

## The Fourth Paper on New Species of *Plagiognathus* (Hemiptera: Miridae).

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### *Plagiognathus negundinis* n. sp.

Runs to *annulatus* Uhler in my key (Hem. Conn., 1923, p. 431), but differs in the longer second antennal segment which in the male is equal to or slightly exceeds width of pronotum at base; head more vertical and tylus less prominent.

♂. Length 4 mm., width 1.36 mm. Head: width .72 mm., vertex .37 mm. Rostrum, length 1.4 mm., reaching to middle of hind coxae. Antennae: segment I, length .27 mm.; II, 1.2 mm.; III, .75 mm.; IV, .35 mm.; black, tip of first segment pale, last two segments dusky brown. Pronotum: length .62 mm., width at base 1.17 mm.

Black, vertex pale, legs orange yellow, hind femora with a row of four or five black spots on antero-dorsal line, also one spot on median line of anterior face at middle of apical half, sometimes with two or three smaller dots, and two subapical black spots beneath, but rarely forming a black line above or beneath; tibiae yellow, knees, spines and spots at base of spines black; tarsi fuscous, apical segment black. Rostrum yellow, apex and basal half of first segment blackish. Membrane and veins fuscous, a clear spot behind smaller areole by apex of cuneus. Dorsum clothed with simple, recumbent, yellowish to dusky brown pubescence.

♀. Length 3.8 mm., width 1.4 mm. Head: width .71 mm., vertex .40 mm. Antennae: segment I, length .26 mm.; II, 1.02 mm.; III, .66 mm.; IV, .36 mm. Pronotum: length .64 mm., width at base 1.21 mm. Very similar to the male in pubescence and coloration.

*Holotype*: ♂ June 19, 1927, Ames, Iowa (H. H. Knight); Iowa State College collection. *Allotype*: taken with the type. *Paratypes*: 86 ♂ ♀ taken with the types on box elder (*Acer Negundo* L.). 40 ♂ ♀ June 14, 46 ♂ ♀ June 20, 1927, Ames, Iowa (H. H. Knight), taken on box elder where the species was breeding. ♂ ♀ June 2, ♂ 2 ♀ June 9, 1925, Ames, Iowa (H. H. Knight). ♂ 3 ♀ June 16, 5 ♂ June 25, 1927, Ames, Iowa (H. G. Johnston), taken on box elder. 6 ♂ ♀ June 3, 1912, Ames, Iowa (R. L. Webster), "associated with *Chaitophorus negundinis* Thos."

**PLAGIOGNATHUS NEGUNDINIS fulvotinctus** n. var.

Similar in structure to *negundinis* but runs in my key (Hem. Conn., 1923, p. 431) to *fraternus* Uhler from which it may be separated by having the femora orange yellow, not clouded with fuscous although with distinct black spots. Differs from typical *negundinis* in that the embolium, basal half of corium more or less, outer margin of clavus on basal half, and basal half of cuneus is pale to orange yellow.

*Type*: ♀ July 10, 1924, Fort Snelling, MINNESOTA (H. H. Knight), author's collection. *Paratypes*: 2 ♂ 4 ♀ June 14, 16 ♂ ♀ June 19, 9 ♂ ♀ June 20, 1927, Ames, IOWA (H. H. Knight), taken on box elder.

**Plagiognathus crataegi** n. sp.

Runs to *repetitus* Kngt. in my key (Hem. Conn., 1923, p. 431), while the paler females may run to *punctatipes* Kngt. Differs from *repetitus* in the larger size, relatively longer antennae, larger spots on hind femora, and front coxae uniformly yellow without fuscous at base. Separated from *punctatipes* by the uniformly yellow front coxae and the more broadly blackish antennae; males differ in form of left genital clasper.

♂. Length 3.4 mm., width 1.3 mm. Head: width .65 mm., vertex .31 mm.; black, vertex yellowish. Rostrum, length 1.21 mm., reaching to apices of hind femora, yellowish, basal segment and apex black. Antennae: segment I, length .21 mm.; II, .86 mm.; III, .56 mm.; IV, .32 mm.; black, last two segments more fuscous. Pronotum: length .50 mm.; width at base 1.02 mm.

Clothed with simple, recumbent, yellowish pubescence. Black, vertex yellowish; membrane uniformly dark fuscous, veins slightly paler. Legs yellow, tibial spots and spines black; hind femora with two rows of black spots on anterior face, clouded with fuscous; middle femora with a few small fuscous spots; coxae uniformly yellow, hind pair only with fuscous at base.

♀. Length 3.5 mm., width 1.4 mm. Head: width .68 mm., vertex .355 mm. Antennae: segment I, length .21 mm., black; II, .87 mm., dusky yellow to fuscous, basal one-fourth to one-third black, apex usually infuscated; III, .57 mm., dusky yellow; IV, .37 mm., dusky yellow. Pronotum: length .56 mm., width at base 1.11 mm. Very similar to the male in coloration and pubescence.

*Holotype*: ♂ July 2, 1928, Ames, IOWA (H. H. Knight); Iowa State College collection. *Allotype*: taken with the type. *Paratypes*: 24 ♂ ♀, taken with the types on *Crataegus* sp. where

the species was breeding. 10 ♂ ♀ June 2, 1925, Ames, Iowa (H. H. Knight), found breeding on *Crataegus*; some specimens reared from nymphs confined on tender foliage.

*Crataegi* is allied to *dispar* Knegt., a species found breeding on hickory in New York, but with cuneus pale at base while the second antennal segment is yellow and narrowly black at base.

### **Plagiognathus geminatus** n. sp.

Allied to *ilicis* Knegt., but differs in the longer second antennal segment which exceeds length of rostrum; femora and scutellum infuscated, hemelytra uniformly pale greenish yellow, ♀. Length 3.5 mm., width 1.7 mm. Head: width .80 mm., vertex .37 mm. Rostrum, length 1.02 mm., reaching to middle of intermediate coxae, not equal to length of second antennal segment. Antennae: segment I, length .21 mm.; II, 1.21 mm.; III, .59 mm.; IV, .31 mm.; yellowish, becoming dusky on last two segments. Pronotum: length .71 mm., width at base 1.4 mm.

Pale greenish yellow, embolium and cuneus more greenish, disk of scutellum fuscous, membrane rather uniformly dusky; femora infuscated, hind femora darker, a row of small darker spots along median line of anterior aspect; tibiae pale, spines brownish and without spots at base. Clothed with simple, yellowish pubescence, more prominent on head and pronotum.

*Holotype*: ♀ April 7, 1928, College Station, TEXAS (H. G. Johnston); author's collection. *Paratypes*: 48 ♀ April 7, 20 ♀ April 11, 1928, taken with the type on *Ilex decidua* and *Ilex vomitoria* by Mr. Johnston. It seems rather remarkable that not a single male can be found in the large series studied. This species is another good example of Jordan's Law of geminate species, in that *geminatus* is the southwestern twin of *ilicis* Knegt. which was described from New York. These two species are indeed very similar except in structure of antennae and rostrum, and in the fuscous coloration. In the large series studied there is no variation in color.

### **Plagiognathus gleditsiae** n. sp.

Allied to *delicatus* Uhler but distinguished by the broader head and shorter rostrum; scutellum black with median line pale, frons with a quadrate black spot each side of median line.

♀. Length 3 mm., width 1.29 mm. Head: width .72 mm., vertex .37 mm. Rostrum, length .77 mm., only attaining hind margin of mesosternum. Antennae: segment I, length .18 mm.,

black; II, .69 mm., brownish black, darker on base and apex; III, .38 mm., blackish; IV, .21 mm., black. Pronotum: length .55 mm., width at base 1.12 mm.

Coloration yellowish with fuscous and black; quadrate spot each side of frons, tylus, apex of lora, calli, broad rays extending from calli to basal margin of pronotum, triangular area behind coxal cleft, mesoscutum except lateral edge, scutellum except narrow median line, inner half of clavus except base, corium except base, sternum, apex of rostrum, and venter, fuscous to black. Cuneus somewhat dusky on middle. Membrane fuscous brown, darker within areoles, veins dusky, opaque yellow at apex of areoles. Legs yellowish, with three rows of black spots on anterior aspect, also spots above and on apical half of posterior aspect. Tibiae with black spots at base of spines, but becoming obsolete apically; tarsi fuscous, apices black. Clothed with short, recumbent, simple fuscous to black pubescence, yellowish on ventral surface.

*Holotype*: ♀ April 13, 1928, College Station, TEXAS (H. G. Johnston); author's collection. *Paratypes*: 9 ♀, taken with the type on honey locust (*Gleditsia triacanthos*).

#### **Plagiognathus subovatus** n. sp.

Runs to *albocuneatus* Kngt. in my key (Hem. Conn., 1923, p. 431) but distinguished by the shorter antennae, both sexes with segment III shorter than width of head across eyes; male differs in the shorter and more rounded posterior lobe of left genital clasper, while second antennal segment is not equal to basal width of pronotum; female differs in the strongly arcuate embolar margins, veins of membrane pale, size distinctly smaller and more ovate.

♂. Length 3.6 mm., width 1.45 mm. Head: width .77 mm., vertex .38 mm. Rostrum, length 1.39 mm., reaching to middle of hind coxae, largely fuscous. Antennae: segment I, .27 mm., black; II, 1.06 mm., black; III, .64 mm., dusky yellow; IV, .44 mm., pale fuscous. Pronotum: length .59 mm., width at base 1.12 mm. Hemelytra with embolar margins moderately arcuate. Clothed with prominent, simple, pale to yellowish recumbent pubescence.

Black, vertex, spot just behind calli on middle of disk, lower margins of propleura, median line of scutellum but frequently obsolete on middle, outer half of clavus, basal half of corium, embolium, cuneus, and legs largely, pale. Membrane fuscous, slightly paler on middle, veins and spot behind smaller areole, pale. Coxae with basal third fuscous; apical half of femora with two rows of spots on anterior aspect, also group of spots on posterior face black, becoming obscured with fuscous; front

and middle femora with a row of four or five small black dots on median line beginning at middle. Tibiae with spots and spines black, tarsi fuscous. Genital claspers distinctive, left clasper with posterior lobe shorter and more rounded than in *albocuneatus*.

♀: Length 3.4 mm., width 1.6 mm. Head: width .77 mm., vertex .40 mm. Antennae: segment I, length .27 mm.; II, .99 mm.; III, .67 mm.; IV, .42 mm. Pronotum: length .59 mm., width at base 1.17 mm. Embolar margins more strongly arcuate than in the male, pubescence and coloration very similar but somewhat more broadly pale.

*Holotype*: ♂ July 9, 1921, St. Anthony Park, St. Paul, MINNESOTA (H. H. Knight), taken at light; author's collection. *Allotype*: Aug. 11, taken at the same light. *Paratypes*: 3 ♀ July 6, ♀ July 8, ♀ July 10, ♂ July 9, 1921, topotypic, taken at light.

This species is allied to *albonotatus* Kngt. but differs in the black second antennal segment and in form of the genital claspers, general form also somewhat larger.

#### **Plagiognathus fusciflavus n. sp.**

Allied to *alboradialis* Kngt., but differs in that both sexes are rather similar and more broadly pale; scutellum pale with basal angles broadly fuscous; corium pale, a longitudinal fuscous stripe thru the middle; cuneus pale yellowish brown, darker on middle.

♂. Length 4.1 mm., width 1.45 mm. Head: width .75 mm., vertex .37 mm.; yellowish, lora and tylus black, the latter with a spot on each side of a Y-shaped mark at base, pale; gula, spot above base of antennae and obsolete marks on frons, fuscous. Rostrum, length 1.55 mm., reaching upon fourth ventral segment, yellowish, last two segments black. Antennae: segment I, length .26 mm., black; II, 1.15 mm., black; III, (broken). Pronotum: length .56 mm., width at base 1.12 mm.; pale to yellow, calli fuscous, black on inner margins, yellow before, narrow collar margin black; propleura fuscous, lower margin pale. Mesoscutum rather broadly exposed, yellowish; scutellum pale yellowish, basal angles rather broadly infuscated, sutural line at base blackish but obsolete on middle.

Dorsum and venter clothed with simple yellowish pubescence, but blackish on the legs. Hemelytra pale, corium with a longitudinal fuscous stripe thru the middle, only slightly wider apically; commissural edges of clavus blackish; cuneus yellowish brown, darker on middle. Membrane pale to dusky, a

fuscous spot each side just behind apex of smaller areole, anal area blackish; veins yellowish, an opaque callous mark bordering apex of larger areole. Ventral surface fuscous but not entirely obscuring the yellowish pigment of the hypodermis; ostiolar peritreme yellowish. Legs yellowish, femora with rows of black spots, larger on hind femora, but those on posterior aspect grouped on distal half. Tibiae with knees, spots and spines, black; tarsi black.

♀. Length 4 mm., width 1.5 mm. Head: width .77 mm., vertex .41 mm. Antennae: segment I, length .26 mm.; II, 1.03 mm.; III, .68 mm.; IV, .38 mm.; black. Pronotum: length .56 mm., width at base 1.15 mm. Very similar to the male in pubescence and coloration, but venter more broadly yellowish, posterior half of each segment only blackish.

*Holotype*: ♂ June 26, 1926, LaGrande, OREGON (E. W. Davis); author's collection. *Allotype*: same data as the type.

#### **Plagiognathus fuscipes** n. sp.

Runs to *laricicola* Knigt. in my key (Hem. Conn., 1923, p. 431) but distinguished by the longer rostrum and more prominent and pointed head.

♂. Length 3.7 mm., width 1.3 mm. Head: width .77 mm., vertex .37 mm., moderately produced, tylus prominent as viewed from above. Rostrum, length 1.96 mm., reaching upon fifth ventral segment, black. Antennae: segment I, length .27 mm.; II, 1.05 mm.; III, .66 mm.; IV, .42 mm.; black, last two segments pale fuscous. Pronotum: length .53 mm., width at base 1.09 mm.

Clothed with moderately prominent, pale to yellowish pubescence. Color black with a tinge of brown, the cuneus uniformly black like the corium. Membrane and veins uniformly dark fuscous, slightly paler by tip of cuneus. Vertex transversely pale. Legs uniformly fuscous over a lighter ground color, tibiae slightly paler, spines with small basal spots black; hind femora with a double row of black spots showing thru the fuscous shade; apical half of coxae and the trochanters pale.

♀. Length 3.6 mm., width 1.48 mm. Head: width .72 mm., vertex .39 mm. Antennae: segment I, length .24 mm.; II, .96 mm.; III, .65 mm.; IV, .35 mm. Very similar to the male in pubescence and coloration.

*Holotype*: ♂ August 9, 1925, Veta Pass, COLORADO (H. H. Knight); author's collection. *Allotype*: same data as the type. *Paratypes*: 7 ♂ 2 ♀ taken with the types on *Dasiophora fruticosa* L. where the species was evidently breeding.