

DESCRIPTIONS OF THIRTY NEW SPECIES AND
TWO NEW GENERA OF NORTH
AMERICAN MIRIDAE
(Hemiptera).¹

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Plagiognathus flavescens n. sp.

General color pale to yellowish with a tinge of fulvous on the dorsum, distinctly fulvous on mesoscutum and sometimes on pronotum; suggestive of *blatchleyi* Reut. but larger, more elongate, and differs in the yellowish to fulvous color.

♂. Length 6 mm., width 1.7 mm. *Head*: width .9 mm., vertex .31 mm. Rostrum, length 1.94 mm., extending to posterior margins of middle coxae. *Antennae*: segment I, length .43 mm.; II, 1.9 mm.; III, 1.34 mm.; IV, .48 mm.; black, narrowly pale at joints, clothed with pale to dusky pubescence. *Pronotum*: length .71 mm., width at base 1.40 mm.; yellowish to fulvous, clothed with pale to golden simple pubescence, lateral margins and extending along edge of embolium, beset with blackish hairs, also a single black bristle set at each anterior angle of pronotal disk. Sternum blackish, sides paler. *Hemelytra*: elongate, embolar margins nearly parallel, tip of venter scarcely surpassing base of cuneus; pale to yellowish, slightly translucent, disk of corium with longitudinal fuscous cloud, sometimes indistinct; commissure slenderly fuscous; membrane pale fuscous, somewhat paler on central area, anal area distinctly blackish, veins yellowish. *Legs*: pale, femora with two rows of fuscous spots on anterior and on posterior aspects, spots more closely grouped apically; tibial spines and spots at base blackish, knees black, tarsi fuscous, more blackish apically. Venter pale to yellowish, ventrally on genital segment fuscous to black.

♀. Length 5.7 mm., width 2 mm.; very similar to the male in form and color.

Holotype: ♂ July 27, 1917, Mt. Lemon, Santa Catalina Mts., alt. 8,500 ft., Arizona (H. H. Knight); authors' collection. *Allotype*: taken with the type; Cornell University collection. *Paratypes*: a good series taken with the types. 8 ♂ ♀, August 18-22, 1924, Pingree Park, Colorado (Drake and Hottis).

¹ Contribution from the Department of Zoology and Entomology, Iowa State College, Ames, Iowa.

In my key to the species of *Plagiognathus* in the "Hemiptera of Connecticut," *flavescens* runs to either *rosicola* or *blatchleyi*; but distinguished from *rosicola* by the much paler color, and from *blatchleyi* by the larger, more elongate form, and narrower vertex; width of vertex in the male is not equal to length of antennal segment I, or about equal in the female.

Atractotomus acaciae n. sp.

Distinguished from *albidicoxis* and *hesperius* by the shorter antennal segment II which does not equal width of head, also by the pale rostrum.

♂. Length 2.3 mm., width 1.14 mm. *Head*: width .66 mm., vertex .31 mm. Rostrum, length .84 mm., attaining middle of hind coxae, pale, last two segments black. *Antennae*: segment I, length .14 mm., thickness .085 mm.; II, .56 mm., thickness .128 mm., fusiform, clothed with prominent black pubescence; III, .199 mm., slender; IV, .185 mm.; black, last two segments pale. *Pronotum*: length .48 mm., width .98 mm. Black, tip of scutellum, basal angles of corium, and sometimes extending along claval suture, pale; thickly clothed above and below with white, closely appressed, scale-like pubescence, intermixed with fine dusky hairs, with two or three prominent black hairs at anterior angles of pronotum.

♀. Length 2.6 mm., width 1.3 mm. *Head*: width .67 mm., vertex .33 mm. *Antennae*: segment I, length .14 mm.; II, .51 mm., thickness .13 mm.; III, .199 mm.; IV, .185 mm. Very similar to the male in form and coloration; pale areas frequently more extensive, femora more or less pale and showing spots of blackish, tibiae paler with black spots at base of spines.

Holotype: ♂ June 7, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Allotype*: same data as the type. *Paratypes*: 8 ♂ ♀, taken with the types. 2 ♀ June 18, 1915, Lewis Spings, ♀ June 18, Fort Huachuca, Arizona (Harold Morrison).

Psallus suaedae n. sp.

Distinguished from other described species of *Psallus* by the fusco-reddish femora and dotted tibiae, combined with the pale greenish dorsum and venter.

♂. Length 2.6 mm., width 1 mm. *Head*: width .71 mm., vertex .34 mm. Rostrum, length .77 mm., reaching upon middle of hind coxae. *Antennae*: segment I, length .17 mm.; II, .77 mm.; III, .51 mm.; IV, .34 mm.; with fine pale to

dusky pubescence, greenish yellow, basal segment fusco-reddish. *Pronotum*: length .40 mm., width at base .86 mm. Dorsum and venter pale greenish, changing to pale and yellowish; genae, propleura, coxae, femora, and dots on tibiae, fusco-reddish with a suggestion of a purplish hue; reddish marks and dots sometimes appearing at each side of vertex, on frons, tylus, and anterior angles of pronotum; tibiae and spines pale, about four prominent spots on basal half which practically form annuli; femora paler apically and with the reddish color forming dots. Dorsum clothed with pale, sericeous, deciduous pubescence, and intermixed with fine, pale and fuscous simple pubescence. Membrane pale, obscurely marked with pale fuscous spots, veins yellowish.

♀. Length 1.06 mm., width 1.2 mm.; slightly more robust than the male but otherwise very similar.

Holotype: ♂ July 21, 1917, Santa Cruz River, Tucson, Arizona (H. H. Knight); author's collection. *Allotype*: taken with the type; Cornell University collection. *Paratypes*: a good series taken with the types and found breeding on *Suaeda suffrutescens*; 3 ♂, 1 ♀, July 12, 1917, Mesilla Park, New Mexico (H. H. Knight); 6 ♂ ♀ July 28, 1900, Grand Junction, Colorado (E. D. Ball); 3 ♂ July 23, 1914, El Paso, Texas (J. C. Bradley).

Macrotylus geminus n. sp.

Suggestive of *amoenus* Reuter but slightly smaller in size and differs in color of legs and white areas on cuneus.

♂. Length 2 mm., width .8 mm.; color apple green, antennae, legs, and wing membrane black, femora with longitudinal white mark on apical half of anterior and posterior aspects, also a slender white line on ventral margins; cuneus white, a nearly transverse black mark across middle, the white areas never greenish yellow as in *amoenus*; the white spot each side of membrane also larger.

♀. Slightly more robust than the male but very similar in form and color.

Holotype: ♂ August 19, 1924, Sierrita Mts., alt. 4,000 ft., Arizona (A. A. Nichol); author's collection. *Allotype*: taken with type. *Paratypes*: 2 ♂, taken with types. Mr. Nichol collected this species on *Acacia* sp.

Coquillettia nicholi n. sp.

Color of hemelytra suggestive of *insignis* Uhler, but shape of head more nearly that of *Orectoderus obliquus* Uhler,

while the shape of pronotum differs from both; arolia as in *Coquillettia insignis* Uhler.

♂. Length 5.7 mm. *Head*: width .94 mm., vertex .51 mm., postocular space (.21 mm.) equal to three-fourths the width of an eye; greatest length of eye .48 mm., width .28 mm.; as viewed from the side, greatest thickness of head (.63 mm.) along a line drawn through base of antennae and middle of gula. *Antennae*: segment I, length .34 mm.; II, 2 mm.; III, missing. *Pronotum*: length .88 mm., width at base 1.01 mm.; width of collar .54 mm., width across middle of disk .80 mm.; calli greatly swollen, confluent, occupying a space equal to half the length of pronotal disk, distinctly sulcate behind; lateral margins of disk not defined, coxal cleft visible from above; disk subopaque, very finely transversely rugulose in the sulcation behind calli. *Hemelytra*: dark brownish black, scarcely darker at apex of corium, corium pale white on basal half between radial vein and clavus, but not reaching apex of clavus; cuneus yellowish white on basal half, areole pale on basal two-thirds; membrane slightly abbreviated, extending beyond cuneus by a distance equal to half its length.

Head, thorax, legs and abdomen, brownish black, ostiolar peritreme and posterior one-fourth of third abdominal segment white; tibiae, front femora, and first two antennal segments brownish.

Holotype: ♂ July 20-25, 1920, Yellowstone, National Park, Wyoming (A. A. Nichol); author's collection.

***Coquillettia albiclava* n. sp.**

Distinguished by the white clavus, pale translucent basal half of corium, and dark embolium; antennal segments II and III equal in length.

♂. Length 6 mm. *Head*: width .83 mm., vertex .37 mm.; eyes distinctly smaller, less protruding and more oblique than in *insignis* Uhler; greatest length of eye .47 mm., width .257 mm. *Antenna*: segment I, length .28 mm., fulvous; II, 1.74 mm., brownish black; III, 1.74 mm., blackish; IV, missing. Head, calli, sides of pronotum, scutellum, mesoscutum, and front femora, fulvous, pronotal disk except calli, blackish. *Hemelytra*: opaque white, fusco-brownish at base and apex; corium bordering clavus clear translucent, exterior to radial vein and apically, dark olive brown, apex darker; embolium dark brown, darker apically; cuneus brownish black, basal one-third white; membrane dark fusco-brownish, basal two-fifths or areole and membrane opposite

pale. Legs except front femora dark brown; venter brownish black, shining, posterior margin of third segment slightly pale.

Holotype: ♂ April 17, 1915, Sabino Canyon, Tucson, Arizona (J. F. Tucker); author's collection. *Paratype*: ♂ April 29, 1919, type locality (W. D. Edmonston).

Eustictus minimus n. sp.

Distinguished from all other described members of the genus by its small size and uniformly brown antennae.

♂. Length 3.5 mm., width 1.2 mm. *Head*: width .81 mm., narrowest part of vertex at antero-dorsal margin of eyes, width .14 mm. Rostrum, length 1.28 mm., reaching to posterior margins of middle coxae. *Antennae*: segment I, length .27 mm.; II, .83 mm.; III, .48 mm.; IV, .43 mm.; uniformly pale brownish, clothed with fine pale pubescence. *Pronotum*: length .73 mm., width at base 1.14 mm.; lateral margins of disk ecarinate. Head and thorax dark brownish to black, somewhat shining, juga, sides of tylus, and slender basal margin of pronotal disk, pale. Scutellum and clavus with long erect hairs. *Hemelytra*: pale, base and apex of clavus, narrow base and more broadly on apex of corium, fusco-brownish, apex of embolium reddish to blackish, apex of cuneus fuscous. Membrane pale fumate, anal area and veins fuscous. Legs pale, apical half of femora dark fusco-brownish, tibiae paler except bases; length of tibial spines not equal to thickness of tibia. Venter dark reddish brown to blackish, shining, clothed beneath and on genital segment with long pale hairs.

♂. Length 2.4 mm., width 1.4 mm. *Head*: width .81 mm., vertex .23 mm. *Antennae*: segment I, length .28 mm.; II, .83 mm.; III, .48 mm.; IV, .43 mm. Very similar to male but eyes smaller and vertex correspondingly wider.

Holotype: ♂ July 31, 1906, Brownsville, Texas (A. B. Wolcott); author's collection. *Allotype*: ♂ May 18, 1904, Brownsville, Texas; Cornell University collection. *Paratypes*: ♂ May 1, 1904, ♀ June 6, 1908, ♀ Dec. 16, 1910, Brownsville, Texas. ♀, Edingburg, Texas. Found "under bark" and on mesquite.

Eustictus obscurus n. sp.

Closely allied to *catulus* Uhler, but eyes less prominent and vertex correspondingly wider; very similar in color but pronotum and scutellum brownish black, lateral carinae and slender basal margin white, femora and tibiae uniformly dark

fusco-brownish without paler maculae as in *catulus*. Female with dorsal width of an eye not quite equal to width of vertex, while in the female of *catulus* the vertex is not equal to dorsal width of an eye.

♂. Length 5.3 mm., width 1.9 mm. *Head*: width 1.17 mm., vertex .17 mm. *Rostrum*, length 2.03 mm., attaining hind margins of middle coxae. *Antennae*: segment I, length .58 mm., thickness .14 mm.; II, 1.67 mm., thickness .128 mm., cylindrical; III, .87 mm.; IV, .77 mm. *Pronotum*: length 1.01 mm., width at base 1.74 mm.

♀. Length 5.8 mm., width 2.2 mm. *Head*: width 1.97 mm., vertex .37 mm. *Antennae*: segment I, length .67 mm.; II, 1.91 mm., more sparsely clothed with pubescence than in *catulus*; III, .94 mm.; IV, .86 mm. *Pronotum*: length 1.06 mm., width at base 1.94 mm. Coloration very similar to the male.

Holotype: ♂ July 23, Huachuca Mts., Arizona; author's collection. *Allotype*: topotypic. *Paratypes*: 2 ♀ topotypic; ♂ July 13, 1917, Lordsburg, New Mexico; ♂ July 20, Texas Pass, ♂ July 24, 1917, Oracle, Arizona (H. H. Knight).

***Eustictus productus* n. sp.**

Larger and more elongate than *catulus* Uhler; length of antennal segment II exceeds width of pronotum at base, width of vertex slightly greater than thickness of antennal segment I.

♂. Length 6.3 mm., width 2.3 mm. *Head*: width 1.28 mm., vertex .157 mm. *Rostrum*, length 2.5 mm., barely attaining posterior margins of hind coxae. *Antennae*: segment I, length .70 mm., thickness (.128 mm.) not equal to width of vertex; II, 2 mm., thickness .128 mm.; III, .94 mm.; IV, missing; color and pubescence very similar to *catulus* but segment I slightly more slender and darker in color. *Pronotum*: length 1.09 mm., width at base 1.91 mm. Dorsum more uniformly brownish black than in *catulus*, pale areas nearly obsolete. Membrane pale fusco-brownish, veins darker, a dark mark lying next to larger areole and paralleling apical half of cubitus. Femora and tibiae reddish brown, paler beneath, more uniformly darker than in *catulus*.

Holotype: ♂ June 18, 1915. Huachuca Canyon, Fort Huachuca, Arizona (Harold Morrison); author's collection.

***Eustictus morrisoni* n. sp.**

Coloration suggestive of *catulus* Uhler, but size much larger and differs in structure of antennae; width of vertex

slightly greater than dorsal width of an eye, while in the female of *catulus* the vertex is distinctly less (vertex .33 mm., eye .40 mm.).

♀. Length 6.5 mm., width 2.9 mm. *Head*: width 1.27 mm., vertex .43 mm. Rostrum, length 3 mm., scarcely attaining posterior margins of hind coxae. *Antennae*: segment I, length .83 mm., thickness .17 mm.; II, 2.11 mm., thickness at middle .086 mm., slightly thicker apically, more sparsely clothed with pubescence than *catulus* and intermixed with longer more erect pubescent hairs; III, .94 mm.; IV, .81 mm. *Pronotum*: length 1.34 mm., width at base 2.5 mm. Dorsum and legs colored much as in *catulus*, but membrane uniformly fusco-brownish, veins darker.

Holotype: ♀ June 18, 1915, Lewis Springs, Arizona (Harold Morrison); author's collection.

***Eustictus hirsutipes* n. sp.**

Larger than *catulus* Uhler, hemelytra more translucent; distinguished by the long, erect hairs on hind tibiae and apical half of femora, length of hairs exceeding three times the diameter of tibia.

♂. Length 5.7 mm., width 2.1 mm. *Head*: width 1.2 mm., vertex .20 mm. Rostrum, length 2.63 mm., slightly surpassing posterior margins of hind coxae. *Antennae*: segment I, length .77 mm., thickness .14 mm., fusco-brownish, without distinct transverse markings; II, 2 mm.; III, 1.2 mm.; color of last three segments much as in *catulus*. *Pronotum*: length 1.14 mm., width at base 2 mm.; disk black, shining, slender basal margin pale. *Scutellum* blackish. *Hemelytra*: glabrous, shining, yellowish, translucent, without opaque blackish areas and spots such as in *catulus*; basal half of clavus and apical one-third of corium fusco-translucent, apex of embolium with red (hypodermal); cuneus yellowish to reddish, semiopaque, apical one-third fuscous; membrane uniformly fusco-brownish, veins slightly darker. Legs uniformly yellowish brown, tibiae slightly darker, hind femora and tibiae with long erect hairs as described above. Venter reddish to blackish, genital segment darker, sparsely clothed beneath with long erect hairs.

♂. Length 6.3 mm., width 2.2 mm.; larger and more robust than the male but very similar in coloration. *Head*: width 1.17 mm., vertex .44 mm. *Antennae*: segment I, length .86 mm., II, 2.3 mm., III, 1.28 mm.; IV, 1.08 mm. *Pronotum*: length 1.17 mm., width at base 2.06 mm.

Holotype: ♂, July 20, 1917, Texas Pass, Arizona (H. H. Knight), at trap light; author's collection. *Allotype*: taken with type; Cornell University collection. *Paratypes*: 2 ♀, taken with types; 3 ♂, July 15, 1917, Bowie, Arizona (H. H. Knight).

***Eustictus claripennis* n. sp.**

Nearest to *pusillus* Uhl., but differs in the black pronotum and scutellum, and in the translucent hemelytra.

♂. Length 5.1 mm., width 2 mm. *Head*: width 1.06 mm., vertex .33 mm., pale, front and vertex fuscous. Rostrum, length 2.5 mm., reaching to near posterior margins of hind coxae, yellowish, apex brownish. *Antennae*: segment I, length .74 mm., thickness .17 mm., rather indistinctly transversely marked with fuscous; II, 2 mm., cylindrical (.13 mm. thick), pale with sprinkling of fuscous, clothed with very fine, short, recumbent pubescence, and intermixed with short but more erect fuscous pubescent hairs, base slightly constricted and glabrous; III, 1.10 mm., cylindrical, slightly more slender than II; IV, .88 mm., last two segments colored and clothed with pubescence as on segment II. *Pronotum*: length 1.14 mm., width at base 1.83 mm., disk black, slender basal margin and lateral carinate margins pale; propleura except for fuscous dorsal margin, pale yellowish translucent like the sternum and pleura of meso- and metathorax, ostiolar peritreme whitish. *Scutellum* strongly convex, black, mesoscutum brownish at sides. *Hemelytra*: glabrous, shining, pale translucent, apex of corium narrowly, and tip of cuneus, fuscous, apex of embolium with reddish and black; membrane practically clear, or with only a tinge of fumate, veins pale brownish. *Legs*: pale, hind femora becoming fuscous on apical half; hind tibiae brownish black, front and middle tibiae with a longitudinal reddish brown line on dorsal aspect; hind femora with a few dark spines on posterior aspect which are similar to the tibial spines, length of spines about equal to thickness of tibia. *Venter* pale to reddish, genital segment fuscous.

Holotype: ♂, July 1, 1917, Helotes, Texas (H. H. Knight); author's collection. *Paratypes*: ♂, taken with type; Cornell University collection.

***Eustictus claripennis clarus* n. var.**

♀. Length 5.1 mm., width 2 mm. *Head*: width 1 mm., vertex .43 mm. Rostrum, length 2.51 mm., slightly surpassing posterior margins of hind coxae. *Antennae*: segment I,

length .66 mm.; II, 2.14 mm., more slender on basal half and gradually thickened apically; III, .97 mm.; IV, .88 mm.; uniformly yellowish. *Pronotum*: length .97 mm., width at base 1.7 mm., disk much more flattened and lateral carinae more prominent than in the male *claripennis*; carinae and slender basal margin white, submargin narrowly fuscous. Scutellum black, basal angles, extreme apex, and mesoscutum yellowish.

General coloration yellowish translucent, narrow distal margin of corium and embolium, and tip of cuneus, fuscous; tibiae, including hind pair, with longitudinal reddish black line on dorsal aspect, this line paralleled by a yellowish white line each side. Differs from *claripennis* in color of antennae; pronotum, and hind tibiae; also differs in structure of pronotum and slightly longer rostrum. This form may very well represent a distinct species but until the female of *claripennis* is known it seems best to regard *clarus* as a variety.

Holotype: ♀, June 7, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Paratype*: ♀, May 2, San Diego, Texas; Cornell University collection.

This form approaches *pusillus* (Uhler), but differs in coloration of the hemelytra and especially in markings of cuneus. A specimen of *pusillus* is at hand from Nogales, Arizona; also a specimen labeled "Ariz. H. K. Morrison" which probably represents type material of that species.

Lopidella n. gen.

Closely allied to *Lopidea* Uhler, but distinguished by the finely punctate pronotum, vertex strongly declivitous anteriorly and carinate at base, gena with a single suture extending downward from base of jugum to a point on middle of gena; dorsum thickly clothed with semidecumbent pubescence; anterior margin of pronotum not elevated nor sulcate just before and between calli as in *Lopidea*; arolia and left genital clasper essentially the same as in *Lopidea*. *Genotype*: *Lopidella flavoscuta* new species.

Lopidella flavoscuta n. sp.

Distinguished by the black color, with scutellum and more or less on head, yellow; thickly clothed with semidecumbent pale yellowish pubescence.

♂. Length 5 mm., width 1.7 mm. *Head*: width 1.06 mm., vertex .54 mm. Rostrum, length 1.07 mm., thick, scarcely attaining posterior margins of middle coxae. *Antennae*:

segment I, length .33 mm.; II, 1.21 mm.; III, broken. *Pronotum*: length .86 mm., width at base 1.69 mm.; disk finely punctate. Black, scutellum and head yellow, tylus, apical half of lora, broad mark each side of frons, and small impressed spot each side of vertex, black; basal angles of scutellum frequently black, in paler forms the anterior margin of pronotum and propleura yellow. Thickly clothed with semidecumbent pale yellowish pubescence. Genital claspers distinctive, the left clasper very suggestive of *Lopidea*; right clasper large, extending backward then curving upward, apical half slightly more slender, the apex tapering sharply to an acute point; segment wall above base of right clasper, projecting distad in a process .17 mm. in length, also a sharp point formed at dorsal margin of segment.

♀. Length 4.5 mm., width 1.9 mm.; more robust than the male but very similar in coloration; the margins of pronotum more broadly pale, with femora becoming brownish.

Holotype: ♂, April 12, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Allotype*: April 17, 1916, Sabino Canyon, near Tucson, Arizona (J. F. Tucker); author's collection. *Paratypes*: ♀, taken with type; 2 ♂, Phoenix, Arizona (H. G. Barber).

Brachypterous form. ♀. Length 3.6 mm., width 2 mm. Hemelytra just attaining apex of abdomen, membrane with less area than cuneus; more broadly pale than macropterous form; embolium, narrow basal and lateral margins of pronotum, yellow.

Morphotype: ♀, April 12, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Paramorphotypes*: ♀, April 16, 1916, Sabino Canyon, near Tucson, Arizona (J. F. Tucker). ♀, June 15, Santa Rita Mts., Arizona (A. A. Nichol).

Cyrtorhinus insperatus n. sp.

Size of *caricis* (Fall.) but distinguished by the fulvous legs and scutellum.

♂. Length 3 mm., width .8 mm. *Head*: width .61 mm., vertex .28 mm.; subglobose, shining black, eyes nearly round, strongly protruding, collum slightly elongated thus the eyes appear removed from collar, with two black bristles each side of vertex, and one each side about front margin of eye; a small pale ocellate spot each side of vertex above eye. Rostrum, length 1.08 mm., reddish yellow, basal segment greenish, apical segment black, reaching to base of middle

femora. *Antennae*: segment I, length .34 mm., slightly thicker (.085 mm.) on basal one-third; II, 1.52 mm., becoming slightly thicker on apical half (.058 mm. thick); III, 1.01 mm.; IV, .57 mm., black, finely pale to dusky pubescent. *Prothorax*: length .37 mm., width at base .73 mm., brownish black, becoming fulvous basally, anterior margin pale. Scutellum and mesoscutum fulvous, the mesoscutum broadly exposed and tinged with fuscous. Sternum fulvous, sides, pleura, and ostiolar peritreme becoming fuscous. Dorsum clothed with very fine yellowish to dusky pubescence. *Hemelytra*: embolar margins nearly straight, cuneus not deflexed; semitranslucent, fumate, basal area of corium and narrow margin of clavus pale translucent, clavus fuscous, except along claval suture, the scutellar margin and slenderly along commissure fulvous; membrane and veins uniformly fumate, anal area darker. *Legs*: pale fulvous, tibiae and tarsi black, femora with fuscous line along dorsal margin, also a reddish to fuscous longitudinal line on anterior face, this line being more subventral on front femora. *Venter*: greenish with a metallic luster, genital segment black.

Female: Length 3.5 mm., width 1.14 mm.; more robust than the male but very similar in coloration, second antennal segment more slender. Venter greenish yellow, second genital segment and full length of vagina exterior, fuscous to blackish.

Holotype: ♂, June 7, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Allotype*: same data as type. *Paratypes*: ♂ ♀, taken with types.

***Orthotylus spinosus* n. sp.**

Form of head and body, and coloration nearly identical with *viridis* Van D., but about the size of *flavosparsus* Sahlb.

♂. Length 3.4 mm., width 1.11 mm. *Head*: width .68 mm., vertex .28 mm., rostrum, length 1.06 mm., attaining posterior margins of hind coxae. *Antennae*: segment I, length .25 mm.; II, 1.06 mm., cylindrical, slender; III, .54 mm.; IV, .28 mm. *Pronotum*: length .43 mm., width at base .94 mm. Dorsum clothed with yellowish to dusky simple pubescence, and intermixed on hemelytra with more recumbent, sericeous, dusky pubescence. Membrane uniformly pale fuscous, slightly paler within areoles, veins pale. Genital claspers distinctive, left clasper terminating dorsally in an acuminate, slightly decurved hook; right clasper appearing flat in lateral aspect, broadly rounded at apex, and curving slightly downward.

♀. Length 3.1 mm., width 1.06 mm.; very similar to the male in form and color.

Holotype: ♂, July 18, 1917, Gowdy Creek Canyon, Bonita, Arizona (H. H. Knight); author's collection. *Allotype*: taken with type; Cornell University Collection. *Paratypes*: 22 ♂, taken with the types. 2 ♂, July 15, 1924, Santa Catalina Mts., alt. 4,500 ft. (A. A. Nichol). My notes show this species was collected on *Juniper pachyphloea* and *Juniper monosperma*.

Pamillia nyctalis n. sp.

Color a uniform dark fuscous brown, with cuneal fracture, and base of corium and embolium, pale; clothed with very fine short pubescence, thus differs from both *behrensii* and *davisi*.

♂. Length 2.8 mm., width 1.2 mm. *Head*: width .71 mm., vertex .33 mm.; brown, lower half reddish brown. Rostrum, length 1.16 mm., reaching to middle of hind coxae. *Antennae*: segment I, length .27 mm., thickness .114 mm.; II, .93 mm., gradually thickened from base to apex (.086 mm. thick); III, .63 mm., thickness .10 mm.; IV, .54 mm.; thickly clothed with short, fine yellowish pubescence, dark brown, segment I, yellowish brown. *Pronotum*: length .59 mm., width at base .97 mm.; form nearly as in *behrensii*, but disk slightly more flattened posteriorly and posterior margin coming higher on mesonotum. Dorsum clothed with very fine, short, soft, pale to yellowish pubescence, a few long pubescent hairs at inner angles of clavus; surface opaque, or slightly shining on pronotum and scutellum. *Hemelytra*: embolar margins parallel on basal half, moderately flaring on apical one-third; fusco-brownish, clavus more distinctly brownish next to scutellum, basal two-fifths of corium and embolium pale, a very light transverse frosted band apparent on clavus just behind tip of scutellum; apical area of corium also exhibiting a very light frosted appearance, extreme apex pale at cuneal fracture. Membrane uniformly fusco-brownish. Venter reddish brown to dark brown, clothed beneath and on genital segment with prominent pale yellowish pubescent hairs.

♀. Length 3.2 mm., very similar to the male in form and coloration.

Holotype: ♂, July 16, 1917, Post Creek Canyon, Bonita, Arizona (H. H. Knight); collected at light; author's collection. *Allotype*: taken with type; Cornell University collection.

Pamillia pilosella n. sp.

Having the aspect of *nyctalis*, but distinguished at once from that species by the prominent erect hairs on the dorsum.

♂. Length 3.2 mm., width 1.4 mm. *Head*: width .81 mm., vertex .43 mm. *Antennae*: segment I, length .31 mm.; II, 1.18 mm.; III, .76 mm.; IV, .63 mm. *Pronotum*: Length .68 mm., width at base 1.11 mm. Brown color of antennae, head, and body, similar to that of *nyctalis*, but the white and pruinose areas of hemelytra are larger and more conspicuous. Scutellum and *hemelytra* clothed with very fine short pubescence and intermixed with long erect hairs which are more numerous and prominent than in either *behrensii* or *affinis*. Pronotum with lateral margins sulcate but less deeply than in *behrensii*, contour of disk more as in *nyctalis*, posterior margin leaving mesoscutum broadly exposed. Embolar margins subparallel on basal half, moderately arcuate on apical half. Basal half of clavus of the same dark brown color as the apical half, separated by a wedge-shaped strongly pruinose area, projecting from pale basal part of corium; apex of corium and base of cuneus pale with pruinose luster. Membrane fully developed, uniformly dark brownish. Venter dark brown, clothed with prominent long pale pubescent hairs; left genital clasper subtriangular at base, tapering to a slender apex which is slightly curved around apex of genital segment.

Holotype: ♂, August 6, 1907, Chiricahua Mts., Arizona (J. L. Webb); Cornell University collection.

Pamillia affinis n. sp.

Color suggestive of *behrensii* Uhler, but head and thorax lighter brown, clavus brown on basal half (fulvous in *behrensii*). Differs from *behrensii* in form of pronotum, lateral margins not so deeply concave, disk more flattened, broadly convex, the posterior margin completely covering the mesoscutum; pubescence nearly as in *behrensii*, but the long erect, fine hairs present on pronotum and vertex of that species are much less conspicuous in *affinis*. Membrane abbreviated, scarcely attaining apex of venter.

♀. Length 2.2 mm., width 1.5 mm. *Head*: width .86 mm., vertex .44 mm. *Antennae*: segment I, length .31 mm.; II, 1.17 mm.; III, .74 mm.; IV, .67 mm. *Pronotum*: length .66 mm., width at base 1.08 mm.

Holotype: ♀, August, Fort Wingate, New Mexico; author's collection.

Ceratopsus apicalis n. sp.

Allied to *drakei* Knight, but size smaller, distinguished by finer simple pubescence and having more of the silvery sericeous scale-like pubescence; also by the black pronotum and scutellum, distinctly blackish apical half of membrane, and fuscous cloud at inner apical angles of corium. Hemelytra including cuneus, yellowish red, sparsely clothed with golden pubescent hairs, longest on clavus and inner angles of corium; scutellum, clavus and corium rather thickly clothed with white sericeous scale-like pubescence; fuscous cloud on inner apical angles of corium, invading anal area of membrane. Membrane white, apical half and extending slightly between areoles, uniformly dark fuscous. Head, thorax, and venter, dark brownish black, genae and lora reddish.

♂. Length 3.7 mm., width 1.26 mm. *Head*: width .68 mm., vertex .30 mm. Rostrum, length 1.17 mm., reaching to middle of hind coxae. *Antennae*: segment I, length .30 mm.; II, 1.06 mm.; III, .71 mm.; IV, .50 mm.; pale yellowish to dusky, apical segment dusky. *Pronotum*: length .58 mm., width at base 1.10 mm.

♀. Length 2.4 mm., width 1.2 mm.; brachypterous, cuneus present but membrane area not equal to more than half of cuneus, white, last abdominal segment exposed. *Head*: width .67 mm., vertex .31 mm. *Antennae*: segment I, length .24 mm.; II, .91 mm.; III, .60 mm.; IV, .37 mm. *Pronotum*: length .47 mm., width at base .88 mm. Vestiture similar to the male, color a rich brownish yellow, scutellum black, fuscous cloud at apex of corium replaced by dark brown, apical half of corium more distinctly polished and shining.

Holotype: ♂, July 2, Fabens, Texas (H. H. Knight); author's collection. *Allotype*: same data as type. *Paratypes*: 16 ♂ ♀, taken with the types. COLORADO: ♂ ♀, June 18, 1902, Fort Collins (E. D. Ball). NEW MEXICO: ♂, July 12, 1917, Deming (H. H. Knight), at trap light. ♂, May 18, Faywood (W. J. Gerhard). TEXAS: ♀, July 23, 1914, El Paso (J. C. Bradley). ♂, August 23, 1920, Eastland County (Grace O. Wiley).

Ceratopsus denticulatus n. sp.

Allied to *apicatus* Van D., but differs in the more slender antennae and pale basal half of the hemelytra, also not so strongly shining.

♂. Length 3.6 mm., width 1.36 mm. *Head*: width .77 mm., vertex .19 mm. Rostrum, length 1.14 mm., reaching to middle of intermediate coxae. *Antennae*: segment I, length .23 mm.; II, .91 mm., cylindrical, equal in thickness to segment I; III, .57 mm.; IV, .47 mm.; pale yellowish, segment IV and apical half of III brown. *Pronotum*: length .60 mm., width at base 1.20 mm.; disk very minutely punctate, Dorsum clothed with very fine closely appressed sericeous, yellowish pubescence, intermixed with sparsely set, longer golden yellow pubescence, longest hairs on scutellum and clavus. Color castaneous brown, scutellum paler; hemelytra pale yellowish, apical half of corium and embolium, and the cuneus, fusco-brownish, red showing in disk of cuneus. Membrane pale yellowish, apical half and the anal area fuscous. Genital claspers very small, left clasper curving straight back to an acuminate point, right clasper very small, twice as long as broad, notched at apex, lower point longer.

♀. Length 3.6 mm., width 1.4 mm. *Head*: width .80 mm., vertex .34 mm. *Antennae*: segment I, length .28 mm.; II, 1.03 mm.; III, .66 mm.; IV, .54 mm. *Pronotum*: length .61 mm., width at base 1.23 mm. Very similar to the male in form, vestiture, and color.

Holotypes: ♂, July 27, 1917, Mt. Lemon, Santa Catalina Mts., Arizona, alt. 9,000 ft. (H. H. Knight); author's collection. *Allotypes* ♀, Aug. 3, 1915, Huachuca Mts., Arizona (H. G. Barber). *Paratypes*: ♂, taken with the type; Cornell University collection.

Ceratocapsus clavicornis n. sp.

Allied to *fusiformis* Van D., but distinguished by the differently formed genital claspers, and in color and type of pubescence; distinguished by the broad flattened blade on terminal portion of left genital clasper.

♂. Length 3.3 mm., width 1.3 mm. Rostrum, length 1.2 mm., reaching to middle of hind coxae. *Head*: width .74 mm., vertex .33 mm. *Antennae*: segment I, length .23 mm., thickness .086 mm.; II, .74 mm., slender at base and gradually thickened to apex (.09 mm. thick); III, .39 mm., thickness .10 mm., base more slender; IV, .41 mm., thickness .11 mm., dark brown, segment I and base of II yellowish brown, clothed with fine pale pubescence. *Pronotum*: length .71 mm., width at base 1.21 mm. Dorsal surface finely punctate as in *pumillus*, clothed with sparsely set long, erect, golden brown hairs and intermixed with short, sericeous,

white scale-like pubescence on scutellum, clavus, and basal half of corium; apical area of corium and frequently basal area of pronotal disk darker brown; cuneus and apically on embolium showing hypodermal red through the brown. Membrane uniformly dark brown. Genitalia distinctive; right clasper very near that of *fusiformis* but ventral arm with bifurcated arms broad at apex, one ending in two short prongs; left clasper distinctive, with rather broad upright prong at base while the ventral and terminal portion is abruptly enlarged into a broad flat blade.

♀. Length 3.2 mm., width 1.4 mm. *Head*: width .74 mm., vertex .37 mm. *Antennae*: segment I, length .20 mm., thickness .086 mm.; II, .77 mm., greatest thickness .09 mm.; III, .40 mm., thickness 1.05 mm.; IV, .41 mm., width .11 mm. Very similar to the male in form and color although vertex slightly broader.

Holotype: ♂, August 3, 1917, Grand View, Grand Canyon, Arizona (H. H. Knight); author's collection. *Allotype*: same data as the type. *Paratypes*: 30 ♂ ♀, taken with the types on *Cowania mexicana*. ♂, August 4, 1917, Williams, Arizona (H. H. Knight).

Neoborella n. gen.

Closely related to *Neoborus* Dist., but differs in the strongly convex scutellum, distinctly tumid and transversely striated front of head, longer and more slender rostrum, more steeply declivitous pronotal disk with rounded lateral margins, more closely and strongly punctate scutellum and pronotal disk, and extremely short third and fourth antennal segments; antennal segment III barely exceeding width of vertex in male and distinctly shorter in female, segment IV only equal to one-half the length of segment III. Arolia erect and diverging at apices as in *Neoborus* Dist., and form of male genitalia very similar.

Genotype: *Neoborella tumida* new species.

Neoborella tumida n. sp.

♂. Length 4 mm., width 1.8 mm. *Head*: width 1 mm., vertex .33 mm.; eyes large, vertical, extending well below insertion of antennae; juga and lora much less prominent and frons distinctly more tumid than in *Neoborus*; front obliquely, transversely striate, surface of vertex and frons rather distinctly alutaceous, a glabrous alutaceous dark spot

each side of vertex next the eye, clothed with short pale to golden sericeous pubescence; basal carina formed mainly by the vertical offset from vertex to collum. *Rostrum*: length 1.46 mm., reaching to posterior margins of middle coxae, distinctly more slender than in *Neoborus*, yellowish to reddish, blackish at apex. *Antennae*: segment I, length .30 mm.; II, 1.57 mm., cylindrical, nearly equal to thickness of segment I, slightly constricted at base; III, .37 mm.; IV, .22 mm.; yellowish brown, last two segments fuscous, clothed with rather short, fine yellowish pubescence. *Pronotum*: length .77 mm., width at base 1.66 mm.; disk distinctly more arched posteriorly than in *Neoborus*, rather closely, deeply and evenly punctate, punctures extending between and before calli, disk sloping to lateral margins which are rounded and ecarinate, basal margin formed by a smooth broadly arcuate line, the smooth edge set off by the punctures which form a submarginal line; calli narrow, convex, smooth, narrowing as they slope downward to anterior angle at a point behind middle of eye; collar distinct, slender, in contact with eyes, not raised to level of base of vertex disk clothed with rather short pale to golden sericeous pubescence. *Scutellum* very strongly convex, sloping off steeply to sides and apex, punctate as the pronotal disk, but punctures more shallow along median line and apically, punctures at sides exhibiting a transversely confluent tendency; mesoscutum somewhat more exposed than in *Neoborus*, sloping down to base of scutellum, clothed with more prominent golden pubescence than scutellum. *Sternum* dark reddish brown to blackish, pleura reddish, ostiolar peritreme pale. *Hemelytra*: embolar margins moderately arcuate; distinctly punctate, but more shallowly than on pronotum and scutellum, surface subopaque, clothed with pale, golden, and fuscous pubescence, the latter more prominent on apical half and on dark areas; cuneus rather strongly deflexed; reddish brown, embolium and cuneus red (hypodermal), transversely across corium and extending along claval suture, and more or less on apical half of clavus, fuscous to blackish. *Membrane* fuscous, slightly darker within and without the apices of larger areoles, veins reddish. *Legs* yellowish to brownish, hind femora reddish brown apically; tibiae pubescent, spines scarcely apparent. *Venter* yellowish brown to reddish, yellowish pubescent; form of genital claspers very near that of *Neoborus*.

♀. Length 3.7 mm., width 2 mm.; more robust than the male but very similar in color. *Head*: width .98 mm., vertex .43 mm. *Antennae*: segment I, length .27 mm., slender

at base and gradually thickened apically, yellowish, apex infuscated; III, .34 mm.; IV, .19 mm. Embolar margins strongly arcuate on posterior two-thirds.

Holotype: ♂, July 27, 1917, Mt. Lemon, alt. 9,000 ft., Arizona (H. H. Knight); author's collection. *Allotype*: taken with type; Cornell University collection. *Paratypes*: a good series taken with types. ♀, July 29, 1905, Huachuca Mts., Arizona (H. G. Barber). 10 ♂ ♀, Aug. 18-22, 1924, Pingree Park, Colorado (Drake & Hottes).

***Lygus (Neolygus) deraeocorides* n. sp.**

Form of head, antennae, body, and genitalia typical of the *Neolygus* group, but the glabrous and shining dorsal surface in combination with black and pale translucent colors, gives the insect a suggestion of a *Deraeocoris*.

♂. Length 6.5 mm., width 2.7 mm. *Head* yellowish brown, median apical portion of tylus blackish, basal half of segments II and III more or less pale. Pale yellowish translucent to brownish, subbasal margin of pronotal disk, anterior margin of each callus, median basal part of scutellum with bifurcating lines extending apically, clavus except apically and basally on claval vein, diagonal mark across middle of corium and connecting posteriorly with tip of clavus, outer apical half of corium and extending on embolium, narrowly along inner apical angles of corium, and tip of cuneus, dark fuscous to black. *Membrane* pale fumate, pale fuscous within apices of areoles and next to tip of cuneus, veins yellowish. *Femora* with apical half infuscated, apices and subapical annulus pale; tibiae infuscated on basal half of dorsal aspect. *Venter* yellowish to fuscous, a lateral line and basal half of genital segment blackish; genital claspers distinctive, form of right clasper coming nearest to *parshleyi* Knegt.

♀. Length 6.4 mm., width 3 mm.; more robust than the male but otherwise very similar.

Holotype: ♂, June 15, 1924, Santa Rita Mts., alt. 3,500 ft., Arizona (A. A. Nichol); author's collection. *Allotype*: same data as type. *Paratypes*: 3 ♂, 3 ♀, taken with the types; collected by Mr. Nichol on *Quercus reticulata*.

Horcias fasciiventris (Stål).

Calocoris fasciiventris Stål, Stett. ent. Zeit., xxiii, p. 320, 1862.

Calocoris fasciiventris Distant, Biol. Centr. Am., Heter., I, p. 267, pl. 25, fig. 24, 1884.

Form and color very simliar to *Horcias dislocatus rubellus* Kngt., but size larger and pubescence conspicuous. Rostrum attaining posterior margins of hind coxae.

♂. Length 7 mm., width 3 mm. Color orange red to bright red, antennae, tylus, lora, collum, apices of femora, bases and apices of tibiae, a small round spot behind each callus, and a larger one at apex of corium, and membrane, black; genital segment except for spot each side and basal margin of each ventral segment, blackish; tibiae more or less pale on middle.

Records: ♂, July 25, 1922, Douglas, Arizona (H. Letcher); ♂, August 24, 1906, Nogales, Arizona (F. W. Nunenmacher). ♀, Huachuca Mts., Arizona (H. G. Barber).

***Horcias fasciativentris imitator* n. var.**

Color form which is comparable with *goniphorus* Say, but the black on pronotum confined to basal margin, leaving the small round black spots distinct, one behind each callus.

Type: ♀, Huachuca Mts., Arizona (H. G. Barber); author's collection.

***Phytocoris strigosus* n. sp.**

Having the form of the male *canescens* Reuter, but distinguished at once from that species by the banded antennae and white and black scale-like pubescence, the white scales forming a median line on head and pronotum.

♂. Length 5.2 mm., width 1.6 mm. *Head*: width .86 mm., vertex .37 mm.; a spot each side of vertex and median line provided with white scale-like pubescence; pale, middle of tylus, bivittate mark on base of tylus having its origin on frons, dorsal margins of lora and of the strongly projecting juga, fuscous to black. Rostrum, length 2.3 mm., reaching upon fifth or sixth ventral segment, pale, apex blackish. *Antennae*: segment I, length 1.06 mm., black, with three or four large cream colored spots on dorsal aspect, black pubescent, with several erect pale bristles which in length about equal thickness of the segment; II, 2.11 mm., black, pale band at base and a second one having its basal edge nearly at middle of segment; III, 1.74 mm., black, pale at base; IV, 1.06 mm., blackish. *Pronotum*: length .83 mm., width at base 1.33 mm.; basal margin and median line indicated by white scale-like pubescence and edged within by black, disk clothed with white and black pubescence intermixed, sub-basal margin

with six tufts of prominent black pubescence; basal margin sinuate, broadly and shallowly notched at middle. Scutellum pale, median line, base more broadly, and a line each side of apical half, black; mesoscutum black, a pale mark near each side. Pleura with a longitudinal black line set off by pale. *Hemelytra*: embolar margins subparallel; ground color pale, infuscated with longitudinal lines and spots, the most distinct line following radius; pale areas supporting white sericeous pubescence while the dark areas have chiefly dark pubescence. Cuneus pale, inner edge and apex blackish, having both white and black tufts of pubescence. Membrane conspurcate with fuscous over a white ground color, the fuscous areas broken into numerous small dots and irregularly connected marks, with two fairly distinct white spots on outer margin beyond cuneus, cubital vein yellowish. *Legs*: coxae and more or less at base of femora, pale; hind femora blackish, irrorate with pale, having two nearly complete obliquely set pale annuli on apical half; front femora chiefly pale, the black forming in broken longitudinal lines; tibiae pale, base and apex and two broader bands on basal half, blackish, spines pale to dusky. Venter pale to blackish, sides with distinct longitudinal black line, genital segment black and varied with pale; form of genital clasper very near that of *corticivivens* Kngt., dorsal margin of segment each side with a slender, erect tubercle, far removed from base of claspers.

♀. Length 5 mm., width 1.5 mm. very similar to the male in form and color.

Holotype: ♂, April 19, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Allotype*: same data as type. *Paratypes*: 4 ♂, taken with the types. ♀, May 24, ♂, May 31, 1924, Tucson, Arizona (A. A. Nichol); 2 ♂, July 12, 1917, Deming, New Mexico (H. H. Knight), collected at light; ♂, August, Douglas, ♂, August, San Bernardino Ranch, Cochise County, Arizona, alt. 3,750 ft. (F. H. Snow); ♂, Oct. 23, ♂, Oct. 26, 1915, Tucson, Arizona (J. F. Tucker).

Phytocoris roseotinctus n. sp.

Pale greenish yellow, more greenish on embolium, cuneus, and outer half of corium; each side of claval suture but more broadly on corium, inner half of clavus bordering scutellum, and inner apical angle of corium, roseate red; clothed with silvery to golden sericeous pubescence; form of head, antennae, and genitalia, showing a relationship with *interspersus*

Uhler, but the color characters distinguish these species at once.

♂. Length 6.2 mm., width 1.9 mm. *Head*: width 1 mm., vertex .46 mm.; vertex yellow, vertex and frons clothed with long pale sericeous pubescence. Rostrum, length 2.51 mm., reaching upon fifth ventral segment, yellowish, apex blackish. *Antennae*: segment I, length 1.57 mm., very slightly thicker on basal one-third (.143 mm. thick), beset with several pale setose hairs which in length nearly equal thickness of segment, greenish yellow; II, 2.94 mm., pale yellowish brown, paler at base, finely yellowish pubescent; III, 1.76 mm., yellowish to dusky; IV, 1.38 mm., dusky. *Pronotum*: length .96 mm., width at base 1.74 mm., width of collar .68 mm.; yellow with a tinge of greenish, median line of collar and extending between calli, and narrow basal margin of pronotum, paler. *Hemelytra*: membrane rather uniformly fuscate, more brownish within areoles, veins yellowish, outside the areoles rather evenly marked with fine fuscous reticulations; clavus and corium with roseate red as described above. *Legs*: greenish yellow, apical half of hind femora somewhat darkened with fusco-brownish through which the greenish yellow color shows as small closely placed irrorate spots; tibiae pale to greenish, tips darker, spines pale brownish. Venter yellowish, pale pubescent, form of genital clasps very near *corticevivens* Knigt.

Holotype: ♂, August 19, 1924, Sierrita Mts., alt. 4,000 ft., Arizona (A. A. Nichol); author's collection. *Paratypes*: ♂, taken with type. Mr. Nichol collected this species on *Acacia*.

Phytocoris acaciae n. sp.

General color suggestive of *rufus* Van D., but distinguished by stronger pubescence combined with white and black scale-like hairs, and the conspurcate character of membrane.

♂. Length 4 mm., width 1.5 mm. *Head*: width .86 mm., vertex .30 mm. Rostrum, length 2 mm., reaching upon sixth or seventh ventral segment. *Antennae*: segment I, length .80 mm., reddish to fusco-reddish, with four or five pale spots above, spines pale; II, 1.71 mm., reddish yellow, sometimes tinged with fuscous, pale at base and with a more obscure pale band at middle; III, 1.13 mm., fuscous, paler at base; IV, .74 mm., pale fuscous. *Pronotum*: length .74 mm., width at base 1.31 mm.; disk pale fuscous, collar and basal submargin yellowish, basal margin with irregular red line and set with six tufts of black scale-like hairs. Dorsum

clothed with prominent yellowish pubescence, intermixed with shorter more recumbent, white scale-like pubescence; tip of claws, tip of corium, and inner margin of cuneus, set with tufts of black scales. Hemelytra and scutellum appearing red although this color is composed of irregular minute flecks and spots, the largest pale area at apex of corium opposite cuneal fracture, darker before the pale spot in some specimens and continuing upon clavus as a clouded area, thus forming a rather broad obscure longitudinal stripe; sometimes the scutellum is red only on median line. Membrane uniformly dark fuscous, conspurcate with tiny spots and irregular marks of pale, veins red. Legs yellowish, apical half of femora more or less red but irrorate with paler spots and patches of reddish yellow; tibiae pale, indistinctly annulated with reddish, spines white. Venter with red, flecked over yellowish, pale pubescent; genital claspers distinctive, a small pale tubercle above base of left clasper, and a very much smaller one above base of right clasper.

♀. Length 4.2 mm., width 1.6 mm.; more robust than the male but very similar in coloration.

Holotype: ♂, July 20, 1917, Texas Pass, Arizona (H. H. Knight); author's collection. *Allotype*: ♀, taken with the type; Cornell University collection. *Paratypes*: 27 ♂ ♀, taken with the types on *Acacia greggi*; 2 ♂, 2 ♀, July 16, 3 ♂, 1 ♀, July 18, Post Creek Canyon, Bonita, Arizona; 3 ♂, 2 ♀, July 15, 1917, Bowie, Arizona; 12 ♂ ♀, nymphs, July 14, Steins, New Mexico (H. H. Knight); found breeding on *Acacia greggi*.

Phytocoris covilleae n. sp.

Form suggestive of *vividus* Uhler, but differs greatly in form of genitalia, longer rostrum, and black scale-like pubescence of pronotum.

♂. Length 5.3 mm., width 2 mm. *Head*: width .83 mm., vertex .31 mm.; lora not angulate as in *vividus*, greenish yellow, front and basal half of tylus infuscated. Rostrum, length 2.31 mm., reaching upon fifth ventral segment, greenish yellow, apical two segments blackish. *Antennae*: segment I, length .88 mm., fusco-yellowish, with several small glabrous spots, black pubescent, spines yellowish; II, 1.97 mm., greenish yellow, dusky apically, finely pubescent; III, 1.28 mm., pale fuscous over yellowish; IV, .83 mm., fuscous. *Pronotum*: length .97 mm., width at base 1.86 mm.; green-

ish yellow to fuscous, darker around margins, disk clothed with prominent black scale-like pubescence, more thickly near base, and intermixed with white scale-like hairs which are more abundant and somewhat grouped on basal margin. *Hemelytra* and scutellum uniformly greenish yellow, or somewhat tinged with fulvous, tip of scutellum and small spot each side of apex, fuscous; rather densely clothed with white, golden, and black scale-like pubescence, and intermixed with simple, golden yellow pubescence. Membrane black reticulate and irrorate with pale, veins fulvous. Legs greenish to yellowish, apical half of femora fuscous to blackish, the dark color irrorate with numerous small white spots; tibiae dusky with pale spots showing. Venter greenish yellow, sides with faint reddish maculations, genital segment becoming infuscated; genital claspers distinctive, a long slender posteriorly directed tubercle above base of left clasper, right side with a much smaller one.

Holotype: ♂, April 19, 1924, Tucson, Arizona (A. A. Nichol).
Paratypes: 6 ♂, taken with the types on *Covillea* sp.

***Phytocoris nigripubescens* n. sp.**

Allied to *vividus* Uhler, but darker green in color, and distinguished by the heavy black pubescence on dorsum which is intermixed with silvery sericeous pubescence.

♂. Length 5.4 mm., width 1.8 mm. *Head*: width 1.04 mm., vertex 1.56 mm. Rostrum, length 1.67 mm., reaching to middle of hind coxae. *Antennae*: segment I, length .48 mm., green, black pubescent; II, 2.11 mm., greenish yellow; III, .88 mm., greenish yellow; IV, .57 mm. *Pronotum*: length .86 mm., width at base 1.62 mm. General form similar to *vividus*, but differs distinctly in its vestiture of black hairs intermixed with silvery sericeous pubescence, membrane darker, veins fulvous. Legs uniformly dark green, pubescence and tibial spines pale.

♀. Length 5.2 mm., width 1.9 mm., very similar to the male in form and color.

Holotype: ♂, April 19, 1924, Tucson, Arizona (A. A. Nichol); author's collection. *Allotype*: same data as the type. *Paratypes*: ♂, April 5, 2 ♂, 1 ♀, April 12, ♂, May 3, 1924, Tucson, Arizona (A. A. Nichol).

***Phytocoris cuneotinctus* n. sp.**

Aspect of *consors* Van D., but distinguished by the red cuneus and black scale-like pubescence on hemelytra.

♂. Length 4.5 mm., width 1.7 mm. *Head*: width .91 mm., vertex .40 mm.; white, eyes dark. Rostrum, length 1.74 mm., just attaining posterior margins of hind coxae. *Antennae*: segment I, length .77 mm., set with several white bristles which slightly exceed thickness of segment; II, 1.74 mm.; III, 1.20 mm.; IV, missing; pale greenish white, segment III dusky. *Pronotum*: length .80 mm., width at base 1.43 mm. Pale greenish white, hemelytra minutely freckled with pale dusky, one such spot at base of each hair; cuneus reddish, the color produced by numerous small points of hypodermal red; membrane white, within and without areoles sprinkled with small fusco-brownish spots and reticulations. Clothed with prominent pale pubescent hairs, on dorsum intermixed with white, sericeous, scale-like pubescence; clavus, apical area of corium, and inner edge of cuneus, set with a few black scales which are easily shed. Femora and tibiae showing small spots of white. Genital claspers inconspicuous, a short blunt tubercle above base of left clasper.

♀. Length 4.8 mm., width 1.9 mm.; slightly more robust than the male but very similar in color and vestiture.

Holotype: ♂, July 11, 1917, Mesilla Park, New Mexico (H. H. Knight); author's collection. *Allotype*: taken with type; Cornell University collection. *Paratypes*: 24 ♂ ♀, taken with the types at light; 4 ♂, July 12, 1917, Deming, New Mexico (H. H. Knight), at trap light.

Phytocoris mellarius n. sp.

Very similar to *diversus* Kngt., but slightly larger, distinguished by the white scale-like pubescence on dorsum and the black scales on basal margin of pronotum, tip of clavus, and basal angle of cuneus; general coloration honey yellow.

♂. Length 5.7 mm., width 1.8 mm. *Head*: width 1 mm., vertex .33 mm. Rostrum, length 2.86 mm., reaching to base of genital segment, brownish yellow, apex blackish. *Antennae*: segment I, length .88 mm., honey yellow, spines and pubescence colored similarly, a few small glabrous spots on dorsal aspect; II, 2.49 mm., honey yellow, pale at base; III, 1.17 mm.; IV, .85 mm.; last two segments pale fuscous over yellow. *Pronotum*: length .84 mm., width at base 1.52 mm. General coloration honey yellow, apical angle of corium and inner basal angle of cuneus pale, sometimes with base of hemelytra and spots on middle of corium distinctly white; femora frequently with small white irrorations. Membrane

pale yellowish brown, apical half more whitish and with brown color forming in minute dots and irregular reticulations, veins yellowish to red. Dorsum clothed with simple yellowish pubescence, and intermixed especially on head, anteriorly on pronotum, mesoscutum, and basally on hemelytra, with white sericeous, scale-like pubescence; basally on pronotum, tip of clavus and basal angle of cuneus with deciduous, black scale-like pubescence. Tibiae with fairly distinct pale bands each side of middle, spines honey yellow. Genital claspers distinct, right clasper shaped much as in *erectus* Van D., but hook shorter and broader; genital segment without tubercles.

♀. Length 5.7 mm., width 2 mm. Slightly more robust than the male but very similar in coloration; usually the pale to white areas of dorsum are a little more distinct.

Holotype: ♂, August 3, 1917, Grand View, Grand Canyon, Arizona (H. H. Knight); author's collection. *Allotype*: same data as type. *Paratypes*: 3 ♂, 6 ♀, taken with the types. This species was probably collected on some conifer although I do not find the remarks in my notes.

Phytocoris angusticollis n. sp.

Allied to *junceus* Kngt., but much smaller in size; differs in having median line of scutellum pale and in the broken, maculated appearance of the infuscations of the hemelytra.

♂. Length 6.8 mm., width 1.9 mm. *Head*: width 1.07 mm., vertex .28 mm. Rostrum, length 2.54 mm., reaching upon sixth and seventh ventral segment. *Antennae*: segment I, length 1.09 mm., blackish, irrorate with pale glabrous spots; II, 3.05 mm., black; III, 1.5 mm., black; IV, broken. *Pronotum*: length, .91 mm., width at base 1.61 mm.; form and color similar to *junceus*. Scutellum blackish, median line, basal angles and apex broadly, pale, mesoscutum black. *Hemelytra*: pale yellowish and darkened with fuscous, the dark areas invaded by pale marks and irrorations; largest pale area on middle of corium, a small one near base and a nearly quadrate pale spot on apical area. Cuneus pale yellowish, opaque, freckled with reddish, more heavily apically and becoming fuscous. Membrane much paler than in *junceus*, apical half with small fuscous points and spots, larger areole fuscous but paler on middle, cubital vein pale. Legs with more conspicuous pale irrorations. Genitalia

much as in *junceus* but right clasper much shorter and broader.

Holotype: ♂, July 27, 1917, Mt. Lemon, Santa Catalina Mts., Arizona (H. H. Knight); authors' collection.