HEMIPTERA of Beulah, New Mexico.

BY EDWARD P. VAN DUZEE.

HETEROPTERA.

Homœmus æneifrons Say.

Several examples.

Perillus exaptus Say.

One large specimen. This has a crimson band between the humeri; and the anterior edge of the pronotum, the margin of the scutellum, and the costa narrowly, is fulvous.

Corimelæna nitiduloides Wolff.

One example.

Euschistus inflatus n. sp.—Size and general aspect of *servus* to which it is closely related. Head about as in *servus* with the punctures finer; the lateral lobes slightly longer than the tylus, depressed, with the edges a little reflexed. Pronotum more depressed anteriorly, and particularly within the middle of the lateral margins than in *servus*, the sides rather deeply sinuated, and crenulated anterior to the middle; humeral angles subacutely rounded; surface finely punctured, more obscurely so across the middle of the disk, the punctures segregated toward the lateral margins and forming a blackish patch behind the anterior angles and several small spots before the callousities, or there may be four black dots in a square on the anterior middle; median line obscurely lævigate. Scutellum more closely punctured, but less so than in *servus;* the apex much broader and more rounded. Elytra rather sparsely and finely punctured, especially on the discal area, the whole surface dotted with little groups of black punctures. Membrane dark grey, dotted with fuscous, the nervures concolorous. Connexivum with square blackish spots against the incisures, on which the punctures are pale. Whole lower surface pale yellow, punctured and flecked with rufous. Stigmata, and sometimes two punctures behind them, black. Edge of the abdomen with a conspicuous black dot at each incisure. Legs rufous, more or less punctured with darker and with about four larger black dots on each femora beneath; the spines on the anterior femora very small. Rostrum as in *servus*, reaching to the hind coxæ, the tip and a median line beneath black. Antennæ rufus, fifth joint and apex of the fourth dusky, second and third subequal. Length 11-13 mm. Width across the humeri 7-8 mm.

Described from 12 examples taken by Prof. E. D. Ball in Colorado; and one specimen collected in Beulah, New Mexico, August 17th, by Dr. Henry Skinner. This species is closely related to *servus* but may be readily distinguished by the rufous color beneath, the depressed pronotum, with an obscure longitudinal smooth line,

the more rounded apex of the scutellum, and the finer punctures over the whole upper surface. The dotting of the elytra is quite characteristic but perhaps should not be depended upon. *Euschistus conspersus* described by Dr. Uhler in 1899, is surely very close to this species, but he gives the second joint of the antennæ in his species as much shorter than the third, the apex of the scutellum narrow, bordered with white, and the pleura with uncolored punctures, none of which characters will fit this species at all; the size given for *conspersus* is also a little less and the form more slender. This interesting addition to our North American fauna is apparently confined to the Rocky Mountain region.

Alydus scutellatus n. sp.—Small, greyish above, scutellum deep velvety black, nervures of the membrane anastomosing. Length to tip of membrane 9 mm. Head proportionately a little broader before the antennæ, and the vertex more convex, with the ocelli placed farther back than in *eurinus* and *conspersus;* bronze black, with a median longitudinal line above, a more slender abbreviated lateral line before and a little above the base of the antennæ, and a short oblique line behind and beneath the eyes, soiled white or pinkish. Antennæ fuscous, a little paler on the basal half of the first three joints, these joints subequal in length; apical joint black, little longer and stouter than in *eurinus*. Rostrum reaching to the intermediate coxæ, minutely touched with pale at the intermediate incisures. Pronotum bronze-black, coarsely punctured, marked on the posterior lobe with four or six pale vittæ, more or less distinct; a median longitudinal velvety black line from the collar almost to the base; posterior margin very narrowly edged with pale around the humeral angles and before the middle of the scutellum; surface almost flat posteriorly, a little depressed within the humeral angles. Scutellum deep velvety black, with the tip of its upturned apex pale. Elytra pale or tinged with pinkish, punctured and irregularly varied with blackish. Membrane bronze-black, becoming paler exteriorly, the nervures strong, irregular and somewhat reticulated and branched in places. Beneath shining bronze-black, the propleura coarsely punctured, the calloused edges of the coxal orifices, a median spot on the second, and the hind edge of the sixth segment, yellowish or tinged with pink. Genital segment black, polished, with a large median fulvous spot. Legs black, with the tips of the coxæ, knees and basal half of the first tarsal joint, pale. Posterior femora more slender than in any of our other species, with four large spines and a few minute ones beneath marked near the apex with an obscure pale band. Disk of the tergum rufous posteriorly. Connexivum with a small pale marginal spot near the base of each segment.

The claspers of the male are strap shaped and curved almost in a semi-circle, approximating at their apex which is a little wider and slightly reflexed at the upper angle. In *conspersus* the claspers are narrowed toward their apex and approach at an angle making a pear-shaped opening. In *eurinus* they are broader with a smaller

orifice. The whole insect is clothed with minute hairs about as in *conspersus*.

Described from two males collected by Dr. Henry Skinner, Aug. 17th, at Beulah, New Mexico. This is the smallest *Alydus* known to me. It may be distinguished from *conspersus*, its nearest ally, by the undotted membrane, with anastomosing nervures, the more slender hind femora, with a pale annulus before the apex, and many of the other characters enumerated above.

Corizus hyalinus Fabr.

One specimen of the variety *viridicatus* Uhler.

Corizus novæboracensis Sign.

One specimen, somewhat mutilated, seems to belong to this species. I have a slightly paler example taken by Prof. Wickham at Kalispell, Mont., and a more typical male from British Columbia. An extension of its range along the Rocky Mountains to New Mexico would not be surprising.

Lygæus turcicus Fabr.

Two examples.

Nysius angustatus Uhler.

Several examples.

Ligyrocoris balteatus Stal. ?

Seven examples. This species was described from Mexico and has not before been recorded from the United States. The present specimens differ from Stal's description in having the posterior lobe of the pronotum almost black with four ferruginous spots on the hind margin, the intermediate of which may be extended anteriorly. These are also brachypterous, a feature not mentioned by Stal.

Miris affinis Reut.

One specimen.

Leptopterna dolobrata Linn.

Two examples of the pale form of this widely distributed European species were doubtless taken about the cultivated fields, in which situations they occur throughout Colorado and Utah.

Lomatopleura cæsar Reut.

Several specimens taken.

Calocoris superbus Uhler.

Five examples.

Resthenia rubrovitta Stal.

One example.

Phytocoris interspersus Uhler.

One pale example. This specimen has four brown dots on the hind edge of the pronotum. The two black dots at the tip of the scutellum seem to be characteristic of this delicate species.

Compsocerocoris annulicornis Reut.

Two adults and one larva. These adults are quite distinctly mottled with darker on the elytra and have a white median line on the vertex and pronotum, and the third joint of the antennæ want the pale annulus. Otherwise they do not seem to differ from Reuter's description.

Pœcilocapsus lineatus Fabr.

Nine specimens. Some of these show the black markings greatly reduced. In one or two individuals the subcostal vitta is entirely wanting, the sutural is narrow and interrupted, and the triangular spots at the base of the pronotum are barely indicated.

Lygus pratensis Linn.

Several examples of a small dark variety.

Camptobrochis grandis Uhler.

Three examples.

Stiphrosoma stygica Say.

Five specimens.

Plagiognathus obscurus Uhler.

Several examples.

Piezostetus sordidus Reut.

One example differs from Reuter's description only in being a little larger.

Apiomerus crassipes Fabr.?

One female example I have placed here with some doubt. The pronotum is black with the posterior margin behind the humeral angles narrowly edged with whitish, the connexivum is black with

a pale spot at each incisure, and the corium is dark sanguineous with the hind edge and costa narrowly pale.

Coriscus ferus Linn.

One strongly marked specimen. This widely distributed species seems to follow cultivation and irrigation throughout the arid region of the West.

Coriscus sp.

There is one example of another species I have not been able to locate. This is a difficult genus and sadly needs revision.

Hygrotrechus remigis Say.

Two examples.

Notonecta sp.

One immature example.

HOMOPTERA.

Ceresa turbida Godg.

Eight male and five female examples.

Thelia univittata Harris.

One male and three females.

Microcentrus perdita Am. & Serv.

Four examples. I found this species not uncommon in Colorado on the lower branches of the scrub oaks where they lay close to the ground.

Aphrophora irrorata Ball.

An interesting species of which there are two specimens in the lot.

Clastoptera obtusa Osborn.

Five male and four female examples. While collecting in Colorado I took this species only on pine on the mountain sides.

Clastoptera xanthocephala Germ.

Two examples. These are of the black form which I have taken to be the characteristic type of the species. The color above, especially on the pronotum, is of an intense shining black; a transverse line on the base of the vertex, another near the fore margin of the pronotum, and two converging lines on the scutellum, are clear

bright yellow. There is also a yellowish vitta on the suture between the corium and clavus. The hyaline spots on the costa and apex of the elytra are narrow, and there is an indication of a yellowish annulus about the gibbous area on the elytra. Face fulvous with a black disk. Legs yellow, annulated with black. This is a very different looking insect from the pale testaceous form described by Prof. Ball in his synopsis of the genus Clastoptera as *xanthocephala*. Although so different in coloring they may represent forms of one species. The variation which seems to be in color only is perhaps no greater than we find in *Clastoptera proteus* Fitch.

Oncometopia costalis Fabr.

Apparently common. Fifteen examples were taken.

Tettigonia hieroglyphica Say.

Thirteen examples.

Helochara communis Fitch.

Two examples.

Gypona melanota Spanbg.

One immature specimen determined by Prof. E. D. Ball.

Idiocerus lachrymalis Fitch.

One female.

Idiocerus suturalis Fitch.

One female of the form with the maculated elytral suture.

Phlepsius cumulatus Ball.

Six examples. This stout little species seems to be quite abundant throughout the mountains of Colorado and the adjacent States.

The following description of a new Coccid from Beulah is contributed by Wilmatte P. Cockerell and T. D. A. Cockerell.

Phenacoccus vipersioides n. sp.— ♀ Length about .2 mm. Plump, of ordinary form, pale salmon-pink, appearing somewhat white from a mealy secretion; not so mealy below, hence pinker. Margin with an irregular but distinct fringe of cottony tassels, short caudal tassels.—Boiled in liquor potassæ turns a deep claret color. Labrum dimerous long. 129 μ, lat. 90 μ. Skin with many small glands and sparsely hairy. Each segment has on each side a small group of two spines and several round glands. Legs large and sparsely hairy, about six hairs in each longitudinal row on tibia; femur slender. Middle leg:

femur + trochanter 2.10; tibia 1.65; tarsus 75; width of femur about 60 μ.; caudal bristles 300 μ.; bristles of anal ring 105 μ. Besides the long caudal bristles, there is a more slender bristle (210 μ. long) on each side, arising from the same patch. Antennæ 9-jointed, formula 932 (58), 47 (16). Joints: (1) 30, (2) 48, (3) 51, (4) 39, (5) 42, (6) 30, (7) 33, (8) 42, (9) 66 μ.

Beulah, N. M., about 8,000 feet with *Lasius niger*. This is certainly a *Phenacoccus*, having 9-jointed antennæ, lateral patches of spines, and the claws with a small denticle on the inner side. The presence of the pairs of caudal bristles (as in *Halimococcus* and *Phœnicococcus*) is interesting. The insect closely resembles *Ripersia salmonacea*, Ckll.

Additional records from Prof. Cockerell:

ABBREVIATIONS.

The first letter after a species denotes the determiner, and the next letter or letters the collector.

H.—Heideman, O.
C.—Cockerell, T. D. A.
B.—Ball, E. D.
U.—Uhler, P. R.
W. P. C.—Cockerell, W. P.

HETEROPTERA.

Lygus plagiatus *Uhler*. H., C.
sallei *Stal*. B., C.
Scolopostethus thomsoni *Reut*. H., C.
Peribalus limbolarius *Stal*. B., C.
Harmostes reflexulus *Stal*. B., C.
Resthenia insitiva *Say*. B., C.
rubrovittata *Stal*. U., C.
Lopidea media *Say*. B., C.
Agalliastes associatus *Uhler*. B., C.
Alydus eurinus *Say*. B., C.
(Dailey Canon.*)
Coriscus ferus *Linn*. B., C.
Calocoris superbus *Uhler*. U., S.

HOMOPTERA.

Aphrophora annulata *Ball*. B., C.
Necterophora rudbeckiæ *Fitch*. C., C.
Cyrtolobus fenestratus *Th*. B., C.
Chermes abietis *Linn*. C., C.
Aphis valerianæ *Cowen*. C., C.
veratri *Cowen*. C., C.
chenopodii *Cowen*. C., C.
Pemphigus populimonilis *Kiley*. C., C.
Charitophorus populicola *Thomas*. C.,C.
Phenacoccus rubivorus *Ckll*. C., C.
milmatæ *Ckll*. C., W. P. C.
ripersioides *Ckll*. n. sp.
Ceroputo calcitectus *Ckll*. C., C.
Orthezia occidentalis *Douglas*. C., C.
(On roots of *Fragaria*.)
Ripersia cockerellæ *King*. C., C.
Dactylopius neomexicanus *Tinsley* var. C., W. P. C.
Kermes gilletei *Ckll*. C., n.

* Dailey Canon is over the ridge, northeast of Blake's Ranch.

APHIDIDÆ.

BY T. D. A. COCKERELL.

Siphocoryne pastinacæ (Linné).

Beulah, N. M., July 26, and in vast numbers August 2, on fruiting umbles of *Heracleum lanatum.*

Winged ♀: pale dull green; dorsum of head, mesothorax and scutellum, shining black; a large square black patch on middle of abdomen, followed by three transverse black bars. Legs pale greenish, ends of tarsi black. Stigma dark brown. Antennæ, nectaries and cauda short. Mesosternum black; a black patch on under side of abdomen near tip. Young, apple green with black eyes; some specimens are pink.

The species has not been recorded from America under the above name, but I believe *S. archangelicæ* Oestlund is a synonym. I wanted to believe that the celery aphid figured in Bull. 102, Michigan Agr. Exp. Sta., p. 20, was also *Siphocoryne*, but while the venation agrees, the antennæ are much too long.

Aphis epilobii, Kalt.

Beulah, N. M., on a flowering head of *Epilobium angustifolium;* extremely abundant, covering the whole surface. Attended by *Farmica sanguinea.*

Winged ♀: entirely black, the abdomen shining; anterior legs more or less pallid; beak scarcely reaching middle coxæ; antennæ shorter than body; ventral surface of thorax olive brown to black, of abdomen usually dull dark sage green; wings hyaline, stigma blackish or pale. Pupa with wing-pads has a pale brown head and thorx, and dark slate abdomen. Apterous form dark slate-color, white-pruinose; basal two-thirds of antennæ, nectaries and legs (except tarsi) whitish or yellowish-white. Very young vary from slate gray to pale orange, and occasional half-grown examples are brownish orange.

The species is new to America.

Aphis chenopodii Cowen.

Beulah, N. M., August 5, on *Chenopodium album*, curling the leaves.

Winged ♀: head and thorax black, abdomen green without spots. Opterous form light green, pulverulent; eyes black (reddish in younger ones); cauda quite long; nectaries short, slender; legs pale yellowish, tarsi blackish. The antennal joints of the winged form measure in μ. (3.) 320, (4.) 160, (5.) 160, (6a.) 120, (6b.) 215.

Aphis veratri Cowen.

Beula, N. M., July 27, etc., abundant on leaves of *Veratrum.*

Apterous form black; basal half of antennæ (except extreme base); anterior femora and all the tibiæ dull white.

Aphis valeriane Cowen.

Beulah, N. M., July 27, on *Valeriana;* very abundant.

Apterous form slaty black, including legs, etc.; more or less distinct whitish spots on back. One specimen of an olive-black *Nectarophora* was found with them.

Aphis rociadæ n. sp.

Rociada, N. M., August 8; very numerous on leaves and stems of *Delphinium sapellonis.*

Apterous ♀: small, broad and swollen, very shiny, bright orange-scarlet to dark red. No obvious cauda; nectaries very short, but larger than broad, black at ends; head blackish; antennæ blackish, third joint paler; legs brown. Mounted examples are pale ferruginous, slightly over 1½ mm. long; nectaries about 150 μ. long, slightly bulging toward the bases. Antennal joints in μ.; (4.) 200, (5) 170, (6a.) 80, (6b.) 340. Younger example shows (1) 70, (2.) 60, (3.) 320, (4.) 130, (5a.) 80, (5b.) 290.

A very distinct and beautiful species; I brought some alive from Rociada,* and established a colony at Beulah.

Aphis atronitens n. sp.

Rociada, N. M., August 10; abundant on *Vicia* aff. *pulchella.*

Winged ♀: shining black; wings hyaline, nervures and stigma colorless or barely tinged with yellow; legs pale greenish; nectaries long; beak hardly reaching middle coxæ; cauda rather long, slender. Measurements in μ.: nectaries, 300; cauda, 100; anterior tarsus, 130; antennal joints (3.) 280 or more, (4.) 250–280, (5.) 240–260, (6.) 140, (6b.) 230. Joint 3 with few sensoria, 4 with none. (In *A. epilobii*, a black species found in the same region, joints 3 and 4 are crowded with large sensoria.)

Apterous form plump, gray-black, shining; legs very pale yellowish, the tarsi, end of tibiæ, and apical two-fifths of hind femora, black; antennæ with joints 3 and 4 whitish; nectaries black.

Young, dark gray. *A. atronitens* reminds one of the English *A. fabæ*, which is said to be identical with *A. rumicis.* The characters of the antennæ readily distinguish *A. atronitens* from *A. rumicis.* In mounted specimens the bicoloration of the legs is conspicuous.

Myzus phenax n. sp.

Beulah, N. M.; very abundant on flowering racemes of *Humulus lupulus* var. *neomexicanus*, first found by my wife July 28. Attended by *Formica.*

Winged ♀: body about 2 mm., wings about 3 mm.; mounted specimens (in balsam) are dark brown, with dark red eyes, but in life the colors are as follows: head and thorax black; abdomen dull green, with lateral black spots, and dorsum

* Rociada is just over the hill from Beulah.

marbled with black; nectaries black pointed inwards; wings hyaline, stigma pale gray; antennæ black; beak falling a little short of middle coxæ; anterior legs pale ochreous, with black knees and tarsi; four hind legs with femora and tarsi black, tibia pale ochreous. Measurements in μ.: nectaries 300 long, 70 broad; cauda 170; marginal cell with substigmatal portion 300; poststigmatal 500; antennal joints, (3.) 480, (4.) 260, (5.) 210, (6a.) 100, (6b.) 300. Joint 3 crowded with sensoria, 25 or more; 4 without sensoria.

Apterous form stout, dull green (mounted specimens dark brown), clouded obscurely with a darker blue green; nectaries black, directed outwards; legs yellowish with black tarsi; hind femora with distal half clouded with blackish. The sides of the back exhibit some very small black spots. Antennæ with the basal half mostly pale yellowish, apical half black. Lateral tubercles as described in *M. neomexicanus*. No capitate hairs.

When I first saw this, I thought I had *Phorodon*, but none of the specimens can possibly be referred to that genus. The insect is a *Myzus* closely related to *M. neomexicanus*. It has a strong superficial resemblance to *Aphis gossypii*, which Pergande records from *Humulus*, but it can easily be distinguished by the numerous and crowded sensoria on the third antennal joint, *A. gossypii* having only five to seven.

Nectarophora agrimoniella *Ckll.*, ined.*
on Agrimonia. Color green.
Nectarophora corallorhizæ *Ckll.*, ined.*
on Corallorhiza multiflora.
Nectarophora solidaginis (*Fabr.*).
on Solidago.
Nectarophora rudeckiarum *Ckll.*, ined.*
on Rudbeckia. Color green.
Nectarophora heleniella *Ckll.*, ined.*
on Helenium hoopesii. Color green.
Nectarophora martini *Ckll.* ined.* Color dark wine red; immature forms with a bluish bloom. Cauda ensiform; nectaries black; stigma tapering; femora with apical portion black; third antennal joint with at least 40 prominent sensoria.
on Helenium, Frasera, Zygadenus, Eriogonum, Potentilla and Ligusticum.
Macrosiphum rubicola *Oestlund.*
on Rubus strigosus.

* Descriptions will appear in Canadian Entomologist.