *hondurasica*

there is a short but well developed line, which fails to attain the bounding curve by a long distance. The body is rounded or oval, very convex, minutely and obsoletely punctulate, with the side margins of the elytra quite broadly reflexed, the gutter extending around the outer and anterior parts of the humeral callus as in *Neoharmonia*, and the edge strongly and abruptly thickened ; the gutter is always more strongly, closely and subrugosely punctured toward base. The species before me may be outlined as follows :—

Pronotum black, with a narrow pale side margin extending with equal width posteriorly and internally along the base, terminating abruptly at about lateral sixth and sometimes extending more narrowly along the median parts of the apex, also with an isolated small pale spot at the middle of the length and lateral fourth..2

Pronotum as in the preceding section, except that the apical margin is always broadly pale, with a posterior medial spur in both sexes, and the sublateral pale spot is always united to the pale apex and sometimes also to the basal pale border, isolating a large black spot; body smaller..... 6

Pronotum completely black..... 7

2—Body broadly oval but distinctly longer than wide, the marginal bead of the elytra not or only slightly darker. 3

Body extremely dilated, very nearly as wide as long, the marginal bead distinctly black. 5

3—Metacoxal plates with a distinct but short disconnected oblique line; body rather more convex ; female without a white apical pronotal margin at the middle. Length 5.6 mm.; width 4.6 mm. Honduras.....**hondurasica,** sp. nov.

Metacoxal plates devoid of any trace of an oblique line 4

4—Elytra generally luteo-flavate, without distinct paler spaces at the sides of the scutellum ; pronotum of the female generally with the apical margin narrowly pale, usually subinterrupted at the middle and not posteriorly spurred. Length 5.7–6.0 mm.; width 4.7–5.0 mm. Florida..... .**immaculata** *Fabr.*

Elytra deep and bright scarlet, with a short transverse basal paler spot at each side of the scutellum which is black as usual ; pronotum relatively narrower than in *immaculata* and rather more strongly rounded at the base, the median length relatively greater when compared with the sides, having a narrow apical margin with narrow parallel posterior prolongation pale in the male, the female interruptedly margined with paler and without a medial spur. Length 4.4–5.8 mm.; width 3.7–4.8 mm. Texas (Brownsville), and California (San Diego and Los Angeles) .. ..**rubripennis,** sp. nov.

5—Body nearly as in the preceding but with the isolated pale spots of the pronotum smaller, the apical margin rather broadly pale in the male, with a parallel medial spur extending rather beyond the middle ; in the female the apical edge is wholly devoid of a pale margin, the pale border ending abruptly at the eyes. Length 4 5–5 5 mm.; width 4.2–4.9 mm. Bahama Islands (Egg Island)—Mr. Wickham..... .....**limbiter,** sp. nov.

6—Sublateral spur from the pale apical margin never joining the basal pale area, the medial spur of the pale apex short and triangular and not parallel as in the

preceding species; body more elongate-oval, the elytra luteo-flavate, with more narrowly reflexed margins, which are always paler. Length 4.0–5.0 mm.; width 3.5–4.0 mm. New York, Pennsylvania, Indiana and Iowa.....**munda** *Say*

Sublateral spur longer, frequently joining the basal pale border; medial spur long and narrow, gradually acuminate and extending to or beyond the middle of the disk; body smaller and rather more rounded, the elytra generally bright scarlet in color and with almost completely obselete punctures, occasionally yellow, and, in a northern example, with more distinct punctuation. Length 3.8–4.7 mm.; width 2.9–3.4 mm. California (Sta. Cruz to Siskiyou Co.), Washington State, British Columbia and Idaho (Cœur d'Alène)..... **polita,** sp. nov.

7—Body broadly rounded and rather less convex, shining, deep black throughout above and beneath, the sides of the prothorax rather less arcuate, and the basal angles more narrowly rounded; elytral punctures much larger and more distinct than usual but sparse. Length 4.3 mm.; width 3.5 mm. Locality not recorded.

ater, sp. nov.

Ater is widely divergent, both in coloration and to some extent in punctuation and form of the prothorax, but seems to be assignable to *Cycloneda*. The unique type was discovered in the Levette cabinet but had no label attached.

Olla, gen. nov.

In this dimorphic genus the ventral plates are almost as completely divided by an oblique line as in *Coccinella*, but the line does not quite form a junction with the posterior bounding curve; in view of the close similarity of the body with *Cycloneda*, therefore, I have placed the genus at this point of the series rather than near *Coccinella*, with which it has little or no affinity. The following species represents the pale forms with spotted dorsal surface, more numerous in Mexico:—

Broadly oval and strongly convex, very finely and obsoletely punctulate, the side margins as in *Cycloneda*; upper surface pale brownish-yellow, the head pale and immaculate; pronotum with a basal black spot at two-fifths from the middle and a short transverse spot before the scutellum, also with two posteriorly converging black spots at the centre and a narrow elongate spot on the median line joining the ante-scutellar spot, and, at lateral eighth and basal third, a small rounded spot; scutellum black in the male; elytra each with a subbasal transverse series of four small black spots, a medial series of three spots, the inner the largest and transversely crescentiform and, at apical fourth near the margin, another small rounded black spot; under surface and legs pale. Length 4.25–5.25 mm.; width 3.4–4.0 mm. Indiana, Texas (Brownsville and El Paso), Arizona and California (Sta. Cruz and San Francisco)..... .....**abdominalis** *Say*

The large series before me exhibits an extremely small amount of variation, which, considering its extended geographical range, is very remarkable. The male has the fifth ventral truncate, becoming very feebly sinuate toward the middle, with the edge there slightly concave;

the female has the fifth segment a little longer and very broadly ogival at apex.

The following black species were said by Crotch to form a simple variety of *abdominalis*. My series of *abdominalis*, as before stated, and of two of the species given below, are quite extended, and I am unable to detect any noteworthy variation of any kind, even in the outline of the spots, the constancy of form and ornamentation being in fact one of the most remarkable instances of the kind known to me; these series are each made up of males and females. Although I do not remember to have ever taken the black with the pale spotted form in California, where the latter is abundant, it should, however, be noted as a suspicious fact that several of the localities yielding *abdominalis* in my series are common also to the black species given below. It is, therefore, possible that we may have here a case of dimorphism, and the same may be true of *Adalia humeralis* and *bipunctata*, and of *Hippodamia divergens*, or allied species, and *mœsta*, but in the absence of intermediate forms any consanguinity in these very puzzling cases can only be proved by systematic biological observation. I might prefer rather to consider these perfectly constant and well-established aberrations of color—and, to some extent, of accompanying structure as well, such as the more finely reflexed side margins in the black forms,—more as protective adaptations to slightly changed environments. Of these black forms we have, at any rate, three quite well-defined variations, as follows:—

Body very broadly rounded, the head pale, sometimes more or less nubilate with piceous, the pronotum black, without a well-defined pale apical margin, but with a small central spur, the side margins obliquely pale, the pale area either curving narrowly around the basal angles or disappearing before reaching the base, its oblique inner boundary nearly straight and but slightly uneven; elytra minutely punctulate, gradually rather more distinctly toward the sides, which are but narrowly though strongly reflexed, with the edge beaded, each with a large transverse and irregular spot before the middle, which is emarginate internally at apex and externally at base; under surface, epipleuræ and legs black; meso- and met-episterna, hypomera, tarsi and abdomen pale. Length 4.2–4.9 mm.; width 3.5–4.2 mm. Texas (Brownsville and El Paso), Arizona and California (Los Angeles and San Francisco)..... **plagiata,** sp. nov.

Body as in the preceding but larger and similarly colored, except that the apical margin of the pronotum is narrowly pale with the medial spur distinct and the oblique inner boundary of the lateral pale area more distinctly spurred at its middle point; elytral pale spot before the middle smaller, triangular and feebly oblique, the outer side truncate, the inner angle narrowly rounded. Length 5.0–5.7 mm.; width 4.5–4.8 mm. Florida..... **sobrina,** sp. nov.

Body narrower and oval, more strongly convex, the pronotum similarly colored but without a pale apical margin or medial spur, the oblique lateral spot not reaching the base in the type, but with a minute detached spot at the basal angles; elytra with a large pale spot having a straight transverse base, from the extremities of which anteriorly the outline is evenly semi-circular. Length 4.8 mm., width 3.75 mm. New Mexico (Las Vegas)..... **fenestralis**, sp. nov.

One of these species was described by Mulsant under the name *binotata Say* (=*affinis* Rand.), which belongs to *Hyperaspis*, and the *oculata* of Fabricius, to which they were referred by Crotch, is described as having a large rounded pale spot at each side of the pronotum, and must therefore apply to some other species, possibly of *Neda*.

Cleis *Muls.*

The species which I have ventured to assign to this genus are rather small in size and have a distinctly oblong-oval form, with irregular elytral ornamentation. Those before me may be recognized by the following characters:—

Pronotum with three spots forming a central posteriorly pointed triangle, the posterior the smallest and elongate-oval, the anterior each with a small spot attached antero-externally, also with a larger irregular basal spot at the middle of each side and another subtriangular at the middle and lateral eighth, some or all of the spots generally united, forming an irregular design with a large M-shaped central figure; scutellum black; elytra a little longer than wide, somewhat broadly ogival at apex, distinctly but not very unequally punctate, pale in color with a piceous-black design, the most conspicuous feature of which is a longitudinal and slightly oblique vitta from the callus to apical fifth, the two united transversely across the suture behind and at basal two-fifths, and with a subcontiguous spot externally at the posterior limit; in the most developed form the entire elytra are black, with a pale border dilated internally at the middle, a large discal spot behind the middle and a basal fascia irregularly dilated; in the paler forms the dark fascia at two-fifths is broken up and all the lines much reduced in width; under surface and legs pale reddish-brown, the prosternum, hypomera, median parts of the meso- and metasterna, epipleuræ and entire parapleuræ of the hind body pale yellowish-white. Length 4.0–5.0 mm.; width 3.0–3.5 mm. Massachusetts, New Jersey and Wisconsin (Bayfield); [*concinnata* Melsh., *contexta* Muls.]..... **picta** *Rand.*

Pronotum similar, except that the sublateral spot is feebler and usually disintegrated; body similar in form and with but slightly feebler punctures but smaller and with the dark design of the elytra paler in color and less developed, the external spot near the posterior extremity of the vitta frequently prolonged irregularly to the side margin. Length 3.7–3.9 mm.; width 2.6–2.9 mm. California (Alameda and Siskiyou Cos.)..... **minor**, sp. nov.

Pronotum similar but relatively smaller and with the black design more irregular, with a few black points at the middle of each side of the apex in addition;

elytral design less developed, consisting of a fine straight vitta from the callus to the middle at apical fourth, where it is slightly dilated internally, each also with a small elongate dark spot near the vitta internally at two-fifths, and another at three-fifths from the base at the lateral margin and remote from the vitta. Length 4.0 mm.; width 3.0 mm. Hudson Bay..... **hudsonica,** sp. nov.

The last of these is quite distinct from the other two in the more depressed form and in the displacement of the small postero-external spot with reference to the dark vitta; it also has the suture finely black throughout.

Anisocalvia *Crotch.*

The type of this genus is the European *14-guttata,* which is erroneously referred to *Harmonia* in our lists; it is more narrowly oblong than any of our species and has the upper surface brownish-orange in color, the elytra with fourteen small rounded paler yellow spots. The pronotum has a longitudinal impression along the sides, close to, but independent of, the concave margin caused by the reflexed edge. The body is evenly oval, moderately convex, with rather narrowly reflexed side-margins, becoming broader around the base of the callus; the punctures are coarse and unequal and the mesosternum quite deeply sinuate, the prosternum bilineate. Our species may be distinguished as follows:—

Elytra black, or black with pale spots..... 2

Elytra pale, with eleven large rounded or oval black spots, of which three are on the suture, the one at the apex transverse 3

2—Body in the female black, the pronotum but little more than twice as wide as long, black with a narrow apical and lateral margin and median line pale, the sides feebly convergent, rounding and more conve[illegible]ut at apex; elytra black throughout, with the reflexed side-margin pale; beneath black, the epipleurae pale. Length 5.3 mm.; width 4.3 mm. New [illegible]k (Adirondack Mts.); [*similis* Rand., *obliqua* Rand.] ..... **cardisce** *Rand.*

Body in the female less broadly oval, black, the pronotum with a narrow apical and lateral margin and a fine median line not [illegible]ning the base pale; sides rather strongly convergent, evenly and broadly arcu[illegible] from base to apex, the disk distinctly more than twice as wide as long, stro[illegible], moderately closely punctured; elytra black, with a fine side margin, towar[illegible]apex only, paler, and a rounded discal pale spot near the suture and two-thir[illegible]s from the base; femora black; epipleurae piceous-black, the abdomen pale a[illegible]d the entire limb; in the male the body is similar, the pronotum similarly colo[illegible]ed, but the elytra have fourteen pale spots, that near the suture and apical third being the largest and with its postero-external margin nubilate, the legs and epipleurae pale throughout, the latter slightly black opposite the back areas of the upper surface, the abdomen pale, clouded with blackish toward the middl[illegible] and base. Length 5.2 mm.; width 4.0 mm. British Columbia..... .....**victoriana,** sp. nov.

3—Body evenly elliptical, pale yellowish in color, the pronotum black with apical and lateral margins and entire median line pale, the black area joining the basal margin at the middle of each side; punctures strong and quite close-set; sides evenly convergent, broadly and evenly arcuate; elytra longer than wide, rather narrowly rounded behind, the spots large, separated generally by about one-half their widths; epipleuræ, limb of the abdomen, tibiæ and tarsi pale. Length 5.2 mm; width 3.9 mm. British Columbia..... **12=maculata** *Gebl.*

Body similar but smaller and rather more broadly oval, with the prothorax relatively smaller and having the sides very much more strongly convergent, the basal angles more broadly rounded and the punctures finer and sparser; coloration similar, except that the elytral spots are relatively much larger and only very narrowly separated, the two transversely placed at the middle, generally confluent. Length 4.0 mm.; width 3.2 mm. Hudson Bay. ..... **elliptica,** sp. nov.

The form named *hesperica* by Crotch, is not included above and must be regarded as a manuscript name. If any modification whatever of a species is worthy of a distinctive name, it is worthy also of a description better than this: "Ventral segments and metasternum almost smooth—Arizona," which is not even of comparative worth, as these parts in the *similis*, described immediately above under the name of *14-guttata*, are not alluded to at all in regard to their sculpture.

Anatis *Muls.*

These are large, broadly oval or rounded and convex species, with rather coarse unequal punctuation and deeply sinuate mesosternum. The prosternum is rather broad between the coxæ, and is transversely convex along the median line throughout, terminating at apex in a conspicuous prominence. The antennæ are moderately developed in proportion to the size of the body, and the prothorax is less transverse than usual. The American species are as follows, *ocellata* being introduced for comparison:—

Body oval or subrhomboidal, the pronotum black with broadly pale side-margins and a black marginal spot extending from the basal angles to about two-fifths, angularly oblique internally but never attaining the central black area, the sides of which are feebly converging, rectilinear but emarginate at the middle, also with two approximate pale basal spots at the middle..... 2

Body broadly subrhomboidal, the pronotum black with a broad yellow vitta extending from base to apex, parallel and slightly distant from the side margin, which it joins at the apical angles, also with two very minute pale points near the basal margin at the middle 3

2—Elytra evenly oval, distinctly longer than wide, the side-margins black, the submarginal spot at two-fifths, elongate-oval and not laterally extended, the subsutural spot of the same range elongate; basal pale spots of the pronotum subquadrate, not united at base; pale apical margin transverse, finely interrupted at the middle. Length 8.5 mm.; width 6.3 mm. Europe.....***ocellata** *Linn.*

Elytra rounded or feebly dilated at two-fifths, scarcely as long as wide, the sides generally evenly arcuate with pale margin, the spots not ocellated, the external at two-fifths rounded, generally not or only narrowly prolonged laterally; basal spots of the pronotum slightly oblique, never united at base, the pale apical margin bioblique, interrupted or very nearly so at the middle. Length 6.5–8.7 mm.; width 5.5–7.0 mm. Rhode Island, New Jersey, Indiana, Iowa and Arizona [*labiculata* Say]..... .. **15-punctata** *Oliv.*

Elytra oval, not or scarcely appreciably dilated at two-fifths, rather longer than wide; submarginal spot at two-fifths geminate, the outer part enveloping the margin, which is pale elsewhere with the fine thickened edge slightly darker; spots all surrounded by a broad pale border, the ground tint red-brown; basal spots of the pronotum short but rather large, angulate antero-externally, united at base; pale apical margin transverse and entire, not interrupted but rather broader at the middle. Length 8.7–10.0 mm.; width 6.8–7.4 mm. Indiana, Wisconsin (Bayfield) and Idaho (Cœur d'Alène)..... .. **mali** *Say*

Elytra decidedly rhomboidal, scarcely as long as wide, strongly dilated at two-fifths, where there is a small marginal spot; remainder immaculate or with faint vestiges of one or two of the spots of the preceding species, the punctures much smaller and nearly equal; basal spots of the pronotum large, much extended antero-externally, uniting with the lateral pale area and broadly united at base; pale apical margin transverse, not interrupted but rather wider at the middle. Length 8.3 mm.; width 6.9 mm. California (Siskiyou Co.)..... **rathvoni** *Lec.*

3—Elytra very broadly rounded or subrhomboidal, slightly more dilated at two-fifths, scarcely as long as wide, the punctures strong but rather less coarse and more nearly equal than in *15-punctata*, bright brownish-red or ochre, without trace of maculation but having the entire limb deep black, the border clearly defined and scarcely occupying the entire reflexed portion, broadening a little at two-fifths; pronotum scarcely three-fourths wider than long, broadly, feebly convex, deeply impressed just within the lateral margins, rather finely and not closely punctate; head black; entire legs and under surface black, the epipleuræ black in external and red in internal half of their width from base to apex. Length 8.7–10.0 mm.; width 7.5–8.7 mm. New Mexico (Fort Wingate)..... **lecontei,** sp. nov.

It can be readily observed that *15-punctata* is not even closely related to the European *ocellata*. *Signaticollis* of Mulsant, I have not seen, but it may be the same as *mali* Say. *Lecontei* somewhat resembles the Mexican *Pelina hydropica*, but I cannot see that it differs generically from our other species of *Anatis;* the antennal club is obtriangular with the three joints rather loosely articulated, shorter than wide and but little more developed internally than externally.

Neomysia, gen. nov.

In the shorter, more feebly emarginate prothorax, with more broadly rounded apical angles, the present genus evidently approaches the Psylloborini closer than any other of the Coccinellini, and this is also

confirmed somewhat by the antennæ, which are rather long, slender, with very feebly dilated 3-jointed club having somewhat elongate and loosely connected joints. The anterior coxæ are not unusually widely separated, and the prosternum is not prominent at the middle of the apex; the mesosternum is broadly sinuate. The genus seems to differ from *Mysia*, the type of which is *oblongoguttata*, in the more narrowly reflexed margins, very fine punctuation and polished surface; it has but little affinity with *Anatis*. Our species are the following:—

Pronotum without a well-defined discal darker area.....2
Pronotum with a large trapezoidal median dark area, which is well defined externally..3
2—Pronotum pale yellow, with a feeble red-brown clouded basal spot at lateral fourth and a small nubilate V-shaped spot just before the middle on the median line, also with a feeble disintegrated discal cloud near each side; elytra yellow, each with three fine incomplete and interrupted subequidistant longitudinal vittæ of pale red-brown Length 7.0 mm.; width 5.7 mm. New Mexico (Fort Wingate) . ...**interrupta,** sp. nov.
Pronotum pale yellowish-brown, without maculation, except a feeble trace of the two basal clouded spots of the preceding; elytra similar in color, with three very feeble incomplete nubilate vittæ on each, the two inner uniting near the apex and broader, the outer narrow and almost completely obsolete. Length 6.7 mm.; with 5.4 mm. California..... .....**horni** *Cr.*
3—Elytra uniformly pale yellow-brown, sometimes slightly paler along the base and externally, rarely with feeble trace of two brown vittæ uniting near the apex at the middle of the width; pronotum in the male black, with broad yellow side margins, obliquely subrectilinear internally, inclosing a detached central black spot and with barely a trace of a small pale spot before the scutellum, the apex rather broadly yellow in a straight line slightly broader at the middle; female similar but with the dark area pale brown with clouded blackish lateral edges, the pale apex not dilated at the middle. Length 6.4–7.2 mm.; width 4.9–5.5 mm. Canada, New Jersey, Indiana and Texas (Galveston); [*notans* Rand.].
pullata *Say*
Elytra pale, with broad irregular longitudinal markings.....4
4—Pronotum black, obliquely yellow in outer fifth, the pale margin inclosing a small internally angulate black spot just behind the middle and equidistant from the margin and central black area, which is bordered broadly with yellow at apex, the margin dilated posteriorly along the median line for a short distance, also with a small pale bifurcate spot before the scutellum; elytra pale, with a broad black subsutural vitta from the base for three-fifths, uniting broadly at base with a short broad median vitta, which extends one-fifth, with a triangular black spot in the same line just before the middle and continued again as a broad vitta from three-fourths to seven-eighths, the posterior extremity being in line with the subsutural vitta, also with a narrow external vitta from one-third to three-fourths; suture finely black throughout, a whitish basal spot at each side of the scutellum; under surface and legs black. Length 6.6 mm.; width 5.3 mm. Lake Superior.
randalli, sp. nov.

Pronotum black in a broad trapezoidal median region, separated from the apical margin by a very fine nubilous pale border not prolonged posteriorly at the middle, and having, at each side behind the middle, a small lateral spur not extending more than half way to the side margin, without trace of a pale spot before the scutellum; elytra much longer than wide, with an inner broad black vitta to nearly two-thirds from inner third of the base, its posterior extremity subunited with a slight dilation of the fine black sutural margin, the latter dilated near the base, also with a broad vitta along the median line not united with the inner vitta basally, extending unbroken from the base at outer two-fifths nearly to the apex, angularly dilated within at the middle, and a fine external vitta from basal to apical third or more; legs black. Length 6.3 mm.; width 4.5 mm. Colorado.
montana, sp. nov.

These species are all evenly oval and strongly convex, and vary much less in size individually than is usual in this family. *Subvittata* of Mulsant, I have failed to recognize; the description of the pronotal ornamentation will not apply, even approximately, to any form described above.

PSYLLOBORINI.

In the structure of the front, the Psylloborini are evidently intermediate between the Coccinellini and Epilachnini. The two following genera are very closely related to each other, and inhabit the eastern and western hemispheres respectively. The surface of the head is pubescent in both. The body is small in size, convex, the pronotum small, diaphanous at the edges and broadly reflexed at the sides; body pale in color, spotted with a darker tint above; mesosternum truncate, the claws with a large quadrate tooth internally at base. The two genera before me may be characterized as follows:—

Elytra more broadly reflexed at the sides; scutellum well developed.... ...* **Thea**
Elytra very narrowly reflexed at the sides, the scutellum minute..... **Psyllobora**

In almost every other character these two genera are so nearly similar, that it might scarcely be conducive to taxonomic convenience to maintain them distinct. Still, there are certain peculiarities in the types of ornamentation that render them easily separable at first sight. The genera *Halysia* and *Neohalyzia* are composed of larger species, which also belong to the Psylloborini.

Psyllobora *Chev.*

A large genus, of which but a small proportion of species have yet been described. As in many other genera, the same general scheme of arrangement of the elytral spots is common to many species, and the material of our fauna has never been critically examined. The

species in my cabinet inhabiting the United States may be readily identified as follows :—

Elytra without common sutural spots, the sutural margin pale.....2
Elytra with two common sutural spots at one-third and two-thirds from the base, the sutural margin narrowly black throughout.....10
2—Elytral spots uniform in color throughout.....3
Elytral spots unequal in intensity of coloration among themselves.....9
3—Middle of the three subbasal spots broadly confluent with the small spot on the callus, forming a single spot. Atlantic regions.....4
Middle spot narrowly united with the external basal spot, the latter semi-detached or well defined by a deep strangulation ; elytral punctures minute and sparse. Pacific coast regions.....8
4—Each elytron with nine spots, some of which are more or less confluent among themselves, the outer basal considered as having disappeared by fusion ; punctures distinct.....5
Each elytron with a large discal reniform spot, the punctures minute and sparse.....7
5—Form broadly oval, the elytral spots black.....6
Form narrowly oval, the elytral spots brown in color ; pronotum faintly punctulate, the ante-scutellar spot distinct ; elytra much longer than wide, quite strongly but not closely punctured, each with two large subequal and approximate basal spots, the inner more oblique, the outer rounded, also with two equal subsutural spots, slightly elongate-oval, at basal third and near apical fourth, three submarginal at two-fifths, three-fourths and subapical, increasing in size posteriorly, a large discal median spot fused with a smaller one in the same line at two-thirds, the central spot equal in size to the subapical. Length 2.15 mm. ; width 1.4 mm. Iowa (Keokuk).....**obsoleta,** sp. nov.
6—Pronotum finely but distinctly punctate, the ante-scutellar spot small but distinct ; elytra strongly and very closely punctured, the spots well developed and occupying together as much area as the pale interspaces, arranged as in *obsoleta*, but with the outer basal much larger and more prolonged posteriorly, and the subapical much smaller, oblique and subdivided into two small equal spots, the two discal confluent spots similarly united to the subsutural and submarginal spots near two-thirds. Length 2.1–2.7 mm. ; width 1.6–2.0 mm. Rhode Island, New Jersey, Iowa and Wisconsin.....**20-maculata** *Say*
Pronotum subimpunctate, the ante-scutellar spot obsolete ; elytra as in the preceding, barely as long as wide, distinctly but much less closely punctured, the spots occupying nearly the same relative positions but very much smaller, the pale area in excess, the spots all isolated, the submarginal at a much greater distance from the edge, the outer basal smaller and not prolonged posteriorly, the subapical quadrate. Length 1.9 mm.; width 1.5 mm. Florida (Palm Beach).
parvinotata, sp. nov.
7—Body very small, rounded, with very minute sparse punctures ; pronotum subimpunctate, the five spots present but pale brown in color ; elytra very pale yellowish-white, with brown markings consisting, on each, of two subbasal spots, the outer the larger and with a lobe on the callus, a small faint subsutural cloud at one-third, a large bilobed discal spot extending from basal third to apical fifth,

prolonged and acuminate antero-externally and a large bilobed and less well-defined subapical spot. Length 1.6 mm.; width 1.3 mm. Texas (Brownsville)—Mr. Wickham..... .....**reniter**, sp. nov.

8—Similar in form and size to *20-maculata*; pronotum impunctate, the five spots smaller and somewhat clouded; elytra as long as wide, narrowly rounded at apex, the punctures extremely minute, sparse and not impressed, the spots black and well defined, nearly coincident in position with those of *20-maculata*, but with the outer basal subdetached, the submarginal at one-third very small, anterior subsutural much more elongate and the oblique subapical more nearly subdivided and in the form of a dumb-bell. Length 2.7 mm.; width 2.0 mm. Idaho (Cœur d'Alène) .....**borealis**, sp. nov.

Similar to *20-maculata* but rather more broadly rounded, smaller than *borealis* and with the elytral punctures impressed though minute and sparse; elytral markings as in *borealis* but pale brown in color, the subapical completely divided, forming two small rounded and widely separated spots. Length 2.2 mm; width 1.75 mm. California (Siskiyou Co.) ....**separata**, sp. nov.

9—Body broadly oval; pronotum subimpunctate, the five spots more or less nubilate, the two anterior transversely triangular; elytra about as long as wide, with rather fine but impressed sparse punctures, pale in color, with spots arranged as in *20-maculata* but pale suffused brown in color, except the inner basal and the two submarginal at one-third and two-thirds from the base, which are well developed, particularly the anterior, which three spots are blackish in color; subapical spot very faint but usually completely divided Length 1.9–2.6 mm.; width 1.4–1.9 mm. California (coast regions from San Diego to Humboldt Co.).....**tædata** *Lec.*

Body broadly oval and similar in punctuation and ornamentation to *tædata*, except that the pronotal spots are so faint as to be scarcely traceable and the anterior of the two darker submarginal spots of the elytra almost completely obsolete, the two subbasal nearly equal in depth of coloration, and that the outer—which is perfectly simple and elongate-oval in *tædata*, uniting generally with the central spots—is here abbreviated and isolated and united to a distinct semi-detached spot on the callus. Length 2.6 mm.; width 1.9 mm. California.

deficiens, sp. nov.

10—Much more narrowly oval than *20-maculata* but similar in size, and with the five pronotal spots similarly placed and large, except the ante-scutellar, which is very small and punctiform; elytra much longer than wide, white in color, very minutely, sparsely punctulate, the punctures not impressed, the markings deep black and abruptly defined, consisting, besides the sutural marks, of eight spots on each: two basal, the outer irregular and obliquely prolonged postero-externally parallel to the margin for a short distance, one large and triangular, nearer the suture than the margin at two-fifths, one small submarginal at one-third, another larger at three-fourths obliquely united to a small spot behind the discal, and two isolated subapical, the inner the larger. Length 2.7 mm.; width 1.8 mm. Florida (Dry Tortugas) .....**nana** *Muls.*

The form of the outer basal spot of the elytra seems to be a valuable character, and the large series before me show that most of the

others employed in the table are sufficiently constant to afford specific criteria.

EPILACHNINI.

A very extensive tribe, especially in the tropics of the western hemisphere, but of which only two or three species occur within the United States. It is probable that the great genus *Epilachna* may be subdivided for convenience, as there is a remarkable variety in form, sculpture and style of ornamentation among its species.

Epilachna *Chev.*

The two species known to me may be defined as follows:—

Body very broadly oval, shining, pale orange-yellow, the punctures rather coarse, deep, unequal and moderately close; pubescence short, moderately abundant; head immaculate, the pronotum pale, with an apical and basal black spot on the median line, the basal the larger, and one at each side just behind the middle near the margin; elytra each with two elongate-oval sutural spots just behind the middle and at basal fifth, the posterior much the larger, also with two submarginal in range with the two subsutural, a median subbasal very small, a central subequal to the posterior submarginal, and a large subquadrate subapical spot; metasternum blackish; legs pale. Length 7.2–8.0 mm.; width 6.0–6.6 mm. Eastern United States..... **borealis** *Fabr.*

Body more narrowly oval and distinctly smaller, duller in lustre, densely pubescent and very closely, unequally punctured, pale yellowish-brown in color, the head and pronotum without spots; each elytron with three very small subbasal spots, the median less basal, and three in a transverse range just before the middle, scarcely larger than the subbasal, the median a little larger, and two near apical fourth, as small as the subbasal, placed near inner fourth and outer third; under surface and legs pale throughout. Length 6.4–7.0 mm.; width 5.0–5 5 mm. Sonoran regions..... **corrupta** *Muls.*

Mexicana Guér., is said to occur within the United States, but I have seen no examples from this country; the upper surface is black throughout, the elytra each with six large rounded pale spots in two equilateral triangles; my specimens, from Guerrero, have the legs pale, the femora black except at apex, in fact colored exactly as in *defecta*, from Honduras. *Defecta* is, however, a shorter and more broadly ovular species, with less pronounced dilatation at basal fourth of the elytra. The metacoxal plates in *Epilachna*, are arcuate but not quite entire, and are always much shorter than the first segment.

PENTILIINI.

This tribe includes the genera *Pentilia*, *Cryptognatha* and probably *Bura* of South America and the West Indies, *Lotis* and *Xestolotis* of

Africa and *Sticholotis* of Asia. They are rounded, subglobular insects of small or moderate size, recalling Chilocorini in general appearance but with the formation of the front nearly as in Coccinellini. The minute species of the United States, which we have heretofore designated by the name *Cryptognatha*, because of prosternal structure, together with *Œneis*, belong to another taxonomic division of the family characterized by a more compact body and narrow epipleuræ. *Nestolotis* will be characterized in an appendix to the present paper.

It is possible that *Menoscelis* and *Thalassa* may also form either a part of this tribe or a special tribe closely related, but I have seen no examples

CHILOCORINI.

The genera of this tribe have quite a different general habitus from those of the Coccinellini, being still more strongly convex and even subcompressed, with the outer part of the epipleuræ still more steeply descending; the prevailing type of ornamentation, also, is different, being black with pale spots, while in the latter it is usually pale with black spots. Besides the radically different structure of the epistoma, the antennæ diverge widely from those of the preceding tribes, except some of the Pentiliini, being very short, compact and narrowly clavate. The three American genera represented before me are the following:—

Tibiæ obtusely dentate externally near the base; pronotum pubescent toward the sides, with a double marginal line laterally at the base; posterior legs moderately retractile, the abdomen and epipleuræ concave for the femora ..... **Chilocorus**

Tibiæ not dentate externally; pronotum not pubescent toward the side margins, with the double marginal line at the sides of the base not evident; in *Axion*, however, with the edge impressed near the sides of the base, forming a closer junction with the edges of the elytra..... 2

2—Posterior legs strongly retractile, epipleuræ and base of the abdomen deeply concave for the femora; body large, extremely convex or subcompressed and very minutely punctulate..... **Axion**

Posterior legs not retractile, the abdomen and epipleuræ not concave behind the coxæ; body small, usually with more distinct punctuation; ornamentation variable. **Exochomus**

In *Chilocorus* and *Axion* the upper surface is deep black, the combined elytra having two or three red spots; the former occurs on both sides of the continent but *Axion* seems to be peculiarly characteristic of the Sonoran fauna.

Chilocorus *Leach.*

In this genus the species have a remarkable superficial community

of habitus, and are consequently difficult to define; they are generally larger than in *Exochomus*, but smaller than in *Axion*. Those before me may be identified as follows:—

Sterna black, the abdomen red, generally black toward the middle of the base.....2

Sterna in great part red, the prosternum alone black; abdomen red throughout, the legs black as usual; prothorax more narrowly rounded at the sides; body deep black above.....4

2—Elytral spot small, rounded; body black above, very broadly oval, the elytral punctures generally stronger and becoming quite coarse toward the margins; head distinctly pubescent. Length 4.4–5.0 mm.; width 3.8–4.3 mm. Vermont, New York, Pennsylvania, Indiana and Iowa.....**bivulnerus** *Muls.*

Elytral spot more or less evidently larger and always transverse, the head less conspicuously pubescent; elytral punctures finer.....3

3—Broadly oval and less compressed, black with distinct bluish reflection; sides of the pronotum but little more than a third as long as the median line; elytral spot large, transversely oval, extending from basal fifth to the middle and from inner fifth or sixth to outer fourth. Length 4.2–4.8 mm.; width 3.4–3.8 mm. California.....**orbus,** sp. nov.

Narrowly oval and more pointed behind, smaller and narrower than *bivulnerus*, compresso-convex, deep black above without metallic reflection; sides of the pronotum fully two-fifths as long as the median line; elytral spot distinctly variable in size, but as an average extending from rather more than basal fourth to a little before the middle and from inner to outer third or fourth. Length 3.7–4.75 mm.; width 3.0–3.8 mm. California (San Francisco) to Washington State.

fraternus *Lec.*

4—More broadly oval; pronotum deeply impressed apically near the angles in the male, with the edge there rufescent; elytral spot more uneven in outline, generally extending from basal fourth to the middle and from inner fifth or sixth to outer fourth or fifth. Length 5.0 mm.; width 4.5 mm. Honduras.

cacti *Linn.*

Narrowly oval and more compressed, the pronotum in the male not, or only very feebly and indefinitely, impressed apically near the angles, with the edges there not at all paler; elytral spot more evenly outlined, generally extending from basal fifth to the middle and from inner fifth or sixth to outer fourth; punctures very fine, becoming slightly larger toward the margins. Length 4.4–4.6 mm; width 3.75 mm. California (San Diego).....**confusor,** sp. nov.

The longitudinal impression on the flanks of the elytra are analogous to those previously noted in *Olla*, of the Coccinellini.

Axion *Muls.*

These species are the largest of the tribe and are colored nearly as in *Chilocorus*, but with a greater development of the red spot. The surface of the elytra is almost completely impunctate; the pronotum is feebly punctate near the side margins, and the apical margin near the

angles is always more or less pale. The four species in my cabinet may be separated by the following characters:—

Elytra together with two large obliquely oval red spots, the side margins not at all thickened; abdomen black. Sonoran regions.....2

Elytra with three smaller red spots one of which is sutural, the edges with a strongly thickened bead; abdomen red throughout. Atlantic regions.....4

2—Elytra quite broadly reflexo-explanate at the sides; upper surface strongly shining; body large, broadly rounded behind in both sexes, the male with the elytral spot rather small, but slightly oval, extending from basal fifth or sixth to the middle and from inner third or fourth to outer fourth or fifth, the spot in the female larger, extending from very near the base at outer two-thirds to the middle and from inner fourth to outer sixth or seventh near the humeri. Length 6.0–6.7 mm.; width 5.2–5.75 mm. Arizona; [*texanum* Lec.].

plagiatum *Oliv.*

Elytra very narrowly, and but slightly, less declivous toward the edges, the body smaller.....3

3—Body broadly rounded behind, alutaceous in lustre, the elytral spot in the female rather small in size, rounded, with the anterior outline oblique and emarginate, extending from basal sixth to the middle and from inner two-fifths to outer fourth; abdomen and legs black as in *plagiatum*. Length 5.3 mm.; width 4.6 mm. New Mexico (Las Vegas)..... **alutaceum,** sp. nov.

Body pointed and ogival behind, the elytra polished, the spot similar in the sexes and very large, obliquely and broadly oval, extending from the basal margin—which it very narrowly attains or virtually attains at outer two-fifths—to three-fifths of the length and from inner fifth or sixth to outer eighth, where the outline is parallel to the side margin for a considerable distance. Length 5.3–5.7 mm.; width 4.6–5.1 mm. California (Los Angeles) and Arizona..... **pleurale** *Lec.*

4—Body very broadly oval and compresso-convex, the upper surface strongly shining, the pronotum more alutaceous, with the entire apical margin very finely and indefinitely paler; elytra very broadly ogival at tip, each with a small parallel-sided red spot extending, parallel to the side-margin, from the base at outer two-thirds for one-fifth the length, and also with a small oval red spot on the suture at apical third; legs black. Length 6.6 mm.; width 5.6 mm. Rhode Island.

tripustulatum *DeG.*

Tripustulatum does not seem to be at all abundant, and my cabinet contains only the single specimen taken some twenty years ago. *Pilatei* of Mulsant, because of its red abdomen, is almost surely specifically different from *plagiatum;* it is said to be from Texas but I have not seen a representative.

Exochomus *Redt.*

The metacoxal plates are rounded as usual, but they are not complete as stated by Crotch, the bounding arc not quite attaining the basal margin of the first segment. The species are rather numerous, and are much smaller and generally less convex than in the preceding

genera, only rarely exhibiting any trace of lateral compression. The punctuation is very minute or subobsolete, but in *marginipennis* becomes quite distinct though sparse. The species before me may be outlined as follows:—

Body strongly compresso-convex as in *Chilocorus*, the anterior tibiæ more dilated and arcuately sublaminate externally; body rounded, deep black above, the under surface and legs throughout testaceous; head slightly rufescent at the apical margin; pronotum with the edge slightly rufescent at the apical angles; elytra minutely punctulate, more distinctly toward the margins, which are evenly declivous to the edge and not at all reflexed, with a very fine marginal bead, each with an elongate-oval red spot on the median line, extending two-fifths from the base, with its margins rather nubilate. Length 3.7–3.9 mm.; width 3.0–3.2 mm. Arizona. ..... **arizonicus,** sp. nov.

Body evenly and less strongly convex, not at all compressed, the anterior tibiæ nearly straight externally and not laminate, the elytral margins narrowly but abruptly reflexed, and with a more distinct marginal bead. 2

2—Pronotum black throughout; body oval; elytra black, with a large humeral and small discal posterior spot pale, the marginal bead black 3

Pronotum black throughout; body rounded, more convex, the elytra pale with black spots and marginal bead black 4

Pronotum black, nubilously pale at the sides or at the apical edges near the angles; body rounded or oval, moderately convex, the elytra with a black design, the side margins always pale 5

3—Elytra polished or feebly alutaceous, obsoletely punctulate, the pale humeral spot parallel with the side margin, about twice as long as wide, without tendency to prolongations along the basal or lateral margins, the discal spot rounded, clearly defined, situated at apical fourth and inner third; under surface and legs black, the epipleuræ pale except behind the middle. Length 2.8–3.8 mm.; width 2.3–3.0 mm. California (San Francisco to Humboldt Co.).
californicus, sp. nov.

Var. A—Similar but with the elytra strongly alutaceous, and with the humeral spot extending narrowly along the margin for a short distance posteriorly but not along the base. San Francisco.

Elytra polished, very minutely punctulate, black, the pale humeral spot more sinuate within and more angular internally at its posterior limit, continued along the margin with broadly sinuate internal outline and gradually narrowing, becoming extinct at a point opposite the discal spot, also extended narrowly along the basal margin very nearly to the scutellum; discal spot subtriangular, at posterior fourth or fifth and much nearer the suture than the margin. Length 3.0–3.3 mm.; width 2.2–2.7 mm. Indiana?..... **ovoideus,** sp. nov.

Elytra polished, minutely and sparsely but somewhat more distinctly punctulate, the humeral spot oblong and about twice as long as wide, as in the two preceding somewhat prominent within at its posterior limit, abruptly narrowed and continued along the lateral and basal margins as in *ovoideus* but more broadly at the base, the discal spot subtriangular, at the same position but continued forward

narrowly becoming nubilously extinct two-fifths from the base; under surface and legs as in the preceding. Length 3.15–3.3 mm.; width 2.4–2.6 mm. Nevada.
desertorum, sp. nov.

4—Body broadly rounded, polished, minutely, very obsoletely punctulate; head and pronotum black throughout; elytra pale orange, the sutural, basal and external margins extremely finely black, with a common transverse spot across the suture at the apex; each also with two very small rounded black spots, the anterior on the callus, the posterior slightly larger and near apical third nearly on the median line; under surface and legs black, the epipleuræ pale, edged externally and finely with black. Length 3.3–4.0 mm.; width 2.8–3.4 mm. Texas (El Paso).
högei *Gork.*

5—Elytra very finely but evidently punctulate, entirely pale, each with a transversely oval black spot near the apex, approaching the suture rather nearer than the external margin; head and pronotum pale in the male, the latter with a median dark cloud toward base, black in the female with the pronotum broadly and nubilously pale at the sides; legs pale or so in great part. Length 2.6–2.9 mm.; width 2.0–2.4 mm. Texas (Austin); [*guexi* Lec.] ..... **childreni** *Muls.*

Elytra pale, with two broad transverse fasciæ of black..... 6

Elytra black on the disk; body in general more broadly rounded; punctures very minute and sparse.....9

6—Anterior fascia not attaining the base and always separated from the posterior; elytral punctures extremely minute and subobsolete.....7

Anterior fascia broadly attaining the base and broadly united with the posterior fascia at the median line of each elytron; punctures sparse and fine but very distinct... 8

7—Body broadly oval, almost rounded and larger, the sides of the pronotum broadly and nubilously pale in both sexes, the head blackish in the female; thoracic margins very strongly convergent. Length 2.8–3.3 mm.; width 2.5–2.9 mm. Texas (Brownsville)—Mr. Wickham ..... **latiusculus,** sp. nov.

Body more narrowly oval, the head and pronotum black, apparently in both sexes, the apical angles only nubilously and not very markedly pale, the thoracic sides much less convergent from base to apex. Length 2.4–2.9 mm.; width 1.8–2.1 mm. Southern California (Pasadena, Los Angeles and San Diego).
fasciatus, sp. nov.

8—Body not very broadly oval; head and pronotum black, the apical angles of the latter distinctly pale in color; elytra black, with a rounded or oval pale spot at each side of the scutellum and a common, transversely rhombiform spot on the suture at three-fifths, extending laterally as if to narrowly unite with the median projection of the pale margin, which extends from the base very nearly to the apex and broadly bisinuate within, not tending to spread along the basal margin. Length 2.5–2.8 mm.; width 1.9–2.2 mm. Tennessee and Florida [*prætextatus* Muls.]..... .... **marginipennis** *Lec.*

9—Head and pronotum black, the apical angles of the latter nubilously paler; elytra black, with a broad pale margin extending, with its inner margin parallel, to nearly three-fifths, there obliquely and abruptly narrowed and continued narrowly almost to the apical angles; body smaller and much more broadly rounded than in *marginipennis*, with less obvious punctuation. Length 2.2 mm.; width 1.8 mm. Texas (El Paso)..... ..... **subrotundus,** sp. nov.

Head, pronotum and elytra deep black throughout; under surface and legs also black, the tarsi picescent. Length 2.9 mm.; width 2.4 mm. New Mexico.

æthiops *Bland*

The Mexican *contristatus* is said to be distinct from *childreni* by Gorham, being larger, more compresso-convex and with the elytra immaculate. *Marginipennis* was described by the elder LeConte, and, to distinguish the two authors, I would suggest that the contracted name of the latter be printed "LeC." that of the younger LeConte remaining "Lec."

Ovoideus and *desertorum* of the table, are in all probability subspecies of *californicus*, but my material is not sufficient to decide at present, and the forms from *childreni* to *æthiops* may be regarded as derivatives of the *marginipennis* type, but in my opinion specifically distinct.

PLATYNASPINI.

The species of this tribe somewhat recall the Chilocorini in form, but are always pubescent. The body is oval, convex but not compressed, generally black with small pale spots above, the legs retractile within shallow depressions. The abdomen differs from that of the preceding tribe in having the sixth segment distinct, the fifth being as short as the fourth, and the metacoxal arcs also differ, being nearly as in the Coccinellini, the bounding curve extending rapidly to the apical margin. The antennæ are very short, and the fourth joint of the maxillary palpi strongly securiform. The species are all foreign to the American continents and are only moderately numerous.

TELSIMIINI.

This tribe is necessary for two very small species, having a structure of the epistoma and eyes similar to that of the Platynaspini, and with a convex, pubescent body, but having the maxillary palpi somewhat as in Pharini though stouter, the fourth joint being conical, with the apex obliquely truncate. The abdomen differs from that of the preceding tribe in being purely five-segmented, as in Pharini, the fifth longer and strongly rounded. The metacoxal arcs curve outward, becoming rectilinear and parallel to the apical margin at a point between the middle and apex of the segment, and attain the sides of the body. The epipleurae are rather wide and descend strongly externally, and the legs are moderately retractile. The scutellum is very small and the eyes are finely faceted and pointed antero-internally. The anterior margin of the prothorax is broadly angulate at the middle of

the emargination. The types are African and will be described in an appendix to the present paper under the generic name *Telsimia*.

PHARINI.

In this remarkable tribe the abdomen consists of five segments, the fifth long and strongly rounded, and the metacoxal arcs curve rapidly to the apex of the first segment, which they follow externally. The legs are only feebly retractile, the impressions being very shallow and the tarsi are elongate and generally rather compressed, with the basal node of the third joint more or less free. The fourth joint of the maxillary palpi is slender, gradually drawn out to a finely acuminate point, and the antennæ are moderate in length, straight, with the club narrow. The epistoma is sinuato-truncate at apex and extends only to the eyes, which are not emarginated by it, but which have a very minute notch as in Scymnillini. The prosternum is flat, rather widely separates the coxæ and has two parallel entire and widely separated carinæ. The two genera before me belong to the old world fauna and are as follows:—

Body pubescent above, the epipleuræ descending externally. .....*Pharus.
Body subglabrous, the epipleuræ wide but horizontal .....*Pharopsis.

Species of both these genera will be alluded to in the appendix. Although the palpal structure is remarkably aberrant in this tribe, there is no necessity at all for considering it a distinct section of the family, as is proposed in the catalogue of Heyden, Reitter and Weise, and the palpi of the preceding tribe are to some extent intermediate. In fact this character is no more unusual than the dilated clypeus of Chilocorini, and the peculiar form of the fourth palpal joint is evidently due to extreme obliquity of truncature, seen in a transition stage in *Xestolotis*. *Pharopsis* appears to be distinct from any of the African genera recently proposed by Weise.

ŒNEINI.

The genus *Œneis* of Mulsant, so far from being identical with *Cryptognatha*, in reality belongs to a different division of the family because of the narrow and subhorizontal epipleuræ. Our small species hitherto placed in *Œneis* by LeConte, and *Cryptognatha* by Crotch and Horn, really constitute a different genus because of the less convex median parts of the upper surface, sculpture and structure of the anterior legs. In fact the indications point to several genera

among these small obscure forms. As a guess, the species from *auriculata* to *æthiops* (Crotch—Rev. Cocc., p. 206), may be assigned to *Cryptognatha*, those from *reedi* to *nigrans* to *Œneis*, and *pusilla* and *puncticollis* to the new genus described below. The Ceylon species *flavescens*, *nigritula* and *lateralis* probably constitute another distinct genus. The species of Œneini are either wholly or in great part glabrous, and are all among the most minute members of the family.

Delphastus, gen. nov.

In some respects this genus is allied to *Smilia*, although so different in prosternal structure and retractility of the legs; the upper surface, for example, has rather long, stiff and very remotely scattered erect setæ, corresponding to the very short and microscopic erect hairs of that genus; the pronotum has an oblique line at the apical angles, closer to the margin than in *Smilia*, and finally the antennal foveæ are at the apex of very deep lateral emarginations of the front, rather remote from the eyes, which latter are entire. Were it not for the radically different structure of the abdomen, *Smilia* could therefore enter the present tribe quite as well as the Scymnini, the deflexion of the prosternum not being in general an essentially tribal character, any more than the crural impression of the epipleuræ. In the Coccinellidæ tribal characters must be determined from the general structure of the body, rather than from any special modifications, and, considering all points, it seems to me that *Smilia* should either constitute a distinct tribe just before Hyperaspini, or else enter the Scymnini.

In *Delphastus* the body is very broadly oblong-oval and only moderately convex, highly polished, subglabrous and subimpunctate, the antennæ well developed, with a compressed elliptical club, the coxæ all very remotely separated, the epipleuræ narrow, horizontal and feebly concave, the anterior femora greatly dilated, so that in repose the under side of the prothorax may present an almost unbroken surface from side to side, the anterior tibiæ and tarsi being completely concealed beneath the expanded femora lying deeply within the prosternal depressions; the meso-crural excavation is very deep and abruptly limited, and extends to the outer margin of the epipleuræ. The tarsi are long and slender, and may be flexed upon the tibiæ in repose, but are not received in grooves; the posterior tibiæ are, however, slightly expanded and broadly subangular externally. The claws are small, slender and abruptly bent behind the middle with an internal swelling at

base. The abdomen appears to be similar in structure in the sexes, the fifth segment ogival and longer than the three preceding combined. The prothorax is as wide as the elytra or very nearly, short and transverse, with the fine intromarginal line receding from the edge at the apical, as well as the basal, angles, and the scutellum is well developed and a little longer than wide. Our species may be defined as follows :—

Elytra black throughout.....2
Elytra castaneous 3
Elytra and entire body pale testaceous.....4
2—Head and sides of the pronotum pale in the male, entirely black in the female; legs red, the femora sometimes piceseent; head and pronotum finely, sparsely punctate. Length 1.3–1.4 mm.; width 1.0–1.1 mm. Pennsylvania, North Carolina (Ashville) and Texas (Austin).....**pusillus** *Lec.*
Var. A—Similar but slightly larger and with the punctures of the pronotum more distinct; body and legs black. Southern States....**puncticollis** *Lec.*
Head pale in the male, the pronotum black throughout, with distinct but sparse punctuation; legs red. Length 1.15–1.3 mm.; width 0.85–1.0 mm. California (southern) and Arizona (Tucson).....**sonoricus,** sp. nov.
3—Castaneous; middle of the prothorax and a narrow space at the base of the elytra piceous; head and legs yellow; pronotum with a few scattered punctures near the middle. Length [1.5 mm]. Sta. Catalina Island, coast of Southern California ..... **catalinæ** *Horn*
4—Similar to *pusillus* in form but very small and entirely testaceous. Length [0.8 mm]. Florida (Sand Point).....**pallidus** *Lec.*

I have seen no representative of *puncticollis*, *catalinæ* or *pallidus*. It is quite possible that the first may be a perfectly distinct species, as the length is given .07 inch by LeConte.

SCYMNILLINI.

In abdominal structure this tribe, which in some respects may be allied to the Ortaliini, resembles the preceding and departs widely from the Hyperaspini or Scymnini; the ogival fifth segment is, however, shorter than in Œneini, and is generally but little longer than the two preceding together, perfectly similar in the sexes, except that the fifth segment is more broady rounded and a little shorter in the male. The body is oval, small to very minute in size, more or less pubescent or setulose, with the head strongly deflexed and deeply inserted in the prothorax, the latter obviously narrower than the elytra, abruptly so in *Zagloba*, deeply emarginate at apex, with narrowly reflexed side margins, the base feebly lobed before the scutellum, which is moderate in devel-

opment and subequilateral. The eyes are well developed, with their inner sides nearly straight and parallel, and having a narrow deep anterior emargination, the antennæ very short but apparently of eleven joints, inserted very close to the eyes, exposed at base, the clypeus narrowed and feebly sinuato-truncate. The fourth joint of the maxillary palpi is securiform throughout. The anterior coxæ are remotely separated, with the prosternum flat and devoid of carinæ, the apex feebly deflexed in some species of *Zagloba*, but not enough to afford protection to the trophi. The legs are perfectly free, the epipleuræ narrow and flat and devoid of any trace of impression, even the basal pit of *Scymnus* being rudimentary. The tibiæ are slender and can be folded back into a feeble femoral depression, the tarsi well developed and free, and the claws slender and apparently simple. The genera and species are few in number as thus far discovered. The genera may be defined as follows:—

Metacoxal arcs small and short, semi-circular and either entire or failing to attain the base externally; body coarsely pubescent ..... **Zagloba**

Metacoxal arcs curving outward at a slight distance from the suture, and almost attaining the sides of the body, nearly as in the subgenus *Scymnobius;* body smaller in size and subglabrous. . ..... **Scymnillus**

These genera are both represented in the more southern parts of the United States from the Atlantic to the Pacific.

Zagloba, gen. nov.

The body is broadly rounded or oval, and clothed rather plentifully above with moderately long erect or semi-erect bristling whitish hairs, which, on the elytra, stream irregularly, forming partial vortex-like arrangements of the pubescence. The species are rather few in number and are invariably mixed up in cabinets with *Scymnus*, from which they differ radically in abdominal structure. Their departure from *Scymnus* was recognized by Dr. Horn, but that author, neglecting to observe the abdomen, placed the only species thus far described in *Cephaloscymnus*, with which it has no real affinity, and no resemblance, except a slight similarity in the form of the eyes and prothorax. Our species known to me are as follows:—

Metacoxal arcs entire, joining the base of the first segment 2

Metacoxal arcs not attaining the base of the first segment externally; body broadly rounded. Atlantic regions 6

2—Body very broadly rounded; prosternum slightly deflexed at apex. California 3

Body narrowly oval or oblong-oval, the prosternum perfectly flat and less remotely separating the coxæ. Atlantic regions 5

3—Metacoxal arcs extending to the middle of the segment, black, the elytra slightly piceous, each with two large nubilous pale areas; prothorax short and transverse, abruptly and distinctly narrower than the elytra, the sides feebly convergent and nearly straight to beyond the middle; elytra finely, sparsely, somewhat unequally punctulate, one-half wider than the prothorax. Length 1.7 mm.; width 1.25 mm. California (Sta. Cruz Mts.) ..... **ornata** *Horn*

Metacoxal arcs extending distinctly beyond the middle; elytral sculpture similar...4

4—Prothorax only slightly and not very abruptly narrower than the elytra, the sides strongly convergent and evenly, strongly arcuate from base to apex; elytra oval, but little more than a third wider than the prothorax and rather longer than wide in the female, shorter in the male, piceous, each with two large nubilous pale areas. Length 1.6–1.8 mm.; width 1.25 mm. California (exact locality not recorded) ..... **laticollis,** sp. nov.

Prothorax abruptly very much narrower than the base of the elytra, much smaller than in *laticollis*, the sides rather strongly convergent and nearly straight to the middle, then broadly rounded; elytra pale testaceous, with a large basal subquadrate brown area on the suture which is emarginate at each side, at least two-thirds wider than the prothorax. Length 1.7 mm.; width 1.3 mm, California (Sonoma Co.)..... ..... **orbipennis,** sp. nov.

5—Elongate-oval, moderately convex, the stiff whitish pubescence of the upper surface very conspicuous; head and prothorax throughout pale rufo-testaceous, the elytra black; legs and abdomen testaceous, the latter blackish toward base; eyes narrow, not at all covered by the pronotum; prothorax only slightly and not very abruptly narrower than the elytra, the sides feebly convergent and arcuate, the apex much less deeply emarginate than in the preceding species; elytra longer than wide, rather narrowly rounded behind, finely, not densely and somewhat unequally punctate; metacoxal plates extending far beyond the middle. Length 1.5 mm.; width 0.9 mm. Florida (near Palm Beach). **bicolor,** sp. nov.

6—Very broadly rounded, moderately convex; head and prothorax testaceous, the latter broadly and nubilously blackish toward the middle, abruptly and conspicuously narrower than the elytra, with the sides feebly convergent, rounded at apex, the latter deeply emarginate; elytra black, shining, scarcely visibly punctulate, not as long as wide, rather narrowly rounded at tip; under surface piceous or paler, the legs testaceous; metacoxal arcs extending but slightly beyond the middle. Length 1.35–1.6 mm.; width 1.05–1.2 mm. Texas (Brownsville)—Mr. Wickham..... **hystrix,** sp. nov.

Scymnillus *Horn.*

The members of this genus are all small, and number among them some of the most minute of the Coccinellidæ. The surface is apparently glabrous, but minute hairs can generally be discovered on the head or pronotum, and the elytra usually have some very small, erect and widely scattered setæ. The epistoma is very short before the antennæ. The three species before me may be thus outlined:—

Body oval, black, the abdomen piceous toward the edges, the legs blackish; head and pronotum quite strongly and closely punctured throughout, each puncture bearing a very short but distinct subdecumbent hair, short, transverse, the sides almost continuous, strongly convergent, evenly and moderately arcuate, the apical emargination moderately deep; elytra fully as long as wide, polished, glabrous, ogival at apex, minutely but distinctly, sparsely punctate, the humeral callus quite pronounced. Length 1.0–1.45 mm.; width 0.75-1.0 mm. California.

aterrimus *Horn*

Body very broadly rounded, minute and subglobular. 2

2—Piceous-brown, the median parts of the pronotum and sterna of the hind body more darkly shaded; legs pale; head minutely, sparsely punctate, each puncture with a short and inconspicuous hair; pronotum minutely, sparsely punctulate, subglabrous except near the abruptly reflexed lateral edges, where the hairs are erect, stiff and bristling, very much narrower than the elytra but with the sides almost continuous; elytra almost circular, glabrous and subimpunctate, about as long as wide. Length 0.85 mm.; width 0.72 mm. Bahama Islands (Eleuthera).

lateralis, sp. nov.

Black throughout, the legs not paler; body very broadly rounded, the head and pronotum finely but rather strongly, moderately closely punctulate, the former very feebly pubescent, the latter subglabrous, with a very few microscopic hairs, especially toward the sides, the latter nearly continuous, very strongly convergent, with the margin very minutely reflexed; elytra minutely but distinctly, sparsely punctulate, not as long as wide, extremely obtusely ogival at tip, glabrous. Length 0.78 mm.; width 0.65 mm. Bahama Islands (Eleuthera)—Mr. Wickham. .....**eleutheræ,** sp. nov.

HYPERASPINI.

Besides the genera defined below, it is probable that *Tiphysa* and *Hinda*, distinguished by the elongate scutellum, can also legitimately enter this tribe, which is closely related to the Scymnini, but recognizable at a glance by the perfectly glabrous upper surface. The scutellum in all the genera mentioned below is well developed and equilatero-triangular. As a special peculiarity of this tribe, although evident to a generally less degree in Scymnini, it should be stated that the genital segment is greatly developed in both sexes, assuming almost perfectly the appearance of a true sixth segment in form and sculpture, and is more conspicuously developed than in any other tribe of the family—in the genus *Smilia*, however, which is somewhat aberrant among the Scymnini, forming a connecting link with the present tribe in some respects, the genital segment is equally well developed, and it is also very strongly developed in the South African *Cranophorus*. In the males of *Hyperaspis* and probably *Helesius*, there is no visible segment beyond the sixth, but in *Brachyacantha* and *Hyperaspidius*,

there is a second supplementary segment in that sex. Although seven segments can thus be counted in the males and six in the females, there is no difficulty whatever in perceiving that the true abdominal segments terminate, as in all other tribes, with the fifth, and that the one or two additional are parts of the genital armiture, and what might be termed pseudo-segments.

In the Hyperaspini, the fourth joint of the maxillary palpi is always strongly securiform, the eyes well developed and very finely faceted, the antennæ short and 11-jointed, and the legs rather short and stout, with the anterior tibiæ modified according to the genus. The anterior coxæ are narrowly or moderately separated, and the prosternum flat. The metacoxal plates are largely developed, attaining the first suture or very nearly, and frequently extend along the latter for some distance, then curved strongly forward but apparently never quite attaining the base externally. The genera are few in number, and those before me may be readily separated as follows:—

Epipleuræ foveate for the tips of the hind femora 2
Epipleuræ completely devoid of foveæ, narrow and flat 4
2—Eyes with a small anterior emargination; anterior tibiæ not dilated beyond the middle but with an acute external edge, spinose externally at about basal two-fifths, without external apical plate but with an oblique double edge from the spine to the apex; tarsal claws with a large internal, pointed or subquadrate tooth at base; body very convex; epipleuræ very narrow, more or less horizontal; ornamentation well defined; prosternum not bicarinate ..... **Brachyacantha**
Eyes entire; anterior tibiæ with an external plate delimited by an oblique cariniform line at apex; epipleuræ narrow but generally slightly descending externally; prosternum bicarinate between the coxæ; anterior tibiæ not spinose 3
3—Anterior tibiæ slender, the apical plate never more than feebly oblique toward the tip; claws with an internal quadrate tooth at base which is slightly variable in size; upper surface with clearly defined ornamentation [*Cleothera* Muls., *Oxynychus* Lec.] ..... **Hyperaspis**
Anterior tibiæ thickened externally, especially beyond the middle, the apical plate very oblique toward the tip; claws simple, arcuate and slender; body with suffused coloration ..... **Helesius**
4—Anterior femora slender, without an apical external plate; tarsal claws simple, arcuate and slender; prosternum feebly bicarinate; ornamentation generally well defined ..... **Hyperaspidius**

All of these genera, except *Helesius*, which is Sonoran, are widely distributed throughout the United States.

Brachyacantha *Chev.*

Next to *Hyperaspis*, this is the most abundant genus of the tribe,

and presents the same difficulties in regard to discrimination of the species. The male sexual characters of the abdomen are, however, much more pronounced and are frequently very valuable in defining closely related forms. The forms which seem to merit distinctive names may be defined as follows:—

Elytra pale at base, or each with a pale spot near the middle of the basal margin..2
Elytra never conspicuously pale or maculate at base, except sometimes at the humeral angles.....12

2—Elytra each with five clearly defined and isolated pale spots, two basal, two in a transverse line very near the middle and one subapical, the humeral constant in both sexes.....3
Elytra with the basal and lateral margin pale, and each with a discal pale spot.....8
Elytra black, with a basal and subapical pale spot but without a spot near the centre.....9
Elytra pale, each with two black spots, one anterior and one posterior.....11

3—Spots generally separated from each other longitudinally by more than their own dimensions.....4
Spots relatively larger, whitish, separated by their own diameter or less.....7

4—Basal spot almost fully circular, only slightly truncated by the basal margin; body small, elongate-oval, piceous-brown in color; head and subquadrate sides of the pronotum flavate in the female; elytra finely but strongly, sparsely punctate, polished, the spots nearly equal, moderately large, the subapical largest and the humeral smallest; under surface piceous; legs pale throughout. Length 1.9–2.1 mm.; width 1.3–1.45 mm. Indiana.....**stellata,** sp. nov.
Basal spot never much more than semi-circular, broadly truncated by the basal margin.....5

5—Male with the two median lobes of the basal black area of the pronotum narrowly rounded.....6
Male with the two median lobes broadly and rectilinearly truncate, the dividing spur of the apical pale margin short and very minute or obsolete, body more broadly oval than in *ursina* and more variable in size, finely punctulate; spots small, variable in size and form among themselves, the subapical usually the most conspicuous. Length 2.1–3.6 mm.; width 1.6–2.75 mm. North Carolina (Asheville).....**congruens,** sp. nov.

6—Black area of the pronotum in the male more extended, its two approximate median lobes approaching rather close to the apical margin; elytral spots, except the humeral, well developed and subequal in size; body elongate-oval. Length 2.75–3.75 mm.; width 2.0–2.7 mm. Massachusetts, New York, Pennsylvania and Indiana.....**ursina** *Fabr.*
Black area less developed, the apex broadly pale even before the median lobes; elytral spots smaller and very unequal, the two median much smaller than the basal or apical; body smaller, with the punctures much less fine and notably sparser. Length 1.8–2.3 mm.; width 1.2–1.6 mm. Pennsylvania and Maryland.....**10-pustulata** *Melsh.*

7—Form elliptical, the spots, excepting the humeral, subequal in width and isolated at about their own diameters or a little less; head and subquadrate side spot of the pronotum pale in the female, the surface finely, rather closely punctate and fully three-fourths longer along the median line than at the sides; elytra finely, sparsely punctate, piceous-black; legs pale. Length 2.7 mm.; width 2.0 mm. Texas (Brownsville)—Mr. Wickham..... **testudo,** sp. nov.

Form very broadly rounded, the basal spot of the elytra broader than the discal and with a tendency to join the latter; spots all very large and relatively narrowly separated; pronotum in the male one-half longer at the middle than at the sides, broadly pale anteriorly, the two median lobes of the black area not much advanced and broadly rounded; punctures fine and sparse; under surface black, the abdomen piceous; legs pale throughout. Length 2.5 mm.; width 2.1 mm. Texas (Dallas)..... **bolli** *Cr.*

8—Oblong-oval, black, the head and oblique sides of the pronotum angularly lobed within at the middle, pale in the female, the apical margin also very narrowly pale, the prothorax two-thirds longer at the middle than at the sides, finely, sparsely punctate; elytra with a narrow rufo-flavate margin from the scutellum to the sides, narrowest at outer two-fifths, the lateral margin obliquely pale at the humeri, the pale side margin extremely narrow at basal fourth, then dilated to outer fourth at the middle opposite the discal pale spot, then narrowed at apical fourth, thence gradually expanded and extending transversely to within two-thirds of its apical width of the suture, receding somewhat from the side margin as in the *fimbriolata* group of *Hyperaspis*; punctures fine but strong, moderately sparse, closer near the base; under surface black throughout, the femora blackish, paler at apex. Length 4.1 mm.; width 3.0 mm. Colorado (Beaver Brook—6000 feet elevation)..... **illustris,** sp. nov.

9—Elytra with the median marginal spot; basal, marginal and subapical very nearly equal in size, rufo-flavate, the humeral spot wanting at least in the female; head and pronotal sides broadly pale in that sex, the apical margin very narrowly; upper surface black, polished, finely, sparsely punctate. Length 2.8 mm.; width 2.0 mm. Georgia..... **flavifrons** *Muls.*

Elytra without either of the median spots..... 10

10—Broadly rounded, polished, finely, rather sparsely punctate; male with the head yellow, the prothorax pale with a basal black area extending to lateral eighth or ninth of the base, approximately bilobed in the middle, extending to apical fourth or fifth; basal spot of the elytra more than semi-circular, the subapical slightly larger, the humeral spot oblique; female with the head black, the front nubilously paler in V-shaped design, the pronotum black throughout, except a very narrow margin about the apical angles; elytra similarly maculate, except that the humeral spot is wanting. Length 3.2–3.6 mm.; width 2.5–2.75 mm. Massachusetts and Indiana; [*confusa* Muls. ♂, *quadripunctata* Melsh. ♀ and *diversa* Muls. ♀]..... **basalis** *Melsh.*

Less broadly rounded and much smaller; head and tips of the apical pronotal angles piceous in the female, the remainder black, finely not closely punctate; elytra with a rufo-flavate pale area at base, extending rather beyond basal third from the lateral margin nearly to the scutellum, truncate behind, rounded and receding

somewhat from the basal margin internally, the subapical spot oval, adjoining the limb and distant nearly half its width from the suture. Length 2.4 mm.; width 1.8 mm. Florida ..... **querceti** *Schz.*

11—Narrowly oval, finely, not closely punctulate, with flavate pale areas; male with the head pale, the pronotum black, with a very narrow pale apical margin perfectly even in width but gradually wider from the eyes and extending to the basal angles, the black area with a feeble angular extension at apical third; scutellum black; elytra pale, the suture more or less broadly black from a short distance behind the scutellum, narrowest just behind the middle, extending at apex anteriorly along the sides very narrowly to about apical third, also with a triangular black spot involving the callus and another, rounded but posteriorly sinuate, behind apical third at outer third of the width; under surface black throughout. Length 3.2 mm.; width 2.2 mm. Kansas..... **albifrons** *Say*

Narrowly oval, with flavate pale areas anteriorly, reddish on the elytra, finely, not closely punctulate; male with the head pale, the pronotum black in a basal area between the basal angles, the anterior margin of which curves evenly from the basal angles to anterior third at lateral two-fifths, then feebly sinuate and then extending forward in two rounded lobes separated by a narrow deep fissure to apical fifth or sixth; scutellum black; elytra pale, the suture more or less broadly black from the scutellum to the apex, narrowly at the scutellum and for a short distance just behind the middle, the external marginal bead also black, becoming broader at the apex and joining the sutural black area; anterior black spot obliquely oval, sending off a nubilous connecting isthmus to the sutural black area, the posterior spot smaller, at apical and outer third; under surface black throughout, the posterior femora in great part black, the intermediate less so. Length 3.7 mm.; width 2.4 mm. California (Sta. Monica).

pacifica, sp. nov.

12—Elytra each with two transversely confluent pale spots before the middle and a subapical spot.....13

Elytra each with three small, widely isolated pale spots.....15

13—The confluent pale spots very nearly separated; male with a pale oblique humeral spot which is absent in the female; head pale in the male, the pronotum pale, with a large and abruptly defined median black area from the base to apical fifth or sixth, deeply emarginate at each side; female with the head pale, sometimes narrowly darker at the edges, the pronotum similarly colored, the margins of the black area less sharply defined as usual and extending nearly to the apical margin. Length 2.9–3.7 mm.; width 2.1–2.8 mm. Texas (Brownsville)—Mr. Wickham ..... **decora,** sp. nov.

The spots very broadly confluent, forming a fascia slightly emarginate on both sides.14

14—The fascia a third as wide as the length of the elytra, broadening within, broadly truncate opposite the suture; subapical spot very large, extending along the limb, the marginal bead black; head in the female pale throughout, the pronotum very broadly and intero-angulately pale at the sides. Length 5 2 mm.; width 3.6 mm. Kansas..... **socialis,** sp. nov.

The fascia not more than a fourth or fifth as wide as the length of the elytra, the sexes perfectly similar throughout in coloration; head black, with a very large pale

area, the pronotum black, with an angulate lateral pale spot; elytral fascia parallel-sided and slightly oblique externally, the subapical spot oval and slightly distant from the limb; male with the abdomen impressed along the middle toward tip and with the third segment medially bicuspid as usual in this group. Length 4.2–4.75 mm.; width 2.8–3.2 mm. Arizona.....**dentipes** *Fabr.*

15—Body very much smaller; male with the head and pronotum pale yellowish-white, the latter with a basal black area extending to lateral fifth or sixth, the median part feebly bilobed and extending to apical fourth or fifth; elytral spots small, at the margin slightly behind basal third, near the apex and further from the suture than limb, and at basal third and inner two-fifths; under surface black, the legs rather slender and pale; sexual characters feeble. Length 2.5 mm.; width 1.75 mm. Rhode Island.....**indubitabilis** *Cr.*

Lepida is not represented in the material before me and *bistripustulata* (= *erythrocephala*) is represented by *decora* of the table; the second is allied to *dentipes* but in the typical form has the two ante-median spots separated, the inner the larger. The species from *stellata* to *bolli* are more or less close derivatives of the *ursina* type and those from *socialis* to *dentipes*, probably including *tau* and *quadrillum*, which I have not examined, may be considered as subspecies of the *dentipes* type, but in each case the peculiarities of form, size or ornamentation hold good through extended series. In fact, as in many other parts of the Coccinellidæ, we may have a succession of what can only be regarded as distinct forms, with all the fixed characteristics of species, having an identical general scheme of ornamentation. This is evident also in many other parts of the Coleoptera as in *Cicindela*, *Omophron* and *Heterocerus*. Ornamentation may become in other words as important a generic structural character as any other special modification. In the present tribe there is even an intergeneric similarity or parallelism of ornamentation, as shown in *B. decempustulata* and *Hyperaspis troglodytes*, which can scarcely be mutually distinguished superficially, and the same is well known in *Chilocorus* and *Exochomus*, showing that ornamentation in the Coccinellidæ has been evolved for a useful purpose and that it should form a correspondingly important criterion in classification.

Hyperaspis *Chev.*

The tarsal claws seem to vary gradually and between somewhat narrow limits in this genus, being occasionally almost simple, but I do not find this character to be of much importance in classification and have therefore not employed it at all. The comparative definition of the species is difficult, as there is little or no structural variety and the

two sexes frequently differ in coloration. In adopting type of coloration as a primary taxonomic character however, this is restricted below to the patterns of the elytra, as sexual divergencies in ornamentation are almost exclusively confined to the head and prothorax, which are very often in part pale in the male and entirely black in the female. In fact this seems to be the only possible means of distinguishing the males from the females, as the external structure of the abdominal apex is very nearly similar in the two sexes. The species are numerous and those known to me may be distinguished as follows:—

Body very broadly rounded and strongly convex 2

Body elongate-oval or oblong-oval and frequently more depressed..... 15

2—Elytra black, with a pale red margin not attaining the sutural angles and with which a rounded discal spot is broadly confluent a little behind the middle; elytra strongly and moderately closely punctured. Length 3.0 mm. Illinois. **bolteri** *Lec.*

Elytra black, with three marginal or submarginal pale spots..... 3

Elytra black, with a short marginal vitta from the humeral angle, a submarginal oval or rounded spot near the apex and another at or near the middle and near inner third of the width, the latter obsolete in var. *omissa*..... 4

Elytra black, with a single marginal or submarginal spot far behind the middle or near the apex..... 7

Elytra black, with two marginal or submarginal pale spots, the anterior of which is not basal..... 8

Elytra black, without marginal or submarginal spots but with a single spot near or behind the centre of the disk..... 10

3—Black, shining, finely but distinctly punctate, the pronotum closely, the elytra rather sparsely; head black, the pronotum with a quadrate lateral spot almost as wide as long; elytra with a humeral marginal vitta between two and three times as long as wide in less than basal third, an internally rounded marginal spot just behind the middle, a rounded subapical spot equidistant from the margin and suture and a spot on the disk at basal two-fifths and inner third or fourth, which is rounded but with its anterior edge broadly sinuate; legs black, the tibiæ and tarsi pale, the posterior tibiæ blackish; sides of the abdomen narrowly reddish. Length 2.8 mm.; width 2.2 mm. Arizona..... **8-notata,** sp. nov.

Black, shining, the pronotum finely and not very closely punctulate, the elytra more strongly and quite sparsely punctate; head pale, the basal third black; pronotum with a very narrow parallel pale side margin; elytra with a very small narrow humeral, and a slightly larger but narrow and parallel post-median, yellow spot, and a large subapical spot nearer the margin than the suture, also with a small elongate-oval spot just before the middle and at inner two-fifths; legs pale piceous, the hind thighs darker; abdomen not visibly pale at the sides. Length 2.15 mm.; width 1.55 mm. Nevada (Reno)..... **notatula,** sp. nov.

4—Humeral vitta very narrow and inwardly prolonged along the base for a short distance, terminating posteriorly just before the middle; male with the head and a

narrow parallel side margin and very fine apical margin of the pronotum yellow, the female with the head and pronotum black throughout, the latter very finely but rather closely punctate; elytra very finely and rather sparsely punctured; abdomen black throughout; legs black, the anterior tibiæ and tarsi pale. Length 2.7–3.2 mm.; width 2.0–2.35 mm. Montana (western)—Mr. Wickham.

montanica, sp. nov.

Humeral vitta broad, not inflexed along the basal margin, the pale spots generally deep red. 5

5—Male with the head and a triangular marginal spot and very fine apical margin of the pronotum pale, the female with the head and pronotum black, the latter with a narrower triangular marginal spot pale, the apical margin not at all paler; humeral vitta terminating at basal two-fifths; abdomen margined with testaceous throughout; legs in great part pale. Length 3.2–3.4 mm.; width 2.35–2.6 mm. Arizona.

pinguis, sp. nov.

Male with the head and a narrow parallel lateral margin and more or less fine apical margin of the pronotum pale, the female with the head and pronotum throughout black; humeral vitta extending to the middle. 6

6—Form very short and broad, the apical pale pronotal margin of the male very distinct, about half as wide as the lateral pale border; elytral punctures sparse and fine but distinct, the discal pale spot at the middle of the length; eyes blackish. Length 2.6–3.0 mm.; width 2.15–2.4 mm. Texas (El Paso). **lateralis**, *Muls.*

Var. A—Similar to *lateralis* in form, size and disposition of markings, except that the discal spot near the middle is wholly obsolete. Arizona (Grand Cañon of the Colorado)—Dr. Prudden. . . . . **omissa**, n. var.

Form less dilated, the pronotal apex exceeding finely pale in the male, the elytral punctures extremely minute and still sparser, the discal spot slightly in front of the middle; eyes bright green. Length 2.8 mm.; width 2.2 mm. California (San Diego). . . . . **lævipennis**, sp. nov.

7—Elytra each with a rounded subapical spot three times further from the suture than from the margin, the spot rather large, circular and reddish; pronotum finely but distinctly, rather sparsely punctured, having a wide internally rounded marginal spot in both sexes, the head pale in the male and black in the female; elytra quite strongly and not closely punctured; legs black. Length 2.7–2.9 mm.; width 2.1–2.25 mm. New York (Adirondacks) and Indiana [*guexi* Muls.]. . . . . **bigeminata** *Rand.*

Elytra each with a smaller and generally yellowish irregularly rounded pale spot near the apex, twice as far from the suture as from the margin, and also a larger deep red rounded spot just before the middle and a little nearer the margin than the suture; head and prothorax black throughout in the female; punctures smaller than in *binotata*; the prothorax more transverse. Length 2.7 mm.; width 2.1 mm. Northern Atlantic States . . . . . **signata** *Oliv.*

Elytra each with a very small rounded disco-marginal spot at posterior third of the edge, and another similar in the same transverse line at inner third at posterior fifth viewed vertically, also with a much larger rounded spot just before the middle and just visibly nearer the margin than the suture, the spots deep red and the exterior of the two posterior frequently almost obsolete; pronotum with a

moderately wide internally rounded yellow marginal spot, the head apparently black in both sexes. Length 2.0–2.7 mm.; width 1.6–2.0 mm. Rhode Island, Pennsylvania, North Carolina (Asheville) and Indiana—also a specimen from Las Vegas, New Mexico, which represents a slight variety (*trinifer* n. v.), still more broadly oval, with yellow elytral spots, the two posterior but little smaller than the anterior..... **proba** *Say*

Elytra each with a large elongate pale spot along the margin, extending from a little behind the middle to apical fifth or sixth of the edge, internally rounded in outline, the apical edge narrowly piceseent thence to the sutural angle, also with a large oval spot, slightly longer than wide, just before the middle at inner two-fifths; pronotum black, with a very broad internally rounded marginal pale spot and narrow pale apical margin; head entirely pale; pale areas very pale straw color throughout; legs throughout and posterior half of the abdomen pale, the latter dusky toward the middle. Length 2.15 mm.; width 1.7 mm. Texas (Brownsville) ..... **rotunda**, sp. nov.

8—Elytra with a parallel marginal vitta extending from basal fifth to three-fifths of the length and more than twice as long as wide, also with a large and rounded but antero-laterally sinuato-truncate spot near the apex, equidistant from margin and suture, and a large oval and feebly oblique spot at basal third, less than half as far from the suture as from the margin; head pale; pronotum with a very broad and internally angulate pale margin and a narrow pale apical margin joining the lateral pale areas, the latter yellowish-white throughout; punctures moderately distinct; under surface black throughout, the legs in great part pale. Length 2.2 mm.; width 1 6 mm. Texas (Brownsville)—Mr. Wickham.

gemma, sp. nov.

Elytra without a marginal vitta but with a rounded pale spot at or near the middle..9

9—Marginal pale spot just before the middle; each elytron also with another similar in size near the apex and very near the edge, less than half as far therefrom as from the suture, also with a slightly larger rounded spot a little before the middle and half its width from the suture; head pale; pronotum black, with a broad marginal spot as wide as long, broadly rounded internally, the apex not at all pale; punctures quite deep and strong but only moderately close-set; under surface of the hind body black, the abdomen pale at the limb throughout; legs very pale throughout; ornamentation yellowish-white. Length 1.8–2.1 mm.; width 1.4–1.6 mm. Texas (Brownsville)—Mr. Wickham. ..... **medialis**, sp. nov.

Marginal pale spot slightly behind the middle small, each elytron also with a still smaller transversely oval subapical spot, almost as far from the margin as from the suture, and a small rounded discal spot, distinctly before the middle and slightly nearer the suture than the margin; head pale; pronotum with a narrow pale lateral margin slightly narrowed to the base, the inner margin straight; apex not pale, the pale areas reddish-yellow; punctures fine; under surface black, the abdomen paler at the edges, broadly behind; legs in great part piceous. Length 2.3 mm.; width 1.8 mm. Arizona (Benson)—Mr. Dunn.

triangulum, sp. nov.

10—Discal spot of each elytron irregular in form, red, extending from basal fourth to apical fifth and from inner to outer fourth of the width, obliquely truncate an-

teriorly, subparallel for less than half its length, then rapidly and rectilinearly narrowed to a blunt point; head black; pronotum black, with a moderately wide yellow side margin longer than wide and broadly rounded internally, the apex not pale; punctures very fine but rather close-set; under surface black; anterior tibiæ and tarsi pale. Length 3.0 mm; width 2.2 mm. Florida (Jacksonville).

regalis, sp. nov.

Discal spot circular or oval in form 11

11—The spot situated slightly before the middle of the length 12

The spot circular, moderate in size and situated more or less distinctly behind the middle 14

12—The spot obliquely oval from the base outwardly 13

The spot rather small, circular or very nearly; head and pronotum black throughout in the female, the latter margined at tip and sides with yellow in the male, finely but strongly, rather closely punctured, the elytral punctures strong and sparser, the spot before the middle and rather nearer the margin than the suture, red in color. Length 2.0–3.8 mm.; width 1.7–3.1 mm. New Hampshire, Pennsylvania, Maryland, Indiana and Wisconsin; [*signata* Lec. nec Oliv., *normata* Say, *affinis* Rand. and *leucopsis* Mels.] ..... **binotata** *Say*

13—The spot extending from basal two-fifths and inner two-fifths to apical three-fifths and outer five-sevenths; pronotum of the female with a subparallel yellow margin. Length "3.3 mm.; width 2.6 mm." L'Amérique septentrionale—Dejean ..... **inedita** *Muls.*

The spot extending from basal fourth and inner third to three-fifths of the length and outer third, red in color; head and pronotum of the female entirely black throughout; punctures very fine and inconspicuous, moderately sparse; under surface black. Length 2.3 mm.; width 1.9 mm. Texas (Austin).

bicentralis, sp. nov.

14—The spot just visibly behind the middle and equidistant from the suture and margin; male with the head pale, the pronotum black, with a narrow apical and broad lateral margin pale, the latter feebly arcuate internally, the female with the head and pronotum black, the latter having a pale, internally rounded side margin, as wide as that of the male; punctures fine but strong and close-set; legs pale, the femora blackish; ornamentation yellowish-white in color. Length 1.9 mm.; width 1.45 mm. Texas (Brownsville)—Mr. Wickham.

globula, sp. nov.

The spot just before apical third and distinctly nearer the margin than the suture; head pale, the pronotum black, with narrow apex and broad side margin pale, the latter rather wider than long and internally rounded; punctures rather fine but strong, moderately sparse; legs red throughout; ornamentation dark yellow in color. Length 2.5–3.2 mm.; width 1.9–2.5 mm. Texas (Brownsville)—Mr. Wickham ..... **wickhami,** sp. nov.

15—Elytra without a discal spot near the middle 16

Elytra with a discal spot at or near the middle 33

Elytra with a discal vitta which is occasionally more or less obsolete, and, in *simulans* altogether wanting, the elytra being black without indication of subapical pale spot; sides of the pronotum narrowly pale 38

16—Elytra with a pale marginal vitta which is sometimes abbreviated or resolved into three spots, of which only the middle one remains in several instances..... ..17

Elytra without a marginal vitta or median marginal spot but with a subapical pale spot.....27

17—Elytra without ornamentation, other than a circular spot very slightly behind the middle and adjoining the side margin.....18

Elytra without ornamentation, other than a basal marginal vitta extending to slightly behind the middle.....19

Elytra each with three widely separated marginal or submarginal spots 20

Elytra with an internally sinuate marginal vitta, extending from the base to distinctly behind the middle, and, in addition, with a large transversely oval subapical spot.....21

Elytra with a continuous or subcontinuous marginal vitta, bisinuate within and not attaining the sutural angle.....22

18—Lateral spot larger, yellow, nearly two-fifths as wide as the elytron; pronotum of the female black, with a very narrow faint pale streak at the margin anteriorly, finely, sparsely punctate, the sides moderately convergent; head nearly as wide as an elytron, black. Length 2.5 mm.; width 1.8 mm. California (Siskiyou Co.). **osculans** *Lec.*

Lateral spot very small and reddish, scarcely more than a sixth as wide as the elytron; pronotum of the female black throughout, strongly and closely punctate, the sides strongly convergent; head black, very much narrower than an elytron; head of the male pale, the side margin of the pronotum also narrowly pale from the apex to basal third. Length 1.75–2.3 mm.; width 1.5–1.7 mm. Texas (El Paso). **pleuralis,** sp. nov.

19—Marginal vitta extending from very near the basal margin for two-thirds the length, much dilated internally and with rounded outline in its posterior two-thirds, the dilated part emitting a slender transverse spur extending to inner third of the width; elytral punctures fine and sparse but rather strong; head and pronotum black throughout in the female. Length 2.6 mm.; width 1.8 mm. California (San Diego).....**tæniata** *Lec.*

Marginal vitta beginning at about its own width from the basal margin and continuing to apical two-fifths, only feebly dilated internally with rounded outline posteriorly; elytral punctures minute and sparse; head and pronotum black throughout in the female; body more narrowly oval than in *tæniata*. Length 2.4 mm.; width 1.65 mm. Nevada (Reno).....**nevadica,** sp. nov.

20—Basal spot rounded, not quite enveloping the basal margin, prolonged posteriorly for a short distance by a rapidly and acutely acuminate spur which is medial with reference to the spot and not marginal; second spot at the middle larger and semi-circular internally; subapical spot smaller than the medial, transversely oval, slightly nearer the limb than the suture but quite distant from both; punctures sparse and fine; head and pronotum black throughout in the female. Length 2.2–2.35 mm.; width 1.65 mm. California (Alameda). **psyche,** sp. nov.

21—Marginal vitta extending from very near the base to apical third, gradually narrowed from its base for two-thirds its length and then expanded with rounded

internal outline; subapical spot rather large, transversely oval, very close to the limb and about twice as far from the suture; punctures fine and sparse but rather strong; head and pronotum black throughout in the female. Length 2.6 mm.; width 1.8 mm. California (Siskiyou Co.).....**dissoluta** *Cr.*

22—Apical extremity of the marginal vitta not anteriorly extended; head and narrow apical and lateral margin of the pronotum pale in the male.....23

Apical extremity of the vitta greatly expanded, truncate along the suture and prolonged anteriorly for some distance.....26

23—Posterior of the two internal sinuosities rounded and forming an angle which is more than right, the vitta varying but little in width throughout its length.....24

Posterior internal sinus angulate and right or less in extent, the vitta rather broad and more irregular in width.....25

24—Marginal vitta wide, deflecting but very narrowly from edge posteriorly. Length 2.0–2.7 mm.; width 1.4–1.9 mm. Colorado, Texas, Arizona and California [*rufomarginata* Muls.].....**fimbriolata** *Melsh.*

Marginal vitta narrow, deflecting widely from the edge posteriorly; body smaller and more narrowly oval. Length 1.8 mm.; width 1.25 mm California (San Diego). **limbalis,** sp. nov.

25—Median part of the vitta moderately arcuate internally, the apical part generally not tending to separate as a spot, but in one male the apical part is wholly detached as a subapical spot, and, in another male, the median part emits a broad angulate spur extending transversely to inner two-fifths, nearly as in *tæniata;* body more broadly oval than in *fimbriolata* or *tæniata*, and with a smaller, more rapidly narrowed prothorax. Length 2.0–2.5 mm.; width 1.4–1.9 mm. Arizona (Grand Cañon of the Colorado)—Dr. Prudden.....**cincta** *Lec.*

Median part of the vitta strongly but evenly rounded internally, the apical part much narrower, departing more from the edge than in *cincta* and always semi-detached; body smaller and more narrowly oval than in *cincta.* Length 1.9–2.0 mm.; width 1.3 mm. California (Humboldt Co.).....**nupta,** sp. nov.

26—Larger, evenly elliptical, the marginal vitta reddish, rather broad, only feebly dilated internally at the middle but strongly at its sutural termination, the internal sinuosities rounded; posterior part deflecting but narrowly from the edge; punctures strong; head and pronotum black throughout in the female. Length 2.6–2.75 mm.; width 1.8–1.95 mm. Dakota—Mr. Wickham. **inflexa,** sp. nov.

27—Upper surface moderately convex, the elytral punctures more or less fine and sparse.....28

Upper surface depressed, the elytral punctures strong and close-set.....32

28—Subapical spot bright yellow and sharply defined.....29

Subapical spot very small, darker or obscure yellow and with nubilate outline....31

29—Body elongate-subelliptical, the prothorax more transverse and less narrowed from base to apex, the sides narrowly yellow in the female with rounded inner outline; subapical spot of the elytra large, triangular and outwardly pointed, its margin parallel and close to the limb. Length 2.9 mm.; width 1.8 mm. California (locality not indicated).....**elliptica,** sp. nov.

Var. A—Body equally or even more distinctly elongate-elliptical, the narrow yellow margin at the sides of the pronotum in the female narrower, parallel,

not quite attaining the base and with its inner outline nearly straight; subapical spot small, transversely and evenly oval, remote from the limb and nearly twice as far from the suture. Length 2.65 mm.; width 1.65 mm. California (Mendocino Co.)..... .....**angustula,** var. nov.

Body more briefly oval, with more arcuate sides; subapical spot transversely oval; size smaller..... 30

30—Subapical spot large, its antero-lateral outline irregular, approaching close to the limb anteriorly; head yellow in the male as usual, the pronotum narrowly yellow at the sides in both sexes; elytral punctures fine and sparse. Length 2.3–2.75 mm.; width 1.6–2.0 mm. California (Siskiyou Co.).....**postica** *Lec.*

Subapical spot small, evenly and transversely oval, parallel to the limb and but slightly less distant therefrom than from the suture; size smaller; coloration of the head and prothorax similar; elytral punctures fine but much stronger and a little closer. Length 1.8–2.0 mm.; width 1.2–1.35 mm. California (Humboldt and Siskiyou Cos.),.....**oculaticauda,** sp. nov.

31—Obtusely oval, the head pale in the male but sinuately black at base, the pronotum black with a narrow parallel pale side-margin; elytra sparsely and very finely punctate, the subapical spot small, transversely oval, twice as wide as long, remote from the limb and one-half further from the suture; legs piceous-brown. Length 2.0 mm.; width 1.4 mm. California (Placer Co.)...**efteta,** sp. nov.

32—Evenly elliptical, subdepressed; sides of the pronotum in the female narrowly yellow, with somewhat irregular and nubilate inner outline; elytra black, strongly punctate, with feeble nubilous marginal pale streak at the humeral angles and a very small, transversely oval, obscure yellowish and nubilous subapical spot remote from the limb and still more distant from the suture; under surface piceous. Length 2.3 mm.; width 1.6 mm. California (Alameda).

subdepressa, sp. nov.

33—Elytra with a pale spot very near the basal margin and inner third.....34

Elytra without a subbasal pale spot, the subcentral spot generally more or less elongate-oval.....35

34—Punctures of the elytra fine; head and a narrow lateral and apical margin of the pronotum pale in the male; elytra with a humeral and a median elongate marginal spot and another, transversely oval and subapical, also with an elongate spot just behind the middle and nearer the suture than the margin. Length 2.5 mm.; width 1.7 mm. Massachusetts and Lake Superior.....**disconotata** *Muls.*

Punctures of the elytra rather coarse and deeply impressed, somewhat sparser; ornamentation somewhat similar to the preceding, except the spots are less elongate and the subcentral one rounded; size smaller. Length 2.2 mm.; width 1.55 mm. Rhode Island; [*discreta* Lec.].....**troglodytes** *Muls.*

35—Elytra with a narrow, internally sinuate marginal pale vitta extending two-thirds to three-fourths from the base, the vitta frequently wholly wanting.....36

Elytra with an entire marginal vitta, internally bisinuate, not extending quite to the suture and which is never wanting but sometimes resolved by individual variation into three separate spots.....37

36—Subapical spot smaller and slightly elongate-subquadrate, less distant from the suture than from the limb; discal spot at basal third almost equidistant from suture and margin, the punctures fine and rather close-set; head and pronotal

apex narrowly, and sides more broadly with angulate inner outline at the middle, pale in the male. Length 2.65 mm.; width 1.8 mm. Massachusetts; [*venustula* Muls., *jucunda* || Lec. and *lecontei* Cr.] ....**lugubris** *Rand.*

Subapical spot larger, slightly transverse, much nearer the limb than the suture; discal spot but slightly before the middle and somewhat nearer the suture than the margin; punctures not coarse but strongly impressed, moderately sparse; head and a narrow parallel pronotal side-margin pale in the male, the female having the pronotal sides similar to the male but with the head black. Length 1.9–2.7 mm.; width 1.3–1.8 mm. California (Los Angeles to Sonoma Co.); [*horni* Crotch and *elegans* Gorh. nec Muls.] .....**4=oculata** *Mots.*

37—Marginal pale vitta broader, deeply bisinuate within; size larger. Length 2.0–2.7 mm.; width 1.4–1.8 mm. Rhode Island, New York, Pennsylvania, Indiana, Iowa and Wisconsin; [*elegans* Muls., *maculifera* Melsh. and *guttifera* Weise] .....**undulata** *Say*

Marginal pale vitta narrow and very feebly bisinuate within; size much smaller, the pronotum more alutaceous, with the apex and side margin similarly pale in the male. Length 1.6 mm.; width 1.0 mm. Florida.....**paludicola** *Schz.*

38—Elytra with a well-marked and constant, internally and feebly bisinuate pale margin, not quite extending to the suture, and a generally constant discal vitta, extending from very near the basal margin near the middle obliquely toward the sutural angle..... 39

Elytra without a well-defined and continuous marginal pale vitta, the discal vitta wholly obsolete or only distinct posteriorly.....40

39—Discal vitta joining the marginal near the sutural angles; body larger and less narrowly oval. Length 2 3–2.6 mm.; width 1.6–1.75 mm. California (San Francisco)..... .....**annexa** *Lec.*

Discal vitta not joining the marginal but separated therefrom near the sutural angles by a space not as wide as its own width; elytra more obtusely subtruncate at tip. Length 2.2 mm.; width 1.35 mm. Kansas. .....**4=vittata** *Lec.*

40—Elytra with remnants of the discal vitta behind the middle, sometimes with three narrow and feeble marginal spots, the margin frequently black throughout; body more depressed. Length 2.1 mm.; width 1.4 mm. Lake Superior; [*consimilis* Lec.—*Oxynychus*].....**mœrens** *Lec.*

Elytra wholly without pale markings of any kind, except a narrow suffused humeral streak at the margin; prothorax relatively more elongate along the median line. Length 2.1 mm.; width 1.5 mm. Arizona.....**simulans,** sp. nov.

I have been unable to examine any exponents of *cruentata, lewisi, tædata, gemina, pratensis, punctata, tristis* or *floridana*, following the order of the most recent table of LeConte (Trans. Am. Ent. Soc., VIII, 1880, p. 186), but in assigning them to places in the above table would venture to place the first immediately after *tæniata, lewisi* and *pratensis* after *pleuralis, tædata* after *regalis, gemina* after *proba, punctata* after *paludicola* and *tristis* after *effeta,* with which it is evidently very closely related. *Floridana* cannot be identified.

In the above arrangement it is evident that the species from *montanica* to *lævipennis* are close derivatives of the *lateralis* type, that those from *tæniata* to *inflexa* are close, and those from *elliptica* to *subdepressa*, but slightly less close, derivatives of the *fimbriolata* type, and further, that those from *disconotata* to *paludicola*, and then from *annexa* to *simulans*, are also more or less closely related to the same type. Most of the others are rather isolated in relationship, except, perhaps, *signata* and *binotata*, which may possibly be varietal forms of one type, but I have no evidence to prove this and have never seen a series from any one locality which contained the two forms intermingled. There is before me a large series of *binotata* collected in Indiana, not one of which has a vestige of the subapical spot, and my only representative of *signata* was taken in a wholly different region.

Although it is possible that many of the forms in the table above may prove to be more properly subspecies of a few type forms, which could only be definitely determined by future collecting and careful investigation, they are at least apparently worthy of distinctive names for future reference, and that is all that can be positively affirmed at present; anything else would, in the absence of evidence, be mere speculation and individual opinion. The genus is an extremely difficult one so far as the differentiation of species is concerned.

Helesius, gen. nov.

The two species for which this generic group seems to be desirable, differ from *Hyperaspis* in having the anterior tibiæ thickened externally, and in having a suffused coloration, devoid of any trace of the abruptly defined pale areas of that genus. They may be defined as follows:—

Form oval, strongly convex, moderately shining, the head and prothorax rufo-piceous, the latter gradually black toward the middle, finely but distinctly, rather closely punctulate, more closely so toward the sides, the length at the middle nearly one-half greater than at the sides, the base evenly rounded in circular arc; elytra barely as long as wide, the sides continuous with those of the prothorax, evenly rounded behind, very minutely, sparsely and obsoletely punctulate, black throughout; under surface piceous, the legs rufo-piceous. Length 2.7 mm.; width 1.8 mm. Texas (Brownsville)—Mr. Wickham..... **nubilans**, sp. nov.

Form oblong-oval and less convex, shining, the pronotum alutaceous in one sex, the head and prothorax rufous, the latter minutely punctulate, more strongly and closely toward the sides, the latter nearly three-fourths as long as the median length, the base broadly rounded or subparabolic; elytra longer than wide, the sides feebly arcuate, the base not quite as wide as the base of the prothorax, the apex very obtusely rounded, black or paler, minutely and sparsely but distinctly punctulate; under surface and legs pale. Length 2.3 mm.; width 1.4 mm. Colorado (Florissant)..... **nigripennis** *Lec.*

The latter of these species was described as a *Scymnus* by its author, under the supposition probably that the pubescence had been accidentally removed; the example before me is slightly smaller than the type.

Hyperaspidius *Crotch.*

This is an aberrant genus in the present tribe, in having the elytral epipleuræ devoid of depressions for the posterior femora, although in every other feature it is perfectly normal. The type of ornamentation differs from anything observed in *Hyperaspis* or *Brachyacantha*, and the species are much smaller as a rule. The absence of epipleural foveæ shows that the presence or absence of this character is not so important in itself as it has been assumed to be, and that it is not necessarily a tribal character at all; this is shown also in the Chilocorini, and the same statement can be made regarding the structure of the tarsal claws. The epipleural depression in the Hyperaspini never assumes the form of an abruptly excavated pit, as it does in some ptinids and to some extent in *Delphastus*. The species are few in number and may be defined as follows:—

Elytra with a pale discal vitta not joining the marginal pale area.....2
Elytra with the discal vitta entirely wanting 3
Elytra with the discal and marginal vitta largely united, leaving merely an elongate black spot from the callus.....4
Elytra completely pale.....5
Elytra black, with suffused humeral and subapical pale markings 6

2—Head and pronotum pale in the male, the latter with the basal margin to lateral fourth and two median dashes, converging posteriorly and united with the dark basal area, piceous-black, black in the female, with a narrow lateral margin of the pronotum pale; elytra in both sexes fully as long as wide, oblong, subtruncate, finely, rather sparsely punctate, with a pale yellowish-white basal margin, continued along the sides and apex very nearly to the sutural angle, receding slightly from the edge at apex, and also with its inner basal limit continued posteriorly as a rather broad, sharply defined vitta to or very slightly beyond apical third, receding visibly from the suture from a point slightly behind the scutellum. Length 1.9–2.2 mm.; width 1.25–1.4 mm. Texas (El Paso); [*vittigera* Lec.].

trimaculatus *Linn.*

Head and pronotum piceo-rufous in the female, the side margin of the latter very narrowly pale and rather nebulously so toward base; elytra scarcely as long as wide, subquadrate, with arcuate sides and subtruncate apex, blackish, finely but strongly, sparsely punctate, with a basal and marginal pale area nearly as in the preceding species but with the subsutural vitta nearly straight, almost parallel throughout to the suture and extending posteriorly to apical fifth; legs pale. Length 1.8 mm.; width 1.2 mm. California (Alameda Co.).

comparatus, sp nov.

Head and pronotum of the male pale yellowish-white, the latter with a black anteriorly sinuate basal margin extending to lateral sixth; elytra oblong, longer than wide, obtusely subtruncate at tip, with pale vitta and lateral and basal margins nearly as in the two preceding species, except that the basal margin is almost interrupted at outer third by the black vitta, the pale vitta parallel and very close to the suture, as wide as the black vitta or wider, obtusely acuminate at apical fifth; punctures very fine and rather close-set; body much narrower than in the preceding. Length 1.6 mm.; width 0.8 mm. New Mexico (Las Cruces)—Mr. Cockerell..... **ingenitus,** sp. nov.

Head and pronotum of the male pale flavate throughout, the latter suffused with reddish toward base, of the female dark rufo-piceous, the pronotum blackish toward base and with a narrow side-margin, extending inward slightly at apex, pale; elytra in both sexes black, finely, rather sparsely punctate, oblong, very broadly rounded at tip, with a narrow pale basal and lateral margin terminating near the sutural angles, as in the preceding species but narrower and more deeply sinuate around the base of the callus, and also sinuate at apical fourth, the pale vitta forming merely an elongate discal spot just behind the middle in the female, and extending from basal two-fifths to apical third in the male, the elytra in the latter barely as long as wide, rather longer in the female; body much larger. Length 2.65–2.8 mm.; width 1.4–1.75 mm. Colorado (Colorado Springs)—Mr. Wickham..... **insignis,** sp. nov.

3—Elytra entirely black, with a narrow pale margin along the base and down the sides as far as the middle; front of the head and apical margin of the pronotum irregularly yellow in the male. Length [2.0 mm.]. California..**arcuatus** *Lec.*

4—Broadly oblong-oval, broadly rounded behind, finely punctate, the head and pronotum black in the female, the latter with a narrow parallel pale side-margin; elytra about as long as wide, pale flavate, the suture broadly black, the vitta constricted slightly just behind the scutellum and strongly at the apical angles, each with an elongate triangular black dash involving the callus and extending from the basal margin at outer third for two-fifths. Length 2.1 mm.; width 1.4 mm. Florida..... **militaris** *Lec.*

5—Body oblong, subtruncate behind, pale luteo-flavate throughout above and beneath, except the head, which is piceous; prothorax only slightly wider than the head, very feebly sinuate at apex, the latter only very slightly narrower than the base, the sides feebly arcuate, the punctures very fine; elytra slightly longer than wide, finely but rather strongly, moderately sparsely punctate. Length 1.9 mm.; width 1.3 mm. Massachusetts (Mt. Tom)..... **transfugatus,** sp. nov.

6—Body almost evenly oval, only slightly obtuse at apex, the sides strongly arcuate, dark piceo-castaneous throughout, the legs scarcely paler, the head nebulously paler toward the apex; the pronotum very narrowly flavate at the sides toward apex, finely punctulate; elytra but slightly wider than the prothorax, about as long as wide, finely and sparsely but distinctly punctate, the humeral angles, extending more or less briefly along the edge posteriorly, and two subapical spots arranged subtransversely and frequently coalescent, pale flavate. Length 1.4–1.6 mm.; width 0.85–1.0 mm. California (Monterey)..... **conspiratus,** sp. nov.

CRANOPHORINI.

The remarkable development of the pronotum over the head, with total or partial obliteration of the anterior thoracic emargination, so universal in the family, is probably due to environments essentially similar to those of *Sacium*, where the structure is similar and points apparently to a true affinity between these genera, confirming the relationship between the Coccinellidæ and Corylophidæ, which is well known to exist. The body is narrowly oval, usually rather pointed behind, the abdomen with the genital segment large and well developed, generally with a terminal seventh segment in the males, the metacoxal arcs entire in *Cranophorus* but extremely short. The middle coxæ are widely separated, the anterior very narrowly for the present family, the scutellum rather small, the palpi securiform, the antennæ only moderately short, with the joints of the club well defined though not very loose, and the legs are perfectly free. The three genera known to me may be thus defined:—

Antennal club narrow, parallel or fusiform and 3-jointed; body small or minute..2
Antennal club gradually inflated and 5-jointed.....3

2—Pronotum evenly rounded in circular arc at apex, the cephalic opening beneath horizontal, the prosternum convex in the middle, not at all deflexed; fifth ventral segment not much longer than the fourth; epipleuræ gradually dilated toward base but relatively narrow even at the widest part and horizontal or feebly descending externally; tarsal claws cleft within beyond the middle and also with an internal basal enlargement; body distinctly pubescent.....* **Cranophorus**

Pronotum truncate at the middle of the apex, the cephalic opening inclined upward posteriorly, the mouth protected in part by the prosternum, which is very strongly deflexed, flat, with strongly arcuate apex; fifth ventral very much longer than the fourth, the sixth less developed; epipleuræ not dilated, very narrow, flat, but little wider than the met-episternum; tarsal claws small, apparently merely enlarged within at base; body minute and subglabrous .....**Nipus**

3—Body larger; metacoxal arcs complete and about two-thirds as long as the segment. * **Oryssomus**

Cranophorus is South African and several new forms will be described in the appendix to the present paper. *Oryssomus* is South American, and *Nipus* is Californian and perhaps Sonoran.

Nipus, gen. nov.

The two species of this genus at present known may be defined as follows:—

Body elongate-oval, the elytra gradually obtusely pointed behind, black, the pronotum nebulously pale and broadly impresso-explanate at the sides, especially toward

apex, one-half wider than long, the sides continuing the curvature of the elytra, impunctate, alutaceous, the pubescence more visible toward the sides; elytra one-half longer than wide, rapidly narrowed from slightly behind the middle, finely but rather strongly, somewhat unequally and very sparsely punctate, each with a large oval central red spot, which is nebulously defined; pubescence very inconspicuous. Length 1.2 mm.; width 0.7 mm. California (Los Angeles).

biplagiatus, sp. nov.

Body narrowly and evenly elliptical, rounded behind, black or piceous-black, the under surface and legs rufescent, the elytra not maculate; pronotum slightly pubescent and paler laterally in the impressed area, two-thirds wider than long, impunctate, alutaceous, the sides rather more arcuate than the contiguous limb of the elytra, the latter nearly one-half longer than wide, rather coarsely, deeply and not very sparsely punctate, the hairs erect and microscopic. Length 0.85 mm.; width 0.55 mm. California (Sonoma Co.)..... **niger**, sp. nov.

Both the above species have the elytral suture finely margined, except toward base.

SCYMNINI.

The numerous small species of this tribe may be distinguished at once by the distinct pubescence, there being but one genus in which the body becomes virtually glabrous throughout the dorsal surface. The antennæ are short and the eyes entire or subentire, and the posterior legs are always free. The genera may be defined as follows:—

Antennæ free, rapidly descending along the sides of the head before the eyes in repose, the front not dilated; head and maxillary palpi moderate in size, the metasternum not foveate; anterior coxæ moderately separated; antennæ apparently 11-jointed.....2

Antennæ resting in repose upon wide dilatations of the front under the antennal foveæ and before the eyes, apparently 9-jointed, with a narrow solid 4-jointed club; head large; anterior coxæ very widely separated, the prosternum flat and not carinate.....6

2—Pronotum with a fine oblique line at the apical angles, the body apparently glabrous, each puncture of the upper surface bearing an extremely minute erect hair, only visible under considerable enlargement with oblique illumination; antennæ inserted in very deep narrow emarginations at the sides of the front, strongly bent, the last three joints forming a compressed club; last joint of the maxillary palpi narrow, the apex narrowly oblique; clypeus narrow and rather long; prosternum short, flat, with two abbreviated parallel carinæ, the apical margin abruptly deflexed for a short distance, but not enough to afford protection to the mouth; metacoxal arcs joining the apical margin of the first segment near the sides of the abdomen; tarsal claws simple; body oval, convex, the elytra more or less pointed at apex, the eyes small..... **Smilia**

Pronotum without an oblique line near the apical angles; body always distinctly pubescent; tarsal claws cleft within.....3

3—Clypeus extremely short before the rather large and well-developed eyes, truncate with rounded angles, the antennæ inserted under its sides adjoining the eyes, straight, the club small, with the three joints equal in length; prosternum transversely convex, not carinate, broadly and gradually deflexed, forming a protection to the mouth in repose; metacoxal arcs complete, the first suture nearly obliterated at the middle; tarsal claws cleft at the middle..... **Stethorus**

Clypeus prolonged for a considerable distance before the eyes, the sides converging, the antennæ inserted in very small shallow emarginations just before the eyes..4

4 – Last joint of the maxillary palpi narrow, obliquely pointed at tip; antennæ bent, with the club well developed, the head very small, with well-developed eyes; prothorax much narrower than the elytra; prosternum rather narrowly separating the coxæ, with two short feeble carinæ, gradually and feebly deflexed toward apex but not affording protection to the mouth; metacoxal plates entire.. **Didion**

Last joint of the palpi large and normally securiform; antennæ with the club moderate; prosternum flat, not at all deflexed toward tip, generally bicarinate.....5

5—Head exserted and moderately deflexed, the eyes small and not attaining the anterior margin of the prothorax, which is parallel at the sides; antennæ well-developed and straight; prosternum flat, with two distant parallel and entire carinæ; metacoxal arcs short, widely incomplete, not extending to the first suture; body parallel and straight at the sides..... **Selvadius**

Head inserted within the prothorax, the eyes well developed and partially covered; antennæ shorter and bent; body more or less oval, the prothorax narrowed in front, the prosternum and metacoxal arcs varying subgenerically..... **Scymnus**

6—Metasternum with a large circular and densely pubescent pit near each lateral margin; body oblong-oval, rather depressed, pubescent; metacoxal plates entire; eyes oval, entire or virtually so, somewhat prominent and barely attaining the prothorax; maxillary palpi very long; first two tarsal joints short, the last long, the claws well developed and simple..... **Cephaloscymnus**

These genera are all very widely distributed, except *Didion* and *Selvadius*, which are founded upon local types. *Cephaloscymnus* is a remarkably aberrant and specialized form, but its general affinity with *Scymnus* is sufficiently evident.

Smilia *Weise.*

These are small, apparently glabrous species, formally assigned to *Pentilia*; they inhabit the entire territory of the United States. Those thus far discovered may be identified as follows:—

Elytra uniform in coloration throughout, the suture finely and distinctly margined...2

Elytra bicolored, each having a large oval red spot; sutural margin "not distinct"..... 6

2—Head transverse, the clypeus broader and shorter, rapidly expanding before the antennal sinus..... 3

Head but little wider than long and perfectly flat throughout, the clypeus narrower and more prolonged, only very feebly expanding before the antennæ; species very minute, black, the pronotum minutely reticulate and alutaceous but not distinctly punctured.....5

3—Body castaneous in color throughout, rather more broadly oval, shining, the elytra rather strongly, moderately closely punctate. Length 1.1 mm.; width 0.75 mm. Michigan (Marquette)..... **marginata** *Lec.*

Body black throughout, the under surface and legs more piceous in *atronitens*.....4

4—Pronotum minutely but strongly reticulate and alutaceous; elytra finely but rather strongly, sparsely and somewhat unevenly punctate. Length 0.8–1.0 mm.; width 0.6–0.7 mm. Pennsylvania to Texas (Brownsville)..... **misella** *Lec.*

Pronotum perfectly devoid of minute reticulation and highly polished throughout like the elytra, finely punctulate, the sides almost continuous; elytra distinctly longer than wide, gradually narrowed behind, the punctures extremely minute but deep, even and relatively sparse; size much larger. Length 1.15–1.3 mm.; width 0.8–0.9 mm. California (Siskiyou Co.)..... **atronitens,** sp. nov.

5—Narrowly oval, the prothorax as wide as the base of the elytra, the sides nearly continuous; elytra narrowed behind from far before the middle, finely and not very conspicuously punctured. Length 0.85 mm.; width 0.55 mm. Texas. **minuta,** sp. nov.

More broadly oval, the prothorax much narrower than the elytra, with the sides distinctly discontinuous; elytra but little longer than wide, more rapidly narrowed behind from a point which is but little before the middle, the punctures strong, deep and rather close-set, much more conspicuous than in *minuta*. Length 0.8 mm.; width 0.65 mm. California..... **planiceps,** sp. nov.

6—Spots oval, narrowly separated at the suture; pronotum not distinctly punctate. **coccidivora** *Ashm.*

Ovalis, said by Dr. Horn to be the same as *felschei* Weise, is omitted from the table, as I have not seen a specimen; the suture is said by Dr. Horn to have the marginal stria not evident, but this is not borne out by the description of LeConte, or by the other species; it is brown in color, 0.8 mm. in length and inhabits Florida. It is quite possible that *coccidivora* may differ generically, but not having an example before me I am unable to decide.

Stethorus *Weise.*

The species of this genus are as small as in *Smilia*, but differ very greatly structurally; they differ from *Scymnus* in the formation of the front of the head and prosternum. The genital segment is as large and conspicuous as in the Hyperaspini. *Stethorus* is probably cosmopolitan and the species are rather difficult to distinguish among themselves. The following table contains all that are known to me at present, those from Europe and Africa being introduced for the sake of completeness:—

Metacoxal plates short and very broad, never extending much beyond the middle of the segment..... 2

Metacoxal plates narrow and strongly rounded, much longer, approaching closely to the hind margin of the segment; species more minute as a rule.....6

2—Legs pale and bright flavo-testaceous, the femora black with the apex distinctly and conspicuously pale; sides of the prothorax nearly continuous and strongly converging ... 3

Legs piceo-fuscous, the femora blackish; body similar in form to the preceding ... 5

3—Metacoxal plates shorter, frequently extending much less than half way to the suture; elytral punctures moderately close-set, quite strong and distinct, the pubescence short. Length 1.2 mm.; width 0.8 mm. Europe; [*minimus* Payk.].

* **punctillum** *Weise*

Metacoxal plates less transverse, extending to or beyond the middle, varying somewhat according to the sex of the individual; body somewhat smaller, with shorter and more transverse prothorax and less conspicuous elytral punctures but longer pubescence ... 4

4—Elytral punctures fine but strong and quite sparse. Length 1.0–1.2 mm.; width 0.75–0.9 mm. Lake Superior to Pennsylvania and Delaware, North Carolina and Kansas ... **punctum** *Lec.*

Elytral punctures finer, feeble and less sparse; prothorax slightly more transverse, the body a little more oblong-oval but otherwise extremely similar. Length 1.15 mm.; width 0.8 mm. Cape of Good Hope (Cape Town).

* **jejunus,** sp. nov.

5—Elytra very distinctly longer than wide, finely but strongly, sparsely punctured, the pubescence moderately long, recurved as usual. Length 1.0–1.3 mm.; width 0.75–0.9 mm. California (Humboldt, Sonoma and Sta. Cruz Cos.).

picipes, sp. nov.

Elytra not obviously longer than wide; body smaller and more broadly oval, the prothorax shorter and more transverse; elytral punctures stronger and more close-set. Length 0.9 mm.; width 0.75 mm. California (Siskiyou Co.).

brevis, sp. nov.

6—Legs pale rufo-testaceous throughout; body evenly oval; elytral punctures very small and sparse, the pubescence moderately long, recurved as usual. Length 0.9 mm.; width 0.72 mm. Florida (Haulover near Jupiter Inlet) .. **utilis** *Horn*

Legs pale testaceous, the femora black except at apex; body narrower, more elongate and more oblong, with much less arcuate sides; prothorax transverse, with the sides continuous as in *utilis* but rather less arcuate; elytral punctures stronger and less sparse, the pubescence nearly similar but somewhat fuscous in color. Length 0.95 mm.; width 0.7 mm. Texas (Columbus) ..... **atomus,** sp. nov.

Punctum and *picipes* are both abundant, and the difference in the coloration of the legs, noted in the table, appears to be constant; in *picipes* the form is a trifle more elongate and more narrowly oval; *jejunus*, five specimens of which were taken by the writer about sixteen years ago, resembles *punctum* so closely that the two could scarcely be distinguished unless examined in series. *Gilvifrons* Müll., which is associated with *punctillum* in the European catalogues, I have not seen, but the genus *Stethorus*, which is there considered a subgenus of *Scymnus*, is in no wise to be so regarded; it is a perfectly valid genus.

Didion, gen. nov.

This genus resembles *Scymnus* in most of its structural features, but differs in its narrow prothorax with rapidly converging sides, small, deeply inserted but feebly inclined head, with narrowly oval eyes and flat surface, in the feebly deflexed prosternum, and especially the narrow and obliquely pointed last joint of the maxillary palpi. The pubescence is rather abundant but very short and decumbent. Individuals appear to be very rare, and the genus is confined as far as known to the Upper California *Sequoia* belts. The two species represented before me may be defined as follows from the female only:—

Metacoxal plates more narrowly rounded, extending extremely near to the suture, black throughout, the legs piceous; body oval, convex, moderately shining, the head finely, sparsely punctate, the eyes widely separated; prothorax not quite twice as wide as long, about two-thirds as wide as the elytra, the sides strongly convergent and evenly but very feebly arcuate throughout, the punctures very minute and inconspicuous; elytra much longer than wide, evenly rounded at apex, finely but strongly, rather closely punctate. Length 1.6 mm.; width 0.95 mm. California (north of San Francisco).....**longulum,** sp. nov.

Metacoxal plates distant from the suture by a third or fourth of their own length; in coloration and sculpture nearly similar to *longulum*, the pubescence slightly longer, the body much smaller, the prothorax rather more than twice as wide as long, with the sides much less convergent but more strongly arcuate and notably more discontinuous with those of the elytra, the latter more broadly and obtusely rounded behind, much longer than wide. Length 1.25 mm.; width 0.8 mm. California (Sonoma Co.).....**parviceps,** sp. nov.

These species are both represented by single examples thus far, but very recently Dr. Blaisdell has sent me a male from Calaveras Co., which appears to be identical with *parviceps*.

Selvadius, gen. nov.

Differs remarkably from *Scymnus* in its narrow parallel body, exserted, feebly inclined and transversely orbicular head, small eyes and longer straight antennæ. The maxillary palpi are larger than usual in *Scymnus*, thick, with the last joint strongly securiform. The single type may be described as follows:—

Body narrowly oblong, rather feebly convex, moderately shining, piceous-brown in color, with the legs, palpi and antennæ yellow; punctures fine but strong and close-set throughout, those of the elytra larger but shallower than those of the pronotum; pubescence short, fine and decumbent; head relatively well developed in size, feebly convex, the eyes small, convex, oval, entirely exposed before the prothorax and entire, the vertex very broad between them; antennæ nearly as long as the head, 11-jointed, the second joint subglobular, three to five sub-

equal, narrower, elongate and cylindric, six and seven shorter, the latter a little broader toward tip, eight to eleven forming the usual narrowly oval compact club, the eleventh joint short and somewhat spongy-pubescent; prothorax but little more than twice as wide as long, the sides parallel and straight, rounding and slightly convergent at apex; elytra but little wider than the prothorax, much longer than wide, obtusely and broadly subtruncate at tip; mesocoxal arc not attaining the episternal suture, the metasternal curving outward and very short, attaining apical fourth of the segment; genital segment distinct and well developed. Length 1.4 mm.; width 0.65 mm. Arizona (Tucson).....**rectus,** sp. nov.

The type was taken by the writer some years ago, but no note relative to habits can be found; if my memory serves however, it was taken while sorting riparial detritus.

Scymnus *Kug.*

This is one of the largest genera of American Coleoptera. The species possess a remarkable uniformity of appearance, the body being oval or oblong-oval and always pubescent throughout, with the legs almost completely free, the anterior alone being somewhat contractile, with an attendant depression or well-defined pit at the base of the epipleuræ for the tip of the femur. The prosternal ridges are important, on some occasions, in discriminating species which may be closely allied otherwise. The postcoxal plates or arcs of the first ventral segment serve as sharply defined criteria in grouping the species, but the several sections can scarcely be regarded as distinct genera.

The species have been almost completely neglected in the United States, as far as systematic work is concerned, and the recent revision of Dr. Horn (Tr. Am. Ent. Soc., XXII, p. 81) had no further aim than an exposition of the groups, into which the genus can be advantageously divided, together with the publication of a few of the more strikingly distinct species. The latter are very difficult to discriminate in many parts of the series, and especially in the small and obscure forms of the Pacific coast and Arizona. I am not at all confident that my interpretations may be entirely correct, but it can be said at least that the total number of species here recorded will be increased rather than diminished in the future. I have been accumulating a large material during many years, with the object of monographing the genus, and all localities are tolerably well represented. The following table may assist in identification, but actual comparison will be necessary in many cases:—

Abdominal lines arcuate throughout, curving forward externally.....2

Abdominal lines extending outward externally parallel to the edge of the segment and at a slight distance therefrom; prosternum relatively slightly wider between the coxæ, flat and wholly devoid of carinæ; genital or "sixth" ventral segment unusually developed. (*Scymnobius* sg. n.).....71

Abdominal lines gradually curving into the first suture externally and forming a part thereof; prosternum scarcely as wide between the coxæ as in *Scymnobius*, but always rather flat and finely but strongly bicarinate, the carinæ straight, widely separated and gradually converging; eyes occasionally with a very small and feeble emargination. (*Diomus* Muls.).....79

2—Abdominal plates entire, the bounding arc extending to the basal margin of the first segment; prosternum rather narrow and convex between the coxæ, with two strong and well-developed carinæ, which are but rarely abbreviated in front. (*Pullus* Muls.).....3

Abdominal plates incomplete externally, the bounding arc not attaining the basal margin; prosternum somewhat variable between the coxæ, the carinæ always present but frequently abbreviated in front and more feebly developed than in *Pullus*. (*Scymnus* in sp.).....64

3—The carinæ entire or subentire.....4

The carinæ greatly abbreviated, attaining about the middle of the prosternum; abdominal plates very small, broader in *nanus*; prothorax varying in form..... 63

4—Abdominal plates large and long, attaining the apical margin of the first segment; prosternal carinæ arcuate, most narrowly separated well behind the apex; body oblong-oval, about one-half longer than wide, evenly pale flavo-testaceous above, the head and under surface piceous-black; last ventral segment and legs pale; head and pronotum very finely and remotely punctulate, the latter less remotely and rather more visibly toward the sides, strongly transverse, with the sides strongly convergent, broadly and evenly arcuate, almost continuous with the outline of the elytra, the latter finely, evenly and sparsely punctate, the hairs laid longitudinally and evenly almost throughout; under surface strongly and closely punctured, the abdomen more finely and less closely, the plates polished and almost impunctate throughout. Length 2.3 mm.; width 1.5 mm. Colorado.

flavescens, sp. nov.

Abdominal plates normal, always shorter than the segment; prosternal carinæ generally straight but sometimes bent outward through a short distance from the apex.....5

5—Elytra uniform in coloration on the disk, not considering the apex.....6

Elytra bicolored on the disk, the pale areas either clearly defined and constant spots or nubilate and variable.....57

6—Elytra entirely pale in color; prosternal carinæ entire, feebly converging throughout.....7

Elytra black, with the common apex more or less broadly pale, the anterior margin of the pale area biarcuate and generally very well defined.....8

Elytra black, with the apex not paler or more or less finely so, in which case the anterior limiting line of the pale area is usually quite well defined but transverse or not biarcuate.....16

7—Somewhat narrowly and evenly oval, very pale throughout, except beneath, where the body is black, the hypomera, epipleuræ, tip of the abdomen and legs pale; prothorax but little more than twice as wide as long, the sides rather strongly convergent and evenly arcuate, the punctures scarcely visible; elytra quite closely punctate, the punctures very minute, with larger punctures which tend to lineal arrangement intermingled toward base. Length 1.3–1.6 mm.; width 0.9–1.1 mm. California and Arizona..... **pallens** *Lec.*

Broadly oval and more convex, shining, dark rufo-testaceous, the pronotum slightly clouded toward the middle and base; elytral suture very finely piceous; body beneath and legs pale, except the post-sterna, parapleuræ and abdomen which are black, the latter pale at tip; head and broad sides of the pronotum paler than the elytra, the prothorax short, nearly three times as wide as long, with moderately converging and feebly arcuate sides, which are not continuous with those of the elytra, the punctures sparse and very minute, closer and distinct toward the apical angles; elytra finely but distinctly, evenly and rather sparsely punctured; under surface closely punctate, the ventral plates distant from the hind margin of the segment by two-fifths of their own length; legs rather slender. Length 1.6 mm.; width 1.2 mm. Colorado..... **nugator,** sp. nov.

8—Form very broadly oval, the elytra not at all longer than wide..... 9

Form more narrowly oval, the elytra longer than wide..... 11

9—Prothorax entirely orange yellow, a little more than twice as wide as long, the sides evenly arcuate and subcontinuous with those of the elytra, the latter finely but distinctly, not very densely punctate, the pale apical area advancing to apical two-fifths at the sides and beyond apical fourth on the suture; abdomen and legs throughout pale. Length 1.6 mm.; width 1.1 mm. Florida (Indian River). **semiruber** *Horn*

Prothorax partly or completely black in color and more transverse..... 10

10—Apex of the fifth ventral segment very broadly and feebly sinuato-truncate in the male; pale area of the elytra very constant, extending to about apical sixth or seventh. Length 2.1–2.3 mm.; width 1.6 mm. North Carolina, Texas and Arizona; [*astutus* Muls.]..... **creperus** *Muls.*

Var. A—Nearly similar to *creperus* but more broadly oval, with a larger thoracic black area and with the apical red area of the elytra smaller, less transverse and more strongly biarcuate at its anterior margin. Length 2.4 mm.; width 1.8 mm. Middle States..... **fraternus** *Lec.*

Apex of the fifth ventral deeply and evenly sinuate in circular arc with well-defined and somewhat prominent, though obtuse, lateral limits; red area of the elytra extending through apical third to two-fifths; punctuation distinct and rather sparse; pronotum red at the sides, more narrowly toward base. Length 2.2–2.4 mm.; width 1.6–1.7 mm. Florida and Indiana..... **hemorrhous** *Lec.*

Var. A—Similar to *hemorrhous* but with the red of the elytra extending well beyond the middle. Length 2 2 mm.; width 1.5 mm. Kansas. **divisus,** var. nov.

Var. B—Similar to *hemorrhous* but larger, the pronotum completely black and more densely and distinctly punctured toward the sides; apical red area similar; female only observed. Length 2.7 mm.; width 1.8 mm. Canada. **laurenticus,** var. nov.

Var. C—Similar in form, punctuation and sexual characters to *hemorrhous*, the upper surface entirely black with feeble æneous lustre, the sides of the pronotum and apex of the elytra appearing very faintly red in a strong light in areas similar in position and extent to those of *hemorrhous*, the pubescence rather finer and less conspicuous; legs almost black throughout. Length 2.2 mm.; width 1.6 mm. Texas (Columbus)..... **subæneus,** var. nov.

11—Red area of the elytra extending forward to about the middle, its bounding line somewhat feebly defined; body oval, shining, black, the abdomen black throughout; legs pale, with the femora infuscate; prothorax but little more than twice as wide as long, the sides almost continuous, evenly and moderately arcuate and strongly convergent; punctures fine and equal throughout, very sparse and but slightly more close-set toward the sides, the latter broadly and indefinitely pale; elytra finely but strongly and closely punctured. Length 2.25 mm.; width 1.5 mm. Wyoming ..... **postpinctus,** sp. nov.

Red area of the elytra not extending much beyond apical third; species much smaller..... 12

12—Red area sharply defined; elytra oval, finely but distinctly and closely punctate..... 13

Red area not well defined, its boundaries nubilate; elytra more coarsely and sparsely punctate, gradually narrowed behind from near the humeri..... 15

13—Pronotum rufous, with a parabolic median black area extending from the base almost to the apex, two and one-half times as wide as long, the sides rather strongly convergent, feebly and evenly arcuate and almost continuous; elytra closely punctured, the red area not extending further at the sides than at the suture, ending, along the median line of each, slightly beyond apical third; legs and abdomen red, the latter black toward base, the male having a transverse fovea in the apical margin of the fifth segment, the first not modified in the middle and punctured throughout. Length 1.75 mm.; width 1.25 mm. Texas (Columbus)..... **texanus,** sp. nov.

Pronotum black, rufous at the sides or apical angles..... 14

14—More broadly oval, the pale area at the sides of the pronotum abruptly defined and not extending to the basal angles; pale area of the elytra extending to apical third, its most anterior point at outer third; abdomen black, with the last three segments pale; legs pale throughout; male sexual characters as in *texanus*, the fifth segment less truncate, with the fovea smaller. Length 1.7 mm.; width 1.1 mm. Kansas..... **rubricauda,** sp nov.

Very narrowly oval and more pointed behind, the lateral pale area of the pronotum more extended and indefinitely limited internally; pale area of the elytra nearly similar in form to that of *rubricauda* but smaller, not extending quite to apical third. Length 1.7 mm.; width 1.0 mm. Pennsylvania (near Philadelphia). **chromopyga,** sp. nov.

15—Small and very narrowly suboval, shining, black, the sides of the pronotum abruptly but very narrowly pale, the pale area scarcely extending to the basal angles; prothorax distinctly narrower than the elytra, the sides not continuous, moderately convergent and moderately though evenly arcuate, the punctures very fine and somewhat close-set toward the sides; elytra rather prominently rounded at the humeri, the pubescence fine and rather sparse, the pale apex extending

scarcely beyond apical fourth; under surface black, the abdomen pale at tip; legs pale, the hind femora slightly infuscate toward base. Length 1.5 mm.; width 0.9 mm., Rhode Island (Boston Neck).....**canterius,** sp. nov.

16—Pronotum entirely pale in color.....17

Pronotum pale, with a median parabolic black spot at base, which is normal in the males throughout but much extended in the female of *marginicollis*, where it involves all the disk except the apical angles and a fine apical margin.....18

Pronotum black, with pale side-margins or apical angles.....28

Pronotum black throughout; elytra with the fine marginal bead at apex paler, becoming wider in *renoicus*.....43

17—Prothorax subequal in width to the base of the elytra, the latter about as long as wide, finely and quite closely punctured, the apical margin extremely narrowly reddish. Length 1.5–1.9 mm.; width 1.0–1.3 mm. North Carolina (Asheville) and Alabama.....**cervicalis** *Muls.*

Prothorax at base abruptly narrower than the elytra, the sides discontinuous in curvature, strongly convergent, rather strongly and almost evenly arcuate; disk minutely, sparsely punctulate scarcely more distinctly toward the sides, twice as wide as long; elytra distinctly longer than wide, rather strongly and somewhat sparsely punctured, the apical margin very narrowly red; legs red throughout. Length 1.8–1.9 mm.; width 1.15 mm. Kansas .....**kansanus,** sp. nov.

18—Surface polished, the pronotum evidently punctate, the punctures of the elytra more or less coarse and distinct 19

Surface alutaceous and minutely granulato-reticulate, the pronotum impunctate except the scars of fallen hairs; elytral punctures very minute; pronotal black spot small and basal.....27

19—Pronotal punctures equal in size throughout the disk; male modifications at the middle of the first ventral segment generally pronounced.....20

Pronotal punctures unequal, coarser, more close-set and more conspicuous toward the middle of the disk—contrary to the general rule—and finer and sparser laterally; male modifications of the first ventral less pronounced; legs red throughout..22

20—Pronotal punctures very small and sparse throughout; male with a tubercle in the middle near the apical margin of the first ventral, the coloration of the pronotum different in the two sexes, the male having a small transverse black spot at the middle of the basal margin, the female having that somite black, with pale apical angles and fine apical margin; legs black or blackish throughout. Length 1.6–2.0 mm.; width 1.1–1.4 mm., California (coast regions from Humboldt to San Diego and Calaveras Co.); [*californicus* Boh.].....**marginicollis** *Mann.*

Pronotal punctures fine but distinct, more close-set toward the sides, sparser toward the middle; larger species from the Mississippi Valley and Great Lakes, broadly oval in form.....21

21—Male with a small shallow rounded pit at the middle of the apical margin of the first segment, the fifth with a small deep and rounded median sinuation; sides of the prothorax very strongly convergent and broadly arcuate, continuous with those of the elytra, the latter rather coarsely and sparsely punctured, with the apical margin very narrowly and feebly rufous; legs red throughout. Length 1.9–2.3 mm.; width 1.5–1.7 mm. Lake Superior.....**consobrinus** *Lec.*

Male with a large, elongate, acutely triangular, feebly impressed, polished and glabrous median area of the first ventral, defined by finer and denser pubescence, the fifth with a larger but rather more broadly rounded median sinus; prothorax two and one-half times as wide as long, the sides continuous in curvature, strongly convergent, broadly and evenly arcuate, the punctures very distinct and less sparse throughout than in *consobrinus;* elytra quite coarsely and somewhat closely punctured, the apical margin only extremely narrowly rufescent; legs rather short, red throughout. Length 2.3 mm.; width 1.75 mm., Iowa (Keokuk).

iowensis, sp. nov.

Male with a shorter, broader and entirely unimpressed median area at the apex of the first segment, the adjoining punctuation finer and closer, the fifth segment very short and transverse, truncate at apex but not at all sinuate, the surface with a strong transverse and anteriorly rounded impression-bevel toward apex in median third or fourth; sides of the prothorax almost continuous, strongly convergent and broadly, evenly arcuate, the punctures very small, sparse and inconspicuous, scarcely closer toward the sides; elytra not very coarsely but strongly, evenly and quite sparsely punctate, the apical margin very finely testaceous; legs red throughout. Length 2.2 mm.; width 1.7 mm. Mississippi (Natchez).

natchezianus, sp. nov.

22—Elytra with a wider red apical margin, this being equal in width to a fourth or fifth of the length of the prothorax..... 23

Elytra only very narrowly rufous at the apical edge.....25

23—First ventral of the male with a large median area at apex which is glabrous and impunctate, but not impressed or defined by particularly dense pubescence; fifth segment very broadly and just visibly sinuato-truncate at apex, the sinuous portion with a very feebly convex bevel; prothorax but little more than twice as wide as long, sparsely punctulate, the sides continuous, moderately convergent and evenly arcuate; elytra quite coarsely and closely, but not densely punctate. Length 1.85 mm.; width 1.35 mm. Alabama..... **caudalis** *Lec.*

First ventral of the male virtually unmodified and punctured almost throughout, the fifth broadly and much more decidedly sinuate and beveled at apex; black spot of the pronotum small, not extending much beyond the middle.....24

24—Sides of the prothorax continuous, strongly convergent, broadly and evenly arcuate, the elytral punctures rather small but strong and quite sparse; body smaller and more narrowly oval, highly polished, the pubescence rather coarse and sparse, easily denuded. Length 1.8 mm.; width 1.25 mm. Texas (Columbus).....**mediionotans,** sp. nov.

Sides of the prothorax not quite continuous with those of the elytra, very much less convergent, broadly and evenly arcuate; elytral punctures coarser and more close-set but not dense; body more broadly oval. Length 1.9–2.0 mm.; width 1.35–1.6 mm. Texas (Brownsville and Galveston)... **subtropicus,** sp. nov.

25—Black discal spot of the pronotum very small, not extending beyond the middle, the punctures very sparse; species very small, oblong-oval, the sides of the prothorax continuous but only moderately convergent, feebly arcuate; elytral punctures strong, rather coarse and sparse, the pubescence whitish and coarse. Length 1.5 mm.; width 1.0 mm. Florida (Palm Beach)—Mr. F. Kinzel.

kinzeli, sp. nov.

Black discal spot large, extending to the apical margin or very nearly, the elytral punctures distinct but not coarse and rather close-set; pubescence coarse.....26

26—Form more elongate-oval, the prothorax very conspicuously punctured toward the middle, the sides not quite continuous with those of the elytra, only moderately convergent but more distinctly and evenly arcuate; elytra fully as long as wide; legs red. Length 2.2 mm.; width 1.5 mm. Indiana; [*socer* Lec].

collaris *Melsh.*

Form short and very broadly oval, the prothorax rather sparsely punctate even toward the middle, the sides almost continuous with those of the elytra, strongly convergent but only feebly, evenly arcuate; elytra not quite as long as wide; legs red. Length 1.9–2.2 mm.; width 1.5–1.65 mm. Arizona (Pinal Mts.)—Mr. Wickham, (Grand Cañon of the Colorado)—Dr. T. Mitchell Prudden, (near the southern boundary)—Mr. Morrison..... **horni** *Gorh.*

Form short and broadly oval, the size smaller; prothorax smaller and more transverse, the sides not quite continuous with those of the elytra, only moderately convergent, evenly and moderately arcuate; punctures sparse throughout, very small, feeble and inconspicuous in the middle and gradually almost wholly obsolete toward the sides; elytra distinctly shorter than wide; legs red, the hind femora infuscate toward base. Length 1.8 mm.; width 1.4 mm. New Mexico (Albuquerque)—Mr. Cockerell..... **cockerelli,** sp. nov.

27—Rather narrowly oval and moderately convex, black, the prosternum, tip of abdomen, legs throughout, head and pronotum pale testaceous, the latter with the sides almost continuous, strongly convergent, evenly and feebly arcuate, the disk with a small parabolic basal spot occupying median third of the base and extending to the middle and varying but slightly in excess; elytra with the extreme apical edge paler. Length 1.8–2.0 mm.; width 1.1–1.3 mm. Utah (southwestern)—Mr. Weidt..... **uteanus,** sp. nov.

Somewhat narrowly oval, larger than *uteanus* but almost similar throughout in coloration and sculpture, the prothorax equally short and transverse but with the sides less convergent, feebly, evenly arcuate and not quite continuous; elytra more elongate, the metacoxal plate more broadly rounded; legs darker rufous throughout. Length 2.0 mm.; width 1.3 mm. Indiana..... **rhesus,** sp. nov.

28—Species of the Atlantic regions.....29

Species of the Sonoran and Pacific regions..... 32

29—Elytra with a rather broad and well-defined red apex extending to apical seventh or eighth, its anterior margin transverse, tending to slight prolongation along the lateral edges, black, the abdomen red, blackish toward base; head red, blackish basally; pronotum broadly and rather abruptly at the sides and legs throughout, testaceous; prothorax two and two-fifths times as wide as long, the sides very discontinuous with those of the elytra, only feebly convergent, arcuate at apex, becoming straight posteriorly, the disk finely but strongly punctate, the punctures sparse and inconspicuous at the middle, becoming coarser and unusually close-set toward the sides; elytra rather strongly, somewhat coarsely but not densely punctured. Length 2.6 mm.; width 1.8 mm. Indiana; [*chatchas* Muls.].

fastigiatus *Muls.*

Elytra black, with the extreme apical margin or beaded edge alone paler.....30

30—Pronotum black or blackish, broadly but gradually and indefinitely paler toward the sides; head and legs uniform in color throughout but testaceous to blackish; tip of abdomen narrowly red; prothorax moderately transverse, the sides strongly convergent, almost evenly and moderately arcuate throughout and almost perfectly continuous with those of the elytra, the punctures fine and rather sparse, closer and quite conspicuous toward the sides; elytra quite coarsely but evenly and rather sparsely punctured, the pubescence moderately coarse and conspicuous. Length 2.2–2.4 mm.; width 1.6–1.8 mm. Pennsylvania (near Philadelphia); [*puncticollis* Horn nec Lec.]..... **indutus,** sp. nov.

Pronotum black, with the apical angles alone pale, the pale color but very seldom extending to the basal angles; head red; sides of the prothorax distinctly discontinuous, more or less feebly convergent and evenly and moderately arcuate thoughout; body broadly oval..... 31

31—Larger species; legs red, the femora all more or less blackish toward base; pronotal punctures very fine, close toward the sides but not conspicuous; elytral punctures not coarse but strong and quite sparse, the pubescence rather fine. Length 2.0 mm.; width 1.55 mm. Rhode Island (Boston Neck).

agricola, sp. nov.

Small species; legs red throughout; pronotum shorter and more transverse, very minutely, sparsely and scarcely visibly punctate, the punctures still sparse and scarcely larger toward the sides; elytra barely as long as wide, polished, rather finely but strongly and still more sparsely punctate, the pubescence sparser and coarser. Length 1.5 mm.; width 1.1 mm. North Carolina (Asheville).

innocens, sp. nov.

32—Legs black throughout, the tarsi alone sometimes pale..... 33

Legs red, the hind femora black throughout or with the tip alone paler..... 34

Legs red, the hind femora slightly blackish at the base; body broadly oval..... 35

Legs uniform and clear red throughout..... 36

33—Sides of the pronotum obliquely and abruptly pale, the pale area scarcely extending to the basal angles; body large, convex and very broadly oval, shining, black; head pale in the male, black in the female; tarsi not evidently paler; prothorax relatively small, two and three-fifths times as wide as long, the sides strongly discontinuous, very moderately convergent, evenly and rather strongly arcuate; punctures fine, sparse in the middle, broadly close-set toward the sides; elytra not quite as long as wide, not very coarsely but strongly, evenly and not very closely punctured, the apical reflexed edge alone pale; male with the first ventral obliquely bituberose at the middle near the apex, the fifth very broadly and feebly sinuate. Length 2.4 mm.; width 1.7 mm. California (Truckee)..... **solidus,** sp. nov.

Pronotum almost black throughout, the apical angles alone feebly and gradually piceous; body smaller and much more narrowly oval; legs black, the tarsi red; sides of the prothorax evidently discontinuous, rather strongly convergent, evenly and somewhat feebly arcuate, the punctures very minute, sparse, becoming very close toward the sides; elytra distinctly longer than wide, the apical edge scarcely at all paler, the punctures not very coarse but strong and unusually dense. Length 1.9 mm.; width 1.3 mm. Nevada (Reno).

desertorum, sp. nov.

34—Prosternal carinæ widely separated at base, straight and strongly convergent to apical third, thence parallel and well separated to the apical margin; body broadly oval, shining, black, the pronotum gradually pale testaceous toward the apical angles, short, the sides almost perfectly continuous, strongly convergent, evenly and moderately arcuate; punctures minute and inconspicuous, slightly closer toward the sides; elytra scarcely as long as wide, the apical margin very finely testaceous; punctures fine but strong, not very close-set. Length 1.75–1.9 mm.; width 1 3–1.4 mm. Arizona (Yuma).....**apacheanus,** sp. nov.

Prosternal carinæ straight and feebly convergent throughout, becoming almost obliterated in basal half; body narrowly oval, the pronotum gradually testaceous toward the apical angles, less transverse and relatively larger than in *apacheanus*, the sides of the body being less arcuate; sides almost continuous, rather strongly convergent and evenly, somewhat feebly arcuate; punctures minute and inconspicuous; elytra nearly a fourth longer than wide, pale at the apical margin, quite coarsely and conspicuously, but not very closely punctured, the pubescence coarse. Length 1.9 mm.; width 1.25 mm. Colorado....**monticola,** sp. nov.

Prosternal carinæ very strong, gradually convergent and feebly arcuate throughout, moderately separated at the apical margin; body broadly oval, the pronotum gradually testaceous toward the apical angles, only moderately transverse, the sides evidently discontinuous, moderately convergent, evenly, moderately arcuate, the punctures equal in size throughout, rather fine and sparse, but little closer toward the sides; elytra slightly longer than wide, evenly rounded in semicircle behind; punctures not very coarse but strong and somewhat close-set; pubescence coarse, pale, somewhat abundant and conspicuous; legs pale rufo-testaceous, the middle femora at base and the posterior to far beyond the middle black Length 2.2 mm.; width 1.55 mm. Utah (southwestern)—Mr. Weidt....**aridus,** sp. nov.

35—Pronotum almost entirely black, becoming testaceous only at the extreme apical angles, the surface almost completely impunctate, the base broadly angulate, the sides almost continuous, strongly convergent and feebly, evenly arcuate; elytra scarcely as long as wide, the sides feebly arcuate, the apex very broadly obtuse, with the reflexed bead pale, the punctures sparse, very fine toward the suture, fine but much stronger and more close-set externally. Length 1.8–1.95 mm.; width 1.3–1.45 mm. California (Monterey and Sonoma Cos.).

luctuosus, sp. nov.

Pronotum black, not very abruptly and obliquely pale at the sides, broadly in front, very narrowly at the basal angles, the base almost transverse, lobed in the middle, the sides strongly discontinuous, moderately convergent, evenly and distinctly arcuate, the punctures fine but distinct, sparse, becoming close-set at the sides; elytra scarcely as long as wide, evenly oval, with the apical bead alone pale, the punctures somewhat coarse, deep, even and sparse throughout. Length 1.9–2.2 mm.; width 1.4–1.7 mm. California (Siskiyou, Humboldt and Sta. Cruz Cos.).

humboldti, sp. nov.

Pronotum black, abruptly and moderately broadly pale at the sides in a parallel area almost equally wide at apex and base, the basal margin feebly bibblique, lobed at the middle, the sides continuous but with a slight reëntering angle, strongly convergent, evenly and distinctly arcuate; punctures minute, sparse and inconspicuous; elytra short, very obtusely rounded, somewhat alutaceous, the punc-

tures fine, feeble, moderately close-set, even and slightly asperulate, the pubescence rather short and closely laid; male with a small glabrous subdepressed and narrowly triangular area at the apex of the first ventral, surrounded by denser vestiture. Length 1.9–2.1 mm.; width 1.45–1.7 mm. California (Sonoma Co.).....**sonomæ**, sp. nov.

36—Pronotum broadly but obliquely red at the sides, the pale area very narrow at the basal angles; form broadly oval.. 37

Pronotum feebly and almost invisibly piceous to pale testaceous at the extreme apical angles only; elytra with the apical reflexed bead paler, slightly wider in *jacinto*..40

37—Elytra with a narrow but distinct band of testaceous at the apical margin.....38

Elytra with the mere apical reflexed bead red, the paler tint scarcely extending further 39

38—Male with the fifth ventral segment broadly truncate toward the middle, the surface only feebly convex-beveled for a short distance at the middle; first segment unmodified and punctured throughout; prosternal carinæ widely separated at the apical margin; prothorax rather small, short and transverse, very finely though distinctly, almost evenly punctured, the sides not quite continuous, rather feebly convergent and evenly, moderately arcuate; elytra finely though distinctly, moderately closely punctured, polished and smooth. Length 1.6–1.8 mm.; width 1.2–1.3. Arizona (Benson and the Gila Valley)—One specimen, from San Diego, is much smaller and has the fifth ventral shorter and more broadly rounded in the female but does not otherwise differ.....**gilæ**, sp. nov.

Male with the fifth ventral broadly, feebly sinuate, the surface strongly beveled in the middle, the first segment with an elongate impunctate area at the middle of the apex; prosternal carinæ narrowly separated at the apical margin; body similar to *gilæ* in form and sculpture, the sides of the prothorax more nearly continuous with those of the elytra and more convergent, and the base more oblique at each side. Length 1.8 mm.; width 1.3 mm. Utah (southwestern)—Mr. Weidt.

decipiens, sp. nov.

39—Form less broadly oval, the prothorax relatively smaller, with the sides evidently discontinuous, moderately convergent, evenly and rather feebly arcuate, finely punctured, rather closely toward the sides; elytra distinctly longer than wide, quite coarsely but not very closely punctured, the pubescence coarse, ashy and conspicuous. Length 2.25 mm.; width 1.6 mm. Colorado (Garland)—Mr. Schwarz.....**garlandicus**, sp. nov.

Form very broadly oval, the prothorax relatively larger, the sides almost continuous with those of the elytra, strongly convergent, evenly but feebly arcuate, the punctures fine but strong, sparse, becoming notably close-set and distinct broadly toward the sides; elytra not longer than wide, rather coarsely and strongly but not very closely punctate, the pubescence rather short, fine, more decumbent and not very conspicuous. Length 2.2 mm.; width 1.7 mm. California (Mokelumne Hill, Calaveras Co.)—Dr. Blaisdell.....**blaisdelli**, sp. nov.

40—Form rather narrowly oval, the elytra opaque and finely rugulose, finely, closely and asperulately punctate, the pubescence rather short and decumbent; prothorax strongly transverse, as wide at base as the base of the elytra but with a feeble reentering angle, smooth, polished, extremely minutely and sparsely punctulate, the sides rather strongly convergent, evenly and distinctly arcuate. Length 1.6 mm.; width 1.15 mm. California (Sonoma Co.).....**advena**, sp. nov.

Form broadly oval, the elytra smooth and polished.....41

41—Prothorax short, about two and one-half times as wide as long; head wholly or partly red.....42

Prothorax about twice as wide as the median length, the base strongly oblique at each side, the sides evidently discontinuous, only moderately convergent, evenly and feebly arcuate, the punctures minute and sparse; elytra strongly and closely punctate. Length 2.0 mm.; width 1.5 mm. California (Sonoma Co.).
extricatus, sp. nov.

42—Sides of the prothorax evidently discontinuous, feebly convergent, evenly and feebly arcuate, the punctures strong and close-set in the middle, becoming finer and sparser toward the sides; elytra evenly, finely but strongly, moderately closely punctured, the pubescence fine, infuscate and only moderately conspicuous. Length 1.6–1.9 mm.; width 1.15–1.4 mm. California (Monterey to Sonoma).....**ardelio** *Horn*

Sides of the prothorax nearly continuous, strongly convergent, evenly and distinctly arcuate, the punctures nearly as in *ardelio* but sparser throughout; elytra finely but strongly, sparsely punctured, the pubescence rather coarse and distinct; male with a feebly impressed, elongate-oval area at the middle of the apex of the first ventral, the fifth broadly sinuato-truncate and impressed, the characters nearly as in *extricatus* throughout. Length 1.75–1.8 mm.; width 1.3–1.4 mm. California (San Diego).....**jacobianus,** sp. nov.

Sides of the prothorax strongly discontinuous, very feebly convergent, evenly and feebly arcuate, the surface punctured nearly as in *jacobianus;* elytra notably wider than the prothorax, rounded, finely but strongly, rather sparsely punctate, the apical margin red for a distance equal to about a fifth the length of the prothorax; male with a very small, wholly unimpressed and feebly defined glabrous area at the middle of the apex of the first ventral, the fifth broadly sinuato-truncate and impressed; pubescence of the upper surface coarse and conspicuous. Length 1.6 mm.; width 1.2 mm. California (San Diego).....**jacinto,** sp. nov.

43—Species of the Atlantic regions.....44

Species of the Pacific and Sonoran regions, *lacustris* and *abbreviatus* extending to the eastward as far as Lake Superior.....45

44—Broadly oval, strongly convex, shining, black throughout, the legs uniformly colored but varying from pale testaceous to blackish; pubescence rather coarse; prothorax relatively rather small, finely but strongly, sparsely punctured, very closely near the sides, the sides discontinuous, strongly convergent, evenly and strongly arcuate; elytra quite coarsely, strongly and sparsely punctured. Length 1.6–2.3 mm.; width 1.15–1.7 mm. Atlantic States (from Massachusetts to North Carolina and Alabama).....**tenebrosus** *Muls.*

Narrowly oval, shining, black, the legs bright red; prothorax relatively larger, the punctures extremely minute, sparse and subobsolete, becoming quite large but only moderately close-set near the sides, the latter almost continuous with those of the elytra, strongly convergent and rather feebly, evenly arcuate; elytra distinctly longer than wide, the punctures quite coarse, strong and somewhat sparse, the pubescence coarse and conspicuous. Length 1.9 mm.; width 1.3 mm. Indiana.....**compar,** sp. nov.

45—Narrowly oval, small, black throughout, the apical angles of the prothorax perhaps becoming paler in some examples; legs pale testaceous throughout; prothorax small, much narrower than the elytra, the sides very discontinuous, only moderately convergent and straight, becoming feebly arcuate at the apex; punctures sparse and scarcely visible throughout, really larger toward the middle but excessively feeble and shallow and variolate as usual; elytra somewhat strongly narrowed behind and evenly rounded from near the humeri, the apex rather narrowly rounded; punctures fine, only moderately close, the pubescence rather short but coarse, ashy and distinct. Length 1.5 mm.; width 1.0 mm. Arizona—Mr. Wickham.....**infans,** sp. nov.

Broadly oval and much larger, strongly convex, smooth and shining.....46

46—Legs black throughout, the tarsi pale; body oval, convex, the sides of the prothorax almost continuous, strongly convergent, evenly and distinctly arcuate, the punctures quite coarse, not very close-set, as large as those of the elytra or larger, becoming gradually very fine, sparse and obsolescent toward the sides; elytra a little longer than wide, moderately obtuse behind, not very coarsely but strongly, moderately sparsely punctured, more minutely toward the suture, the pubescence rather long and coarse; under surface deep black throughout. Length 2.1 mm.; width 1.5 mm. Utah (southwestern)—Mr. Weidt.....**weidti,** sp. nov.

Legs red, the hind femora black, testaceous toward apex.....47

Legs red, the hind femora black at the extreme base.....55

Legs bright and uniform rufo-testaceous throughout.....56

47—Hind femora testaceous only well beyond the middle.....48

Hind femora becoming testaceous in about apical half.....53

48—Tip of the elytra pale testaceous in a border which is about a fifth or sixth as wide as the length of the prothorax, the latter relatively small, short and strongly transverse, the sides evidently discontinuous, rather feebly convergent, evenly and somewhat strongly arcuate, the punctures minute and inconspicuous; elytra scarcely longer than wide, rather narrowly rounded behind, finely but strongly, evenly and not very closely punctured, the pubescence ashy-white, rather short and somewhat abundant; tip of abdomen pale, the hind femora very gradually pale apically. Length 1.9 mm.; width 1.35 mm. Nevada (Reno).

renoicus, sp. nov.

Tip of the elytra only paler along the fine reflexed marginal bead; hind femora pale at apex only.....49

49—Head pale toward the clypeal margin in both sexes but more broadly in the male.....50

Head deep black throughout to the margin of the clypeus, at least in the female...51

50—Sides of the prothorax nearly continuous, strongly convergent, evenly and strongly arcuate, the punctures slightly closer and more evident toward the sides, fine but distinct throughout; elytra rather coarsely, strongly, evenly and sparsely punctured; abdomen not pale at apex, the fifth segment of the male broadly sinuato-truncate, the surface deeply impressed in a transverse, posteriorly arcuate and well-defined concave bevel, the first with an elongate triangular glabrous area at the middle, defined by fine dense punctures. Length 2.2 mm.; width 1.6 mm. Lake Superior; [var.? *nigrivestis* Muls. New Orleans, La.].....**lacustris** *Lec.*

Sides of the prothorax not quite continuous, less convergent, evenly and feebly arcuate; punctuation similar; elytra shorter, not quite as long as wide, very obtuse at apex, the punctures even, rather fine but strong and quite sparse; pubescence coarse, yellowish-cinereous in color and conspicuous; male characters nearly as in *lacustris*, the fifth segment more feebly impresso-beveled and the glabrous area of the first less defined. Length 2.0–2.15 mm.; width 1.5–1.65 mm. California (Lake Tahoe).....**tahoensis,** sp. nov.

51—Pronotum impunctate at any part, the sides continuous with those of the elytra, strongly convergent, evenly and rather strongly arcuate; elytra distinctly longer than wide, rather strongly but not closely punctate, the vestiture somewhat whitish, coarse, not very abundant but rather conspicuous. Length 2.15 mm.; width 1.5 mm. Utah (southwestern)—Mr. Weidt .....**subsimilis,** sp. nov.

Pronotum distinctly but finely punctate, the punctures somewhat larger and more or less close-set toward the sides, the latter not quite continuous with those of the elytra, less strongly convergent, subevenly and moderately arcuate 52

52—Elytra scarcely as long as wide, strongly, evenly but unusual y sparsely punctured, the pubescence long, coarse, not dense but very conspicuous, yellowish-white in color. Length 2.1 mm.; width 1.6 mm. Utah (southwestern)—Mr. Weidt.....**mormon,** sp. nov.

Elytra fully as long as wide, somewhat less obtuse behind, rather strongly, evenly punctate, the punctures moderately close-set, the pubescence shorter, finer, darker in color, more decumbent and rather less conspicuous though more abundant. Length 2.1–2.2 mm.; width 1.6 mm. California (Mokelumne Hill, Calaveras Co.)—Dr. Blaisdell; (Dunsmuir, Siskiyou Co.)—Mr. Wickham.

calaveras, sp. nov.

53—Head pale at the clypeal margin, more broadly in the male.....54

Head black throughout; body large, very broadly oval, the prothorax much narrower than the elytra, the sides strongly discontinuous, feebly convergent, evenly and strongly arcuate, the punctures fine and not conspicuous; elytra about as long as wide, rather coarsely, strongly and closely punctured, the pubescence fine, short, decumbent, rather abundant but dark in color and inconspicuous; under surface densely punctate. Length 2.5 mm.; width 1.8 mm. California (Siskiyou Co.).....**saginatus,** sp. nov.

54—Large, strongly convex, polished, the prothorax moderate in size, much narrower than the elytra, the sides strongly discontinuous, moderately convergent, evenly and moderately arcuate, the punctures fine and sparse, closer toward the sides; elytra as long as wide, not very coarsely but deeply, evenly and rather sparsely punctured, the pubescence moderately long and coarse but dark in color and rather sparse; male with a concave median glabrous area, defined by fine dense piliferous punctures, at the apex of the first ventral, the fifth broadly sinuato-truncate and medially impressed as usual. Length 2 4 mm.; width 1.8 mm. California (probably near San Francisco).....**strenuus,** sp. nov.

Smaller, equally convex and polished, less broadly oval, the prothorax shorter and more transverse, the sides strongly discontinuous, rather feebly convergent, evenly and somewhat strongly arcuate, the punctures fine, rather sparse, even, more close-set toward the sides; elytra a little longer than wide, evenly, almost semicircularly rounded behind, not very coarsely but deeply, evenly and rather sparsely punc-

tured; male with a small feebly concave glabrous area on the first segment bordered by finer denser piliferous punctures, the fifth sinuato-truncate and impressed as usual. Length 1.7–1.9 mm.; width 1.3–1.45 mm. California (Humboldt and Siskiyou Cos.)..... **mendocino**, sp. nov.

55—Prothorax large, nearly as wide as the elytra, about two and one-half times as wide as long, the sides slightly discontinuous, feebly convergent, evenly and moderately arcuate, the punctures fine, sparse, but slightly larger and less sparse toward the sides; elytra about as long as wide, finely, rather feebly and sparsely punctured, the pubescence moderately long and coarse, sparse and slightly dark in color; head of the male red in apical third; middle and hind femora black at base. Length 2.0–2.25 mm.; width 1.5–1.7 mm. California (Sonoma Co.).

stygicus, sp. nov.

Prothorax relatively smaller, much narrower than the elytra, shorter and more transverse, the sides strongly convergent, evenly and strongly arcuate and very markedly discontinuous with those of the elytra, the punctures nearly similar; elytra barely as long as wide, more coarsely, quite strongly, very evenly and not so sparsely punctured, the pubescence very fine, even, decumbent, dark in color and inconspicuous; head black, the extreme apical margin of the clypeus pale in the female, probably more in the male; hind femora black at base, the trochanter pale. Length 2.1 mm.; width 1.6 mm. California (Siskiyou Co.).

tenuivestis, sp. nov.

56—Rather broadly oval, smooth, black, the clypeal apex, tip of abdomen feebly, and legs throughout, pale testaceous; prothorax relatively rather small, much narrower than the elytra but only moderately transverse, the sides discontinuous, moderately convergent, evenly and feebly arcuate, the punctures rather large and close-set in the middle, shallow, variolate and feebly umbilicate, becoming fine and sparser toward the sides; elytra evenly, finely but strongly, moderately closely punctured, the pubescence rather coarse but unusually short, subdecumbent, ashy and distinct. Length 1.8 mm.; width 1.4 mm. Arizona (Grand Cañon of the Colorado)—Dr. Prudden..... **papago**, sp. nov.

57—Prosternal carinæ entire as usual; elytral pale areas more or less nubilate and variable in extent.....58

Prosternal carinæ not quite attaining the apical margin 62

58—Body broadly oval.....59

Body narrowly oblong-oval 61

59—Body depressed, the pale areas of the elytra predominating 60

Body normally convex, testaceous, the pronotum with a large parabolic black spot nearly attaining the apex, the elytra black, each with a short, narrow, longitudinal and slightly oblique median vitta at the middle of the disk, which sometimes almost disappears, the under surface black; legs dusky, the femora black except at tip; prothorax closely and strongly punctulate, the sides slightly discontinuous, rather strongly convergent and evenly arcuate; elytra fully as long as wide, finely but strongly, evenly and very closely punctate. Length 1.8–2.0 mm.; width 1.25–1.45 mm. Arizona (Yuma)..... ...**nubes**, sp. nov.

60—Elytral punctures moderately large and not very close-set; upper surface testaceous, the pronotum with a broad parabolic black spot not attaining the apex, the elytra with a large triangular black common spot extending nearly to the

sides at the base and having its apex on the suture at apical seventh or eighth, sometimes enveloping the entire base and extending posteriorly along the sides behind the middle; under surface black, the legs dusky-testaceous, with the femora darker. Length 1.8–2.0 mm.; width 1.3–1.4 mm. Louisiana, Texas and Arizona (Tucson)..... **cinctus** *Lec.*

Elytral punctures fine, strong and very close-set; upper surface testaceous, the pronotum with a broad parabolic and rather poorly defined black spot, extending to about apical fourth; sides slightly discontinuous, the punctures minute and inconspicuous, very close broadly toward the sides; elytra with a black sutural vitta, sinuously expanding toward base, where it does not extend laterally much beyond the middle of each, finely attenuate posteriorly and not attaining the apex; under surface and legs as in *cinctus*. Length 1.8–2.0 mm.; width 1.2–1.4 mm. California (Sta. Barbara); [*suturalis* || Lec.]..... **lecontei** *Cr.*

61—Head testaceous, the pronotum black, with the apical margin narrowly, and apical angles more broadly, indefinitely pale, short and transverse, the sides strongly discontinuous, feebly convergent, evenly and moderately arcuate, the punctures fine but strong and very close-set throughout; elytra dark rufo-testaceous, with sutural black vitta gradually expanding to the base and a nubilate lateral area not attaining base or apex, varying thence to entirely black, with a narrow oblique red discal streak on each closely approaching the suture posteriorly; punctures fine, strong, even and extremely close-set; pubescence rather long, coarse and conspicuous; under surface black, the legs slender, testaceous, the femora black with the extreme tip red; male with the fifth ventral less feebly sinuate at apex than in *lecontei*. Length 1.8–1.9 mm.; width 1.1–1.25 mm. California (Sonoma Co.) ..... **sarpedon,** sp. nov.

62—Body broadly oval, each elytron with a distinctly defined discal red spot just before the middle, the spot obliquely subrhomboidal in form; pronotum pale at the apical angles, the sides continuous and strongly convergent, arcuate; elytra sparsely punctate, the pubescence coarse and distinct. Length 2.5 mm.; width 1.7 mm. California..... **paciticus** *Cr.*

Body broadly oval, each elytron with a more elongate oblique red spot before the middle of the disk, the spot nearly attaining the suture; pronotum entirely black. Length [2.5 mm]. New Mexico..... **strabus** *Horn*

Body narrowly oblong-oval and much smaller, the elytra pale testaceous, with the suture narrowly blackish, the dark tint extending nubilously along the basal margin to the sides and sometimes prolonged backward along the latter for some distance, the punctures not very close; prothorax much smaller, distinctly narrower than the elytra, the sides strongly discontinuous, feebly convergent and feebly arcuate, black, gradually paler toward the apical angles; under surface and legs black, the ventral plate distant from the segmental apex by half of its own length. Length 1.6–1.9 mm.; width 0.8–1.1 mm. California (Lake Tahoe, Truckee and Monterey)..... **coniferarum** *Cr.*

63—Very narrow and elongate-oval, polished, black, each elytron with a large triangular red spot at the centre of the disk; under surface and legs black, the trochanters and tarsi paler; prothorax unusually feebly transverse, scarcely twice as wide as long, the sides obviously discontinuous, feebly convergent and nearly straight, becoming feebly arcuate at apex; punctures remote and almost obsolete; elytra

fully a third longer than wide, rather narrowly obtuse behind, the punctures sparse and rather strong; pubescence coarse; male with the fifth ventral evenly sinuate at tip, the surface narrowly beveled along the sinus, the first gradually glabrous toward the middle. Length 1.5 mm.; width 0.8 mm. Pennsylvania. **punctatus** *Say*

Much more broadly oval, the body smaller, less polished, black throughout, the pronotum feebly picescent at the apical angles, not more than three-fifths as wide as the elytra, scarcely more than twice as wide as long, the sides quite strongly convergent, very discontinuous and almost straight, the punctures very minute and inconspicuous; elytra but little longer than wide, obtusely rounded at apex, very finely, rather feebly, evenly but not closely punctured, the pubescence rather short and fine, not very conspicuous; legs rufo-piceous; ventral plates approaching the hind margin of the segment by a third or fourth of their own length but rather narrow and strongly rounded. Length 1.25–1.35 mm.; width 0.8–0.95 mm. Nevada (Reno).. ..... **occiduus,** sp. nov.

Evenly and not very broadly oval, black, the frontal margin, mouth, apical angles of the pronotum and legs throughout pale; marginal bead of the elytra at apex also testaceous; prothorax nearly as wide as the elytra, finely, not densely and evenly punctate, the sides almost perfectly continuous, strongly convergent and feebly arcuate; elytra distinctly longer than wide, rather finely but strongly, evenly and not closely punctate, the pubescence moderately long, cinereous and distinct; metacoxal plate approaching extremely close to the suture, broadly rounded; male with the fifth ventral broadly trapezoidal and sinuato-truncate, the edge narrowly beaded and the surface just anteriorly more convex. Length 1.5 mm.; width 0.95 mm. New Mexico ..... **nanus** *Lec.*

64—Upper surface black, each elytron with a large oval red spot on the median line of the disk just before the middle; form very broadly oval, the head and pronotum black throughout, the latter finely, strongly and closely punctate; elytra rather coarsely, evenly and moderately closely punctate, not pale at apex, the pubescence coarse; under surface black throughout, the legs fusco-testaceous, the femora black. Length 2.5 mm.; width 1.85 mm. Texas; [Tennessee and Louisiana—Horn.] ..... **circumspectus** *Horn*

Upper surface black, the prothorax bicolored; elytra without discal pale spot..... 65

Upper surface pale flavo-testaceous to piceous-black; sides of the prothorax discontinuous 69

65—Elytra distinctly and somewhat broadly margined with red at the apical margin, oval, polished, the head and prothorax generally pale, the latter broadly black toward the middle and base, sometimes black throughout, the sides not quite continuous, rather strongly convergent and evenly, moderately arcuate, the punctures generally distinct but not very dense; elytra coarsely and sparsely punctate, the pubescence coarse, rather long, ashy and conspicuous; legs pale to blackish in color. Length 1.8–2.7 mm.; width 1.3–1.9 mm. New York, Delaware, Mississippi, Texas, Indiana, Illinois and Iowa ..... **americanus** *Muls.*

Elytra not red at tip, or only extremely finely so, the punctures very much smaller and more close-set, the body more narrowly oval; vestiture rather short and decumbent, cinereous..... 66

66—Pronotum black, sometimes with the sides paler, minutely, sparsely and inconspicuously punctulate, the sides not quite continuous, moderately convergent, evenly and rather strongly arcuate; elytra black, finely but very clearly, evenly and not very closely punctate; legs red. Length 1.9 mm.; width 1.4 mm. Oregon—Mr. Wickham..... ..... **caurinus** *Horn*

Pronotum pale testaceous, with a parabolic and frequently somewhat ill-defined median black spot at the base, extending almost to the apical margin, the sides subcontinuous with those of the elytra, convergent and rather strongly arcuate, the surface minutely reticulate and distinctly alutaceous, the punctures extremely small, sparse and inconspicuous; elytral punctures very small, rather feeble; legs red throughout 67

67—Abdominal lines only partially interrupted externally, approaching very close to the hind margin of the segment, as apparently in the two following also; male with the fifth ventral segment broadly sinuato-truncate, feebly impressed and very inconspicuously pubescent along the sinuous portion. Length 1.7 mm.; width 1.15 mm. Nevada (Reno)..... .....**innocuus,** sp. nov.

Abdominal lines distinctly interrupted externally, as usual in the present group...68

68—Male with the fifth ventral segment very feebly sinuate at apex but conspicuously clothed with coarse, dense, erect and subflavous pubescence. Length 1.9–2.1 mm.; width 1.3–1.55 mm. Indiana—Cab. Levette.....**rusticus,** sp. nov.

Male with the fifth ventral short and broadly truncate but scarcely at all sinuate, the edge with a short and steep bevel and clothed with fine inconspicuous pubescence. Length 1.8–2.0 mm.; width 1.25–1.5 mm. California (Sonoma Co.). **aluticollis,** sp. nov.

69—Elytral punctures rather coarse and sparse though only moderately deep....70

Elytral punctures fine and close-set; body smaller and more narrowly oval uniform piceous-black above or paler, with the pronotum still paler toward the apical angles; prothorax relatively small, moderately transverse, much narrower than the elytra, the sides moderately convergent and feebly arcuate, the punctuation close but very fine; elytra longer than wide, not very obtuse at tip, feebly blackish toward the suture and side-margin in some of the paler forms, the pubescence short, abundant and rather coarse. Length 1.75–1.9 mm.; width 1.0–1.2 mm. California (Monterey to Humboldt Co.)..... ....**difficilis,** sp. nov.

70—Upper surface pale rufo-flavate, polished, immaculate, the pubescence rather short, sparse, moderately coarse; prothorax much narrower than the elytra, minutely, not very closely punctate, the sides only moderately convergent and more or less feebly arcuate; elytra about as long as wide. Length 1.7–2.5 mm.; width 1.0–1.75 mm. British Columbia to northern California.....**phelpsi** *Cr.*

Upper surface pale luteo-flavate, the elytra with small irregular blotches or dashes of black, the pronotum frequently blackish except at the sides, strongly transverse; elytral punctures binary, as in *phelpsi*, the larger sometimes tending to linear arrangement toward the suture and base; post-mesocoxal line generally entire but sometimes more or less abbreviated, in one specimen only extending two-thirds the distance to the episternal suture. Length 1.8–2.25 mm.; width 1.15–1.6 mm. California (Humboldt to Los Angeles).....**nebulosus** *Lec.*

71—Elytra black, each with a single sharply defined rounded discal pale spot....72

Elytra black, each with two sharply defined oval spots, or a design formed by an amalgamation of such spots.....73

Elytra black or piceous, with irregular paler design or maculation.....75

Elytra pale, or sometimes pale with the suture or margins dusky..... 77

72—Prothorax entirely testaceous, each elytron with a very large circular red spot just behind the middle, the apex not paler; pubescence rather coarse, cinereous and conspicuous, the punctures very fine and not very dense; legs flavo-testaceous, Length 1.25 mm.; width 0.85 mm. Florida (Dry Tortugas)..**bivulnerus** *Horn*

Prothorax entirely black, the head red or black; legs testaceous, the femora black, especially the posterior; elytra each with a smaller spot near apical third; body moderately large and stout, the sides of the prothorax nearly continuous with those of the elytra; elytral punctures rather small, the pubescence coarse, rather abundant and conspicuous. Length 1.9 mm; width 1.3. Pennsylvania.

flavifrons *Melsh.*

Var. A—Much smaller and generally somewhat more narrowly oval, the elytral punctures relatively rather larger, the pubescence not quite so conspicuous. Length 1.4–1.6 mm.; width 0.95–1.1 mm. Pennsylvania, New Jersey, Delaware and Georgia.....**bioculatus** *Muls.*

73—Spots of the elytra narrowly but clearly separated, oval. Length 2.0 mm.; width 1.2 mm. Lake Superior.....**ornatus** *Lec.*

Spots of the elytra broadly coalescent, forming an elongate, bilaterally sinuate discal maculation.....74

74—Larger species and more broadly oval, the abdomen strongly and rather closely punctured at the sides of the first segment, the epipleuræ scarcely attaining the middle of the side-margin of the second segment, the arrangement of the punctures at the sides of the first segment indicating derivation from a form having complete ventral plates, with the bounding line bending abruptly to the front very near them argin; prothorax black throughout, minutely and rather closely punctate, the sides not quite continuous with those of the elytra, strongly convergent, evenly and strongly arcuate; elytra much longer than wide, rather strongly rounded at apex, finely but deeply, moderately closely and somewhat irregularly punctate; legs red, the femora blackish. Length 2.15 mm.; width 1.35 mm. Massachusetts .....**sanguinifer,** sp. nov.

Small and narrowly oval but similar to the preceding in form, the abdomen finely and sparsely punctate over the post-coxal areas, the lines curved forward at their extreme limit but not much prolonged, the epipleuræ attaining the apex of the second segment, black; the elytral spot less defined than in *sanguinifer*; the punctures rather sparser and the apex more narrowly rounded. Length 1.65 mm.; width 0.8–0.9 mm. Colorado (Rocky Mts.).....**naviculatus,** sp. nov.

75—Black throughout, broadly oval, the legs piceous, each elytron with two transverse discal spots which are almost. or completely, divided each into two very small pale spots, the outer of which are the more linear and oblique; punctures fine and very close-set, the pubescence rather coarse, cinereous and conspicuous but easily denuded. Length 1.8 mm.; width 1.2 mm. California.

guttulatus *Lec.*

Piceous-black, narrowly oval, the legs dark testaceous throughout, each elytron with a transverse reniform pale spot just behind apical third, and also paler toward the

apical angles, the suture, however, dark to the apex; prothorax very minutely punctulate, the sides not quite continuous, feebly convergent and rather strongly arcuate; elytral punctures fine and moderately close, the pubescence coarse. Length 1.4 mm.; width 0.8 mm. California ..... **scitus,** sp. nov.

Piceous-black, the head and prothorax dark testaceous, sometimes feebly infuscate toward the middle of the base; form broadly oval, each elytron with a large pale area, evidently consisting of two transverse spots longitudinally prolonged backward and forward, so as to unite and wholly or partially enclose an oval dark spot at the centre; elytral punctures minute, the pubescence rather coarse and distinct, cinereous; legs pale throughout 76

76—Sides of the prothorax only slightly discontinuous, strongly convergent, evenly and moderately arcuate; posterior transverse spot short, not extending to the apex. Length 1.75 mm.; width 1.2 mm. California (Humboldt Co.).
suavis, sp. nov.

Sides of the prothorax strongly discontinuous, feebly convergent and very feebly arcuate; posterior spot extending nearly to the apex, the elytra being pale with the base broadly, suture and side-margin more narrowly to behind the middle, and a small central spot, dark; elytral punctures less close-set. Length 1.7 mm.; width 1.2 mm. Colorado ..... **coloradensis** *Horn*

77—Each elytron pale, with all the margins nubilously blackish, more broadly at base, the pale area feebly oblique and elongate-oval, finely and rather closely punctate; body elongate-oval, the pronotum piceous, minutely, not very closely punctulate, the sides not quite continuous. Length 1.65 mm.; width 0.9 mm. California (southern) ..... **sordidus** *Horn*

Each elytron pale throughout, or just visibly and suffusedly piceous toward the suture 78

78—Larger, more narrowly oval, the elytra longer than wide, the pronotum finely and sparsely but evidently punctulate; pubescence rather abundant, suberect, coarse and conspicuous. Length 1.3–1.6 mm.; width 0.8–1.0 mm. Maryland, Indiana, Kansas and Texas ..... **intrusus** *Horn*

Smaller, shorter and more broadly oval, the elytra not longer than wide, sparsely punctulate, the pubescence rather sparse, more decumbent and less conspicuous; pronotum wholly impunctate, sparsely pubescent, the sides continuous with those of the elytra but more arcuate, feebly convergent. Length 1.1 mm.; width 0.75 mm. Florida (Tampa) ..... **inops,** sp. nov.

79—Prosternal carinæ entire, attaining the apical margin 80

Prosternal carinæ abbreviated in front; body pale throughout or nearly so 87

80—Elytra black, with a transverse post-basal pale band narrowly prolonged along the suture to the base; body narrowly oblong and parallel, the punctures fine and sparse; prothorax testaceous. Length 1.4 mm.; width 0.8 mm. Florida (Haulover near Jupiter) ..... **balteatus** *Lec.*

Elytra black, each with a single small yellow spot slightly in front of the middle, the apex narrowly pale; body oval; prothorax piceo-testaceous, paler at the sides, the latter almost continuous with those of the elytra; legs testaceous; size very small. Length [1.25 mm.]. Florida (Biscayne Bay and Punta Gorda).
bigemmeus *Horn*

Elytra black or piceous, each with two pale spots.....81

Elytra black throughout, the apex broadly pale in fourth or fifth, the pale area divided by the rather broadly black suture to the apical angles; body very small, broadly oval, the head, prothorax and legs throughout pale testaceous; prothorax short and transverse, finely punctulate, the sides nearly continuous, strongly convergent and arcuate; elytra barely as long as wide, very finely, evenly and not densely punctate, the pubescence short but pale and coarse. Length 1.2 mm.; width 0.85 mm. Locality not indicated..... .....**dichrous** *Muls.*

Elytra black, with a broad apical red area which is not divided by the suture; legs red throughout.....83

Elytra black or brown throughout, the apex not, or only very narrowly, paler....84

Elytra pale, with a black spot or design..... 86

81—Form very narrowly oblong and parallel, black, shining, the legs pale; pronotum pale, infuscate toward the middle; punctures fine and sparse, the pubescence short, suberect and quite conspicuous; elytra each with two large pale spots, the anterior at basal third the larger, extending somewhat obliquely and becoming subattenuate toward the humeral callus, the posterior at apical fourth and obliquely suboval. Length 1.6 mm.; width 0.9 mm. Florida (Enterprise) and Louisiana.....**4-tæniatus** *Lec.*

Form broadly oval 82

82—Prothorax black, faintly piceous toward the apical angles, the sides nearly continuous, strongly convergent and feebly arcuate; elytra longer than wide, finely and not very closely punctate, each with a moderate subquadrate spot just before the middle, nearer the suture than the side, and another, smaller and reniform, in the same line at apical fourth; apex scarcely paler; pubescence rather coarse and distinct. Length 1.7 mm.; width 1.15 mm. Pennsylvania.

myrmedon *Muls.*

Prothorax pale rufo-testaceous throughout; head and legs similar in coloration, the hind femora blackish, except at tip; abdomen pale, blackish toward base; body stout, oblong-oval; prothorax short and transverse, finely but distinctly, rather closely punctate, the sides slightly discontinuous, moderately convergent, evenly and strongly arcuate; elytra subquadrate, as long as wide, very obtuse at apex, black, finely but strongly, evenly and not very closely punctured, each with a very oblique pale line from anterior two-fifths and inner third to and enveloping the entire humeri, subdivided near its middle point, and a transverse broader spot at apical fourth or fifth, narrowly and equally distant from the suture and side margin, the apex very narrowly pale; pubescence coarse, suberect and distinct. Length 1.7 mm.; width 1.2 mm. North Carolina (Asheville).

adulans, sp. nov.

Prothorax yellow, darker in front of the scutellum; elytra piceous, a narrow apical border and two spots, one small and rounded in front of the middle, nearer the suture than the side, and the other transverse and slightly sinuous, at apical third, touching the side but not the suture [not so drawn in the figure], pale; legs yellow. Length [1.25–1.5 mm]. Southern New Jersey..**liebecki** *Horn*

83—Prothorax black, with the apex narrowly, and the apical angles more broadly, testaceous, the sides not quite continuous, moderately convergent and broadly

arcuate, the punctures fine but strong and moderately close-set; elytra distinctly longer than wide, finely but strongly, not very closely punctate; pubescence coarse and distinct. Length 1.3–1.8 mm.; width 0.9–1.25 mm. New York to Texas and Iowa; [*femoralis* Lec.]..... **terminatus** *Say*

Prothorax flavo-testaceous, with a broad parabolic basal spot of black not extending to the apex, the sides strongly discontinuous, feebly convergent, evenly and strongly arcuate, the punctures fine, strong and very close-set; elytra broadly oval, not longer than wide, with the apical fourth abruptly pale, the punctures strong but very small, finer and closer than in *terminatus*, the pubescence rather short and fine, darker in color and less conspicuous. Length 1.7 mm.; width 1.25 mm. Texas (Austin)..... ..... **partitus,** sp. nov.

84—Form broadly oval, the elytra not longer than wide, black, shining, the pubescence coarse, suberect, cinereous and conspicuous; head, legs and pronotum pale testaceous, the latter slightly infuscate before the scutellum, the sides continuous, strongly convergent, evenly and rather feebly arcuate; elytra minutely, sparsely punctulate, the apical margin narrowly and indefinitely pale, the scutellum black. Length 1.25 mm.; width 0.9 mm. Texas (Columbus).... **houstoni,** sp. nov.

Form narrowly oval, the elytra distinctly longer than wide; head and legs pale, the elytra narrowly paler at apex, almost imperceptibly so in *brunnescens;* sides of the prothorax continuous but a little more arcuate than those of the elytra, rather strongly convergent..... 85

85—Pronotum testaceous, gradually infuscate in the middle toward base, finely but rather strongly and closely punctulate; elytra black, shining, rather strongly and somewhat closely punctured, the pubescence cinereous, only moderate in length and coarseness. Length 1.2–1.3 mm.; width 0.8–0.85 mm. North Carolina (Asheville), ... **appalacheus,** sp. nov.

Pronotum pale flavo-testaceous throughout, the elytra very pale brown, sometimes slightly darker and picescent in a large triangular nubilous basal region on the suture, rather sparsely and very finely punctate, the pubescence quite long, coarse suberect, bristling and conspicuous; under surface blackish-piceous, the abdomen paler. Length 1.3–1.6 mm.; width 0.9–1.05 mm. Texas (Brownsville)—Mr. Wickham..... .. .. **brunnescens,** sp. nov.

86—Oval, much longer than wide, shining, pale flavo-testaceous throughout above and beneath, the legs still paler; head and pronotum subimpunctate, the latter short, the sides continuous but more arcuate, moderately convergent; elytra distinctly elongate, minutely, sparsely punctate, with a slightly transverse common sutural spot at apical third, which is feebly arcuate anteriorly and semicircular behind; pubescence only moderate in length. Length 1.3 mm.; width 0.88 mm. Florida. **stigma,** sp. nov.

Oval, minute, not much longer than wide, very pale albido-flavate, the legs very pale; sterna of the hind body, and sometimes the median basal parts of the abdomen, black; pronotum short and very transverse, scarcely punctulate, the sides not quite continuous, feebly arcuate and moderately convergent, pale, with a short transverse black spot before the scutellum; elytra scarcely as long as wide, pale, with a sharply defined deep black design, consisting of a large common basal spot semicircularly rounded behind, continued narrowly along the basal margin,

flexed posteriorly at the humeri and continuing narrowly along the side-margin to the middle, the large basal spot also connected by a short sutural isthmus with a small rounded common sutural spot just behind the middle; pubescence long, coarse and bristling. Length 0.9–1.0 mm.; width 0.65–0.75 mm. Bahamas (Eleuthera and Egg Islands)—Mr. Wickham.....**bahamicus** sp. nov.

Oblong, much longer than wide, very pale luteo-flavate, the pronotum less pale than the elytra but uniform throughout and without a median basal spot, much less transverse than in *bahamicus*; sides somewhat discontinuous, feebly convergent, evenly and feebly arcuate, the punctures minute but visible and rather close-set; elytra evidently longer than wide, nearly straight at the sides, very obtuse at apex, finely but strongly, somewhat closely punctate, the darker design piceous-black and less abruptly defined than in *bahamicus*, consisting of a large subtriangular common basal spot, somewhat prolonged in a fine acuminate line at each side of the suture, but not united to the rounded common sutural spot at apical two-fifths; flanks infuscate at the middle and again at the external apical arcuation; pubescence rather short and inconspicuous. Length 1.15 mm.; width 0.78 mm. Bahamas (Egg Island).....**putus**, sp. nov.

87—Larger species, broadly oblong-oval, pale and uniform luteo-flavate throughout, the abdomen piceous at the middle of the base; pronotum finely punctulate, the sides almost continuous but a little more arcuate, strongly convergent; elytra a little longer than wide, parallel, very obtusely but circularly rounded behind, finely but strongly, rather closely punctate, the suture with a parallel nubilous piceous vitta from the base to rather behind the middle; pubescence coarse and moderately short. Length 1.55 mm.; width 1.05 mm. Kansas....**dulcis**, sp. nov.

Smaller and more narrowly oval, the elytra not darker on the suture.....88

88—Elytra about as long as wide, not narrowed behind except toward tip.....89

Elytra longer than wide, narrowed behind from near basal third; prothorax well developed, only moderately transverse, scarcely perceptibly punctulate, the sides continuous with those of the elytra but rather more arcuate, moderately convergent; elytra rather narrowly subtruncate at tip, finely but distinctly and rather closely punctate, the pubescence very short and subdecumbent. Length 1.1–1.2 mm.; width 0.65–0.7 mm. Michigan and Illinois.....**æger**, sp. nov.

89—Prothorax minutely punctulate, the sides continuous with those of the elytra, rather strongly convergent and very feebly arcuate; elytra finely and quite closely punctate, the pubescence very short, abundant and subdecumbent. Length 1.1–1.3 mm.; width 0.75–0.8 mm. California (Alameda Co.).....**debilis** *Lec.*

Prothorax relatively smaller and more convex, impunctate, the sides evidently discontinuous, feebly convergent, evenly and rather strongly arcuate; elytra distinctly and somewhat abruptly wider than the prothorax, obtusely rounded or subtruncate at tip, with somewhat coarse but very shallow and sparse punctures, the pubescence longer, sparser and more erect than in *debilis*, but still quite short. Length 1.1 mm.; width 0.68 mm. Florida..... **pusio**, sp. nov.

In the subgenus *Scymnobius* the prosternum is wholly devoid of carinæ, but there is frequently a fine short groove following the margin of each acetabulum; this is a very well-marked group of

species, and may prove to have full generic value. In *Diomus* the prosternal carinæ are as distinctive and charcteristic a feature as in *Pullus* or *Scymnus* proper, and they are by no means obsolete as stated by Dr. Horn; they are, however, finer and less visible under low powers of amplification. In this group, which is indeed almost entitled to generic rank, the first ventral suture is generally more obliterated toward the middle than in the others. The separation of *Scymnodes* Blackb., from *Scymnus*, upon this character, would not be warranted even if the line of demarkation could be distinctly drawn. In the old world, *Scymnus* proper seems to be about as abundant as *Pullus*; but in America the disparity in numbers is very great, the former being relatively very feebly represented.

Scymnus punctum of LeConte, which is closely allied to the European *punctillum*, belongs to the genus *Stethorus* of Weise, very distinct on account of the deflexed prosternum; it is in no way related to *nanus*, with which it is compared by Dr. Horn.

The following species are omitted from the table because of uncertainty regarding their true position.

S. brullei Muls.—Oval-oblong; elytra black, each with a rounded red spot in apical third. Length 3.1 mm.; width 1.5 mm. Florida. May be placed before *hemorrhous* but the proportional elongation is much greater.

S. puncticollis Lec.—Broadly oval, black, the head and prothorax finely and densely punctured, the latter with a small yellow spot at the apical angles; elytra densely punctate, with a narrow testaceous apical margin; legs pale, the femora piceous. Length 2.25 mm. Upper Mississippi. May be placed just before *agricola* in the table.

S. abbreviatus Lec.—Black throughout, the legs rufo-piceous; prothorax sparsely punctured, densely toward the sides; elytra densely and coarsely punctured, the metacoxal plates three-fifths as long as the segment. Length 2.1 mm. Lake Superior (Eagle Harbor). To be placed immediately after *weidti* in the table.

S. flebilis Horn—May be inserted just before *nubes* in the table

S. opaculus Horn—May be placed just after *circumspectus*.

S. bisignatus Horn—To be inserted immediately after *bivulnerus*.

S. amabilis Lec.—To be placed just before *guttulatus*.

S. xanthaspis Muls.—Should appear immediately before *houstoni*.

S. icteratus and *cyanescens* of Mulsant, cannot be placed, and the *atramentarius* and *infuscatus* of Boheman, cannot be certainly identified.

Cephaloscymnus *Crotch.*

The two species thus far discovered are mutually closely allied, but differ in color and sculpture. The *Cephaloscymnus ornatus* of Horn,

is in no way related, but belongs to the Scymnillini, where it forms the type of a new and rather isolated genus. The color of the body is uniform and black or piceous.

Black, the elytra sparsely punctured. Maryland and South Carolina.
zimmermanni *Crotch*

Brownish or piceous; elytra more coarsely and quite closely punctured. Southern California and Arizona. ..... **occidentalis** *Horn*

These species are of an oblong-oval form and 1.5–2.0 mm. in length. They may be recognized at once by the very large head and deeply emarginate prothorax, the sides of which are discontinuous with those of the elytra.

RHYZOBIINI.

The insects of this tribe are of a regularly oval, moderately convex form and are clothed throughout with more or less fine semi-erect pubescence, as in Scymnini. They are not, however, closely allied to that tribe, as they possess wider, moderately descending and internally margined epipleuræ, long and slender antennæ, with loosely connected serrate 3-jointed club, entire or subentire and coarsely faceted eyes and entire metacoxal plates, always shorter than the segment, and, in the two genera defined below, the prosternum is flat, moderately or widely separating the coxæ and with two strong entire converging carinæ. The abdomen has six segments, the sixth very small, the maxillary palpi normally securiform and the legs perfectly free. The prothorax is very feebly and evenly sinuate at apex, with broadly rounded angles as in Psylloborini. The tarsal claws are well developed, evenly arcuate and slender, with a moderate subquadrate dilatation internally at base, but in the males the anterior and intermediate are thick and bifid, thus forming an exception to the entire family as far as known. The genera before me may be defined as follows:—

Epistoma transversely truncate and simple at apex; hypomera nearly simple; prosternal carinæ arcuate, diverging widely at base, coalescent at apex; metacoxal plates very short. ..... ***Rhyzobius**

Epistoma deeply emarginate, the bottom of the sinus transverse and having a membranous margin; hypomera with a narrow deep groove extending, parallel to the side margin, from the apex nearly to the middle, the prosternal carinæ straight, not coalescent at apex; metacoxal plates much larger, extending almost to the apex of the segment ..... **Lindorus**

The definition of *Rhyzobius*,—the original spelling of which I agree with Wollaston in following,—is taken from the South African *trimeni* Csy.

Lindorus, gen. nov.

The single species is represented before me by two examples, kindly communicated by Dr. Blaisdell, and one taken by myself in Sonoma County, in 1885, which is apparently prior to its introduction by the Agricultural Department.

Broadly oval, pale rufo-testaceous throughout, except the entire elytra, which are black with feeble æneous lustre; pronotum frequently with a transverse piceous cloud just before the middle, the sides but feebly convergent, slightly arcuate and distinctly discontinuous, the punctures fine and rather sparse; elytral punctures slightly stronger but not very close-set, the pubescence unevenly directed. Length 2.2–2.7 mm.; width 1.5–2.0 mm. California (Coronado to Sonoma); [*toowoombæ* Blackb.] ..... **lophanthæ** *Blaisd.*

COCCIDULINI.

A single remarkable genus, apparently confined to the palæarctic and nearctic provinces, demands tribal separation. The body in *Coccidula* is elongate-oval and moderately convex, pubescent throughout, with the eyes, antennæ, palpi and metacoxal plates as in Rhyzobiini, and the abdomen composed of six segments, the sixth large and distinct. The mentum is not impressed, as it is in Rhyzobiini, the epistoma truncate, with coriaceous margin, the prosternum tumid in the middle anteriorly, becoming flat and rather widely separating the coxæ at base, bicarinate, the carinæ coalescent before the apex upon the summit of the tumidity, the hypomera simple; epipleuræ narrow, horizontal, more finely margined within, becoming obsolete at the fourth abdominal segment, the metacoxal plates about half as long as the segment, the legs perfectly free, rather stout, with the claws feebly bifid within at some distance from the apex. The prothorax is narrowed at base and very feebly sinuate at apex.

Coccidula *Kugel.*

The single species before me resembles the European very closely and may be thus briefly defined:—

Elongate; body and head black, the prosternum, legs, abdomen, except in the middle at base, and pronotum, testaceous, the latter with a small and transverse dark area at apical fourth; elytra testaceous, arcuately black at base and along the sides to behind the middle, also with a common transversely oval sutural black spot at two-thirds, the punctures rather coarse, deep, close-set and uneven in size, the larger tending vaguely to lineal arrangement at some parts of the disk; pubescence very short, almost even. Length 3.0 mm.; width 1.4 mm. Michigan (Detroit) ..... **lepida** *Lec.*

Suturalis Ws. (Ann. Belg., March 1895, p. 132), described from Ohio, of which the Californian *occidentalis* Horn, is said by Weise to be a synonym, is not before me at present and is therefore omitted.

APPENDIX.

I.

List of Coccinellidæ taken in equatorial and southern Africa by Messrs. Cook and Currie, and by the author, while a member of the Transit of Venus expedition to the Cape of Good Hope, in 1882.

Lioadalia flavomaculata *DeG.*—Wellington, near Cape Town.

Isora anceps *Muls.*—Wellington.

Stictoleis 22-maculata *Fabr.*—Liberia (Mt. Coffee). The black spots coalesce in some individuals.

Œnopia cinctella *Muls.*—Cape Town.

Verania comma *Thunb.*—Wellington.

Cydonia 4-lineata *Muls.*—Wellington. The specimens are in three varieties. First: the median vitta of the elytra is entire, with a finer external arcuate vitta joining the principal vitta near the base and apex—the normal form, which is rare. Second: the principal vitta is abruptly abbreviated at apical fourth, and, third: the principal vitta extends only to basal third or fourth. Both of the last two varieties are more abundant and have the external vitta wholly obsolete.

Cheilomenes lunatus *Fabr.*—St. Helena, Cape Town and Wellington.

Cheilomenes orbicularis, sp. nov.—Similar in form to *lunatus*, but with the discal spot before the middle of each elytron broadly amalgamated with the humeral elongate spot, the latter narrowly separated at base from the inner basal spot and not fused with it as in *lunatus*. Further, with the transverse blotch at the suture and apical third evidently formed of two spots and not forming a regular arcuate band as in *lunatus*. Both of these species are represented by large series, and the markings are extraordinarily constant in each. Liberia (Mt. Coffee).

Thea variegata *Fabr.*—Wellington.

Epilachna reticulata *Oliv.*—Liberia (Mt. Coffee). The pale ground color between the spots is frequently filled with a black reticulation which never approaches the spots by more than half of their own diameter, the latter becoming ocellated.

Epilachna africana *Crotch.*—Liberia (Mt. Coffee).

Epilachna liberiana, sp. nov.—Somewhat similar to *africana*, but larger and more dilated. Broadly rounded, strongly convex, rufo-testaceous, the elytra, epipleuræ externally and legs throughout, black, the elytra sparsely and rather finely but unequally punctate, each with six large subequal irregular pale blotches, three subsutural and three submarginal, the anterior subsutural not attaining the base and the posterior submarginal not in line with the three subsutural. Length 6.8 mm.; width 6.5 mm. Liberia (Mt. Coffee).

Epilachna occidentalis *Crotch.*—Liberia (Mt. Coffee).

Epilachna peringueyi, sp. nov.—Ovate, the elytra subprominently rounded and widest at basal fifth, black throughout, the epipleuræ pale, margined externally with black, the elytra minutely, not densely punctate, with larger, widely scattered punctures intermingled, black, each with three large subconfluent spots in apical half, two smaller spots in a transverse line at two-fifths, the external of which is broadly confluent with a lunate basal spot extending almost to the scutellum; head and pronotum without pale spots at any point. Length 5.8 mm.; width 4.7 mm. Cape Town. Belongs near *infirma*.

Chnootriba erythromela *Widem.*—Cape Town.

Chnootriba assimilis *Muls.*—Liberia (Mt Coffee).

Chnootriba curriei, sp. nov.—Similar to *assimilis*, but shorter and more broadly oval, with the fine punctures of the elytra much sparser and the coarse punctures very much larger, the surface more convex and more shining; subhumeral spot rounded; median band—composed of two spots—much less oblique, almost transverse. Length 5.4 mm.; width 3.9 mm. Liberia (Mt. Coffee). Named in honor of Mr. R. P. Currie.

Lotis neglecta *Muls.*—Broadly rounded, polished, black above; pronotum finely, closely punctulate toward the sides, the apical angles pale; elytra each with two large orange spots on the median line, the anterior the larger and extending from one-sixth to two-fifths and from inner fourth to outer third, the posterior from two-thirds to five-sixths and from inner fifth or sixth to outer two-fifths; limb feebly rufescent; punctures fine and not close-set; under surface and legs testaceous, the sterna and median basal parts of the abdomen darker. Length 2.0–2.2 mm.; width 1.8–2.0 mm. Cape Town. The elytral spots are a little larger than indicated by Mulsant.

Lotis distincta, sp. nov.—Similar to *neglecta* in form but alutaceous and with still more minute and obsolete punctures, black throughout above, each elytron with two spots in the same position but smaller, not more than a fifth as wide as the elytron, the posterior elongate-oval; punctures gradually becoming distinct toward the sides; surface with obscure and very obsolete impressed longitudinal striiform lines toward the suture; under surface and legs black throughout, the epipleuræ piceous. Length 2.3 mm.; width 2.1 mm. Cape Town.

Lotis stigmatica, sp. nov.—Slightly smaller and more narrowly rounded behind, polished, black above, with a feeble greenish reflection, the elytral punctures small and sparse but distinct, the spots similarly placed but very small, the anterior rounded, about a seventh as wide as the elytron, the posterior very small, circular, with rather nubilous outline; under surface and legs black throughout, the epipleuræ piceous. Length 1.75–2.1 mm.; width 1.6–1.9 mm. Wellington.

Lotis nigerrima, sp. nov.—Similar to *stigmatica* in form, size and sculpture, but deep black above, polished and without trace of elytral spots; under surface black, the legs and abdomen picescent; epipleuræ pale testaceous, margined with black externally. Length 2.1 mm.; width 1.9 mm. Wellington. Much larger than *nigritula* Cr., and with more distinct punctures.

Xestolotis (gen. nov.) **stictica**, sp. nov.—Almost circular, very convex, pol-

ished, black, the head, pronotum and suffused limb of the elytra dark piceo-rufous; under surface piceous, the legs, palpi and antennæ pale testaceous; pronotum and elytra strongly and equally punctate, the former closely, the latter sparsely and without trace of impressed lines at any part. Length 1.8 mm.; width 1.7 mm. Liberia (Mt. Coffee). Taken in abundance by Mr. Cook.

The genus *Xestolotis* is similar to *Lotis* in the structure of the front, but has the clypeal margin more broadly truncate and only very feebly sinuate; the eyes are not emarginate and the antennæ are rather well developed, with the club flattened, compact and elongate-oval; the fourth joint of the maxillary palpi is very obliquely securiform, the free apex somewhat prolonged and finely acuminate. The coxæ are all widely separated, the tarsi well developed and subcompressed, and the claws simple, becoming arcuately thickened internally toward base. The abdomen is composed of five segments; the metacoxal plates attain the segmental apex toward the sides and are concave. The fifth ventral is longer than the preceding, as in all genera with true five-segmented abdomen, and, in all my representatives, the tip of the abdomen is deflexed, this being apparently a normal condition. The epipleuræ are uneven and subfoveolate, the met-episterna remarkably divided at a point opposite the extremity of the straight mesocoxal line, and the third tarsal joint is evidently free. It may be distinguished from *Sticholotis* (*punctata*) by the characters of the epipleuræ and met-episterna, as well as by the more finely faceted and entire eyes, which, in *Sticholotis*, are nearly as coarsely granulated as in the rhyzobiids and slightly emarginated by the post-antennal parts of the front.

Chilocorus cooki, sp. nov.—Broadly rounded, polished; head, pronotum, entire under surface and legs pale brownish-testaceous; elytra black, a large oval basal spot on the suture of the same color as the anterior parts, extending, at the basal margin, two-fifths from the suture, and, on the latter, slightly beyond the middle; punctures minute and sparse, each surrounded by a fine irregular ring of extremely minute punctulation; epipleuræ piceous-black, testaceous inwardly. Length 5.4 mm.; width 4.8 mm. Liberia (Mt. Coffee). Named in honor of Mr. O. F. Cook.

Exochomus versutus *Muls.*—Wellington.

Exochomus flavipes *Thumb.*—Wellington.

Platynaspis capicola *Crotch.*—Wellington.

Telsimia (gen. nov.) **tetrasticta**, sp. nov.—Broadly elliptical, evenly and moderately convex, shining, finely but strongly, sparsely impresso-punctate, clothed rather sparsely throughout with somewhat long suberect and ashy pubescence, black, the legs but slightly picescent; each elytron with two rounded testaceous

spots nearly as in *Lotis*, both near inner third and at two-fifths and three-fourths from the base respectively; flanks regularly declivous to the edge, which is minutely reflexo-beaded. Length 1.5–1.6 mm.; width 1.25 mm. Wellington. Differs from the following in its larger size and maculate elytra.

Telsimia inornata, sp. nov.—Broadly rounded, strongly somewhat compresso-convex, shining, strongly, closely punctate, the pubescence rather short, ashy, suberect and moderately abundant; elytra without ornamentation, the edge slightly more thickly reflexo-beaded than in *tetrasticta*; metacoxal arcs more apical but still far from the apex of the segment, the tarsi more slender, with the basal joint more elongate. Length 1.1 mm.; width 0.9 mm. Liberia (Mt. Coffee).

The genus *Telsimia* has been sufficiently characterized in the body of the present paper under the head of Telsimiini.

Pharus 6-guttatus *Gyll.*—Wellington.

Pharus inæqualis, sp. nov.—Similar to *6-guttatus* but more oblong and less rounded, with the prothorax relatively narrower, more rounded at the sides and more strongly and closely punctured; elytra with the spot at the middle and inner fourth very much smaller than the other two, and not subequal as in *6-guttatus*; under surface and legs black throughout. Length 2.4 mm.; width 1.8 mm. Cape Town.

Pharopsis (gen. nov.) **subglaber**, sp. nov.—Broadly oval, very strongly convex, black throughout above and beneath, the legs not paler, minutely but evidently punctate, the elytra sparsely so, polished and glabrous; head and pronotum duller, strongly microreticulate and clothed with very short, rather sparse, decumbent and inconspicuous silvery-gray hairs; basal joint of the tarsi elongate, the claws simple and strongly arcuate. Length 1.45 mm.; width 1.2 mm. Wellington.

This genus has been defined previously in the present paper, under the head of Pharini.

Hyperaspis felixi *Muls.*—Wellington.

Hyperaspis newcombi, sp. nov.—Elongate, suboblong-oval, moderately convex, polished, black throughout above and beneath, the head, except at the basal margin, and the sides of the pronotum in a parallel area nearly twice as long as wide with the inner outline feebly bisinuate, orange-yellow; elytra with a rounded marginal pale spot at apical sixth of the length; anterior legs pale, the two posterior pairs black. Length 2.7 mm.; width 1.8 mm. Wellington. Named in honor of Prof. Simon Newcomb. Differs from *mercki* in the form of the subapical spot of the elytra, which is here much smaller and separated throughout its extent from the margin by the fine black bead, becoming only slightly more distant posteriorly; it is separated from the suture by rather more than its own width.

Cranophorus notatulus *Muls.*—Wellington. The male has the fifth segment broadly sinuato-truncate, with a small suberect liguliform tooth at the middle of the apical edge, the sixth angularly emarginate, with the surrounding surface deeply impressed, and, through the emargination, a small seventh segment can be discerned.

Cranophorus 4-notatus *Muls.*—Cape Town.

Cranophorus trapezium, sp. nov.—Similar to *4-notatus* but more broadly oval, shining, moderately pubescent, finely, rather closely punctate, deep black above, the pronotum pale and diaphanous at the apical margin, more broadly laterally, the pale margin extending only to the middle of the length; elytra each with two small rounded pale spots, nearly equal in size, near one-third and two-thirds from the base and both at about two-fifths from the suture; under surface and legs black; male with the fifth ventral feebly sinuate, not denticulate, the sixth sinuato-truncate and broadly impressed. Length 1.7 mm.; width 1.1 mm. Wellington. Abundant.

Cranophorus parvulus, sp. nov.—Similar to the preceding but much smaller, the elytra more finely, sparsely and obsoletely punctate and more truncate at tip, the two spots of each elytron extremely small and nearly on the median line; male with the fifth segment truncate and not modified, the sixth perfectly flat, broadly subtruncate at apex, with a very minute angulate median notch. Length 1.15–1.25 mm.; width 0.75–0.85 mm. Wellington. A single pair.

Stethorus jejunus *Csy.* (Ante, p. 136)—Cape Town.

Scymnus (Scymnus) **morelleti** *Muls.*—Wellington.

Scymnus (Scymnus) **capicola**, sp. nov.—Broadly oval, black, the elytral apices narrowly margined with red; abdomen black, the apical margin paler; legs testaceous throughout; head rufo-piceous in the male, black in the female, the pronotum black throughout in both sexes, finely but strongly, not closely punctate, the sides nearly continuous, strongly convergent and moderately arcuate; elytra as long as wide, rounded behind, punctured nearly like the pronotum but less finely; under surface dull, very densely punctate throughout, more finely on the abdomen. Length 1.7–2.0 mm.; width 1.2–1.5 mm. Wellington. The male has the fifth ventral broadly, feebly sinuate at the middle of the apex but not notably impressed.

Scymnus (Scymnus) **monroviæ**, sp. nov.—Broadly oval, moderately pubescent, finely but strongly, somewhat closely punctate; head black, the pronotum black with the apex nubilously pale toward the sides, the latter strongly convergent, feebly arcuate and rather discontinuous; elytra black, the apical margin narrowly and nubilously pale, each with a rather large, obliquely oval discal red spot just before the middle; under surface blackish, dull, very densely but finely punctate, the abdominal apex slightly paler; legs pale testaceous, the femora somewhat infuscate except toward tip. Length 1.75 mm.; width 1.25 mm. Liberia (Mt. Coffee). A single female.

Scymnus (Nephus) **angustus**, sp. nov.—Very narrowly oval, about twice as long as wide, moderately convex, minutely and very closely punctate, black, the elytra testaceous, with the suture and side-margin in basal three-fifths blackish, the dark areas broadening toward base and becoming coalescent; under surface and legs piceous or blackish, the knees and tibiæ somewhat paler. Length 1.6 mm.; width 0.8 mm. Wellington.

Rhyzobius trimeni, sp. nov.—Oval, moderately convex, the pubescence ashy, moderately long and abundant; body black, the tarsi and abdominal limb broadly throughout pale; pronotum with the apex at and near the angles pale, the sides reflexed, strongly convergent, evenly, rather strongly arcuate and dis-

continuous, the base finely margined; elytra finely but distinctly, sparsely punctate, each with two rather small rounded pale spots, the anterior, slightly the larger, near one-fourth and very slightly nearer the suture than the margin, the posterior not quite at three-fourths and near inner third or two-fifths; abdomen finely, not densely punctulate. Length 2.6–3.0 mm.; width 1.8–2.15 mm. Wellington. Named in honor of Mr. Roland Trimen. The basal angles of the prothorax are slightly more than right, and are not at all rounded but not prominent, the base being oblique and straight from the scutellum to the sides.

II.

The present opportunity is taken to describe a few new members of the Coccinellidæ from regions beyond the United States.

Epilachna parvicollis, sp. nov.—Ovate, very convex, polished, the pubescence short and only moderately dense; head and pronotum black throughout, the latter finely, not densely punctate, broadly concave and reflexed at the sides, two and one-half times as wide as long, distinctly narrower than either elytron, the sides rather feebly convergent; scutellum blackish, a little longer than wide; elytra but little longer than wide, widest at basal third or fourth, where the sides are evenly rounded to the base and gradually less strongly, becoming strongly convergent, to the apex, which is ogival, pale rufo-testaceous in color, the reflexed margins evenly throughout, a small rounded spot on each at the middle and inner two-fifths, and another in the same range near the margin and transverse, black; sculpture sparse, consisting of very coarse deep punctures, with others, small and feebly impressed, intermingled, the surface subrugose; under surface, epipleuræ and legs throughout black. Length 9.6 mm.; width 8.0 mm. Bolivia.

Some time after this description had been written I received a second Bolivian specimen, agreeing exactly with the type, from Mr. Fruhstorfer, under the name "*rufipennis*." I have been unable to find this name in the literature of the subject, and Mr. Fruhstorfer informs me that he also is unable to recall its origin.

Nephaspis (gen. nov) **gorhami**, sp. nov.—Oval, moderately convex, finely, closely punctate, finely, evenly and abundantly pubescent, the hairs all directed longitudinally on the elytra; head, pronotum, prosternum, legs and abdominal apex and sides pale testaceous; elytra piceous-black. Length 1.2 mm.; width 0.85 mm. Colombia (Panama).

Nephaspis brunnea, sp. nov.—Similar but more narrowly oval, the minute punctures sparser, the surface more polished, the pubescence similar and subdecumbent but sparser; body dark piceous-brown throughout, the head, prosternum, legs and abdomen toward tip testaceous; sterna closely and more coarsely punctured. Length 1.2 mm.; width 0.8 mm. Colombia (Panama).

The genus *Nephaspis* is remarkable, among those allied to *Scymnus*—and in fact the entire family,—in the structure of the proster-

num; this widely separates the coxæ, which are obliquely conical and decumbent upon the surface separating them, the latter being thus obliquely biconcave, the elevated part reduced to a mere cusp point anteriorly, the coxæ being subcontiguous at their apices. The sterna of the hind body are very convex, and the mesosternum is abruptly terminated anteriorly by a deep vertical wall. The coxal arcs are nearly as in the subgenus *Nephus*, but the tarsal claws are long, feebly arcuate, extremely slender and perfectly simple. The epipleuræ are extremely narrow, and extend scarcely behind the middle, and the two basal joints of the antennæ are large and compressed, the remainder very small and slender; the palpi are normally securiform. The eyes are simple and almost entire and are well developed, the clypeus deeply sinuate. The prothorax is as wide at base as the elytra and, in repose, heads rest upon the body in such a way as to conceal all anterior to the mesosternum. The abdomen has six segments as in *Scymnus*, the first as long as the next three combined. The genus will form a distinct tribe in the neighborhood of Scymnini.

Zagloba beaumonti, sp. nov.—Broadly oval, shining, finely, rather sparsely punctate and somewhat sparsely clothed with long stiff ashy-yellow hairs, unevenly directed and suberect; body pale brownish-testaceous in color throughout, the legs more flavate; sides of the prothorax moderately convergent, very feebly arcuate and distinctly discontinuous with those of the elytra. Length 1.5 mm.; width 1.1 mm. Colombia (Panama)—Mr. J. Beaumont, to whom I am indebted also for the two species described above.

This species has the metacoxal arcs incomplete and formed as in the subgenus *Scymnus*, the emargination of the eyes normal and the prosternum wide and flat between the coxæ, not carinate but tumid or beaded laterally along the acetabula; the tarsal claws are strongly arcuate, and have a large quadrate internal tooth at base.