

THE GENUS PEDIOPSIS.

(A Review of the North American Species.)

BY HERBERT OSBORN AND ELMER D. BALL.

This genus is one of the most difficult of the *Jassoides* in which to define species, for although with fresh specimens there is little difficulty in separation, and in most cases the host plant of itself will decide as between the species most likely to be confused, still, as a group, the species are remarkably alike in structural characters, the variations being usually those of degree rather than of kind. The genitalia, the ordinary recourse when other characters fail, are utterly valueless, the variation for the whole group being scarcely more than the ordinary variability in a species.

The few structural characters available, together with the color have, however, been found sufficient to readily and accurately separate those species under observation in a series of life-history studies in the group,* and as the result of the determination of the range of variation in these species, it has been found much easier to refer some of the more widely variable examples of other species to their proper places.

The greatest difficulty in working over material in this group arises from the fact that the green color in most of the green species "fades" or changes to a dirty yellowish when immersed in alcohol or on exposure to a strong light, thus altering very much the appearance of the specimen.

The black marking on the propleura has been found to be fairly constant in most of the species in which it exists, and is the readiest means of separating some species; but as it is often only a sexual character and sometimes fails when it is needed the most, as in some of the lighter colored females of *ferruginoides*, it has been thought best to depend on other characters for the synopsis and thus leave it as a sort of check, except in the case of *occidentalis* where, with our imperfect knowledge of the species, it appears to be the best character available for the purpose.

* *Dav. Acad. Sci.*, Vol. VII, 1897, and *la. Exp. Sta. Rept.*, :897.

The material upon which this paper is based consists of the types of the Van Duzee species together with the entire collection upon which his review of the genus was founded; the types of the Osborn and Ball species with an extensive series of the Iowa forms, the result of the life history work; typical specimens of the two Gillette and Baker species, as well as a series of the Colorado forms through the kindness of Prof. Gillette, together with numerous smaller series from different parts of the country, mentioned under the species. Van Duzee has so thoroughly characterized the genus * that there is little to add in that respect.

In the determination of the species he was less fortunate, as on examination of a large series the specimens determined as Fitch's *trimaculata* proved to be only an obscurely marked form of *bifasciata*, often found in specimens collected late in the season, and as a result of this error the real *trimaculata* was described as *insignis*. Still, too much credit cannot be given for the careful and painstaking manner in which he brought out specific characters, hampered as he was by the insufficiency of the material at hand. Of two of his species, *punctifrons* and *occidentalis*, no new material is at hand so that nothing further in regard to their variation can be given, and of *canadensis* only two additional females, both too much altered in color to aid in characterizing that species, have been seen.

Of most of the rest of the species an abundance of material has been at hand showing the ordinary variation of the species and the normal differences in the sexes.

Although doubtless somewhat artificial, the grouping in the synopsis is an attempt to show some of the more prominent variations in the generic type and their probable relationship. In the first group are placed species like *tristis*, with stout bodies, strong clytra, and deep colors.

The second group includes all the species with transversely banded clytra and is closely connected to the third by *bifasciata*, in which the second band is often obsolete.

The species of the fourth or *viridis* group all have males much smaller and darker than the females.

The *punctifrons* group is probably the most distinct and easily recognizable of all; here the males as seen from above scarcely differ in size

* Review of the North American Species of *Pediopsis*, Ent. Amer., Vol. V., pp. 165-174, Sept., 1889.

or color from the females, but the face is usually more strongly marked. It would seem as if this group came nearer the European *virescens* than either *viridis* or *occidentalis*, the former species possessing both a spot on the face and the green color in the males.

The members of this genus are widely distributed throughout the North Temperate Zone, Europe possessing a larger number of species than are at present known in America, none, however, being common to the two countries though a number are closely related.

They are almost exclusively tree feeding forms; the twelve North American species of which the food plants are known are all tree feeders, and most of the European species are so credited.

In both countries the greatest number of species, and those the most abundant and widely distributed, occur on the different species of willows; besides these in this country the cottonwoods, the wild plums and the honey locust each have two species, while of three species, *canadensis*, *occidentalis*, and *punctifrons*, nothing is known as to food plants. The two latter are closely related to willow feeding forms in both countries, and it may be conjectured that they will also be found to occur on willows.

The larvæ are all short, stout-bodied forms; the head is short and straight, appearing from above as a narrow band in front of the broad, straight-margined pronotum, which is slightly emarginate at the anterior corners to receive the eyes; the abdomen is broad and short, rounded on the lateral margins and dorsally carinate. In color they usually mimic some part of the tree on which they feed and are detected with difficulty when at rest.

The larvæ and adults are often very nearly alike in color, but the characteristic anterior angle of the adult is entirely wanting in the larvæ, those with acutely angled heads, having in the larvæ as short, straight heads as their blunter headed relatives. The only noticeable difference is a slightly increased width between the eyes, the anterior angling of the pronotum and the consequent production of the head taking place entirely during the change to the adult. In this respect they agree with the *Bythoscopus* larvæ, and both forms show a much closer relationship to *Idiocerus* through their larvæ than would appear from the adult structure. On the other hand *Agallia*, though closely resembling *Idiocerus* in adult characters, seems to depart most widely from it in the larval stage.

All the species in which the life history is known are single-brooded. The larvae appear during early summer and usually mature by the last

of June. The adults occur from the middle of June until the middle of August, varying with the different species. In general the adult stage of a given species lasts scarcely six weeks, while for the individual it is less than a month. The males usually appear a full week before the females and disappear as much earlier.

ARTIFICIAL KEY TO THE SPECIES.

- A. General color above fuscous or rusty brown, scarcely a trace of orange or green.
 - B. Face greenish, a fuscous band above and a large spot below the ocelli.....*tristis* V. D.
 - BB. Face unicolorous.
 - C. Elytra broadly rounding at apex, dull brown with two or three round pale spots, female segment short.....*trimaculata* Fitch.
 - CC. Elytra longer and slightly pointed behind, rusty brown, darker in the male, without distinct spots, female segment longer than width at apex.....*sordida* V. D.
- AA. General color orange or green, often maculate with ferruginous or fuscous.
 - B. Face unicolorous, species of medium or large size.
 - C. Elytra with more or less of orange, or maculate.
 - D. Elytra with a transverse hyaline band before the apex of clavus.
 - E. Vertex and face yellowish or ferruginous.
 - F. Elytra with a single hyaline band; vertex right angled.....*ferruginoides* V. D.
 - FF. Elytra with two transverse bands; vertex obtuse.....*canadensis* V. D.
 - EE. Vertex and face olive brown, elytra hyaline, brownish with a broad fuscous band at the base and a narrower one before the apex.....*bifasciata* V. D.
 - DD. Elytra without distinct transverse hyaline bands, costal margin lighter.
 - E. Pronotum greenish.
 - F. Pronotum with a black stripe just within the lateral margin, entire clavus and a narrow stripe on around to apex of corium black.....*suturalis* O. & B.
 - FF. Pronotum unicolorous green, clavus dark brown at base, apex and all of the corium except the costal margin hyaline brownish.....*basalis* V. D.

- E. Pronotum saffron yellow, elytra brownish on the disc.....*crocea* O. & B.
- CC. Elytra hyaline greenish in the female, slightly brownish or fuscous in the male.
- D. Pronotum right angled before, varying from orange to green in female, olive brown with two impressed black dots behind each eye in male.....*erythrocephala* G. & B.
- DD. Pronotum obtusely angled.
- E. Propleura with a black spot in both sexes.....*occidentalis* V. D.
- EE. Female with the propleura unmarked.
- F. Female from 5-6 mm. in length, males with a spot on propleura.....*viridis* Fh.
- FF. Females less than 5 mm. in length, males with propleura unmarked.....*gleditschie* O. & B.
- BB. Face spotted (spots sometimes obscure or wanting), species small, less than 4.5 mm. in length.
- C. Five spots on the face in the male, species with dark markings on pronotum and scutellum, elytra with fuscous nervures.....*punctifrons* V. D.
- CC. Two black bands, sometimes reduced to three spots, on face of male, species bright light green above without dark markings, elytral nervures indistinct.....*reversalis* O. & B.

PEDIOPSIS TRISTIS V. D. (Plate II., Fig. 3.)

Pediopsis tristis V. D., Can. Ent., XXII., p. 249, 1890; Osborn, Proc. Ia. Acad. Sci., I., pt. 2, p. 126, 1892; Van Duzee, Cat., p. 260; Osborn & Ball, Davenport Acad. Sci., VII., p. 66, 1898.

Grayish brown above; yellowish green below; face with a black band above and a large black spot below. Length, ♀ 5.5 mm.; ♂, 4.75 mm.; width, 2 mm.

Pronotum, anterior margin a right angle, rugae strong, not curved, disc brown, an elongate impressed mark on the anterior margin just within either eye and a small spot outside of this black, most of the rugae and a semicircle on either side enclosing the black markings yellowish green. Scutellum yellowish green, a black triangle within either basal angle, disc brown in the male, elytra light brown, nervures light, heavily fuscous-margined, rendering them very distinct. Face yellowish green, a broad band extending nearly across the superior margin, running down as a point in the middle and emphasized as distinct spots above the ocelli, and a nearly circular spot

occupying the entire disc of the front, dark brown or black. Propleura unmarked or with a pale spot in some males, the triangular piece below marked in both sexes. Legs brownish, tibiae lined with fuscous.

Habitat, Ames and Fairfax, Iowa. Occurs on wild plum. Readily distinguished by the spots on the face and the distinct nervures.

PEDIOPSIS TRIMACULATA Fitch.

Pediopsis trimaculata Fitch. Homopt. N. Y., St. Cab., p. 60, 1851.

Bythoscopus trimaculata Walk. Homop. B. M., IV., 1162, 1852.

Pediopsis insignis V. D. Review, Ent. Am., V., 171, 1889; Can. Ent., XXI, p. 249, 1890; Cat., p. 260; Harrington, Ottawa Nat., VI., p. 31, 1892; Osborn, Proc. Ia. Acad. Sci., I., pt. II., p. 126, 1892.

Dull yellowish brown, sometimes blackish brown in the male, with three white spots in a row on each elytron, the anterior one sometimes obsolete. Length, ♀ 4.25; ♂, 4 mm; width, 1.50 mm.

Pronotum obtusely angled before, rugae fine but distinct, disc brownish, margins and rugae washed with yellowish green, scutellum brown, coarsely maculate with olive, a dark spot within either basal angle. Elytra dull brown in the female, dark brown in the male, nervures pale, a pale spot at the apex within the third and fourth apical cells, a longer one including the junction of the anteaical and basal cells and a third and much smaller one midway from the base, the latter sometimes obsolete.

Face and all below yellowish or yellowish green in the female, brown in the male, propleura marked in both sexes, obscured by the brown color in the male.

Habitat, Canada, New York, Michigan, Iowa, and Kansas.

This is undoubtedly the species that Dr. Fitch had in hand, the lighter colored females answering perfectly his short description. It occurs on the wild plum with the preceding from which it may be separated either as larva or adult by the absence of the black on the face. Fresh specimens have a powdery appearance resembling the bloom on the young stems of the plum.

PEDIOPSIS SORDIDA V. D.

Pediopsis sordida, V. D. Can. Ent., XXVI, p. 89, 1894; Cat. p. 260; Gillette & Baker, Hemip. Colo., p. 73, 1895.

Rusty brown, very variable in depth. Elytra with rusty brown

patches on a milky sub-hyaline ground in female, deep reddish brown in male. Length, ♀ 4.75–5 mm; ♂, 4.50 mm.; width, 1.50 mm.

Pronotum obtusely angled before, rugae coarse, rather broken and somewhat curved around the polished area just inside either eye, these areas and sometimes the margins yellowish, disc rusty brown, scutellum very variably marked, often entirely brownish. Elytra longer in the female than in *trimaculata*, milky sub-hyaline, irregularly washed with rusty brown, deepest on the base; in the male of a deep nearly uniform reddish brown, face yellowish green sometimes washed with brownish, a spot on the propleura in the male often obscured by the brown color below.

This species has only been received from Colorado. It varies much in depth of color, sometimes even approaching *trimaculata* from which it may be readily distinguished by the longer and more pointed elytra and the absence of the light spots.

PEDIOPSIS FERRUGINOIDES V. D. (Plate II., Fig. 4.)

Pediopsis ferruginoides V. D. Review, Ent. Am., V., 181, 1880; Cat., p. 260; Osborn & Ball, Dav. Acad. Nat. Sci., VII, p. 66, 1898.

Pediopsis bifasciata Gillette & Baker. Hemip. Colo., p. 72, 1895.

Light or dark ferruginous, a transverse hyaline band on the elytra including the cross nervures at the bases of the anteapical cells. Length, ♀ 5.50–6 mm.; ♂, 5 mm.; width, 1.80 mm.

Pronotum nearly right-angled before, rugae coarse but rather shallow and inconspicuous, elytra rather long and narrow, apex acutely rounding. Color: face, pronotum and scutellum usually light ferruginous. Elytra usually a dark reddish brown, with the hyaline band in strong contrast. In some of the females the elytra are scarcely darker than the pronotum while in others and in most of the males the pronotum, excepting a light spot behind the eyes and the upper part of the face, are nearly as dark as the elytra, all below some shade of yellow, propleura usually with a large spot in both sexes.

Habitat, Montana, Colorado, Nebraska and Iowa. Occurs on the narrow-leaved willows, adults from the middle of June until the middle of July. The specimens from which the species was originally described were both of the lighter-colored females. The majority of the females, however, are much darker, as are all the males. The Colorado specimens reported as *bifasciata* were faded examples of this species.

PEDIOPSIS CANADENSIS V. D.

Pediopsis florescens V. D. Review, Ent. Am., p. 173, 1889.

Pediopsis canadensis V. D. Can. Ent., XXII., p. 111, 1890.

Greenish or reddish yellow, elytra brownish with two light bands, one near the base, the other across the apex of clavus. Length, 4.75 mm.; width, 1.5 mm.

Pronotum obtusely angled, elytra broad, rounding at apex; color, greenish or reddish yellow on face, pronotum and scutellum. Elytra brownish with a narrow light band just back of the apex of scutellum, and a broader one across the apex of clavus.

Below, fulvous, propleura unmarked.

The types and two other specimens from New York show considerable variation in the depth of the brown color between the base and the first light band, and suggest that this may possibly be an extreme form of *bifasciata*, but the breadth of the elytra and the absence of black markings on the scutellum and propleura would seem to be sufficient to separate it.

Habitat, Canada and New York.

PEDIOPSIS BIFASCIATA V. D.

Pediopsis bifasciata V. D. Review, Ent. Am., V., p. 173, 1889; Cat. p. 260.

Pediopsis trimaculata V. D. Review, Ent. Am., V., p. 172, 1889; Cat. p. 260; Harrington, Ottawa Nat., VI., p. 31, 1892.

Distinctly greenish or greenish brown with heavy fuscous or black markings in the basal angles of the scutellum, the basal half of the elytra, and again at the apex; males brownish with the elytra scarcely marked. Length, ♀ 5.25 mm.; ♂, 4.50 mm.; width, 1.50 mm.

Vertex obtusely angled, thicker and more rounding than in *ferruginoides*. Pronotum greenish, washed with brown on the disc, often two fuscous marks on the anterior margins, rugae shallow, irregular, scutellum greenish, two spots just inside the basal angles fuscous, and two smaller round ones on the disc brown. Elytra: in the female whitish sub-hyaline, the costal margin greenish, a very variable amount of fuscous or black on the basal half, sometimes confined to the corium, often clear across, and again at the apex where it is usually in the form of a triangle, the apex in the anteapical cells; in the male the elytra are often brownish sub-hyaline and the fuscous markings

obscure, below greenish, the face and ovipositor washed with yellowish, propleura usually marked in both sexes, male pygofers with a distinct black spot on the sides.

Habitat, Canada, New York and Iowa. Occurs abundantly on the cottonwood, to which its color is well adapted, the males hiding in the cracks in the bark, while the females, being more distinctly green, conceal themselves at the base of the petioles.

Only possessing the two specimens of this species, one taken early and the other late, it is no wonder that the variation in color induced Van Duzee to consider them distinct, but a comparison of the types with a large series collected throughout the season show them to be ordinary variations of the same species.

They may be readily separated from *ferruginoides* by the shorter vertex and the distinct greenish cast.

PEDIOPSIS SUTURALIS O. & B.

Osborn & Ball, *Dev. Acad. Nat. Sci.*, Vol. VII., p. 67, 1898.

Vertex right-angled, narrow; color, green with a stripe on either side of the pronotum and the entire clavus black. Length, ♀ 6 mm.; width 1.75 mm.; male smaller.

Pronotum sharply angled before, the rugae shallow, a black stripe arising just behind either eye, widening to the humeral margin, including the entire clavus, and extending as a narrow stripe around to the apex of the elytra, remainder of the body and elytra green, oviduct, pygofers, except at the apex, and parts of the face, washed with yellow.

Habitat, New York (V. D. Coll.), and Iowa. Occurs on willows. The black stripes which appear in even the smaller larvæ render this a strikingly distinct species. A heavily marked form of *basalis* might be mistaken for this species were it not for its much shorter and broader head.

PEDIOPSIS BASALIS V. D.

Pediopsis basalis V. D. Review, *Ent. Am.*, V., p. 171, 1889; *Cat.*, p. 260; *Prov. Pet., Faune, Ent. Can.*, III., p. 295, 1890.

Pediopsis fumipennis G. & B. *Hemip. Colorado*, p. 73.

Female larger, head broad and blunt, green, the elytra sub-hyaline, washed with reddish brown, deepening into a fuscous band along the scutellar margin. Length, ♀ 5.5 mm.; width, 1.8 mm.

Pronotum only a little longer in the middle than across the humera angle, rugae obscure. Pronotum, scutellum, costal margin of elytra, face and below, green, rest of the elytra and the basal angles of scutellum washed with brown, which is deepened on the base of the clavus into a more or less definite brownish fuscous band margining the scutellum; pygofers yellowish, green at tip; propleura unmarked.

Habitat, Canada, Iowa, Colorado. Occurs on cottonwood at Ames. This is a very distinct species on account of its broad, short vertex and large size. The male is not known. The difference in color seems to be due to localizations of the pigment; as the band becomes darker the brown disappears from the central part of the elytra.

PEDIOPSIS CROCEA O. & B.

Pediopsis crocea O. & B. Dav. Acad. Nat. Sci., Vol. VII., p. 68, (Jan. 1898).

Bright saffron yellow, elytra clouded with brown, deepest on the clavus. Length, ♀ 5 mm.; width, 1.50 mm.; males smaller.

Pronotum obtusely angled before, much elevated behind, rugae coarse and distinct either side a median raised line. Face and pronotum bright saffron yellow; scutellum light yellow, the angles sometimes clouded with brown; elytra deep brown on the disc, fading to a broad yellowish costal margin, a saffron yellow line along the scutellar and humeral margins. Below light yellow, propleura unmarked.

Habitat, Lexington, Kentucky, on honey locust (Garman). This is quite distinct in all the specimens examined, the saffron yellow color remaining very constant and at once separating it from related forms.

PEDIOPSIS ERYTHROCEPHALA G. & B.

Pediopsis erythrocephala G. & B. Hemip. Colorado, p. 72.

Large, stout, vertex pointed, green varying to reddish orange on face and pronotum in female, brownish or slightly fuscous in male. Length, ♀ 5.75 mm.; ♂, 5 mm.; width, 1.8 mm.

Vertex triangular, pronotal rugae fine, obscure; color, green varying to orange on face, pronotum and scutellum in female; male greenish washed with brownish fuscous all over, usually a pair of fuscous spots behind each eye and another pair on base of scutellum just visible from under the pronotum; below yellowish or orange, propleura

with a large black spot in both sexes. Easily separated from the other green species by the larger size and much more pointed vertex as well as by the large spot on the propleura.

PEDIOPSIS OCCIDENTALIS V. D.

Pediopsis occidentalis Van Duzee. *Psyche*, V., p. 238, 1889.

Smaller, vertex obtuse, dull greenish yellow in the female, distinctly brownish in the male. Length, ♀ 5 mm.; ♂, 4 mm.

Vertex slightly rounder than in *viridis*, pronotal rugae distinct crescentiform. Elytra broader, apical cells shorter, general color darker, especially in males, propleura with a black spot in both sexes, much larger than in the male *viridis*.

Habitat, California, Nevada.

Van Duzee's "two small brown males from Nevada," mentioned under *viridis*, evidently belong here, and as placed, leaves quite a difference in depth of color, which, with the shorter vertex and larger spots on the propleura, makes this quite distinct from either *viridis* or *virescens* in the material at hand.

PEDIOPSIS VIRIDIS Fitch.

Pediopsis viridis Fitch. *Homop.* New York State; *Cab.*, p. 59, 1851; id. reprint in Lintner's 9th Rept., p. 399, 1893; Uhler, *Bull. U. S. Geol. and Geog. Surv.*, III., p. 467, 1877; Van Duzee, *Can. Ent.*, XXI., p. 9, 1889; *Ent. Am.*, V., p. 170, 1889; *Prov. Pet., Faune, Ent. Can.*, III., p. 294, 1890; Van Duzee, *Psyche*, V., pp. 238, 388, 1890 (mention); Harrington, *Ottawa Nat.*, VI., p. 31, 1892 (mention); Osborn, *Proc., Iowa Acad. Sci.*, I., pt. 2, p. 126, 1892 (mention).

Vertex slightly obtusely angled; color, green, males slightly washed with fuscous, the elytra brownish towards the apex. Length, ♀ 5.25 mm.; ♂, 4.85 mm.; width, 1.40 mm.

Female green, the elytra sub-hyaline greenish, slightly brown at the apex, male deep green, slightly washed with fuscous, the elytra distinctly brownish except on base and costa. Propleura with a small spot in males only, rarely wanting.

Habitat, Canada, New York, Iowa, Maryland, Kansas, Colorado.

This is the most common species on willow in Iowa as well as in the Eastern States; from *erythrocephala* it may be readily separated by the absence of the black spots on the female propleura and the fuscous

ones on the male pronotum, and from *reversalis*, the other one of the green, willow species, by the larger size and unmarked face.

Of the six anomalous examples mentioned by Van Duzee under the discussion of this species, the three green males were light-faced examples of *reversalis*, one female was a *suturalis*, and the two that "mimicked the males" were probably examples of *gleditschiae*. These being disposed of, the species is found to be fairly constant in the greenish females and brownish elytra in the males.

PEDIOPSIS GLEDITSCHÆ O. & B.

Pediopsis gleditschiae O. & B. Davenport Acad. Nat. Sci., VII., p. 62, (Jan., 1898).

Slightly shorter and stouter than *viridis*, green, the males with the elytra tinged with fuscous. Length, ♀ 4.75 mm.; ♂, 4-4.25 mm.; width, 1.20 mm.

Vertex angled about as in *viridis*, pronotum with distinct rugae, elytra stout, usually compressed behind; color, deep green; the females with the inner and apical margins of the elytra washed with brown, the males lightly washed with fuscous, deeper on the elytra, below green, the propleura unmarked in either sex.

Occurs on the honey locust in abundance at Ames, Iowa, the adults appearing before the middle of June. This species is much smaller and darker than *viridis*, the females being very similar to the males of that species in size and color, while the males are still smaller and darker, thus exhibiting the same general sexual variation as in the two preceding species.

The absence of the spot on the propleura will serve to separate them from all but the female *viridis*.

PEDIOPSIS PUNCTIFRONS V. D.

Pediopsis punctifrons V. D. Review, Ent. Am., V., p. 171, 1889; Cat., p. 260.

Light or yellowish green, elytral nervures distinct, black spots occurring on face, pronotum and scutellum. Length, ♀ 4 mm.; ♂, 3.50 mm.; width, 1.20 mm.

Face yellowish with five black points, one at the apex, another on each side directly above the ocelli, and a pair of comma-shaped ones

on the upper angles of the front. Pronotum with an elongate spot behind either eye, black, scutellum with the basal angles, two spots on the disc and a median longitudinal line sometimes interrupted, black, propleura with a distinct black spot in both sexes.

Habitat, Arizona. No new material in this distinct little species has been obtained, indicating that it is a more distinctly southern or western form.

The females are lighter colored than the males and in the lighter ones the spots are reduced in size.

PEDIOPSIS REVERSALIS O. & B.

Day. Acad. Nat. Sci., VII, p. 69 (January, 1898).

Small, compact, light green, male with two heavy black bands on face, sometimes reduced to three spots. Length, ♀ 4.50 mm.; ♂, 4 mm.; width, scarcely more than 1 mm.

Vertex slightly more roundly obtuse than in *punctifrons*. Pronotum nearly smooth, rugae fine, obscure, the anterior pits obsolete; color, light green, the males with the elytra scarcely if at all darker than in the females; male face in the darker specimens with two broad black bands, one on the superior margin not quite reaching the eyes, and another between the antennal pits; in lighter specimens these bands may be reduced to three small spots, one at the apex and one on each superior angle of the front, propleura with a round black spot in the male.

Habitat, Iowa and New York. Occurs on the narrow-leaved willows.

Its small size and light green color, even in the males, will serve to distinguish it from all the other green species without reference to the marking on the face of the males.

NOTE.—*Pediopsis nubila* V. D., from California, seems to be more closely related to the genus *Bythoscopus* in head characters than to this genus, and has been purposely omitted from the synopsis. The reticulate venation renders it a very distinct form in either genus.