

## NEW SPECIES OF COLEOPTERA FROM THE WESTERN UNITED STATES.

## SECOND PAPER.

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A number of interesting undescribed species of Coleoptera have accumulated in my cabinet, principally as the result of my own trips to the western parts of the country. The description of several of these follow, care having been taken to avoid describing forms belonging to genera of great extent which have not been recently monographed :

CICINDELA, Linn.

*C. Parowana*, n. sp.—General form of *C. fulgida*, Say, but a trifle more elongate. Above bright, shining blue-green, beneath purple-blue. Head granulate above, interocular striæ fine and numerous, front very hairy, cheeks with a few white hairs, labial palpi of male pale at base, labrum longer and more advanced in the middle than in *fulgida*. Prothorax much as in *fulgida*, but more narrowed behind and less hairy. Elytra proportionately a little longer and more finely and clearly punctate than in *fulgida*, the surface very finely rugulose, the tips minutely serrulate. Markings of the type of *fulgida*, but the middle band is prolonged backward along the side margin, though not reaching the apical lunule, while the descending discal portion is more elongate, less curved, scarcely enlarged nor reflexed at tip. Vestiture of the under surface much as in *fulgida*. Length, 13 mm., .52 inch.

I collected a small series of this interesting beetle on the old sand beaches of Little Salt Lake, near Parowan, Utah, about the middle of August. They were running and flying at a distance of perhaps half a mile from the water's edge on bare spots among the scant grass and weeds which dot the waste bottoms. As I was engaged at the time in a search for *C. echo*,\* I thought at first that I had secured a green race of that species which would lead into *C. pseudosenilis*, and not until after reaching home did I find that my captures were more nearly allied to *C. fulgida*. I succeeded also in finding the true *C. echo* in this same neighbourhood, though it was more abundant closer to the lake.

After a casual comparison with specimens in my cabinet, my first impression was that the above-described form should be classified as a local colour-variety of *C. fulgida*, but on further examination I have

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\*See The American Naturalist for September, 1904; also the Annual Report of the Entomological Society of Ontario for the same year.

decided to let it stand for the present as a species which should go between *fulgida* and *echo* (though more closely allied to the former), since the characters used in diagnosis seems absolutely constant in my series. The backward extension of the marginal portion of the median band, unaccompanied as it is by any tendency to forward expansion, is a striking character, though not in itself of any great taxonomic value.

SCYMNUS, Kug.

*S. virginalis*, n. sp.—Form broadly oval, convex, outline of thorax and elytra nearly continuous. Beneath testaceous, the femora more or less piceous, above black, anterior angles of the prothorax indefinitely paler, each elytron with a large oval spot (most of which is antemedian), and a triangular lateral mark, broadest on the base and gradually narrowing posteriorly, orange-red. Head extremely sparsely and minutely punctured. Prothorax sparsely and finely punctured, narrower at apex, broadest in front of the middle, sides arcuate anteriorly, more nearly straight behind, basal margin not regularly curved, but sub-sinuate laterally and truncate in front of the scutellum, the marginal line visible, but not well marked. Scutellum finely punctured. Elytra more deeply and coarsely punctured than the prothorax, the surface (when denuded of pubescence), shining. Prosternum with the elevated ridges subparallel. Mesosternum punctate and rugulose, metasternum more coarsely punctured at sides. Abdomen not closely nor coarsely punctured, the metacoxal arc covering only about half the width of the first abdominal segment and not attaining the outer anterior segmental angle. Length, 2.85 mm., .114 inch.

Found at Leeds, St. George and Chadburn's Ranch, all in the Virgin River basin, of southern Utah. I took a number of specimens of this fine large species, in July, and they show considerable variation in coloration. The pattern described above is that of the type, and seems to be the most characteristic; some individuals, however, have the reddish elytral spot confluent anteriorly with the latero-basal mark, so that only the sutural region and a large apical blotch remain black. The head, in one specimen, becomes reddish, and in this individual there is also a narrow transverse reddish stripe on the prothorax. The extent of the prothoracic pale margin is somewhat variable, and the abdomen is occasionally clouded along the middle. The pubescence, above and beneath, is whitish, not concealing the surface colour. By Dr. Horn's synopsis, this species belongs next to *cinctus*, Lec., and it seems certainly different from any of those described later by Major Casey.

## GVASCUTUS, LeConte.

*G. juniperinus*, n. sp.—General form of *G. obliteratus*, Lec. Colour metallic-purplish, shining, surface obscured by a greenish-yellow pollinose deposit, which becomes whitish on the sterna and venter, the entire body and legs clothed as well with a fine, sparse, short white pubescence. Head coarsely, unevenly and confluent punctured, epistoma broadly emarginate. Eyes much less oblique than in *G. planicosta* and *G. obliteratus*, so that the face between them, viewed from in front, is about as broad at top as below. Antennæ short, not or scarcely attaining the posterior thoracic angles, the second joint proportionately shorter and thicker than in the female of *G. obliteratus*. Pronotum about two-thirds as long as wide, convex, irregularly coarsely punctate, the punctuation extensively confluent at the sides and anterior margin. A broad median space is simply irregularly punctate, the punctures well separated. Sides arcuate anteriorly, nearly straight and almost parallel in posterior three-fifths. Base emarginate at middle, sinuate each side; apex slightly rounding. Hind angles acute, scarcely perceptibly divergent, front angles obtuse. Elytra, across the humeri, slightly wider than the base of the prothorax, scarcely perceptibly narrowed to about three-fifths, thence rapidly to apex, which is emarginate or shortly spinose, side margin serrate near the tip, surface with small, irregular smooth spaces and rather finely punctured, the punctures somewhat regularly serially arranged near the suture, but confused near the sides and tip, where they become extensively (especially transversely) confluent, giving rise to a rugose structure. Prothorax beneath rather coarsely, deeply and confluent punctured, the prosternum between the coxæ smooth, highly polished, not sulcate, but with a longitudinal row of pitlike punctures. Meso- and metathoracic sidepieces coarsely and confluent punctate, sterna sulcate, smoother near the middle where the punctures become sparser, but deeper. Abdomen rather coarsely rugosely punctured at sides, middle alutaceous between the punctures, which are coarse, but generally well separated. Last ventral subtruncate and somewhat uneven at tip. Legs alutaceous and distinctly strongly punctured to the tips of the tibiæ. Femora and tibiæ simple, the anterior tibiæ very slightly arcuate, the middle and hind ones practically straight. First joint of hind tarsi as long as the second and third united, claws simple. Length, 11.75 to 13 mm., .47 to .52 inch.

Described from three specimens which I beat from Juniper, July 22, on Chadburn's Ranch, in the foothills of the Pine Valley Mountains, at an

altitude of about 4,500 feet. This locality is in Southern Utah, about twenty-two miles from St. George, on the road between that place and Modena. The species is abundantly different from *G. obliteratus* by its smaller size, different colour and sculpture, shape of the head and structure of the antennæ. From *G. planicosta* it differs not only by the above characters, but also in lacking raised elytral costæ. *G. cuneatus* is described as being larger (.75 inch. = 18 mm.), of different colour and with truncate epistoma. The food habit of this species is noteworthy, *G. obliteratus* being found on several species of desert shrubs, while *G. planicosta* frequents especially the bushes of *Larrea Mexicana*. Although *G. obliteratus* was rather abundant at St. George throughout July, I did not see it in the neighbourhood of the ranch at all.

#### HYDROCERA, Newman.

*H. Knausii*, n. sp.—Form moderately elongate, not notably convex. Testaceous; legs and antennæ yellowish, eyes, metasternum (excepting the side pieces), abdomen, scutellum and elytral bands black, the tibiæ near the base and the middle of the hind femora more or less infusate. Surface with rather long, sparse, whitish pubescence. Head (with the prominent eyes) about one-fourth wider than the prothorax, front intricately rugose, antennæ shorter than the head, first and second joints large and stout, third a little longer than the fourth, club regularly ellipsoidal pointed at the tip. Prothorax rugose, about one-fourth broader than long, widest in front of the middle, where the sides are gibbous, thence nearly parallel to the base, which is strongly beaded. Elytra about one-fourth wider than the prothorax and nearly twice as long as broad, subparallel, slightly narrower and dehiscent behind, humeri prominent, surface alutaceous, coarsely, closely and deeply but regularly punctured, the punctures becoming so large near the apex as to give rise to a reticulate appearance. In colour they are reddish, each with the posterior two-fifths and a submedian band black, the interspace bearing a transverse patch of more conspicuous silvery hairs. Margins coarsely serrate posteriorly. Beneath, the thoracic sidepieces are rugose. Legs with long, sparse, bristly hairs. Length, 3.25 mm., .13 inch.

The type was given me by Mr. Warren Knaus, who took it at McPherson, Kansas, September 30. It is quite different from any of the described North American species, and in view of the successful attention bestowed on the fauna of Kansas by Mr. Knaus, I have dedicated this pretty insect to him.

## APHODIUS, Illiger.

*A. Kansanus*, n. sp.—Moderately robust, broader behind, convex. Colour, pale yellowish testaceous, shining, head more reddish, prothorax with irregular dark discal cloud, elytra maculate. Head without tubercles, alutaceous, finely and sparsely punctate, clypeus with broad, shallow emargination, edge slightly reflexed, without denticles, angles rounded, genæ moderately prominent, and bearing a few long bristles. Antennæ pale yellow. Prothorax broad, widest in front of the middle, sides fimbriate, arcuate, narrowing to the base, which is not regularly rounded, but more produced at middle, marginal line distinct, rather deep in some of the specimens; disk convex, finely alutaceous, the punctures somewhat larger than those of the head, sparsely placed, almost wanting near the hind angles. Elytra at base about equal to the prothorax, broader posteriorly, finely alutaceous, striæ rather fine and shallow, impunctate, intervals nearly flat, with a row of extremely fine serial punctures. Body beneath, smooth and shining, a few setigerous punctures on the thoracic segments and a row on the anterior edge of each segment of the abdomen, the last ventral with scattered setæ over the entire surface. Mesosternum opaque, not carinate. Legs moderately slender, anterior tibiæ smooth on their outer faces, tridentate, apical tooth normal, long and pointed, the second large, the upper one small, margin above this tooth not crenulate. Hind femora with a few setigerous punctures, tibiæ fimbriate at apex, with rather large, unequal spinules, the transverse ridges practically obliterated, first joint of hind tarsi a trifle shorter than the next three. Length, 3 mm., .12 inch.

This insect belongs to that group of *Aphodius* in which the scutellum is short, and may be placed in Dr. Horn's group Ic, where it will follow *A. larrea*, from which it differs in size, colour, the strong marginal line of the prothorax, and presumably in the secondary sexual characters which are well marked in *larrea*, though my series of several *Kansanus* show no definable differences in those parts usually affected. The maculation of the elytra in *Kansanus* is of a simple type, consisting of an indefinite, broken arcuate band composed of several detached longitudinal brownish spots, reaching from humerus to humerus and crossing the suture in front of the middle; the suture and a small subapical spot also brownish.

For a good series of this interesting beetle, I am indebted to Mr. Warren Knaus, who took it in some numbers at Englewood in southwestern Kansas.

## ELAPHIDION, Serv.

*E. Fuchsii*, n. sp.—Rufo-castaneous, shining, clothed with rather long, whitish, recumbent pubescence that does not conceal the surface. Form moderately elongate. Head with rather deep, longitudinal frontal impression, front coarsely and moderately densely punctate, the punctures becoming closely cribrate in the occipital region which, with the vertex, is indistinctly carinate. Antennæ (male) scarcely attaining the tip of the elytra, pubescent and sparsely hairy, very feebly serrate, third joint with a short internal spine which is less than one fifth the length of the fourth joint, fourth and fifth joints still more feebly unispinose. The third and fifth joints are about equal in length and are a trifle longer than the fourth; the outer edges of the third and following are compressed and rather sharp, eleventh constricted and suddenly smaller near the tip. Prothorax ellipsoidal, convex both ways, sides regularly arcuate, base broader than the apex, hind angles distinct; disk coarsely and closely punctate, a poorly defined median line, best marked just behind the middle where it is smooth and elevated. On each side are two elevations which correspond to the callosities usually found in this genus, but they are not different in sculpture from the rest of the surface. Scutellum rounded, finely emarginate behind and clothed with fine, dense whitish pubescence. Elytra broadest across the humeri, humeral umbone limited internally by a distinct impression; sides slightly convergent towards the tip, no well-defined costæ, though faint traces may be seen. Punctuation deep, rather coarse, well-separated, much finer towards the tip; apices not quite regularly separately rounded, with a moderately long, sharp sutural spine, outside of which is a short tooth. Body beneath finely scabropunctate, punctuation closer than above. Legs paler, tibiæ carinate, thighs not toothed nor spined. Length, 21 mm, =.84 inch.

This is one of the forms connecting *Elaphidion* with *Aneflus*, and I quite agree with Major Casey that the latter genus is untenable under the present definition. The type is a male from Independence, California, where it was captured by myself, about the middle of July, by beating desert shrubs. The female is slightly larger, less slender, the antennæ only about two-thirds the length of the body and the apex of the elytra is scarcely spinose, the spines being much reduced.

The relationships of this species are sufficiently well indicated by the characters given in description. It is evidently very distinct from all of our other species in the combination of antennal and elytral characters.

## ZONITIS, Fabr.

*Z. zonitoides*, Duges.—At Alpine, Texas, I took a few specimens of an insect which I refer to this species, "a widely distributed form in the highlands of Mexico and Guatemala" (Champion, *Biologia Centrali-Americana*). It resembles *Z. sparsa*, Lec., but is at once known by the black head, shorter maxillary processes and more densely punctured elytra. It belongs to the genus *Nemognatha* as defined by LeConte and Horn. Major Casey has suppressed *Nemognatha* (Illiger, 1807), I think properly since the discovery of new Mexican forms has shown the invalidity of the only character (the length of the maxillary processes) upon which it has hitherto been separable from *Zonitis*. That author has also united *Gnathium* with *Zonitis*, the slight thickening of the tips of the antennæ scarcely warranting the continuation of the former name as a generic term. The course outlined above will, however, necessitate some changes in specific nomenclature; thus *Z. immaculata*, Say, becomes preoccupied by *Z. immaculata*, Ill., and I propose to designate the former species by the name *Z. Sayi*, in memory of its pioneer describer.

*Z. Californica*, n. sp.—Elongate, convex, shining, with sparse, bristly pubescence. Brownish, head piceous, elytra obscure, brownish yellow. Head with coarse, deep punctures, covering the entire surface, except a small callus between the eyes, more crowded and confluent just above the antennal insertions, antennæ thickened externally, third joint not quite twice the length of the second, evidently longer than the fourth, maxillary processes about half as long as the body. Prothorax broader than long, wider in front of the middle, sides narrowing slightly to the base and more rapidly and arcuately to the apex, basal margin nearly straight, the bead high and well marked; disk uneven, with coarse, deep, scattered punctures, irregularly disposed. Elytra at base much wider than the prothorax, finely rugulose but shining, punctures of moderate size, confused at base, but sparser, and forming rather regular rows on the disk. Body beneath shining, legs punctured, spurs of the hind tibiæ unequal, tapering to tip, the inner one much more slender. Length, about 5 mm., .20 inch.

I collected this species in great numbers in the mountains near Tehachapi, California, several years ago, and have distributed it as new to many museums. It is not closely allied to any of our native species of *Gnathium* (to which division it belongs by the antennal structure), the coarsely and closely punctured head serving by itself as a good differential character,