

Long, 1 ♂, 1 ♀. WAUKEGAN: July 6, 1932, on *Tilia* sp., T. H. Frison, 1 ♀. WILLOW SPRINGS: July 8, 1906, W. J. Gerhard, 1 ♀, FM.

***Deraeocoris borealis* (Van Duzee)**

Camptobrochys borealis Van Duzee (1920, p. 354).

Not taken in Illinois; known from Michigan, Minnesota, Ohio, Wisconsin; occurs on alders. Male genitalia as in fig. 106.

***Deraeocoris grandis* (Uhler)**

Camptobrochys grandis Uhler (1887a, p. 230).

ADULTS.—Length 6.40–7.00, width 2.90–3.10. Distinguished by its long rostrum, which reaches the second abdominal sternite. Dorsum rather uniformly dark brown; median line of pronotal disk with a rather broad, pale stripe, but this area only slightly paler than that behind calli. Legs pale; apical half of hind femora and basal half of tibiae with two black annulations. Membrane uniformly pale smoky on the apical half. Male genitalia as in fig. 106.

HABITS.—Occurs on hickory (*Carya* sp.).

KNOWN DISTRIBUTION.—Illinois, Iowa, Maryland, New York, Ontario.

Illinois Records.—NORTHERN ILLINOIS: 1 ♀. CHAMPAIGN: June 15, 1888, at electric light, C. A. Hart. FRANKFORT: June 8, 1933, on *Carya* sp., Mohr & Townsend, 2 ♂, 3 ♀.

***Deraeocoris aphidiphagus* Knight**

Deraeocoris aphidiphagus Knight (1921, p. 134)

ADULTS.—Fig. 107. Length 5.80–6.10, width 2.90–6.10. Fusco-grayish to black, paler and translucent parts not stained with brownish; apical half of membrane infuscated; tibiae with three black annulations; left genital clasper with a long horn at dorsal extremity, internal arm slender, fig. 106.

HABITS.—I have found this species breeding only on elm (*Ulmus* sp.), in curled leaves infested with *Eriosoma americanum* (Riley). Both nymphs and adults feed on the aphids and their honeydew excretions. The nymphs are coated with a white, wax-like material similar to that which covers the aphids, and in the early stages, at least, they are rather inconspicuous, as they live

among the aphids and their excretory products. This species of mirid must be regarded as a beneficial species, as it reduces the numbers of elm aphids.

KNOWN DISTRIBUTION.—Several eastern states; taken as far west as Arkansas, Colorado, Minnesota, North Dakota, South Dakota.

Illinois Records.—Twenty-one males and 13 females, taken June 5 to July 18, are

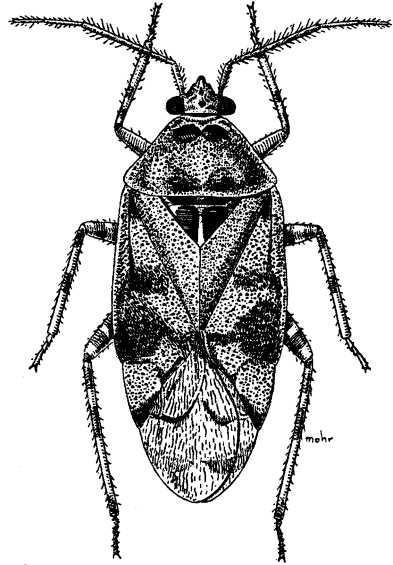


Fig. 107.—*Deraeocoris aphidiphagus*, ♂.

from Alto Pass, Antioch, Augerville, Champaign, Elgin, Frankfort, Galesburg, Grand Detour, Hardin, Lacon, Normandy, Urbana, Willow Springs.

***Deraeocoris quercicola* Knight**

Deraeocoris quercicola Knight (1921, p. 138).

ADULTS.—Length 5.50–5.80, width 2.40–2.80. General color fuscous to black. Calli black; apical half of membrane smoky, rarely as pale as in *nitenatus* Knight. Left genital clasper with a long dorsal horn that is very distinctive when contrasted with the form of the internal arm, fig. 106.

Specimens of this species in which the calli are more or less pale, the hemelytra are pallid or yellowish, and the corium has a black spot in the middle, have been designated variety *pallens* Knight (1921, p. 140). This variety and the typical one occur together in Illinois.

HABITS.—Occurs on white oak (*Quercus*

alba), bur oak (*Quercus macrocarpa*), basswood (*Tilia* sp.) and hawthorn (*Crataegus* sp.).

KNOWN DISTRIBUTION.—A common species in the northeastern states; known also from Colorado, Iowa, Minnesota, New Mexico, and southeastward into Georgia and North Carolina.

Illinois Records.—Thirty-two males and 36 females, taken June 2 to July 16, are from Antioch, Apple River Canyon State Park, Champaign, Chicago, Elizabethtown, Frankfort, Galena, Galesburg, Grand Detour, Keithsburg, Manito, Monticello, Mount Carroll, Urbana, Waukegan, White Pines Forest State Park, Willow Springs, Zion. Blatchley (1926b, p. 900) also records this species from Glen Ellyn.

Deraeocoris davisii Knight

Deraeocoris davisii Knight (1921, p. 140).

ADULTS.—Length 5.30, width 2.50. General color uniformly brownish black; legs and antennae chiefly pale, hind femora with an incomplete dark annulus on apical half; membrane with apical half very faintly but uniformly stained with brownish, veins and areoles darkened with brownish; closely related to *quercicola* Knight, but the internal arm of left clasper more highly developed, fig. 106.

KNOWN DISTRIBUTION.—An uncommon species, known only from Alabama, Illinois, New York, North Carolina, Texas.

Illinois Records.—**POLO:** May 31, 1933, Ross & Townsend, 1 ♂. **VIENNA:** June 14, 1934, savanna grasses, DeLong & Ross, 1 ♀.

Deraeocoris nitenatus Knight

Campbrochis nitens Reuter (1909, p. 56). *Preoccupied.*

Deraeocoris nitenatus Knight (1921, p. 141).

ADULTS.—Length 5.70–6.00, width 2.00–2.90. General aspect very similar to *quercicola* Knight, but more highly polished, calli black around margins only. Dorsum rich brownish to dark brownish and piceous, frequently brownish on scutellum, but rarely black each side of median line. Brachium and apex of areoles dark fuscous, apical half of membrane practically clear; male genital claspers distinctive for species, fig. 106.

HABITS.—Breeds on elm (*Ulmus* sp.), basswood (*Tilia americana*), and other trees, where it is predacious on the woolly

aphid, *Eriosoma lanigerum* (Hausmann), and, probably, other aphids.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Iowa, Maryland, Minnesota, New England, North Carolina, Quebec, Virginia.

Illinois Records.—**ANTIOCH:** July 5-7, 1932, on *Tilia* sp., T. H. Frison *et al.*, 1 ♂. **GALESBURG:** July 24, 1892, 1 ♂, 1 ♀.

Group C

KEY TO SPECIES

1. Dorsum practically glabrous, at most only sparsely and finely pubescent (*not rubbed specimens*), rarely with a few hairs at anterior angles of pronotum..... 2
 Dorsum heavily pubescent, at least with long hairs at anterior angles of pronotum..... 3
2. Second antennal segment of female with prominent exserted hairs, length of hairs one and one-half times the thickness of segment where they occur. Second antennal segment of male as thick at middle as on the apical half, and length of exserted hairs equal to one and one-half times the thickness of segment.....
 *laricicola*, p. 73
 Second antennal segment of female with erect hairs but length of hairs barely equal to twice the thickness of segment where they occur. Second antennal segment of the male slender on basal half, distinctly thicker on apical half than at middle; length of hairs not greater than maximum thickness of second segment.....
 *pinicola*, p. 73
3. Pronotum, hemelytra and legs uniformly dark, sepia brown or black, semitranslucent areas stained with brownish; hind tibiae usually with distinct annulated pale bands on apical half.....*nigritulus*, p. 73
 Pronotum usually fusco-grayish or black; hemelytra fuscous to black, becoming paler in certain areas but not stained with brownish; legs very dark brown, hind tibiae sometimes with indistinct pale bands on apical half; front coxae, xyphus, lower margins of propleura, gula, and sides of tylus, pale.....*albigulus*, p. 73

Deraeocoris pinicola Knight

Deraeocoris pinicola Knight (1921, p. 162).

ADULTS.—Length 5.70–6.00, width 2.60–2.90; calli margined or lined with black, antero-lateral angles invaded by light-colored areas; median line of front and areas just anterior to calli pale to ivory white; general color pale to grayish, darkened with black, not at all tinged with brownish. Male genitalia as in fig. 106.

HABITS.—Occurs on white pine (*Pinus strobus*); predacious on *Chermes pinicorticis* (Fitch). This species may also attack aphids, such as *Cinara strobi* (Fitch) and *Eulachnus rileyi* (Williams), which commonly occur on white pines growing in Illinois.

KNOWN DISTRIBUTION.—Iowa, Minnesota and states to the east where white pine grows.

Illinois Records.—WHITE PINES FOREST STATE PARK: July 4, 1932, on *Pinus strobus*, Dozier & Mohr, 1 ♀; June 4, 1933, on *Pinus strobus*, Ross & Townsend, 1 ♂.

Deraeocoris laricicola Knight

Deraeocoris laricicola Knight (1921, p. 164).

ADULTS.—Length 6.00–6.50, width 2.70–2.80; very suggestive of *pinicola* Knight, but slightly larger and more elongate. Antennae with prominent, exserted hairs; male genital claspers distinctive, fig. 106.

HABITS.—Occurs on larch (*Larix laricina*).

KNOWN DISTRIBUTION.—Illinois, Indiana, Minnesota, New York.

Illinois Records.—ANTIOCH: July 5-7, 1932, T. H. Frison *et al.*, 6 ♀. VOLO: June 11, 1936, Ross & Burks, 2 ♂, 2 ♀.

Deraeocoris nigrifulus Knight

Deraeocoris nigrifulus Knight (1921, p. 170).

Not taken in Illinois. Breeds on Virginia pine (*Pinus virginiana*); known from District of Columbia, Maryland, Ohio, Virginia. Male genitalia as in fig. 106.

Deraeocoris albigulus Knight

Deraeocoris albigulus Knight (1921, p. 171).

Not yet collected in Illinois. Occurs on pine; known from Indiana, Iowa, Michigan, Minnesota, New York; will surely be found in Illinois eventually. Male genitalia as in fig. 106.

Group D**Deraeocoris sayi** (Reuter)

Euarmosus sayi Reuter (1876, p. 76).

ADULTS.—Length 7.40–7.90, width 3.40–3.80; distinctly hairy. Color chiefly black, with considerable variation in the color of the head, pronotum and scutellum. In the darkest form, var. *unicolor* Knight (1921, p. 177), these parts are mostly or entirely black; in the lightest form, var. *sayi*, most of them are reddish. Various intermediate conditions occur between these extremes, those taken in Illinois representing var. *marginata* Knight (1921, p. 176), *frontalis* Knight (1921, p. 177) and *costalis* Knight (1921, p. 177). Male genitalia, fig. 106.

HABITS.—Occurs on oaks (*Quercus* sp.).

KNOWN DISTRIBUTION.—Described from Texas and since found in Florida, Georgia, Illinois, Iowa, Massachusetts, Michigan, Minnesota, Mississippi, New York, North Carolina.

Illinois Records.—NORTHERN ILLINOIS: 2 ♂. SOUTHERN ILLINOIS: 1 ♀. ALGONQUIN: May 27, 1899, 1 ♂; June 8-12, 1900, 2 ♂; June 13, 1905, Nason, 1 ♂. CHICAGO: June 9, 1 ♂. GALESBURG: Stromberg, 1 ♂, 1 ♀; June 12-14, 1 ♂, 1 ♀; July 17, 1892, 1 ♀; June 14-19, 1893, Stromberg, 1 ♂, 1 ♀. GLEN ELLYN: June 18-19, W. J. Gerhard, 1 ♂, FM, 2 ♂, 1 ♀.

Eurychiloptera Reuter

KEY TO SPECIES

- Dorsum of body fuscous to black on a pale background.....**luridula**, p. 73
Dorsum of body uniformly fuscous brown
.....**brunneata**, p. 74

Eurychiloptera luridula Reuter

Eurychiloptera luridula Reuter (1909, p. 60).

MALE.—Fig. 108. Length 4.50, width 1.80; fuscous to black on a pale background; pronotum coarsely punctured; dorsum clothed with stiff, erect pubescence.

FEMALE.—Length 4.40, width 1.03; more robust than male, but very similar in coloration.

HABITS.—Occurs on apple (*Pyrus malus*) and elm (*Ulmus* sp.); evidently predacious in habits.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Iowa, Minnesota, New York, South Carolina, Virginia.

Illinois Records.—ILLINOIS: July 9, 1892, 1 ♀. NORTHERN ILLINOIS: 2 ♂. CHI-

General color dark, fuscous brown; pronotum slightly darker; head, collar and legs more yellowish brown; membrane and veins uniformly brownish. Clothed with thickly set, erect, rather long, yellowish brown pubescence.

Illinois Record.—CLAY CITY: Aug. 17, 1911, C. A. Hart, 1 ♂.

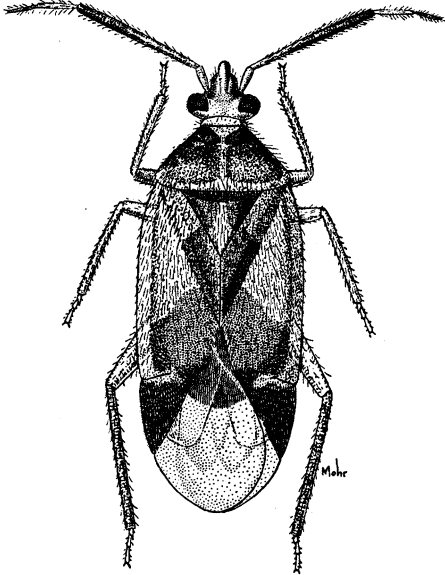


Fig. 108.—*Eurychlopterella luridula*, ♂.

CAGO: Aug. 10, 1909, A. B. Wolcott, 1 ♀, FM; Sept. 12, 1919, on elm, W. J. Gerhard, 1 ♀, FM. URBANA: July 7, 1915, tree trunk, 1 ♀; Sept. 28, 1915, tree trunk, 1 ♂.

***Eurychlopterella brunneata* Knight**

Eurychlopterella brunneata Knight (1927d, p. 141).

This species is distinguished from *luridula* Reuter by its uniformly fuscous-brown coloration, longer head and larger size.

MALE.—Length 4.70, width 2.10. Head width 0.86, vertex 0.38, head length 0.71, extending 0.44 beyond front of eyes; horizontal, flattened beneath; gula slightly sulcate; lower margins of eyes extending slightly below gula. Rostrum, length 3.20, reaching to base of genital segment. Antennae, first segment, length 0.29, more slender on basal half; second, 1.26, cylindrical, equal to thickness of first segment; third, 0.44; fourth, 0.36; last two segments slender. Pronotum, length 1.18, width at base 1.77; disk more distinctly flattened than in *luridula*, coarsely and closely punctate; calli confluent, smooth, smaller than in *luridula*.

Hesperophylum Reuter

***Hesperophylum heidemanni* Reuter**

Hesperophylum heidemanni Reuter (1912b, p. 17).

This is a rare species, yet widely distributed as indicated by the few records. Originally described from a New Hampshire specimen, it was later taken at Washington, D. C. (Heidemann). H. G. Barber (1914, p. 170) recorded it from Arizona. The most recent record is a female specimen, taken June 26, 1931, in Ames, Iowa (H. H. Knight); it was collected while sweeping under trees. This species has not been found in Illinois, but doubtless it will be eventually. The male is unknown.

In previous books this genus has frequently been considered in a separate family, the Termatophylidae.

ORTHOTYLINAE

KEY TO TRIBES

1. Eyes pedunculate, head very broad, fig. 19.....LABOPINI, p. 81
 Eyes not pedunculate, head not unusually broad, figs. 109, 113..... 2
2. Pronotum with pleural area separated from dorsal part by a distinct suture, fig. 22; pronotal disk raised posteriorly and projecting above scutellum; clothed with dense, bristly pubescence.....SEMIINI, p. 75
 Pronotum without a distinct lateral suture; pronotal disk not projecting above scutellum..... 3
3. Antlike species with abdomen constricted at base, figs. 137-141..... 4
 Body not antlike in form, figs. 112, 113 5
4. Second and third segments of antennae equal in thickness, fig. 137.....
SYSTELLONOTINI, p. 116
 Second segment of antennae considerably thicker than third, fig. 141....
PILOPHORINI, p. 118

- 5. Small, light-colored species clothed with intermixed erect pubescence and scalelike hairs, and with vertex not carinate, fig. 110. **HALTICINI**, p. 75
Not having that combination of characters: if scalelike hairs present, vertex carinate. 6
- 6. Small, compact, black species with saltatorial femora, figs. 111, 112, 115 **HALTICINI**, p. 75
Not compact, black species with saltatorial femora. 7
- 7. Second and third segments of antennae equal in thickness, fig. 135. **CERATOCAPSINI**, p. 107
Second segment of antennae considerably thicker than third, fig. 129. **ORTHOTYLINI**, p. 81

SEMIINI

Semium Reuter

Semium hirtum Reuter

Semium hirtum Reuter (1876, p. 80).

ADULTS.—Fig. 109. Length 2.80, width 1.00; legs and antennae red; head, apex of

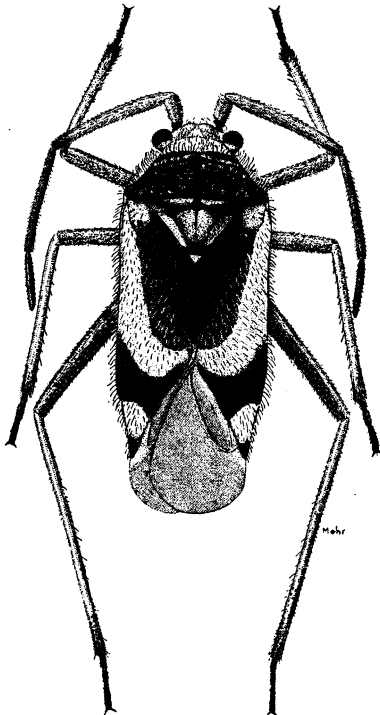


Fig. 109.—*Semium hirtum*, ♀.

pronotum, and sides of thorax, rosy red; basal half of pronotum, clavus, bar across apex of corium, and tip of cuneus, velvety brown, remaining parts of corium and cuneus white; body densely clothed with erect, bristly pubescence.

FOOD PLANTS.—Spürges (*Euphorbia adenoptera* and *E. humistrata*); lives on the red undersides of the leaves; two Illinois specimens were taken on sugar beet (*Beta vulgaris*), but may not have been feeding there.

KNOWN DISTRIBUTION.—Described from Texas, and now known also from California, District of Columbia, Illinois, Indiana, Iowa, Kansas, New Jersey, New York, Ohio, Pennsylvania.

Illinois Records.—Twenty-three males, 65 females and 2 nymphs, taken July 3 to Oct. 13, are from Borton, Centralia, Chicago, Dongola, Dubois, Fountain Bluff, Galesburg, Green Valley, Jewett, Lawrenceville, Monticello, Savanna, Urbana.

HALTICINI

KEY TO GENERA

- 1. Head without a well-defined, sharp, posterior margin, fig. 110; head and dorsum thickly clothed with closely appressed, scalelike hairs interspersed with more nearly erect, long hairs; small species, varying in color from pale to dull black. **Parthenicus**, p. 76
Head with well-defined, sharp, posterior margin, fig. 113; color black. 2
- 2. Antennae very long and slender, second segment four or more times as long as first segment, fig. 111; brachypterous forms common and have oval body, strongly convex, fig. 112. **Halticus**, p. 77
Antennae shorter, second segment little more than three times as long as first segment, fig. 113. 3
- 3. Length of hairs on third antennal segment three times as great as thickness of segment; antennae and head with long, coarse, black hairs. **Orthocephalus**, p. 81
Antennae with much shorter pubescence, fig. 115; head and body in most species nearly glabrous. **Strongylocoris**, p. 78

Parthenicus Reuter

KEY TO SPECIES

1. Body color fuscous to black; first antennal segment black, second segment pale.....**nigrellus**, p. 77
Body straw colored to yellowish; antennae pale..... 2
2. Body and legs uniformly pale yellowish or pinkish, without flecks or dots.....**taxodii**, p. 76
Body more or less pale, hind femora pale fuscous, usually sprinkled with reddish dots; scutellum fuscous; cuneus tinted with red.....**juniperi**, p. 76

Parthenicus juniperi (Heidemann)

Psallus juniperi Heidemann (1905, p. 49).

MALE.—Fig. 110. Length 3.00, width 1.00. General color pale yellowish. Cuneus, apical one-third of corium and base of head tinged with reddish, color sometimes separating into specks; femora pale fuscous, sprinkled with reddish; scutellum and base of clavus darkened with fuscous. Body clothed with fine, erect, golden pubescence,

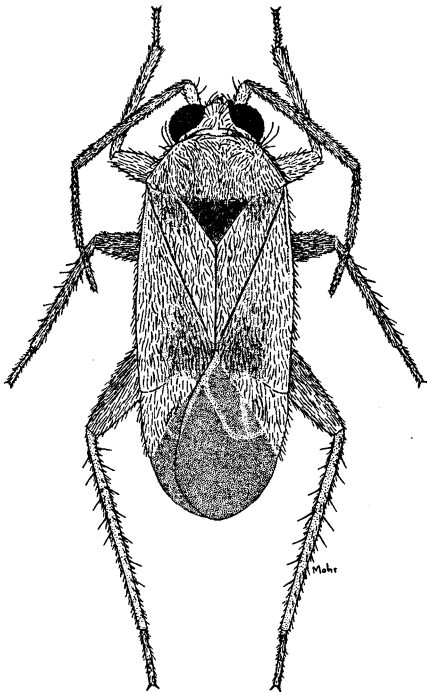


Fig. 110.—*Parthenicus juniperi*, ♂.

intermixed with more closely appressed, scalelike, golden hairs, the hairs tending to silvery on scutellum and on transverse area extending across corium at tip of clavus; pubescence becoming black across apex of corium and forming a spot on inner edge of cuneus at middle and at base; membrane uniformly infuscated and iridescent.

FEMALE.—Very similar to male in form and color.

FOOD PLANT.—Red cedar (*Juniperus virginiana*).

KNOWN DISTRIBUTION.—Ranges widely east of the 100th meridian, occurring nearly everywhere red cedar grows in natural stands.

Illinois Records.—Twenty-one males and 108 females, taken June 10 to July 25, are from Alton, Antioch, Eichorn, Ernst, Galena, Golconda, Grayville, Hillsboro, Kampsville, Karnak, Keithsburg, Oquawka, Starved Rock State Park, Urbana, White Pines Forest State Park.

Parthenicus taxodii new species

This may be distinguished from allied species by its small size, its uniformly yellowish salmon color and its pale fuscous membrane.

MALE.—Length 2.00, width 0.90. Head width 0.54, vertex 0.17. Rostrum, length 0.73, extending very slightly behind posterior coxae. Antennae yellowish to dusky; length of first segment, 0.13; second, 0.73; third, 0.43; fourth, 0.30. Pronotum, length 0.34, width at base 0.73. Dorsum clothed with deciduous, silvery to golden, sericeous pubescence intermixed with more nearly erect, simple, pale pubescence. General coloration rather uniformly yellowish to salmon; strongly colored specimens may have scutellum dusky and clavus tinted salmon pink; membrane uniformly pale fuscous; veins yellowish.

FEMALE.—Length 2.20, width 0.91. Head width 0.47; vertex 0.26. Pronotum, length 0.32, width at base 0.75. Antennae, length of first segment, 0.13; second, 0.70; third, 0.40; fourth, 0.29. Form more robust than that of male, but very similar in pubescence and coloration.

FOOD PLANT.—Bald cypress (*Taxodium distichum*).

Holotype, male.—Karnak, Ill.: July 26, 1930, on *Taxodium distichum*, Knight & Ross.

Allotype, female.—Same data as for holotype.

Paratypes.—ILLINOIS.—Same data as for holotype, 39 ♂, 42 ♀. CAIRO: July 27, 1930, on *Taxodium distichum*, Knight & Ross, 2 ♂, 6 ♀. JONESBORO: Aug. 2, 1932, H. L. Dozier, 17 ♂, 34 ♀. KARNAK: June 23, 1932, Ross, Dozier & Park, 1 ♂, 1 ♀; June 14, 1934, on *Taxodium distichum*, DeLong & Ross, 3 ♂, 10 ♀. SHAWNEETOWN: June 14, 1934, DeLong & Ross, 1 nymph. URBANA: Aug. 28, 1917, 1 ♂, 3 ♀, 1 nymph.

Parthenicus nigrellus Knight

Parthenicus nigrellus Knight (1939a, p. 23).

This species is distinguished from the other members of the genus by its black color and pale second antennal segment.

MALE.—Length 3.30, width 1.60. Head width 0.73, vertex 0.34. Rostrum, length 1.40, just attaining hind margins of posterior coxae. Antennae, first segment, length 0.39; black; second, 1.18, pale, tinged with reddish, clothed with pale and dusky pubescence; third, 0.91, pale; fourth, 0.60, fuscous. Pronotum, length 0.60, width at base 1.25. Form ovate, robust; general color fuscous black with a tinge of red in hypodermis which is more pronounced on ventral surface, tips of femora, and base and apex of cuneus; membrane uniformly fuscous; veins reddish. Legs black, tibiae pale except basal one-third; tarsi pale, apices fuscous. Clothed with pale to yellowish pubescence intermixed with silvery, scalelike hairs. Genital claspers distinctive, right clasper spatulate at apex and curved so as to form a V-shaped loop which turns back over middle of genital segment.

FEMALE.—Length 3.50, width 1.70. More robust than male, but very similar in form, color and pubescence.

KNOWN DISTRIBUTION.—Georgia, Illinois, Iowa, Texas.

Illinois Records.—MONTICELLO: June 11, 1934, Frison & DeLong, 1 ♂, 2 ♀. SEYMOUR: July 7, 1937, Mohr & Burks, 1 ♂ 2 ♀.

Halticus Hahn

KEY TO SPECIES

1. Body devoid of scalelike pubescence; length of second antennal segment

only slightly exceeding width of pronotum at posterior margin.....

.....**apterus**, p. 77

Body above with spots of deciduous, scalelike pubescence, figs. 110, 111; length of second antennal segment considerably greater than width of pronotum at posterior margin..... 2

2. Second antennal segment yellow, apex with a narrow fuscous area; length 3.50.....**intermedius**, p. 77.

Second antennal segment black, or, at least, with base and apex black; length 2.00–2.20....**bracteatus**, p. 77

Halticus apterus (Linnaeus)

Cicada aptera Linnaeus (1758, p. 438).

Not taken in Illinois; known from Maine, Nova Scotia, Ontario.

Halticus intermedius Uhler

Halticus intermedius Uhler (1904, p. 360).

Not taken in Illinois; known from Colorado, Mississippi, New York, North Dakota, Ohio, Ontario, Pennsylvania; breeds on virgin's bower (*Clematis virginiana*).

Halticus bracteatus (Say)

Garden Flea Hopper

Cylapus bracteatus Say (1832, p. 26).

Rhinaclous citri Ashmead (1887, p. 155).

MALE.—Fig. 111. Length 1.90–2.00, width 0.70. General color black, slightly shining; antennae fuscous, middle of second segment and base of third pale; usually first antennal segment pale also. Apices of femora, tibiae (except bases of posterior pair), and all tarsi, pale. Body clothed with very fine, pale pubescence, with deciduous, tomentose patches that give silvery and greenish reflections.

FEMALE.—Fig. 112. Length (brachypterous) 1.50, width 1.00; length (macropterous) 2.20; first antennal segment dark; usually brachypterous, but frequently winged like male.

FOOD PLANTS.—White clover (*Trifolium repens*), beans (*Phaseolus* sp., etc.), plantain (*Plantago lanceolata*); also recorded on many other plants. This is a pest of considerable importance on leguminous crops.

KNOWN DISTRIBUTION.—Common through states of Middle West and East.

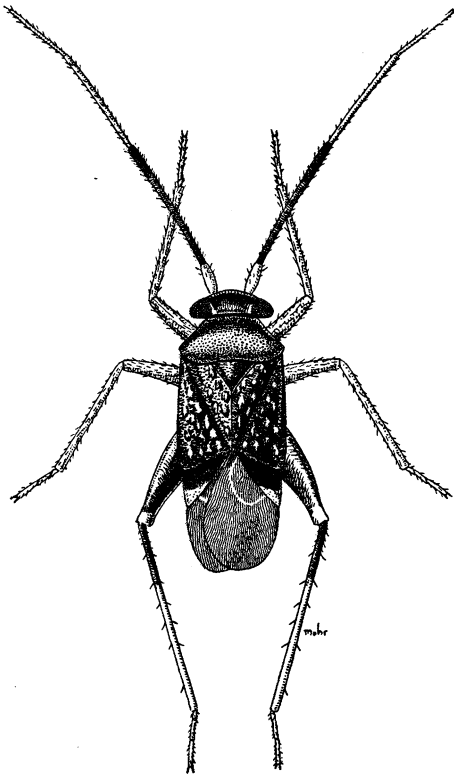


Fig. 111.—*Halticus bracteatus*, ♂.

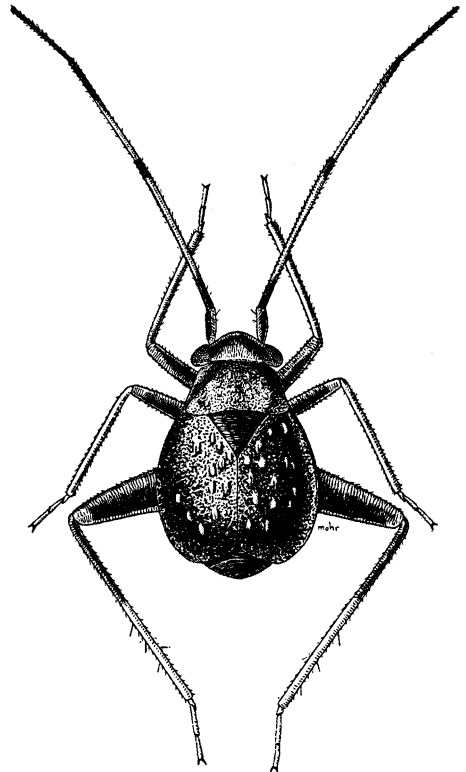


Fig. 112.—*Halticus bracteatus*, ♀.

Illinois Records.—Forty-two males and 86 females, taken May 29 to Oct. 3, are from Aldridge, Alton, Alto Pass, Anna, Bluffs, Carmi, Dolson, Dubois, Fountain Bluff, Freeport, Galena, Glen Ellyn, Golconda, Grand Tower, Grandview, Grayville, Henry, Karnak, Muncie, Normal, Paxton, Shawneetown, Starved Rock State Park, Tremont, Villa Ridge, Willow Springs, Wolf Lake, Urbana.

Strongylocoris Blanchard

KEY TO SPECIES

1. Dorsum glabrous or nearly so, fig. 114. 2
Dorsum and body thickly clothed with erect pubescence, fig. 115. 5
2. Legs uniformly yellow to orange yellow **pallipes**, p. 79
Legs with femora more or less black. . . 3
3. Hind tibiae yellow, sometimes dusky on basal half; second antennal segment yellow with narrow fuscous band at base and apex. . . **breviatus**, p. 79
Hind tibiae black or fuscous, at least

- with more area black than pale; second antennal segment sometimes yellowish at middle, but broad fuscous area always present at base. . . . 4
4. Hind tibiae uniformly black; emboliar margins of hemelytra strongly arcuate. **atritibialis**, p. 80
Hind tibiae fuscous, becoming paler on distal half; emboliar margins only moderately arcuate. . . **stygicus**, p. 79
5. Length of second antennal segment greater than width of head.
. **hirtus**, p. 80
Length of second antennal segment less than width of head. 6
6. Basal segments of tarsi pale, apical segment black; tibiae brownish, hind pair very dark brown; broad area on second antennal segment pale; costal margin of hemelytra strongly arcuate; length 4.30. **mohri**, p. 81
Tarsi entirely black; tibiae uniformly pale; antennae uniformly black; costal margin of hemelytra only slightly arcuate; length 3.50.
. **ambrosiae**, p. 81

Strongylocoris stygicus (Say)

Capsus stygicus Say (1832, p. 24).

MALE.—Fig. 113. Length 4.20, width 2.00. Head width 0.99, vertex 0.54. Rostrum, length 1.04, reaching to middle of intermediate coxae. Antennae black; length of first segment, 0.30; second, 1.12; third, 0.86; fourth, 0.47. Pronotum, length 0.91, width at base 1.50. Form ovate, black, shining, finely but densely punctate, somewhat rugulose, nearly glabrous, sparsely set with fine, short pubescence; apices of femora, two anterior pairs of tibiae, all except apical segment of tarsi, and bases of trochanters, pale yellowish; hind tibiae fuscous to black, becoming paler on distal half. Male genital claspers distinctive, fig. 114.

FEMALE.—Length 4.40, width 2.10. More ovate and robust than male, but very similar in color, puncturation and scanty pubescence.

FOOD PLANT.—Goldenrod (*Solidago* sp.).

KNOWN DISTRIBUTION.—Commonly distributed in the eastern United States

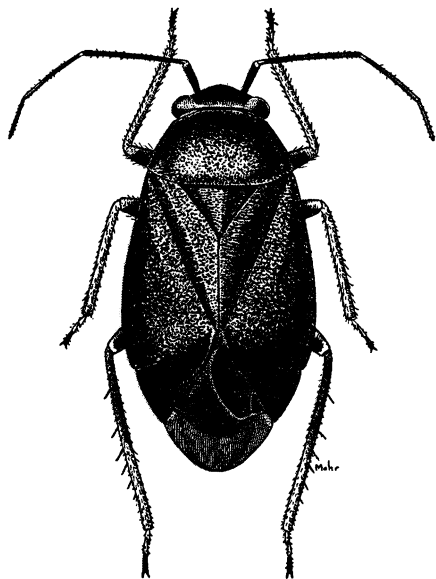


Fig. 113.—*Strongylocoris stygicus*, ♂.

and Canada and extending westward to Alberta, Colorado, Montana.

Illinois Records.—One hundred forty-five males, 36 females and 12 nymphs, taken May 6 to Sept. 21, are from Anna, Bloomington, Bluff Springs, Carbondale, Champaign, Charleston, Chicago, Cypress, Dan-

ville, Dolson, Edgebrook, Elizabethtown, Galena, Galesburg, Golconda, Goreville, Grand Detour, Grandview, Hamilton, Herod, Joliet, Jonesboro, Keithsburg, Makanda, Monticello, Mount Carmel, Muncie, Odin, Oquawka, Palos Park, Pulaski, Sheldon, Springfield, Urbana, Vienna, Warsaw, West Union, Willow Springs.

Strongylocoris pallipes Knight

Strongylocoris pallipes Knight (1926h, p. 254).

Not taken in Illinois; known from Maryland and Virginia. Male genitalia as in fig. 114.

Strongylocoris breviatus Knight

Strongylocoris breviatus Knight (1938, p. 1.)

This species is allied to *stygicus* (Say), but is distinguished by the yellowish first and second antennal segments, the latter having a distinct black band at the base; male genital claspers are distinctive for this species, fig. 114.

MALE.—Length 4.30, width 2.00. Head width 1.06, vertex 0.56. Antennae, first segment, length 0.35, yellowish brown, black at base; second, 1.30, brownish on basal half and black at base; third, 0.95, black; fourth, 0.47, black. Pronotum, length 0.91, width at base 1.51. Hemelytra with costal margin moderately arcuate. Dorsum finely and closely rugulose punctate, sparsely clothed with short, pale pubescence, this pubescence more apparent on lateral margins of hemelytra, paracuneus with three or four long hairs. General coloration deep black, shining; femora black, apices yellowish; tibiae uniformly yellowish, except hind pair, which have apices and variable area at base fuscous; tarsi yellowish, apical segment black.

FEMALE.—Length 4.10, width 2.20; hemelytra more sharply arcuate than in male. Head width 1.20, vertex 0.64. Antennae, first segment, length 0.36, yellow, base black; second, 1.17, yellow, apical one-fourth and narrow ring at base black; third, 0.86, black, yellowish at base; fourth, 0.44, black.

FOOD PLANT.—Goldenrod (*Solidago altissima*).

KNOWN DISTRIBUTION.—Nova Scotia and Maine to District of Columbia, and westward to Alberta, Minnesota, Montana.

Illinois Records.—Nineteen males and 22 females, taken May 21 to Aug. 25, are

from Anna, Antioch, Beach, Browns, Bureau, Champaign, Dolson, Golconda, Grand Detour, Herod, Makanda, Marshall, Mount

Illinois Records.—Thirty-five males and 44 females, taken May 12 to July 15, are from Algonquin, Antioch, Browns, Charles-

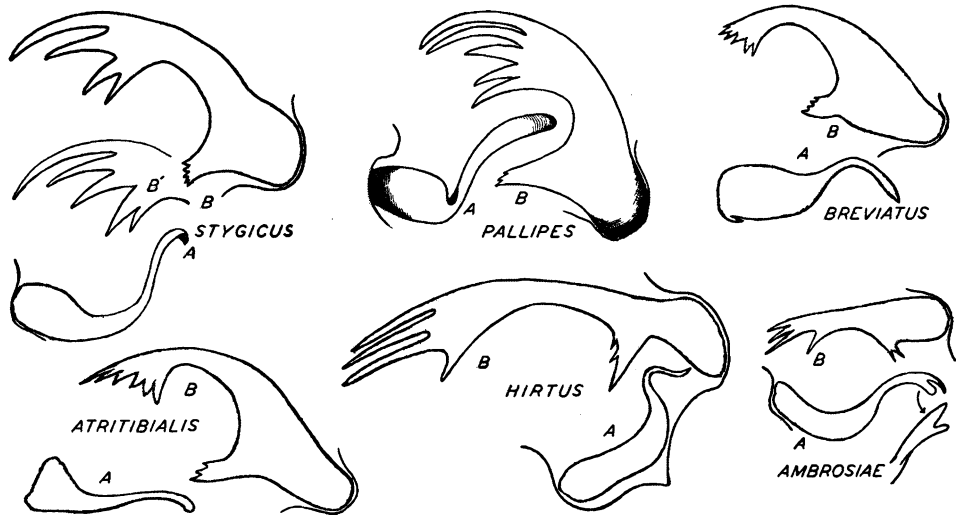


Fig. 114.—Male genital claspers of *Strongylocoris*. A, left clasper; B, right clasper.

Carmel, Oakwood, Oregon, Pulaski, Shawneetown, Urbana, West Union.

Strongylocoris atritibialis Knight

Strongylocoris atritibialis Knight (1938, p. 2).

This species is distinguished from *stygicus* (Say) by its more arcuate hemelytra, black tibiae and the structure of the male genital claspers, fig. 114.

MALE.—Length 4.60, width 2.40. Head width 1.21, vertex 0.65. Antennae black; length of first segment, 0.34; second, 1.26; third, 1.00; fourth, 0.43. Pronotum, length 1.12, width at base 1.77. Hemelytra with costal margin strongly arcuate. Dorsal surface nearly glabrous, rugulose, punctate, sparsely clothed with fine, short pubescence, which is more evident on cuneus and embolium. General coloration deep black; membrane very dark brown; legs black; tibiae and tarsi sometimes very dark brown, but hind tibiae always black. Genital claspers distinctive for species, fig. 114.

FEMALE.—Length 4.50, width 2.50; emboliar margins more strongly arcuate than in male. Form more robust than in male, but very similar in coloration.

KNOWN DISTRIBUTION.—Widely distributed in eastern United States and ranging westward into Alberta, Colorado, Wyoming,

ton, Dolson, Dongola, Fountain Bluff, Galena, Galesburg, Grand Detour, Grayslake, Havana, Herod, Joliet, Makanda, Muncie, Pulaski, St. Anne, Shawneetown, Sheldon, Volo.

Strongylocoris hirtus Knight

Strongylocoris hirtus Knight (1938, p. 4).

This is distinguished from allied species with erect pubescence by the longer second antennal segment, which exceeds the width of the head across the eyes; the tibiae and first antennal segment are pale and the male genital claspers are distinctive, fig. 114.

MALE.—Length 4.60, width 2.20. Head width 1.12, vertex 0.56. Antennae, first segment, length 0.38, pale, base fuscous; second, 1.43, black, basal one-fifth pale; third, 0.86, black; fourth, 0.47, black. Pronotum, length 0.98, width at base 0.16. Hemelytra with costal margin moderately arcuate on distal half. Clothed with thickly set, erect, golden-brown to black pubescence. General coloration black, shining slightly; legs mostly black, with tibiae, all but apical segment of tarsi, and apices of femora, pale; tibial spines fuscous.

FEMALE.—Length 4.30, width 2.40. More robust than male, but very similar in color and pubescence.

FOOD PLANT.—Cup plant (*Silphium perfoliatum*).

KNOWN DISTRIBUTION.—Illinois, Iowa, Kansas.

Illinois Records.—CHARLESTON: June 14, 1931, H. H. Ross, 1 ♂. HARDIN: June 5, 1932, H. L. Dozier, 1 ♂. WEST UNION: June 14, 1930, on *Silphium* sp., T. H. Frison, 4 ♂, 1 ♀; June 26, 1932; Ross & Dozier, 1 ♂, 1 ♀.

Strongylocoris mohri new species

This species is allied to *hirtus* Knight, but is distinguished by its longer pubescence, more arcuate hemelytra, and shorter second antennal segment, which does not equal the width of the head across the eyes.

FEMALE.—Fig. 115. Length 4.30, width 2.50. Rostrum, length 1.00, reaching to

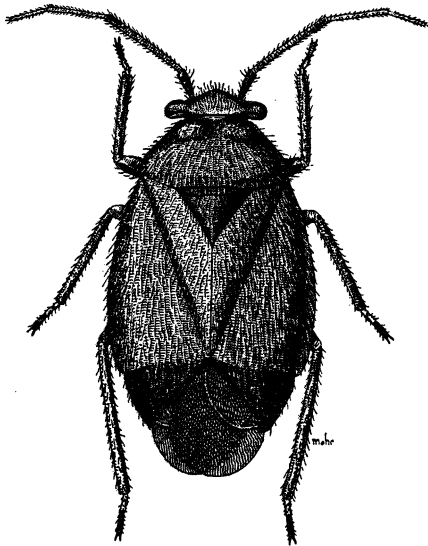


Fig. 115.—*Strongylocoris mohri*, ♀.

middle of intermediate coxae, black, with second segment pale. Antennae, first segment, length 0.30, black, slightly pale on apex; second, 0.99, cylindrical, tapering to become more slender on basal than on apical half, pale, apex black, base brownish, pubescence pale; third, 0.65, black, pale on base; fourth, 0.43, black. Pronotum, length 0.95, width at base 1.73. Hemelytra strongly arcuate, costal edge sharp, slightly reflexed, cuneus approximately triangular.

General coloration black, moderately shining, clothed with long, rather fine, erect, pale

to brownish pubescence. Legs mostly black, with tips of femora slightly paler; tibiae pale to brownish, darker on basal half, hind pair nearly black; tarsi pale, apical segment black.

Holotype, female.—Hamilton, Ill.: June 9, 1932, Ross & Mohr.

Paratype.—CENTRAL ILLINOIS: 1 ♀.

Named for Dr. Dr. Carl O. Mohr, who made many of the illustrations for this work.

Strongylocoris ambrosiae Knight

Strongylocoris ambrosiae Knight (1938, p. 5).

Not yet collected in Illinois; known from Iowa, Kansas, South Dakota, Texas. Male genital claspers as in fig. 114.

Orthocephalus Fieber

No Illinois species; *Orthocephalus mutabilis* (Fallen) occurs in Maine, New York, Pennsylvania.

LABOPINI

Labops Burmeister

No Illinois species; *Labops hirtus* Knight is known from Colorado, Maine, Massachusetts, Montana, New York, Ontario.

ORTHOTYLINI

KEY TO GENERA

1. Posterior margin of vertex with a high, transverse ridge extending from eye to eye and bearing stout, black bristles, fig. 116. **Hadronema**, p. 84
- Posterior margin of vertex not having a ridge extending from eye to eye which bears stout, black bristles. 2
2. A well-defined, oblique suture on gena extending from antennal fossa to beneath eye, fig. 117, this suture frequently outlined by a dark stripe; red-orange and black species. **Lopidea**, p. 84
- Genal suture absent, or extending directly from antennal fossa to eye, fig. 118, or present, but vague and not outlined by a dark stripe. 3
3. Base of tylus markedly produced and located considerably ventrad of the

level of ventral margins of eyes, fig. 118..... **Ilnacora**, p. 82
 Base of tylus less angularly produced, not located ventrad of level of ventral margins of eyes, fig. 119; on a line with or considerably dorsad of level of ventral margins of eyes... 4

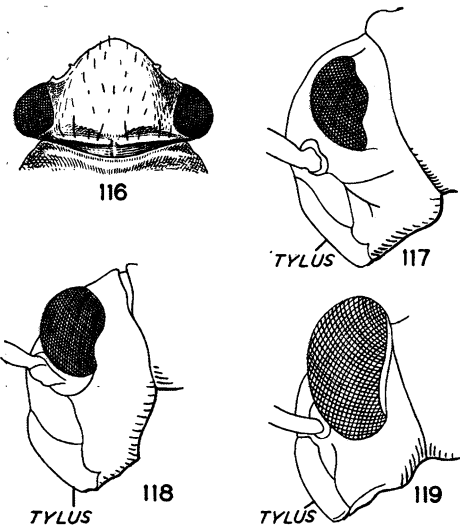


Fig. 116.—Head of *Hadronema militare*.
 Fig. 117.—Head of *Lopidea confluenta*.
 Fig. 118.—Head of *Ilnacora stalii*.
 Fig. 119.—Head of *Mecomma gilvipes*.

- 4. Second antennal segment thickened at apex, fig. 133..... **Heterocordylus**, p. 107
 Second antennal segment linear, fig. 125..... 5
- 5. First antennal segment with a longitudinal black line on either side, these lines connected on ventral side near apex..... **Reuteria**, p. 92
 First antennal segment not marked with longitudinal black lines..... 6
- 6. Eyes rounded behind and set at or near middle of head, well removed from anterior margin of pronotum, fig. 123..... **Diaphnidia**, p. 91
 Eyes relatively straight behind and set close to anterior margin of pronotum, fig. 129..... 7
- 7. Body clothed with scalelike hairs intermixed with more nearly erect bristles..... 8
 Body clothed with simple pubes-

- cence only; sometimes with a few silky hairs..... 9
- 8. Pronotum and corium thickly clothed with black and white, scalelike pubescence, with a few bristles; venter very dark, almost black; third antennal segment equal to three times the length of fourth segment; large fuscous species, length 5.50-6.00... **Noctuocoris**, p. 105
 Pronotum and corium bearing numerous erect bristles intermixed with scattered scalelike pubescence, fig. 152; venter light; third antennal segment not equal to three times the length of fourth segment; small species, length less than 5.00..... **Melanotrichus**, p. 95
- 9. Vertex with a carina at posterior margin..... 10
 Vertex without a carina at posterior margin..... 11
- 10. Head broad; width of vertex three times as great as dorsal width of an eye, fig. 130..... **Labopidea**, p. 105
 Head not so broad; width of vertex not more than two times as great as dorsal width of an eye, fig. 129... **Orthotylus**, p. 97
- 11. Head vertical, strongly compressed apically, fig. 119; as viewed from the side, tip of tylus projecting below posterior end for a distance equal to one-half height of eye; pronotum sinuate at base and slightly so at sides; male and female dissimilar in form; female brachypterous, abdomen very broad, macrop-terous forms rare..... **Mecomma**, p. 95
 Head inclined, more prognathous; as viewed from side, tip of tylus not projecting below posterior end of gula for a space equal to half the height of eye; both sexes macrop-terous..... **Cyrtorhinus**, p. 95

Ilnacora Reuter

KEY TO SPECIES

- 1. Length of first antennal segment exceeding width of vertex..... 2
 Length of first antennal segment less than width of vertex..... 3

2. Hemelytra deep green, membrane black.....**malina**, p. 83
Hemelytra pale or light green, membrane pale.....**stalii**, p. 84
3. Frons with transverse black mark; first antennal segment mostly pale, with base and apex black.....**divisa**, p. 83
Frons without transverse black mark; first antennal segment mostly black, broad area at base and narrow one at apex pale.....**illini**, p. 83

Ilnacora malina (Uhler)

Sthenarops malina Uhler (1877, p. 419).

ADULTS.—Length 5.40, width 1.60. Head, body and antennae chiefly black; hemelytra and base of pronotum bright green; anterior

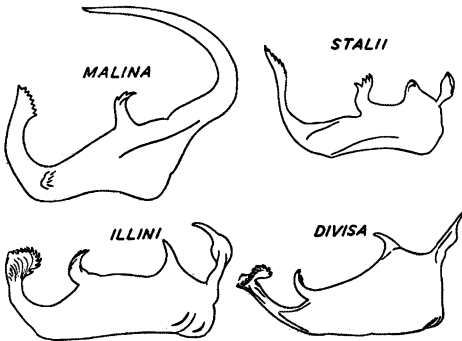


Fig. 120.—Right male genital claspers of *Ilnacora*.

part of pronotum, two stripes on scutellum, and legs, greenish yellow; a round, black spot behind each callosity; membrane black; male right genital clasper, fig. 120.

FOOD PLANT.—Goldenrod (*Solidago* sp.) in moist, shaded situations; Illinois specimens were collected also on ragweed (*Ambrosia* sp.), oak (*Quercus* sp.) and locust (*Robinia pseudoacacia*), the last two undoubtedly "sitting" records only.

KNOWN DISTRIBUTION.—Widely distributed in the eastern United States and Canada.

Illinois Records.—One hundred twelve males and 106 females, taken May 27 to July 19, are from Algonquin, Bureau, Charleston, Danville, Dug Hill, Elizabeth, Elizabethtown, Freeport, Galena, Galesburg, Grand Detour, Hardin, Herod, Joliet, Lilly, Morris, Monticello, Mount Carmel, New Milford, Oakwood, Oquawka, Oregon, Palos Park, Pegrin, River Forest,

Sheldon, Springfield, Urbana, Vienna, Warsaw, White Heath, Willow Springs.

Ilnacora illini new species

This species is allied to *stalii* Reuter, but is distinguished by its shorter antennal segments and the expanded apex of the right genital clasper, fig. 120.

MALE.—Length 4.80, width 1.50. Head width 0.91, vertex 0.51. Rostrum, length 1.30, reaching to middle of intermediate coxae. Antennae, first segment, length 0.48, less than width of vertex, black with broad area at base and narrow area at apex pale; second, 1.80, yellowish brown to fuscous, darker near base; third, 1.60, yellowish to fuscous; fourth, 0.73, fuscous. Pronotum, length 0.78, width at base 1.20. Dorsum clothed with erect, pale hairs sparsely intermixed with patches of black, deciduous, scalelike hairs; pronotal spots and median basal spot on scutellum similar to those in *stalii*. General coloration pale, tinged with greenish on dorsum; hemelytra semitranslucent; membrane pale; a small transverse, fuscous cloud near apex of cuneus; veins greenish; legs principally pale to greenish, with tibial spines brownish; apical segment and claws of each tarsus black. Male genital claspers distinctive, right clasper with apex spatulate, fig. 120.

Holotype, male, — Elizabethtown, Ill., May 27-31, 1932, H. L. Dozier.

Paratypes.—ILLINOIS.—VIENNA: May 18, 1932, H. L. Dozier, 1 ♂, KC.

OKLAHOMA.—STILLWATER: May 15, 1939, K. C. Emerson, 1 ♂, 1 ♀, KC.

Ilnacora divisa Reuter

Ilnacora divisa Reuter (1876, p. 86).

MALE.—Length 4.70, width 1.60. Head black, width 1.00, vertex 0.56; vertex and frons pale, a black median line and arcuate line above base of each antenna joining at base of frons on meson. Rostrum, length 1.17, reaching to middle of intermediate coxae. Antennae, first segment, length 0.37, pale, black at base and fuscous at apex; second, 1.38, dusky, fuscous at base and near apex; third, 1.21, fuscous; fourth, 0.65. Pronotum, length 0.75, width at base 1.30. Body mostly black; pronotum and hemelytra, greenish, scutellum paler green; membrane uniformly fuscous, with greenish veins; legs mostly pale, with tarsi and tibial

spines black. Dorsum clothed with erect, simple pubescence intermixed on hemelytra with patches of deciduous, black, scalelike hairs; spot behind each callosity, median line between callosities, and spot on base of scutellum formed by masses of black, scalelike pubescence. Male genital claspers distinctive for species, fig. 120.

FEMALE.—Length 4.70, width 1.80. Form slightly more robust than that of male, but color and pubescence very similar.

FOOD PLANT.—A single Illinois specimen was collected on milkweed (*Asclepias* sp.).

KNOWN DISTRIBUTION.—Colorado, Illinois, Iowa, Minnesota, North Dakota, Texas.

Illinois Records.—One male and 17 females, taken March 8 to Aug. 17, are from Bloomington, Champaign, Dubois, Galena, Galesburg, Teheran, Urbana.

Inacora stalii Reuter

Inacora stalii Reuter (1876, p. 86).

MALE.—Length 5.20, width 1.60. Head width 0.95, vertex 0.49. Rostrum, length 1.30, just attaining apices of middle coxae, pale, with apical segment black. Antennae, first segment, length 0.54, exceeding width of vertex, pale, apical half and ring at base black; second, 1.95, dusky, more fuscous on apex; third, 1.60, black; fourth, 0.65, black. Pronotum, length 0.82, width at base 1.34. General coloration pale or whitish; hemelytra and legs tinged with greenish; membrane pale; veins greenish. Dorsum clothed with erect, pale hairs sparsely intermixed with patches of black, deciduous scalelike hairs; a round, black spot behind each callosity and a median basal spot on scutellum formed by black, deciduous hairs. Male genital claspers distinctive, right clasper terminating in a slender, dorsally projecting point, fig. 120.

FEMALE.—Length 5.40, width 1.80. More robust than male, but very similar in pubescence and color.

FOOD PLANTS.—Breeds on cocklebur (*Xanthium* sp.), sunflower (*Helianthus* sp.), artichoke (*H. tuberosus*) and perhaps on other weeds. A single specimen was collected on wild grape (*Vitis* sp.).

KNOWN DISTRIBUTION.—Colorado, Montana, Texas, eastward to District of Columbia, New York, North Carolina.

Illinois Records.—Ninety-eight males and 146 females, taken May 23 to Sept. 22,

are from Algonquin, Alton, Alto Pass, Antioch, Beardstown, Browns, Cairo, Camargo, Carbondale, Champaign, Charleston, Chicago, Cornland, Decatur, De Soto, East St. Louis, Effingham, Elizabeth, Elizabethtown, Fountain Bluff, Freeport, Galena, Galesburg, Hardin, Harrisburg, Ingleside, Kampsville, Kankakee, Karnak, Keithsburg, Lawrenceville, Meredosia, Metropolis, Monticello, Mounds, Mount Carmel, Oquawka, Palos Park, Rockford, Rockton, Rosiclare, St. Joseph, Seymour, Shawneetown, Starved Rock State Park, Teheran, Urbana, Ware, Warren, West Pullman, Willow Springs, York.

Hadronema Uhler

No Illinois species; *Hadronema militare* Uhler is known from Colorado, Kansas, Michigan, New York, South Dakota and westward.

Lopidea Uhler

KEY TO SPECIES

1. Apex of abdomen with a pair of claspers (males); all characters in couplets 2–14 are illustrated in fig. 121..... 2
Apex of abdomen without claspers (females)..... 15
2. Left clasper with a plainly visible, baso-mesal, flat-hooked tooth....
..... *staphyleae*, p. 90
Left clasper without such a tooth.... 3
3. Tip of right clasper short, large and somewhat rounded, with a short, serrate, dorsal tooth just before apex..... *media*, p. 89
Tip of right clasper without such a dorsal tooth at apex..... 4
4. Base of right clasper produced into a long, dorsal, curved arm.....
..... *robiniae*, p. 89
Base of right clasper without a long, basal, dorsal projection..... 5
5. Right clasper ending in a curved tooth which is either long, e.g., *instabilis* or blunt, e.g., *lathyri*..... 6
Right clasper ending in a serrate lobe, e.g., *amorphae-salicis*..... 8
6. Right clasper with a preapical hook which may be reduced to a small swelling..... *instabilis*, p. 91

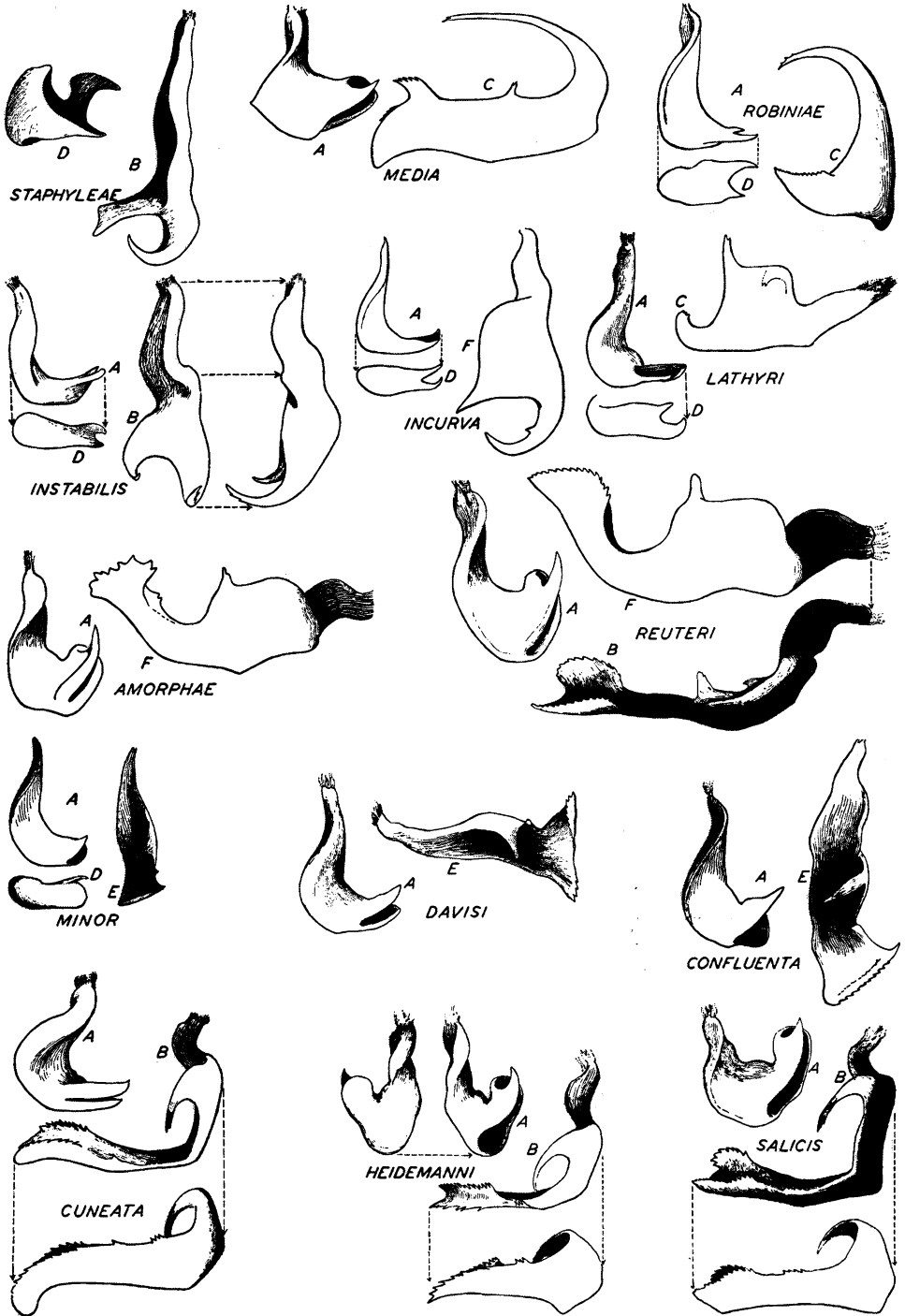


Fig. 121.—Male genital claspers of *Lopidea*. *A*, left clasper, dorsal aspect; *B*, right clasper, dorsal aspect; *C*, right clasper, caudal aspect; *D*, left clasper, caudal aspect; *E*, right clasper, mesal aspect; *F*, right clasper, lateral aspect.

- Right clasper with a preapical enlargement which is somewhat rectangular and produced into an apical point, e.g., *incurva*, *lathyri*. . . 7
7. Apical hook of right clasper long and sharp, fig. 121 *incurva*, p. 88
- Apical hook of right clasper shorter and with tip slightly serrate. *lathyri*, p. 91
8. Right clasper with base bulbous, center constricted and apex expanded into an upturned, serrate lobe, e.g., *amorphae*, *reuteri*. 9
- Right clasper otherwise, without an upturned, apical lobe, e.g., *minor-salicis*. 10
9. Serrate margin of apical lobe more irregular and truncate. *amorphae*, p. 90
- Serrate margin of apical lobe regular, curving back on to inner curve of lobe. *reuteri*, p. 91
10. Apex of right clasper obliquely truncate, flat and serrate, e.g., *minor*. . . 11
- Apex of right clasper pointed or irregular, with a second row of serrations on dorsal or mesal side, e.g., *cuneata-salicis*. 13
11. Left clasper with dorsal tooth small. *minor*, p. 88
- Left clasper with dorsal tooth large, e.g., *davisi*. 12
12. Right clasper with both dorsal and ventral corners expanded and sharp. *davisi*, p. 87
- Right clasper with ventral corner round and not expanded. *confluente*, p. 87
13. Right clasper with apex rounded and curved ventrad. *cuneata*, p. 89
- Right clasper with apex horizontal and pointed, e.g., *salicis*. 14
14. Apex of right clasper with a double row of dorsal serrations. *heidemanni*, p. 88
- Apex of right clasper with second row of dorsal serrations separated mesad as a definite lobe. *salicis*, p. 89
15. Length of first antennal segment equal to or greater than width of vertex between eyes. 16
- Length of first antennal segment less than width of vertex between eyes. 22
16. Bases of first and second antennal segments equal in thickness, second segment tapering apically to become more slender than first segment. 17
- Base of second antennal segment not so thick as base of first. 18
17. Length of second antennal segment approximately twice width of head across eyes; length 5.80. *instabilis*, p. 91
- Length of second antennal segment distinctly greater than twice width of head across eyes; length 6.70. *reuteri*, p. 91
18. Corium bearing both simple and sericeous pubescence; pronotal disk with erect, stiff, black hairs; general color yellowish to orange; scutellum and inner half of corium and clavus blackish; length 6.40. *robiniae*, p. 89
- Corium with only simple pubescence; or, if a few minute, sericeous hairs present, pronotal disk without erect hairs. 19
19. Length of second antennal segment more than twice width of head across eyes; length 7.00. *staphyleae*, p. 90
- Length of second antennal segment less than twice width of head across eyes. 20
20. Scutellum with a few black, bristle-like hairs; juga red; dorsum also with a broad, reddish area; length 5.20-5.40. *media*, p. 89
- Scutellum with minute, soft pubescence only; juga pale. 21
21. Second antennal segment clothed with very short, recumbent, golden pubescence. *cuneata*, p. 89
- Second antennal segment clothed with prominent, semierect, black, bristle-like hairs. *salicis*, p. 89
22. Second antennal segment thickened, diameter near base equal to that of first segment although tapering apically to become more slender. *reuteri*, p. 91
- Second antennal segment slender, its greatest thickness not approaching that of first segment. 23
23. Length of second antennal segment equal to twice width of head across eyes; length 6.50. *confluente*, p. 87

- Length of second antennal segment less than twice width of head across eyes.....24
- 24. Corium with outer half bearing suberect, black hairs.....25
- Corium with outer half bearing pale hairs; or, if dark, pubescence minute and closely appressed.....26
- 25. Corium bearing simple pubescence intermixed with more closely appressed, sericeous pubescence.....
.....heidemanni, p. 88
- Corium bearing only suberect, bristly pubescence.....davis, p. 87
- 26. Length not over 5.20.....27
- Length 5.60 or more.....28
- 27. Corium infuscated across its full width; pubescence very short, appressed; length 5.00-5.20.....
.....incurva, p. 88
- Corium reddish on its outer half; pubescence suberect, pale in color; length 4.20-4.30.....minor, p. 88
- 28. Outer half of corium fuscous to black.....cuneata, p. 89
- Outer half of corium orange to red...29
- 29. Pubescence on dorsum minute, closely appressed; embolium never pale, yellowish to red like outer half of corium.....amorphae, p. 90
- Pubescence on dorsum suberect; embolium usually pale or white.....
.....lathyri, p. 91

Lopidea confluenta (Say)

Capsus confluentus Say (1832, p. 23; 1859, p. 341).

MALE.—Length 6.30, width 2.10. Yellowish orange, tinged with reddish; broad area on either side of commissure, entire membrane, scutellum, and variable area on pronotal disk, fuscous; antennae, tylus, rostrum, base of head, and a stripe each side of front, black; legs mostly blackish, with trochanters and apices of coxae yellowish; genital claspers, fig. 121, distinctive for species.

FEMALE.—Fig. 122. Length 6.50, width 2.40; more robust than male, but very similar in coloration.

FOOD PLANTS.—Leafcup (*Polymnia uvedalia* and probably *P. canadensis*); in Illinois specimens were collected also on sweet William (*Phlox* sp.), daisy (*Chrysanthemum* sp.), red clover (*Trifolium pratense*),

persimmon (*Diospyros virginiana*), willow (*Salix* sp.), snowberry (*Symphoricarpos orbiculatus*), locust (*Robinia pseudoacacia*)

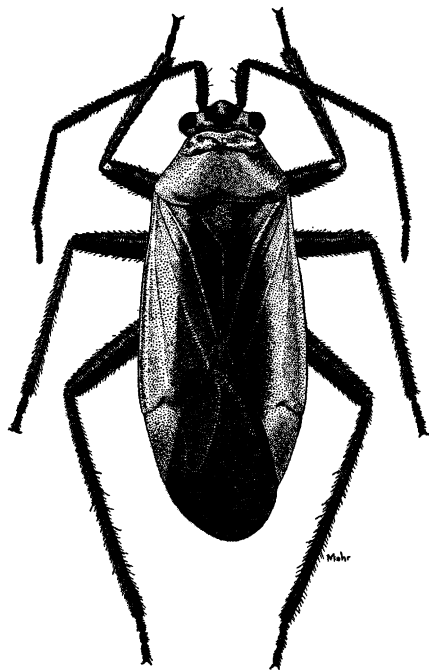


Fig. 122.—*Lopidea confluenta*, ♀.

and cypress (*Taxodium distichum*). Several of these plants undoubtedly are not hosts of this mirid.

KNOWN DISTRIBUTION.—Widely distributed in the eastern United States, but more abundant in the upper Mississippi valley.

Illinois Records.—Ninety-four males and 97 females, taken June 10 to Aug. 21, are from Anna, Beardstown, Bloomington, Dolson, Dubois, Elizabethtown, Ernst, Galesburg, Golconda, Grafton, Grand Tower, Grantsburg, Grayville, Havana, Herod, Kansas, Lawrenceville, Monticello, Muncie, Palos Park, Pike, Pulaski, Shawneetown, Starved Rock State Park, Urbana, Walnut Prairie, White Heath, Willow Springs.

Lopidea davis Knight

Phlox Plant Bug

Lopidea davis Knight (1917d, p. 458.)

MALE.—Length 5.50, width 2.00. Yellowish orange to reddish; antennae, legs, front of head, and rostrum, black; calli, base

of pronotum, scutellum, clavus, inner half of corium, and membrane, fuscous; genital claspers, fig. 121, distinctive for species.

FEMALE.—Length 5.60, width 2.10; more robust than male, but very similar in color and pubescence.

FOOD PLANTS.—When the original description appeared the food plant of this species was unknown, but as early as 1925 the insect had appeared as a serious pest of cultivated phlox in Arkansas, Missouri, Minnesota and West Virginia. This insect breeds on the wild species of phlox and may fly to the cultivated varieties within reach. The bug overwinters as an egg in the dead stems of phlox; it hatches in the spring and crawls upon the new growth to suck nourishment from the leaves. The feeding punctures cause brown spots to develop; the leaves curl, dry out and finally drop. Control of this pest may be obtained by destroying all dead plant tops before spring, when the eggs would hatch. Toward the end of the season, this species is often found on a wide range of herbs, but it does not breed on them.

Illinois Records.—One hundred thirty-seven males and 117 females, taken June 3 to Sept. 30, are from Ashland, Beach, Champaign, Charleston, Cobden, Dolson, Eichorn, Eldorado, Equality, Galena, Grandview, Herod, Jacksonville, Jerseyville, Norris City, Oak Lawn, Oakwood, Quincy, St. Anne, Schuyler County, Tolono, Urbana, Waterman, Watseka, Waukegan.

Lopidea minor Knight

Lopidea minor Knight (1918*b*, p. 213).

MALE.—Length 4.50, width 1.60. Fuscous; exterior half of corium, cuneus, sides of body and head, reddish; embolium paler; clothed with fine, suberect, pale pubescence, a few hairs brownish on darker areas. Genital claspers distinctive for species, fig. 121; showing a close relationship to *davisi* Knight, which species is, however, much larger.

FEMALE.—Length 4.20, width 1.60. More robust than male, but very similar in color and pubescence.

HOST PLANT.—Prairie clover (*Petalostemum purpureum*).

KNOWN DISTRIBUTION.—Alberta, Colorado, Illinois, Iowa, Mississippi, New York, North Dakota.

Illinois Record.—OAK LAWN: Sept. 6, 1935, T. H. Frison, 3 ♂, 1 ♀.

Lopidea incurva Knight

Lopidea incurva Knight (1918*b*, p. 214).

MALE.—Length 5.00, width 1.60. Second antennal segment slightly thickened at middle and tapering toward base and apex. Dorsum fuscous, with only exterior margins of corium, pronotum and cuneus reddish; membrane, antennae, eyes, rostrum and most of face fuscous. Legs mostly pale fuscous; coxae and basal half of femora pale to yellowish and pink; tarsi fuscous to black. Clothed with minute, closely appressed, fuscous pubescence. Genital claspers as in fig. 121.

FEMALE.—Length 5.00–5.20, width 1.80, slightly more robust than male, but very similar in color and pubescence.

HOST PLANT.—Honey locust (*Gleditsia triacanthos*).

KNOWN DISTRIBUTION.—Illinois, Indiana, Iowa, Missouri, Nebraska, Ohio.

Illinois Records.—Ten males and 35 females, taken July 3 to July 30, are from Alton, Champaign, Darwin, Dubois, Fountain Bluff, Galesburg, Grafton, Kansas, Monticello, Muncie, Paxton, Urbana.

Lopidea heidemanni Knight

Lopidea heidemanni Knight (1917*d*, p. 456).

MALE.—Length 6.70, width 2.14. Dark red, with more fuscous on pronotum and scutellum than in *media* (Say); larger and more elongate than *media*. Hemelytra of dry specimens always having a strong tendency to shrivel and wrinkle longitudinally. Dorsum clothed with simple, black hairs sparsely intermixed with more closely appressed, silvery, sericeous pubescence. Genital claspers distinctive, fig. 121, right clasper showing a close relationship with *cuneata* Van Duzee and *salicis* Knight.

FEMALE.—Length 6.20, width 2.08; slightly more robust than male, otherwise very similar. Costal margins of hemelytra frequently pale, as in *media*; in certain color phases, becoming dull orange red with fuscous. Head width 1.08, vertex 0.65. Antennae, length of first segment, 0.56; second, 1.90.

FOOD PLANTS.—Elm (*Ulmus* sp.); nymphs have been reared from common yarrow (*Achillea millefolium*). Occasional specimens were collected in Illinois on honey locust (*Gleditsia triacanthos*), willow (*Salix* sp.), snowberry (*Symphoricarpos*

orbiculatus) and bedstraw (*Galium aparine*).

KNOWN DISTRIBUTION.—Iowa and Minnesota to Connecticut and southward to North Carolina.

Illinois Records.—Eighty-two males and 121 females, taken May 6 to July 3, are from Aldridge, Carlinville, Charleston, Dolson, Dongola, Dubois, Elizabethtown, Fountain Bluff, Galesburg, Golconda, Goreville, Grayslake, Hardin, Harvard, Herod, Homer, Jacksonville, Jonesboro, Kampsville, Keithsburg, Makanda, Muncie, Murphysboro, Oakwood, Ozark, Palos Park, Pulaski, Rock Island, St. Joseph, Seymour, Shawneetown, Urbana, Vienna, West Union, Zeigler.

Lopidea cuneata Van Duzee

Lopidea cuneata Van Duzee (1910, p. 79).

MALE.—Length 5.80, width 2.00. Dorsum dark fuscous on a background of orange red; cuneus, embolium and base of radial vein more strongly reddish; pronotum dark fuscous, lateral margin of disk pale to reddish; antennae, head and legs chiefly black; mark along front margin of eyes, juga, genae, trochanters, and apices of coxae, pale; propleura, except area surrounding coxal cleft, pale reddish; venter reddish, darkened with fuscous; genital segment blackish; genital claspers, fig. 121, distinctive for species.

FEMALE.—Length 6.00, width 2.10; similar to male, but reddish coloration replaced chiefly by pale, frequently inner margin and apical angles of corium becoming pale.

FOOD PLANTS.—Poplars (*Populus deltoides*, *P. balsamifera*).

KNOWN DISTRIBUTION.—New York, Illinois, Minnesota.

Illinois Records.—GALESBURG: Sept. 2, 1892, Stromberg, 1 ♀. HARVARD: July 17, 1936, C. O. Mohr, 1 ♀. PIKE: June 28, 1934, DeLong & Ross, 1 ♀.

Lopidea robiniae (Uhler)

Capsus robiniae Uhler (1861, p. 24).

MALE.—Length 6.30, width 2.10. General color usually orange yellow, rarely reddish; scutellum, apical area of clavus, inner half of corium, broad central area on pronotal disk, inner halves of calli, and membrane, fuscous to black; antennae, tylus, rostrum, tibiae, and tarsi, black; femora fuscous, coxae partly yellowish. Clothed

with closely appressed, silvery, sericeous pubescence intermixed with simple, erect hairs; setae on pronotal disk stiff and prominent; dark-colored areas provided with dark pubescence. Structures of male genital claspers distinctive for species, fig. 121.

FEMALE.—Length 6.40, width 2.10; slightly more robust than male, but very similar in pubescence and coloration.

FOOD PLANT.—Black locust (*Robinia pseudoacacia*). Also, two Illinois specimens were collected on peach (*Prunus persica*).

KNOWN DISTRIBUTION.—Commonly distributed in the eastern United States nearly everywhere the black locust grows.

Illinois Records.—Eighty-four males and 105 females, taken June 10 to Aug. 30, are from Algonquin, Alton, Anna, Antioch, Bishop, Bluff Springs, Bridgewater, Browns, Carbondale, Effingham, Elizabethtown, Galena, Galesburg, Havana, McClure, Monticello, Mound City, Normal, Rosiclare, Shawneetown, Springfield, Stonefort, Union Grove, Villa Ridge, West Union.

Lopidea salicis Knight

Lopidea salicis Knight (1917d, p. 457).

MALE.—Length 5.70, width 2.00. Mostly black; propleura and basal angles of pronotal disk orange; embolium and cuneus, except inner apical margin, yellowish to orange. Genital claspers, fig. 121, distinctive for species.

FEMALE.—Length 6.20, width 2.10. Very similar to male in size and coloration, sometimes slightly more robust.

FOOD PLANT.—Black willow (*Salix nigra*); a single specimen was taken in Illinois on elm (*Ulmus*), but it probably had not fed there.

KNOWN DISTRIBUTION.—Illinois, Iowa, Kansas, Minnesota, New York.

Illinois Records.—ILLINOIS: Stromberg, 3 ♀. ELIZABETHTOWN: May 27-31, 1932, H. L. Dozier, 1 ♂. GALENA: June 30, 1932, on elm, Dozier & Mohr, 1 ♀. OQUAWKA: June 13, 1932, H. L. Dozier, 1 ♀.

Lopidea media (Say)

Capsus medius Say (1832, p. 22; 1859, p. 341).

MALE.—Length 5.60, width 1.70. Orange red to bright red, scutellum and rather broad area either side of commissure more or less darkened with fuscous, reddish color

always showing through this infuscation; legs fusco-brownish to blackish; femora exhibiting one or two rows of darker spots both above and below. Clothed with short, pale pubescence; a few stiff, black hairs on scutellum. Genital claspers very distinctive for species, fig. 121.

FEMALE.—Length 5.70, width 1.80; usually colored very similarly to male, but sometimes with embolium and outer edge of cuneus pale or white as in *heidemanni* Knight.

FOOD PLANTS.—Goldenrod (*Solidago rugosa*) and several other plants. Illinois specimens were collected on spiderwort (*Tradescantia* sp.), hazelnut (*Corylus* sp.), willow (*Salix* sp.), ash (*Fraxinus* sp.) and red birch (*Betula nigra*).

KNOWN DISTRIBUTION.—A common and widely distributed species east of the Rocky Mountains.

Illinois Records.—One hundred four males and 104 females, taken May 25 to July 24, are from Champaign, Dixon Springs, Galena, Geff, Golconda, Grand Detour, Grand Tower, Hardin, Harrisburg, Havana, Homer Park, Kankakee, Keithsburg, Lilly, Muncie, Oakwood, Oquawka, Oregon, Palos Park, Princeton, Pulaski, Shawneetown, Starved Rock State Park, Urbana.

Lopidea staphyleae Knight

Lopidea staphyleae Knight (1917*d*, p. 460).

MALE.—Length 6.50, width 2.05. Antennae, first segment, length 0.71, thickness 0.15; second, 2.48, thickness 0.10, tapering to become slightly smaller on apical half; third, 1.82, slender and almost linear; fourth, 0.52. General color mostly orange yellow, with calli, narrow area at base of pronotum, scutellum, apical two-thirds of clavus, inner half of corium, and membrane, fuscous; antennae, tylus, two bars on front, base of head, rostrum, and legs, black; fuscous shading on dorsum much paler than in *robiniae* (Uhler); genital claspers, fig. 121, distinctive for species.

FEMALE.—Length 6.80, width 2.20. Similar to male in structure and coloration, but usually slightly larger; sometimes very similar in size and coloration to female of *confluente* (Say), but length of first antennal segment in *confluente* is shorter than width of vertex, while in *staphyleae* its length is as great as, or slightly greater than, width

of vertex. Head width 1.29, vertex 0.78. Antennae, length of first segment, 0.81; second, 2.64.

Specimens in which the orange yellow areas become red constitute var. *sanguinea* Knight (1917*d*, p. 461), taken in Illinois chiefly in northern localities.

FOOD PLANT.—American bladder nut (*Staphylea trifolia*); a single Illinois specimen was collected on willow (*Salix* sp.), but that tree was probably not its host.

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Kansas, Maryland, Massachusetts, Minnesota, New York, Oklahoma, South Carolina, Virginia.

Illinois Records.—Thirty-two males and 47 females, taken June 2 to Aug. 22, are from Apple River Canyon State Park, Bloomington, Decatur, Dolson, Glendon Park, Grafton, Grand Tower, Hardin, Havana, Homer Park, Kampsville, Karnak, Monticello, Parker, Seymour, Urbana, Wilcox Springs.

Lopidea amorphae Knight

Lopidea amorphae Knight (1923*c*, p. 65).

MALE.—Length 5.90, width 2.00. Head width 1.10, vertex 0.34. Antennae, length of first segment, 0.60; second, 2.09, thickness 0.11, tapering to become more slender on apical half; third, length 1.20; fourth, length 0.40. Pronotum, width at base 1.84. Hemelytra with red areas bearing fine, yellowish pubescence, while in *reuteri* Knight these areas bear black pubescence. Smaller than *reuteri* and more yellowish in color, majority of specimens more yellowish than red. Genital claspers, fig. 121, indicate a close relationship with *reuteri*, but in the large series examined distal portion of right clasper shows constant differences.

FEMALE.—Length 6.30, width 2.30; very similar to male in form, pubescence and coloration.

FOOD PLANT.—False indigo (*Amorpha fruticosa*); a single specimen was also taken in Illinois on red clover (*Trifolium pratense*).

KNOWN DISTRIBUTION.—Illinois, Iowa, Kansas, Minnesota, Nebraska, South Dakota, but may be expected from other states where the host plant grows in abundance.

Illinois Records.—ANNA: July 17, 1883, 1 ♀. BEARDSTOWN: June 10, 1932, Ross & Mohr, 1 ♂. GRAND TOWER: June 27, 1906, 3 ♀; June 30, 1909, sweeping from grass,

1 ♂, 1 ♀; June 1, 1913, 1 ♀. OQUAWKA: June 13, 1932, H. L. Dozier, 1 ♀. SAVANNA: July 21, 1892, from sweet clover, McElfresh, 1 ♀.

Lopidea lathyri Knight. *Emended name.*

Lopidea lathyrae Knight (1923c, p. 66).

MALE.—Length 5.90, width 1.90. Head width 1.11, vertex 0.65. Antennae, length of first segment, 0.65; second, 2.00, cylindrical. Pronotum, width at base 1.71. Size, form and color very suggestive of *confluente* (Say); mostly deep red; legs, antennae, pronotal disk (except lateral and anterior margins), scutellum, broad stripe on either side of commissure, and membrane, black; clothed with fine, yellowish pubescence on red areas, but pubescence black over dark surface, with a few sericeous, yellowish hairs about margins of calli. Genital claspers, fig. 121, distinctive for species.

FEMALE.—Length 6.20, width 2.20; very similar to male, but with embolium and outer half of cuneus pale.

FOOD PLANT.—Vetchling (*Lathyrus venosus*). In Minnesota I found this species so abundant that its host plants were largely killed. This mirid may be regarded as a potential pest of cultivated vetches.

KNOWN DISTRIBUTION.—Illinois, Manitoba, Minnesota, North Dakota, Oklahoma, Saskatchewan.

ILLINOIS RECORDS.—PALOS PARK: July 10, 1912, A. B. Wolcott, 3 ♂, 3 ♀, FM; July 2, 1916, W. J. Gerhard, 1 ♂, FM; July 4, 1918, W. J. Gerhard, 1 ♀, FM.

Lopidea reuteri Knight

Lopidea reuteri Knight (1917d, p. 459).

MALE.—Length 7.10, width 2.54. General color a vivid carmine red, with fuscous on calli, scutellum and areas bordering commissure. Very similar to *caesar* (Reuter), but with fuscous areas on corium and cuneus narrower; genital claspers, fig. 121, distinctive for species. Antennae, length of first segment, 0.65, thickness 0.17; second, length 2.42, greatest thickness 0.16, tapering from middle to become more slender at apex; third, length 1.60, linear and slender; fourth, length 0.60; black, first two segments clothed with prominent, coarse hairs; almost identical in structure with *caesar*.

FEMALE.—Length 6.90, width 2.50. Structurally and in color very similar to male;

also very similar to female of *caesar*, which species rarely has calli darkened and usually has less fuscous shading on scutellum. Head width 1.17, vertex 0.71. Antennae, length of first segment 0.74, thickness 0.17; second, length 2.62, greatest thickness 0.17.

FOOD PLANT.—Witchhazel (*Hamamelis virginiana*).

KNOWN DISTRIBUTION.—Illinois, Massachusetts, Michigan, Mississippi, Missouri, Pennsylvania, Virginia, West Virginia.

ILLINOIS RECORDS.—GRAND TOWER: June 27, 1906, 1 ♀.

Lopidea instabilis (Reuter)

Lomatopleura instabilis Reuter (1909, p. 72).

MALE.—Length 5.40, width 2.02. Antennae black, two basal segments clothed with moderately short, black hairs; first segment, length 0.58, thickness 0.08; second, 1.80, thickness 0.07 at middle, tapering to become smaller at either end; third, length 1.19, slender; fourth, length 0.52. General color bright red, apical half of clavus and inner half of corium darkened with fuscous; membrane uniformly blackish; tibiae blackish, becoming reddish at base; genital claspers distinctive, fig. 121.

FEMALE.—Length 6.00, width 2.40; similar to male in coloration, pubescence and in structure of antennae. Head width, 1.10, vertex 0.65. Antennae, first segment, length 0.66, thickness 0.17; second, length 2.12, greatest thickness 0.17.

FOOD PLANT.—Lead plant (*Amorpha canescens*).

KNOWN DISTRIBUTION.—Missouri, Nebraska, North Dakota, South Dakota, eastward to Connecticut, southward to Mississippi, Alabama.

ILLINOIS RECORDS.—NORTHERN ILLINOIS: 1 ♂. LA RUE: July 11, 1935, DeLong & Ross, 4 ♀. SAVANNA: July 24, 1892, along bluff, C. A. Hart, 1 ♀.

Diaphnidia Uhler

KEY TO SPECIES

1. Head black, first antennal segment very dark. **capitata**, p. 92
- Head pale. 2
2. Second antennal segment pale.
- **pellucida**, p. 92
- Second antennal segment fuscous to black. **provancheri**, p. 92

Diaphnidia pellucida Uhler

Diaphnidia pellucida Uhler (1895, p. 44).

ADULTS.—Fig. 123. Length 4.30, width 1.40. General color uniformly pellucid, greenish white, including antennae; eyes and tips of tarsi fuscous; pubescence simple, pale.

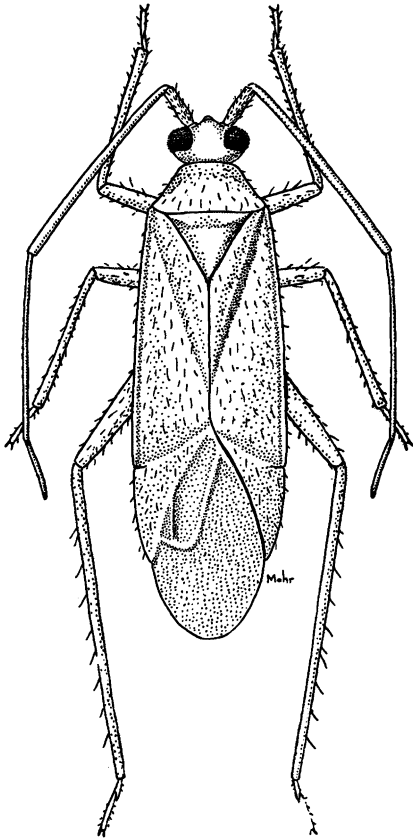


Fig. 123.—*Diaphnidia pellucida*, ♂.

HOST PLANTS.—Hawthorn (*Crataegus* sp.), apple (*Pyrus malus*), hop hornbeam (*Ostrya virginiana*) and several other trees; Illinois specimens were taken also on cottonwood (*Populus deltoides*), locust (*Robinia pseudoacacia*), oak (*Quercus* sp.), maple (*Acer* sp.), elm (*Ulmus* sp.), walnut (*Juglans nigra*), willow (*Salix* sp.) and alder (*Alnus* sp.).

KNOWN DISTRIBUTION.—Throughout the eastern United States and Canada.

Illinois Records.—Sixty-one males and 121 females, taken June 5 to Sept. 20: Danville, Eichorn, Fairfield, Galena, Galesburg, Geff, Grafton, Grand Detour, Hardin, Ha-

vana, Kansas, Marshall, Monticello, Muncie, Oakwood, Shawneetown, Urbana, Vienna, White Heath, White Pines Forest State Park.

Diaphnidia provancheri (Burque)

Malacocoris provancheri Burque (1887, p. 144).

ADULTS.—Length 4.80, width 1.40. General color pellucid greenish yellow, more green on hemelytra than elsewhere, tibiae lightly infuscated; second antennal segment fuscous to black; following segments fuscous.

HOST PLANT.—White oak (*Quercus alba*) and probably other plants.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Minnesota, New Hampshire, New York, Quebec.

Illinois Records.—MONTICELLO: June 28, 1914, 1 ♂. URBANA: Aug. 26, 1932, Harper & Park, 6 ♂; Sept. 16, 1935, DeLong & Ross, 1 ♂.

Diaphnidia capitata Van Duzee

Diaphnidia capitata Van Duzee (1912, p. 490).

ADULTS.—Length 3.00. General color pale; distinguished by its black head and fuscous to black first antennal segment; sometimes second antennal segment is also infuscated, beginning on base and apex.

HOST PLANT.—Witchhazel (*Hamamelis virginiana*).

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Iowa, Maine, Minnesota, New York, Ohio, Ontario.

Illinois Records.—DE SOTO: July 28, 1930, Knight & Ross, 2 ♀. DONGOLA: Aug. 3, 1916, 1 ♂. ELIZABETHTOWN: Aug. 4, 1932, H. L. Dozier, 1 ♀. METROPOLIS: July 26, 1930, Knight & Ross, 1 ♂. MONTICELLO: June 11, 1934, Frison & DeLong, 2 ♀. OAKWOOD: June 14, 1930, on ironwood, T. H. Frison, 1 ♀.

Reuteria Puton

KEY TO SPECIES

1. First antennal segment with inner black line indistinct on basal half; transverse apical portion with outer black line forming a letter J.
 **platani**, p. 95

- First antennal segment with inner black line complete, nearly parallel with outer line and both joined apically on ventral side. 2
2. Second antennal segment with a broad fuscous to black area. *fuscicornis*, p. 94
 Second antennal segment pale, a black annulus at base; at most the black color not occupying more than basal one-fourth of segment. 3
3. Corium, clavus and dorsal aspect of hind femora conspicuously marked with green spots. *irrorata*, p. 93
 Corium and femora without well-defined green blotches or spots. 4
4. Second antennal segment with a rather broad, fuscous area at base, linear extent of dark color greater than width of first segment. *querci*, p. 95
 Second antennal segment with a narrow black annulus at base, width of this annulus scarcely exceeding diameter of first segment. 5
5. Membrane with a sharply defined, fuscous mark bordering larger areole. *pollicaris*, p. 95
 Membrane without fuscous mark bordering larger areole. *bifurcata*, p. 94

Reuteria irrorata (Say)

Capsus irroratus Say (1832, p. 25).

MALE.—Length 4.20, width 1.30. Head width 0.69, vertex 0.35. Rostrum, length 1.18, nearly attaining posterior margins of middle coxae. Antennae, first segment, length 0.38, thicker on basal half and tapering apically, yellowish green, a heavy black longitudinal line on inner and one on outer side, these two lines connected apically across ventral aspect; second, 1.41, yellowish, a narrow black annulus at base; third, 0.91, yellowish; fourth, 0.56, dusky yellow. Pronotum, length 0.56, width at base 1.10. Clothed with moderately long, simple, white pubescence, longest on pronotum and base of hemelytra, more recumbent and partly sericeous on clavus; a tuft of fuscous hairs at tip of clavus and inner basal angle of cuneus. General coloration pale to white; hemelytra somewhat translucent; blotches and spots on corium and clavus; edge of clavus bordering scutellum, edges of cuneus, and veins in membrane, bluish green; membrane clear, a fuscous mark bordering apex of larger areole. Legs pale to yellowish green, hind femora usually with one or two green spots on dorsal aspect. Male genital claspers distinctive, fig. 124.

FEMALE.—Length 3.80, width 1.47. Head

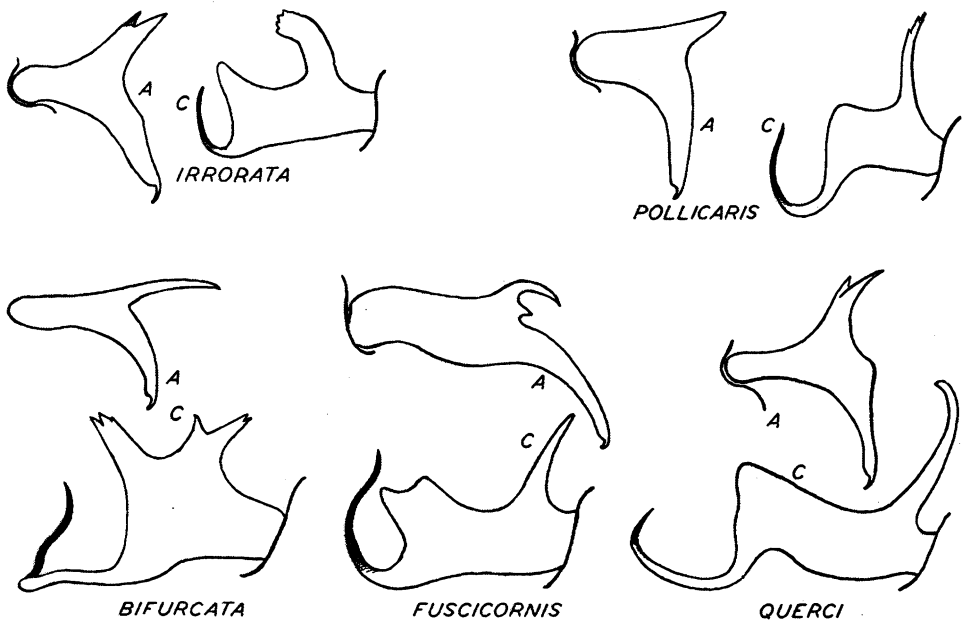


Fig. 124.—Male genital claspers of *Reuteria*. A, left clasper, lateral aspect; C, right clasper, lateral aspect.

width 0.67, vertex 0.36. Antennae, first segment, length 0.39; second 0.95; marked as in male. Slightly more robust than male, but very similar in pubescence and coloration.

HOST PLANTS.—Chiefly on elm (*Ulmus americana*); also, two Illinois specimens were taken on cypress (*Taxodium distichum*).

KNOWN DISTRIBUTION.—Illinois, Indiana, Iowa, Minnesota, New York.

Illinois Records.—Twenty males and 34 females, taken June 24 to Aug. 11, are from Aldridge, Algonquin, Ashley, Champaign, Dubois, Galesburg, Grafton, Harrisburg, Kansas, Karnak, Monticello, Pulaski, Rockford, Starved Rock State Park, Urbana.

Reuteria bifurcata Knight

Reuteria bifurcata Knight (1939b, p. 130).

This is distinguished from allied species by the bifurcate form of the male genital claspers, fig. 124; it differs in color from *irrorata* (Say) and *fuscicornis* Knight in the absence of green dots on the clavus and the corium.

MALE.—Length 4.80, width 1.60. Head width 0.75, vertex 0.36. Rostrum, length 1.30, reaching to middle of intermediate coxae. Antennae, first segment, length 0.44, black marks typical for genus; second, 1.69, yellowish, a distinct black ring at base; third, 1.21, yellowish to dusky; fourth, 0.69, dusky yellow. Pronotum, length 0.62, width at base 1.25. Clothed with pale, simple pubescence as in *irrorata*.

FEMALE.—Length 4.30, width 1.65. Color and pubescence not differing from those of male.

KNOWN DISTRIBUTION.—Illinois, Maryland, New York, Oklahoma.

Illinois Record.—SHAWNEETOWN: June 27, 1936, DeLong & Mohr, 1 ♂.

Reuteria fuscicornis Knight

Reuteria fuscicornis Knight (1939b, p. 129).

This species is distinguished from *irrorata* (Say) by the structure of the male genital claspers, fig. 124, and the fuscous coloration of the second antennal segment.

MALE.—Fig. 125. Length 4.30, width 1.30. Head width 0.65, vertex 0.55. Rostrum, length 1.21, reaching to apices of middle coxae. Antennae, first segment, length 0.43, pale, a heavy, black, longitudinal

line on inner and one on outer margin, the two lines connected apically across ventral aspect; second, 1.53, blackish at base, shading to fuscous on basal half or more, yellowish apically; third, 1.17, yellowish;

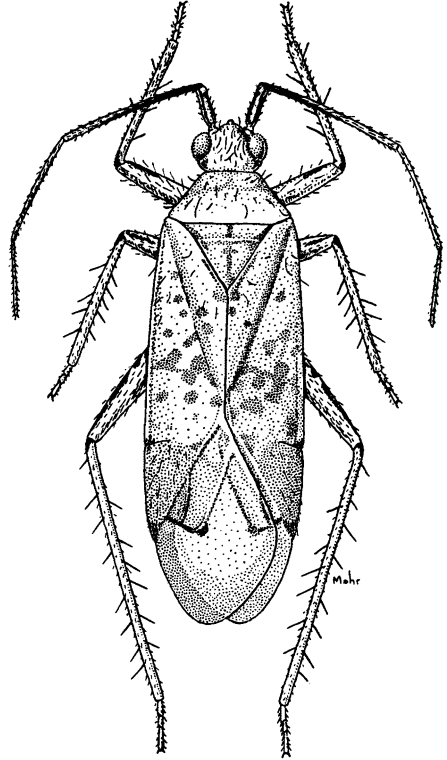


Fig. 125.—*Reuteria fuscicornis*, ♂.

fourth, 0.56, dusky. Pronotum, length 0.52, width at base 1.12. Clothed with simple pale pubescence, hairs longer on pronotum, embolium and vertex of head; a few fuscous hairs at the tip of clavus; pubescence more recumbent and silky on clavus and corium. Coloration pale to whitish, hemelytra more translucent; apex and outer basal angle of cuneus, veins at tip of membrane cells, blotch on corium near tip of clavus, bluish green. This differs from *irrorata* in having much less green on the hemelytra and femora. Ventral surface and legs pale; femora sometimes shaded with greenish but not forming distinct spots; tibiae with a black point at base.

FEMALE.—Length 4.30. Color and pubescence not differing greatly from those of the male.

HOST PLANTS.—Hop hornbeam (*Ostrya*

virginiana) and water beech (*Carpinus caroliniana*).

KNOWN DISTRIBUTION. — Illinois, Iowa, Minnesota, New York, Ontario.

Illinois Records. — HARRISBURG: June 25, 1932, Ross, Dozier & Park, ♂ ♂, ♀ ♀. KARNAK: June 23, 1932, Ross, Dozier & Park, 1 ♂, 1 ♀.

Reuteria querci Knight

Reuteria querci Knight (1939*b*, p. 131).

This species is allied to *irrorata* (Say), but is distinguished by the structure of the male genital claspers, fig. 124; the females of *querci* and *irrorata* may be separated by the absence in *querci* of well-formed green blotches on the corium and the presence of paler veins in the membrane.

MALE.—Length 4.30, width 1.40. Head width 0.71, vertex 0.35. Rostrum, length 1.17, reaching to near hind margins of middle coxae. Antennae, first segment, length 0.43, marked with black, as typical for genus; second, 1.51, yellowish, black at base; third, 0.95, yellowish; fourth, 0.56, dusky yellow. Pronotum, length 0.56, width at base 1.14. Clothed with pale, simple pubescence, clavus and corium with somewhat sericeous pubescence, a tuft of fuscous hairs at tip of clavus.

FEMALE.—Length 4.40, width 1.50. Coloration and pubescence similar to those of male.

HOST PLANT.—Bur oak (*Quercus macrocarpa*).

KNOWN DISTRIBUTION. — Illinois, Iowa, Maryland, Minnesota, New York, Virginia.

Illinois Records. — ALTON: June 23, 1934, DeLong & Ross, 1 ♂. DIXON SPRINGS: June 23, 1932, Ross, Dozier & Park, 1 ♂. GOLCONDA: June 22, Ross, Dozier & Park, 1 ♀. KARNAK: June 23, 1932, on *Quercus* sp., Ross, Dozier & Park, 2 ♂, 2 ♀. ROCKFORD: July 5, 1932, Dozier & Mohr, 3 ♂. URBANA: June 27, 1932, on oak, Frison & Ross, 1 ♂. WHITE HEATH: July 4, 1933, H. H. Ross, 2 ♂.

Reuteria platani new species

This is distinguished from other species of the genus by the indistinct inner black line on the first antennal segment, this black line forming a letter J on the ventral aspect.

FEMALE.—Length 4.90, width 1.64. Head width 0.73, vertex 0.41. Rostrum, length

1.42, reaching to middle of hind coxae. Antennae, first segment, length 0.43, white, inner black line indistinct on basal half, connecting portion distinct, black lines forming a distinct letter J; second, 1.77, white, a narrow black annulus at base; third, 1.12, pale; fourth, 0.65, pale. Pronotum, length 0.60, width at base 1.16. Clothed with rather long, white pubescence, longest on thorax, head and base of hemelytra, a tuft of fuscous hairs at tip of clavus and inner angle of paracuneus. General coloration pale to white, hemelytra semitranslucent, devoid of green blotches, cuneus tinged with greenish, but without spots; membrane clear, veins opaque whitish. Legs pale; femora tinged with greenish, but without spots; spot on bases of hind tibiae and at tips of tarsi black.

HOST PLANT.—Sycamore (*Platanus occidentalis*).

Holotype, female.—Snyder, Ill.: July 23, 1932, on sycamore, Dozier & Park.

Paratype.—Same data as for holotype, 1 ♀.

Reuteria pollicaris Knight

Reuteria pollicaris Knight (1939*b*, p. 131).

Not taken in Illinois; described from Mississippi. Male genital claspers as in fig. 124.

Mecomma Fieber

No Illinois species; *Mecomma gilvipes* (Stål) is known from Michigan, New York, Ontario.

Cyrtorhinus Fieber

No Illinois species; *Cyrtorhinus caricis* (Fallen) is known from Minnesota.

Melanotrichus Reuter

KEY TO SPECIES

- Dorsum with black, scalelike pubescence, fig. 152; color chiefly deep apple green; veins green; membrane including larger areoles fuscous. *althaeae*, p. 96
- Dorsum with pale, silky, glossy pubescence. 2
- Hemelytra and scutellum dusky in color; length of second antennal segment less than width of pronotum

at posterior margin. . . . **catulus**, p. 97
 Hemelytra and scutellum greenish;
 length of second antennal segment
 greater than width of pronotum at
 posterior margin; membrane dusky;
 veins and areoles green.
 **flavosparsus**, p. 96

Melanotrichus flavosparsus (Sahlberg)

Phytocoris flavosparsus Sahlberg (1842, p. 411).

MALE.—Length 4.00, width 1.30. Head width 0.69, vertex 0.55. Antennae, first segment, length 0.28; second, 1.21. Pronotum,

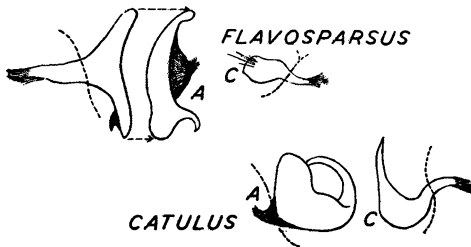


Fig. 126.—Male genital claspers of *Melanotrichus*. A, left clasper; C, right clasper.

length 0.45, width at base 0.95. General color clear green, becoming yellowish on callosities, head and ventral surface; membrane dusky; areoles and veins green. Clothed with simple, erect, bristlelike, fuscous pubescence, intermixed with spots of silvery, sericeous pubescence. Genital claspers as in fig. 126.

FEMALE.—Length 4.00, width 1.50. Head width 0.80, vertex 0.43. Antennae, first segment, length 0.30; second, 1.25. Pronotum, length 0.56, width at base 1.21. Color and pubescence similar to those of male.

FOOD PLANTS.—Lamb's quarter, known likewise as pigweed (*Chenopodium album*); also, Illinois specimens were collected on hawthorn (*Crataegus* sp.), beet (*Beta vulgaris*), willow (*Salix* sp.), cypress (*Taxodium distichum*), spruce (*Picea* sp.) and sunflower (*Helianthus* sp.). Some of these records are undoubtedly accidental.

KNOWN DISTRIBUTION.—Common over the eastern United States.

Illinois Records.—One hundred forty males and 174 females, taken May 12 to Oct. 9, are from Algonquin, Alton, Alto Pass, Anna, Antioch, Arcola, Beardstown, Bloomington, Champaign, Chicago, Clayton, Colona, Delavan, Des Plaines, Dixon, Dol-

son, Dongola, Elizabeth, Elizabethtown, Fairmount, Forest City, Galena, Galesburg, Grafton, Grand Detour, Grand Tower, Grandview, Hatton, Havana, Kampsville, Kankakee, Karnak, Keithsburg, Meredosia, Momence, Monticello, Mount Carroll, Quincy, Rising, St. Anne, St. Joseph, Savanna, Starved Rock State Park, Tremont, Urbana, York, Zion.

Melanotrichus althaeae (Hussey)

Hollyhock Plant Bug

Orthotylus (Psallus) delicatus Cook (1891, p. 10). *Preoccupied.*

Orthotylus althaeae Hussey (1924, p. 165).

MALE.—Length 4.10, width 1.30. Head width 0.75, vertex 0.39. Antennae, first segment, length 0.44; second, 1.51. Pronotum, length 0.61, width at base 1.14. General color deep apple green; calli, head and ventral surface yellowish; membrane, including areoles, fuscous; veins green. Clothed with simple, erect, pale pubescence intermixed with deciduous, black, sericeous or scalelike pubescence.

FEMALE.—Fig. 127. Length 3.80, width 1.34. Color and pubescence similar to those of male.

HOST PLANT.—Cultivated hollyhock (*Al-*

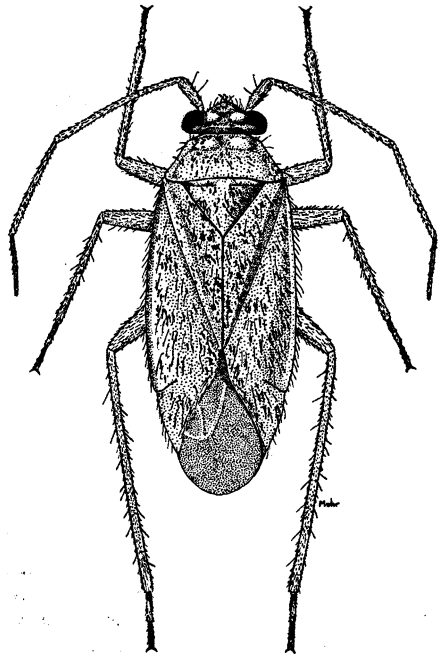


Fig. 127.—*Melanotrichus althaeae*, ♀.

thaea rosea), where it is often a pest. The nymphs and adults feed on the leaves, causing white spots to appear where the chlorophyll is removed; with severe infestation the leaves may turn yellow and dry out. In Colorado the author found this bug breeding on a wild species of *Althaea*. In Illinois it was found breeding also on mallow (*Malva rotundifolia*), a very near relative of the hollyhock.

KNOWN DISTRIBUTION.—Colorado, Illinois, Iowa, Michigan, Minnesota, Wyoming.

Illinois Records.—Sixty-three males and 68 females, taken May 31 to Sept. 30, are from Algonquin, Decatur, Galena, La Harpe, Monticello, Urbana.

Melanotrichus catulus (Van Duzee)

Orthotylus catulus Van Duzee (1916*b*, p. 106).

MALE.—Length 4.50, width 1.60. Head width 0.82, vertex 0.43. Antennae, first segment, length 0.27; second, 1.00. Pronotum, length 0.56, width at base 1.20. General color whitish to testaceous-grayish; head and calli tinged with yellowish; hemelytra sometimes slightly infuscated; membrane fumate. Clothed with simple, erect, fuscous hairs, intermixed with recumbent, silvery, glossy pubescence. Genital claspers distinctive for species, fig. 126.

FEMALE.—Length 3.90, width 1.50. Color and pubescence similar to those of male.

HOST PLANT.—Low cudweed (*Gnaphalium uliginosum*).

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Maine, Minnesota, New York, Ontario.

Illinois Record.—MARSHALL: May 25, 1928, T. H. Frison, 2 ♂, 4 ♀.

Orthotylus Fieber

KEY TO SPECIES

1. Ground color green; dark markings, if present, not clouding corium 2
- Ground color pale testaceous to black, sometimes greenish, but, in that case, hemelytra marked with fuscous and black areas, fig. 129. 11
2. Small, length not over 4.00. 3
- Larger, length 4.50 or more. 7
3. Rostrum not reaching posterior margin of mesosternum, extending very little beyond middle; pubescence fuscous. **chlorionis**, p. 98
- Rostrum attaining or surpassing posterior margin of mesosternum. 4
4. Length of second antennal segment less than three times width of vertex between eyes. . . **robiniae**, p. 100
- Length of second antennal segment equal to or more than three times width of vertex. 5
5. Length of third antennal segment three-fourths length of second segment; hemelytra with soft, simple pubescence intermixed with a limited number of minute, golden, silky hairs. **ulmi**, p. 100
- Length of third antennal segment not more than two-thirds length of second segment; hemelytra with only stiff, simple pubescence. 6
6. Length of second antennal segment distinctly greater than width of pronotum at posterior margin; hemelytra and veins in membrane deep blue green. **taxodii**, p. 101
- Length of second antennal segment not exceeding width of pronotum at posterior margin; hemelytra and veins of membrane yellowish green, veins often pale. **ramus**, p. 100
7. Tylus with small fuscous spot at base. 8
- Tylus without small fuscous spot at base. 9
8. Membrane pale, darkest specimens pale fuscous; clavus never infuscated. **viridis**, p. 101
- Membrane uniformly dark fuscous or black; clavus sometimes with a dusky cloud. **modestus** var. **immaculatus**, p. 104
9. Length of second antennal segment twice width of head across eyes; first antennal segment fuscous; length 5.70. **basicornis**, p. 102
- Length of second antennal segment less than twice width of head across eyes. 10
10. Length 5.80–6.10; rostrum extending upon middle coxae; first antennal segment may be fuscous to black beneath, but always paler above. **rossi**, p. 102
- Length 6.70–7.30; rostrum just attaining posterior margin of mesosternum; first antennal segment uniformly black. **notabilis**, p. 100

11. Ground color green, apical half of clavus, spot on apical half of corium, and broad spot or vitta either side of pronotal disk behind calli, black; length 6.70-7.00 (male).....
.....**notabilis**, p. 100
Ground color not green, or, if so, then length less than 6.50..... 12
12. Pronotal disk partly orange colored; sometimes hemelytra also partly orange..... 13
Pronotal disk without orange coloring..... 14
13. Hemelytra chiefly orange or salmon colored; black either side of commissure and on embolium.....
.....**submarginatus**, p. 103
Hemelytra black; a broad, pale stripe extending full length of corium and connecting with pale cuneus; legs fulvous; apical halves of hind femora black.....**knighti**, p. 102
14. General color pale yellow brown, hemelytra translucent and with fuscous markings very faint or nearly lacking in female; median line of head and scutellum, lateral margins of pronotum, and sides of body, black; antennae black; membrane slightly infuscated, veins brown.....
.....**candidatus**, p. 102
Ground color sometimes pale greenish or yellowish, but dark markings of hemelytra distinct; other markings not as above..... 15
15. Cuneus black, slightly translucent at base; dorsum blackish; slender, pale areas present only at base of corium and of embolium; pale median line present on pronotal disk, this line sometimes continued upon scutellum; length 6.80.....
.....**necopinus**, p. 103
Cuneus pale, or fuscous on inner half only; length not over 6.00..... 16
16. Lateral margins of pronotal disk and propleura, except ventral margin, black; median area of disk and scutellum pale..... 17
Pronotum with different coloring... 18
17. Length of female second antennal segment slightly greater than twice the width of head across eyes; for males see figure of genital claspers, fig. 128.....**nyctalis**, p. 104
Length of female second antennal segment scarcely equal to twice the width of head across eyes; for males see figure of genital claspers, fig. 128**lateralis**, p. 104
18. Length of second antennal segment less than twice width of head across eyes..... 19
Length of second antennal segment twice width of head across eyes... 20
19. Legs green or yellowish, not infuscated; light-colored areas of dorsum greenish or fading to yellowish, never tinged with salmon.....
...**modestus** var. **modestus**, p. 104
Legs pale to greenish, but hind femora fuscous on apical half; light-colored areas of dorsum tinged with salmon.....**ornatus**, p. 103
20. Female calli with outer half black; male genital claspers as in fig. 128...
.....**serus**, p. 102
Female calli, at least the outer half, pallid; for males see figures of genital claspers..... 21
21. Jugal black; smaller, length 5.20.....
.....**dorsalis**, p. 100
Jugal yellowish; larger, length 5.80...
.....**neglectus**, p. 105

Orthotylus chlorionis (Say)

Capsus chlorionis Say (1832, p. 25; 1859, p. 346).

This species is distinguished by its small size, short rostrum, green color and simple, fuscous pubescence.

MALE.—Length 3.70, width 1.25. Rostrum, extending very slightly beyond middle of mesosternum, green, apex black. Antennae, greenish yellow, last two segments dusky to fuscous. General color green, head and ventral surface yellowish; membrane pale, veins green. Clothed with simple, short, fuscous pubescence, this paler on embolium. Male genital claspers distinctive, fig. 128.

FEMALE.—Length 3.80, width 1.40. Head width 0.73, vertex 0.38. Antennae, first segment, length 0.30; second, 1.04; third, 0.90; fourth, 0.31. Pronotum, length 0.51, width at base 1.12. More robust than male, but very similar in color and pubescence.

HOST PLANTS.—Honey locust (*Gleditsia triacanthos*) and black locust (*Robinia pseudoacacia*).

KNOWN DISTRIBUTION.—Connecticut, District of Columbia, Illinois, Indiana,

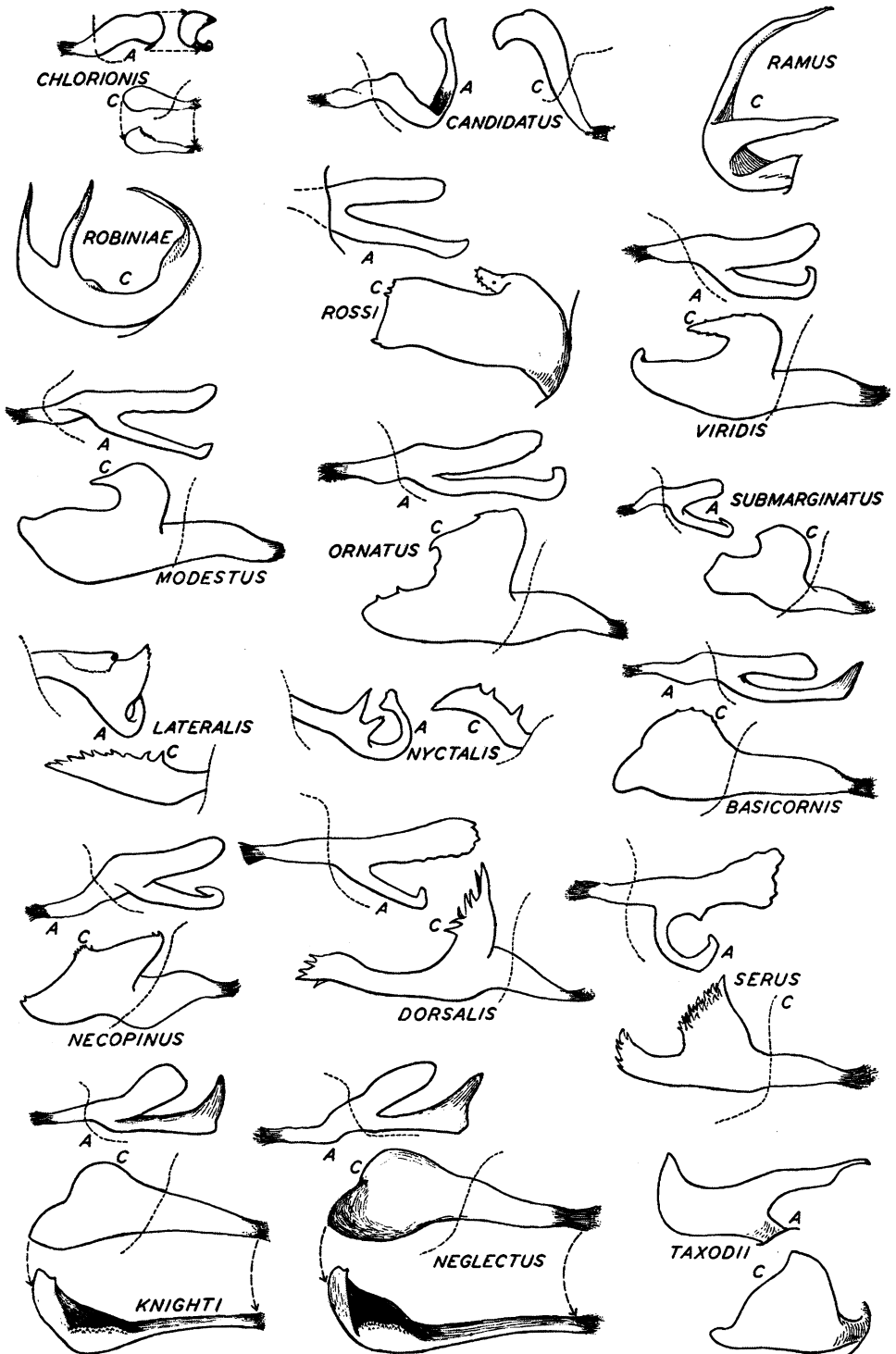


Fig. 128.—Male genital claspers of *Orthotylus*. A, left clasper, lateral aspect; C, right clasper, lateral aspect.

Iowa, Mississippi, Ohio, Texas, Virginia.

Illinois Records.—ELIZABETHTOWN: May 27-31, 1932, on *Robinia pseudoacacia*, H. L. Dozier, 24 ♀. MASON CITY: June 2, 1933, C. O. Mohr, 3 ♂, 9 ♀. MUNCIE: June 8, 1917, 1 ♀. OAKWOOD: June 14, 1930, T. H. Frison, 1 ♀. WHITE HEATH: May 30, 1915, 1 ♂.

Orthotylus ramus Knight

Orthotylus ramus Knight (1927e, p. 178).

This species is suggestive of *chlorionis* (Say), but is somewhat larger, with pale yellowish pubescence.

MALE.—Length 3.90, width 1.50. Eyes and shape of head about as in female of *chlorionis*. Antennae yellowish green, last segment dusky. General color uniformly green or yellowish green, membrane pale, veins green. Genital structures distinctive, fig. 128, right clasper forked near base and forming two long, curved, acuminate arms; dorsal margin of genital segment with a strong chitinous spine projecting posteriorly.

FEMALE.—Length 4.10, width 1.54. Very similar to male in form, pubescence and coloration.

HOST PLANTS.—Hickory (*Carya* sp.) and pecan (*Carya illinoensis*); according to Johnston these insects feed largely on the catkins or male flowers and but very little on the pistillate flowers. A single specimen was taken in Illinois on wild grape (*Vitis* sp.), but that record is probably accidental.

KNOWN DISTRIBUTION.—Georgia, Illinois, Iowa, Michigan, Mississippi, New York, Texas.

Illinois Records.—DANVILLE: June 8, 1902, Titus & Kahl, 1 ♀. ELIZABETHTOWN: May 27-31, 1932, H. L. Dozier, 2 ♂, 5 ♀. MASON CITY: June 2, 1933, C. O. Mohr, 5 ♂, 10 ♀. MONTICELLO: June 11, 1934, Frison & DeLong, 2 ♂. MOUND CITY: May 24, 1932, H. L. Dozier, 2 ♂, 4 ♀. MOUNDS: May 23, 1932, on wild grape, H. L. Dozier, 1 ♂. SPRINGFIELD: June 27, 1885, in woods, C. A. Hart, 1 ♂.

Orthotylus robiniae Johnston

Orthotylus robiniae Johnston (1935, p. 15).

MALE.—Length 3.60, width 1.30. Rostrum slightly surpassing hind margin of mesosternum. Antennae yellowish green, last two segments dusky. General color uniformly green or yellowish green; mem-

brane pale to dusky, veins green. Clothed with simple, pale to yellowish pubescence. Genital claspers distinctive, fig. 128; right clasper forked near apex, forming two short, flattened, acuminate arms curving inward and upward to near middle of genital segment, the apex of each flattened and with short, blunt teeth; dorsal margin of genital segment with a slender chitinous spine projecting postero-ventrally.

FEMALE.—Length 3.60, width 1.47. More robust than male, but very similar in color and pubescence.

HOST PLANT.—Black locust (*Robinia pseudoacacia*).

KNOWN DISTRIBUTION.—Described from Mississippi and now recorded from Illinois.

Illinois Records.—EICHORN: June 13, 1934, Hicks Branch, DeLong & Ross, 1 ♂. FAIRFIELD: June 12, 1934, DeLong & Ross, 2 ♂. MASON CITY: June 2, 1933, C. O. Mohr, 1 ♂.

Orthotylus notabilis Knight

Orthotylus notabilis Knight (1927e, p. 176).

Not taken in Illinois; known from Iowa, Kansas, Minnesota, South Dakota; Saskatchewan. Host unknown.

Orthotylus ulmi Knight

Orthotylus ulmi Knight (1927e, p. 179).

Not taken in Illinois; known from Minnesota and New York; breeds on elm (*Ulmus* sp.) and should eventually be found in Illinois.

Orthotylus dorsalis (Provancher)

Lygus dorsalis Provancher (1872, p. 104).

MALE.—Length 4.90, width 1.50. Rostrum reaching upon bases of middle coxae. Form elongate, costal margins of hemelytra nearly parallel. General color black. Cuneus, embolium, base of corium, and rather broad area along radius, greenish translucent; median line of pronotum frequently paler; rostrum, except apex, and legs, green; coxae paler; membrane fuscous, veins slightly paler. Genital claspers as in fig. 128.

FEMALE.—Fig. 129. Length 5.20, width 1.60. Pale green to greenish yellow; juga, arc or spot on either side of front, stripe either side of median line, stripe extending from inner basal angles of calli to basal margin of disk, scutellum except median line.

(usually), all but base of clavus and large spot on inner apical angles of corium, dark fuscous to black; pale area of corium extending along claval suture and thus tending to separate dark apical area from that of

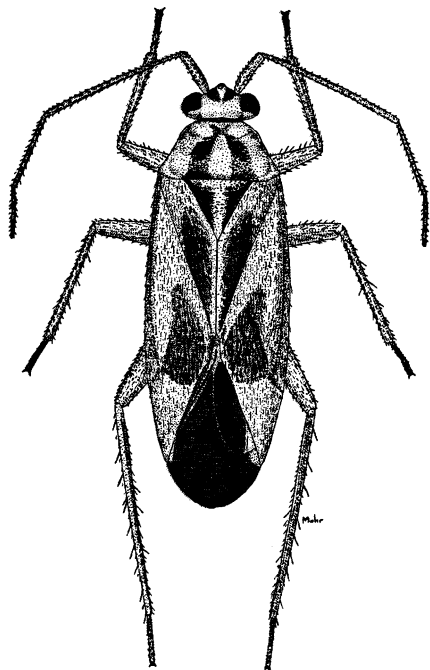


Fig. 129.—*Orthotylus dorsalis*, ♀.

clavus; membrane infuscated, veins distinctly paler. Legs green, femora yellowish; tip of rostrum and apices of tarsi blackish.

HOST PLANT.—Willow (*Salix* sp.).

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Maine, Michigan, Minnesota, New York, Ohio, Ontario, Quebec.

ILLINOIS RECORDS.—NORTHERN ILLINOIS: 4 ♀. ANTIOCH: July 5-7, 1932, Frison *et al.*, 1 ♂, 2 ♀. FREEPORT: July 2, 1917, 1 ♀. GRANDVIEW: June 24, 1932, Frison & Mohr, 1 ♂.

Orthotylus taxodii new species

This species is allied to *robiniae* Johnston, but is distinguished by the longer second antennal segment.

MALE.—Length 3.30, width 1.10. Head width 0.62, vertex 0.30. Rostrum reaching to bases of hind coxae. Antennae yellowish green, with pale pubescence; last two segments fuscous; length of first segment 0.26; second, 1.00, cylindrical, nearly equal to

thickness of first; third, 0.54; fourth, 0.30. General color green; with mesoscutum, calli and vertex yellowish; hemelytra slightly translucent; cuneus uniformly green like corium; membrane pale fumate, veins green. Clothed with simple, pale yellowish pubescence. Legs yellowish green; tibial spines dark. Genital claspers distinctive for species, fig. 128.

FEMALE.—Length 3.40, width 1.20. Slightly more robust than male, but very similar in color and pubescence. Head width 0.64, vertex 0.34. Antennae, first segment, length 0.27; second, maximum width, 1.14, tapering to become more slender on basal half; third, length 0.56; fourth, length 0.37. Pronotum, length 0.48, width at base 1.00.

HOST PLANT.—Bald cypress (*Taxodium distichum*).

Holotype, male.—Grantsburg, Ill., June 22, 1932, on cypress, Ross, Dozier & Park.

Allotype, female.—Same data as for holotype.

Paratypes.—ILLINOIS.—Same data as for holotype, 7 ♂, 36 ♀. ELIZABETHTOWN: June 22-24, 1932, Ross, Dozier & Park, 2 ♀. GOLCONDA: June 22, 1932, Ross, Dozier & Park, 6 ♀. KARNAK: June 14, 1934, on cypress, DeLong & Ross, 12 ♂, 26 ♀. SHAWNEETOWN: June 14, 1934, DeLong & Ross, 1 ♀.

Orthotylus viridis Van Duzee

Orthotylus viridis Van Duzee (1916*b*, p. 103).

MALE.—Length 4.60, width 1.50. Rostrum reaching to middle of intermediate coxae. Antennae dusky yellow, last two segments pale fuscous. General color green; head, pronotum anteriorly, embolium, and femora, yellowish; base of tylus with a small fuscous spot; membrane pale to fumate. Clothed with simple, recumbent, pale pubescence. Genital claspers as in fig. 128.

FEMALE.—Length 4.80, width 1.55. Slightly more robust than male, but very similar in color and pubescence.

HOST PLANT.—Black willow (*Salix nigra*) and perhaps other willows.

KNOWN DISTRIBUTION.—Connecticut, District of Columbia, Illinois, Iowa, Maryland, Michigan, Mississippi, New York, North Carolina, Ohio, Pennsylvania, Quebec, Tennessee, Virginia.

ILLINOIS RECORDS.—Sixty-three males and 60 females, taken June 14 to Aug. 1, are

from Elizabethtown, Galesburg, Golconda, Grand Detour, Herod, Kansas, Rockford, St. Joseph, Savanna, Starved Rock State Park, White Heath.

Orthotylus candidatus Van Duzee

Orthotylus candidatus Van Duzee (1916*b*, p. 124).

Not taken in Illinois; known from Minnesota, New Hampshire, New York; breeds on American aspen (*Populus tremuloides*). Male claspers as in fig. 128.

Orthotylus knighti Van Duzee

Orthotylus knighti Van Duzee (1916*b*, p. 121).

Not taken in Illinois; known from Indiana, New York, Ohio; breeds on American aspen (*Populus balsamifera*) and balm of Gilead (*P. candicans*). Male claspers as in fig. 128.

Orthotylus serus Van Duzee

Orthotylus serus Van Duzee (1921, p. 131).

MALE.—Length 5.30, width 1.58. General color black; median line of pronotal disk and scutellum pale; embolium, outer margin of corium and cuneus pale greenish, translucent; genae, gula, bucculae, rostrum except apex, sternum, and legs, greenish yellow; membrane and veins uniformly dark fuscous. Male genital claspers as in fig. 128.

FEMALE.—Length 5.56, width 1.61; very similar to male in form and coloration; hemelytra with costal margins nearly parallel; sometimes the pronotal disk, vertex and front bordering eyes with broader pale mark than in male.

HABITS.—Breeds on hawthorns (*Crataegus punctata* and *C. tomentosa*).

KNOWN DISTRIBUTION.—Illinois, Iowa, New York.

Illinois Record.—FRANKFORT: June 8, 1933, on *Crataegus tomentosa*, Mohr & Townsend, 19 ♂, 32 ♀.

Orthotylus basicornis Knight

Orthotylus basicornis Knight (1923*d*, p. 515).

MALE.—Length 5.60, width 1.66. Rostrum reaching to middle of intermediate coxae. Antennae with first segment black, second yellowish to pale fuscous, third pale fuscous, fourth fuscous. General color

green; embolium and outer edge of corium yellowish green; membrane pale, veins green. Clothed with prominent, suberect, rather coarse, pale pubescence. Suggestive of *viridis* Van Duzee, but distinguished by the black, first antennal segment and structure of the male genital claspers, fig. 128.

FEMALE.—Length 5.60, width 1.70. Very similar to male in form, color and pubescence.

HOST PLANT.—Sandbar willow (*Salix longifolia*).

KNOWN DISTRIBUTION.—Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Quebec, South Dakota.

Illinois Records.—Thirty-nine males and 30 females, taken June 9 to Aug. 24, are from Antioch, Beardstown, Bureau, Fulton, Freeport, Galena, Grand Detour, Kamps-ville, Keithsburg, McHenry, Normal, Oquawka, Quincy, Savanna, Urbana, Warsaw, Waukegan, West Union.

Orthotylus rossi new species

This species is allied to *basicornis* Knight, but differs in its shorter second antennal segment; the first segment is always paler or greenish above; the structure of the male genital claspers is distinctive, fig. 128. *Orthotylus rossi* is also allied to the western species, *fuscicornis* Knight, but differs in being larger, having a longer first antennal segment and short, recumbent pubescence, and in details of the genital claspers.

MALE.—Length 6.10, width 1.80. Head width 1.18, vertex 0.43. Rostrum, length 1.56, extending slightly beyond middle of intermediate coxae. Antennae, first segment, length 0.56, fuscous to black beneath, yellowish to green above; second, 1.95, yellowish green, length less than twice width of head; third, 1.08, fuscous; fourth, 0.56, fuscous. Pronotum, length 0.99, width at base 1.65. Clothed with rather short, recumbent, pale pubescence. General color uniformly yellowish green to clear green; eyes, first antennal segment beneath, tip of rostrum, and tips of tarsi, blackish; membrane pale, veins yellowish to greenish. Genital claspers distinctive, right clasper differs from that of *basicornis* by having a broad, truncated apex.

FEMALE.—Length 6.30, width 2.16. Head width 1.12, vertex 0.56. Antennae, first segment, length 0.54, fuscous to blackish beneath; second, 1.86; third, 1.08; fourth,

0.56. Pronotum, length 1.08, width at base 1.78. More robust than male, but very similar in color and pubescence.

HOST PLANT.—Willow (*Salix* sp.).

Holotype, male.—Warsaw, Ill.: June 9, 1932, on *Salix* sp., Ross & Mohr.

Allotype, female.—Same data as for holotype.

Paratypes.—ILLINOIS.—Same data as for holotype, 5 ♂, 5 ♀. CHAMPAIGN: June 15, 1888, at light, C. A. Hart, 1 ♀. GRAND TOWER: June 27, 1906, on willow, C. A. Hart, 7 ♂, 13 ♀. KAMPSVILLE: June 25, 1932, Frison, Betten & Ross, 2 ♂. KEITHSBURG: June 8, 1932, on *Salix* sp., Ross & Mohr, 2 ♂. SAVANNA: July 23, 1892, on sandbar in Mississippi River, McElfresh, Hart & Forbes, 1 ♂, 2 ♀.

IOWA.—AMES: Aug., 1940, 1 ♀. COUNCIL BLUFFS: July 16, 1940, 1 ♂. DAVENPORT: June 27, 1940, 3 ♂. DUBUQUE: June 27, 1 ♂; July 5, 1 ♂; July 9, 1940, 1 ♂. MUSCATINE: July 27, 1940, trap light, 1 ♂. All Iowa paratypes, KC.

***Orthotylus necopinus* Van Duzee**

Orthotylus necopinus Van Duzee (1916*b*, p. 125).

MALE.—Length 6.60, width 2.11. General color brownish black; juga, vertex, area extending along front of eyes, median line of pronotal disk and frequently anterior part of median line of scutellum, base of embolium, slender area at base of radius, areas bordering cuneal fracture, pale to pale translucent; basal half of venter, and coxae, pale; femora and tibiae testaceous to fuscous; genital claspers, fig. 128, distinctive for species.

FEMALE.—Length 6.80, width 2.20; very similar to male, but frequently with pale areas broader.

HOST PLANT.—Yellow birch (*Betula lutea*) in cool, damp, shaded situations.

KNOWN DISTRIBUTION.—Illinois, New Hampshire, New York, Ontario.

ILLINOIS RECORD.—NORTHERN ILLINOIS, UI.

***Orthotylus submarginatus* (Say)**

Capsus submarginatus Say (1832, p. 23; 1859, p. 244).

MALE.—Length 4.60, width 1.33. Dorsum pale salmon to orange; antennae, front of head, lateral margins of pronotal disk,

scutellum, rather broad area on either side of commissure, embolium, area at apex of corium, apex of cuneus, and membrane, blackish or black; rostrum, except apex, pale; legs mostly pale, with hind femora dusky and tibiae almost black. Genital claspers as in fig. 128.

FEMALE.—Length 4.80, width 1.44; very similar to male, but salmon yellow areas more broad above; venter white with dorso-lateral margins black; ostiolar peritreme fuscous, epimera and sternum blackish.

HOST PLANT.—Black locust (*Robinia pseudoacacia*).

KNOWN DISTRIBUTION.—Connecticut, Illinois, Indiana, Maryland, Missouri, New York, Ohio, Pennsylvania, Virginia.

ILLINOIS RECORDS.—BLUFF SPRINGS: June 10, 1932, Ross & Mohr, 1 ♀. MCCLURE: June 25, 1931, Frison, Betten & Ross, 1 ♀.

***Orthotylus ornatus* Van Duzee**

Orthotylus ornatus Van Duzee (1916*b*, p. 122).

MALE.—Length 5.60, width 1.78. Rostrum extending to bases of middle coxae. Body clothed with moderately short, recumbent, simple, pale yellowish pubescence. General color black or very dark brown; tip of scutellum, basal angles of corium, and cuneus, pale to pale translucent; membrane fuscous, veins and spot on middle of apical half slightly paler; legs pale to dusky, front and middle femora very dark brown, posterior pair darker. Genital claspers as in fig. 128.

FEMALE.—Length 6.00, width 2.05. General color chiefly pale, tinged with reddish, varied with fuscous. Base of tylus and spot just above, sometimes an arc on front, basal margins of calli, pronotal disk, except median line and lateral margins, basal angles of scutellum, apical half of corium, and part of clavus, fuscous to blackish; antennae pale fusco-brownish, first segment darker; hind femora very dark brown. Sometimes this sex may have blackish areas broader and paler parts not at all tinged with reddish.

HOST PLANT.—Crack willow (*Salix fragilis*).

KNOWN DISTRIBUTION.—Colorado, Connecticut, Illinois, Indiana, Iowa, Minnesota, New York, Ohio, Ontario, South Dakota, Texas.

ILLINOIS RECORDS.—Eight males and 11 females, taken May 14 to July 8, are from

Algonquin, Antioch, Apple River Canyon State Park, Dubois, Elizabeth, Galena, Meredosia, Muncie, Oregon, Valley City.

Orthotylus nyctalis Knight

Orthotylus nyctalis Knight (1927*e*, p. 181).

This species is very similar to *lateralis* Van Duzee in color, but its form is more slender; the two differ chiefly in the structure of the male genital claspers.

MALE.—Length 5.10, width 1.40. Rostrum extending slightly beyond middle of intermediate coxae. Antennae very dark fuscous, with second segment uniformly dusky yellow. Coloration nearly as in *lateralis*, but darker. Clothed with simple, suberect, bristly, pale hairs. Ground color pale, with lateral margins of pronotal disk, dorsal halves of propleura, and all but narrow area at apex of first antennal segment, black; outer half of corium, base of clavus, apical half of cuneus, episterna, and dorso-lateral margins of venter, fuscous to blackish; membrane pale fuscous with veins and narrow areas of membrane bordering veins, clear. Genital claspers as in fig. 128.

FEMALE.—Length 4.80, width 1.64. Antennae dusky yellow, third segment pale to dusky, fourth dusky. More robust than male, but very similar in color and pubescence.

KNOWN DISTRIBUTION.—Illinois, Iowa, Minnesota, New York, Wisconsin.

Illinois Records.—OAKWOOD: July 5, 1936, Mohr & Burks, 1 ♀. WILLOW SPRINGS: July 21, 1912, on poplar, W. J. Gerhard, 1 ♀, KC.

Orthotylus lateralis Van Duzee

Orthotylus lateralis Van Duzee (1916*b*, p. 120).

MALE.—Length 4.60, width 1.47. Head pale yellowish, frons and tylus blackish. Rostrum, length 1.30, extending upon tips of middle coxae, yellowish, apex black. Antennae with first segment black; second cylindrical, black, clothed with fine, short, dusky pubescence; third and fourth black. Pronotum black; ventral margins of propleura pallid; disk behind calli and the anterior margin, pale to yellowish; calli brownish to black. Scutellum pallid, lateral margins narrowly fuscous; mesoscutum yellowish to fuscous. Hemelytra dark fuscous; base of corium, embolium and base of cu-

neus pale translucent. Membrane and veins pale fuscous, central area paler. Body beneath pale to yellowish; sides of thorax and venter dark fuscous. Dorsum clothed with simple, suberect, pale to dusky pubescence. Legs pale greenish; apical half of hind femora fuscous; tibiae dusky; tarsi fuscous.

FEMALE.—Length 4.80, width 1.50. More robust than the male; similar in color but pallid areas more extensive.

KNOWN DISTRIBUTION.—Described from Colorado and since recognized from Illinois, Iowa, Minnesota and Oklahoma.

Illinois Records.—GALESBURG: July 16, 1892, on "cottonwood," Stromberg, 3 ♀. MONTICELLO: June 28, 1914, C. A. Hart, 1 ♀.

Orthotylus modestus Van Duzee

Orthotylus modestus Van Duzee (1916*b*, p. 109).

MALE.—Length 4.40, width 1.44. Rostrum reaching to middle of intermediate coxae. Antennae fusco-brownish, first segment darker. General color fuscous to blackish. Head and paler parts of hemelytra tinged with yellowish; embolium pale, base of corium, rather broad area along radius, and cuneus, greenish yellow; membrane uniformly infuscated, veins scarcely paler. Body clothed with moderately prominent, simple, pale yellowish pubescence. Genital claspers distinctive for species, fig. 128.

FEMALE.—Length 4.50, width 1.47. General color pale greenish. Legs darker; dorsum marked with blackish; spot at base of tylus, transverse mark across bases of calli, mark paralleling basal margin of pronotal disk which approaches but does not attain lateral angles, basal angles and median spot at base of scutellum, all but basal angles of corium, and spot on inner apical angle of corium, fuscous to black; membrane uniformly dark fuscous.

The black markings vary greatly in extent and intensity, in some cases being indistinct or absent. The uniformly green-colored specimens of this species constitute the variety *immaculatus* Knight (1923*d*, p. 520).

HOST PLANTS.—Willows (*Salix fragilis* and *S. nigra*).

KNOWN DISTRIBUTION.—Connecticut, District of Columbia, Illinois, Indiana, Iowa, Michigan, Minnesota, New Jersey, New York, Ohio, Ontario, Pennsylvania.

Illinois Records.—Eighty-nine males and 106 females, taken May 22 to Aug. 1, are from Alton, Antioch, Beardstown, Bureau, Danville, Decatur, Elizabethtown, Freeport, Galena, Galesburg, Golconda, Grand Detour, Grand Tower, Hardin, Havana, Herod, Homer, Keithsburg, Mahomet, Marshall, Monticello, Mount Carmel, Oquawka, Oregon, Quincy, Quiver Lake, Rockford, St. Joseph, Savanna, Seymour, Springfield, Urbana, Warsaw, White Heath.

Orthotylus neglectus Knight

Orthotylus neglectus Knight (1923*d*, p. 515).

MALE.—Length 5.40, width 1.75. In color pattern similar to *dorsalis* (Provancher), but genital claspers, fig. 128, indicate it is more closely related to *basicornis* Knight and *knightsi* Van Duzee. Color black, rostrum except apex, slender lateral margin of pronotal disk, cuneus, embolium, and outer margin of corium, greenish; legs greenish, darkened at bases of coxae and tips of tarsi; membrane and veins uniformly blackish. Rarely, pale forms may occur having median line of pronotum and scutellum pale.

FEMALE.—Length 5.80, width 1.90; more robust than the male, usually pale areas more extensive.

FOOD PLANT.—Black willow (*Salix nigra*).

KNOWN DISTRIBUTION.—Connecticut, Illinois, New York, Nova Scotia.

Illinois Record.—ANTIOCH: June 12, 1936, Ross & Burks, 1 ♂.

Noctuocoris Knight

No Illinois species; *Noctuocoris fumidus* (Van Duzee) occurs from Colorado eastward to New York and Massachusetts. It will likely be found in Illinois eventually.

Labopidea Uhler

KEY TO SPECIES

1. Pubescence very short, recumbent, with just a few odd, erect, fuscous hairs scattered over pronotum and mesoscutum. **ainsliei**, p. 105
Pubescence prominent, dorsum clothed with erect, pale hairs. 2
2. Anterior margin of pronotum not raised above flat surface of the disk. **planifrons**, p. 105

Anterior margin of pronotum and calli slightly arched, raised above flat, central area of disk. **allii**, p. 105

Labopidea planifrons Knight

Labopidea planifrons Knight (1928*a*, p. 234).

Not taken in Illinois; known from Iowa and South Dakota.

Labopidea ainsliei Knight

Labopidea ainsliei Knight (1928*a*, p. 235).

This species is allied to *allii* Knight, but differs in having a wider vertex, shorter pubescence and pale yellowish green color; *ainsliei* is also distinguished by the form of the male genital claspers.

MALE.—Length 3.50, width 1.15. Antennae, greenish yellow, last two segments brownish. Body clothed with very short, fine, pale pubescence; a few silvery, silky hairs also evident on pronotum. General color greenish yellow, hemelytra more green, but not blue green as in perfect specimens of *allii*; membrane and veins evenly shaded with pale fumate. Genital claspers distinctive, left clasper more slender than in *allii*, basal lobe produced above to form an acuminate spine; right clasper slender, widened at base to form a dorsal, subtriangular lobe; apical half slender, incurved and acuminate.

FEMALE.—Length 3.50, width 1.34. More robust than male, but very similar in color and pubescence.

HOST PLANTS.—Wild onion (*Allium cernuum*) and cultivated onions in Iowa.

KNOWN DISTRIBUTION.—Illinois and Iowa.

Illinois Records.—FOUNTAIN BLUFF: May 15, 1932, Frison, Ross & Mohr, 1 ♂. GIANT CITY STATE PARK: May 21, 1932, H. L. Dozier, 1 ♂. MUNCIE: June 10, 1919, 1 ♂.

Labopidea allii Knight

Onion Plant Bug

Labopidea allii Knight (1923*b*, p. 31).

This is a small, blue green species with fine, erect, simple, pale pubescence, figs. 130, 131.

MALE.—Length 4.00, width 1.28. Head width 0.86, vertex 0.49. Rostrum, length 0.75, scarcely reaching to middle of sternum.

Antennae, first segment, length 0.34; second, 1.05, yellowish brown, green at base; third, 1.01, dusky brown; fourth, 0.43, fuscous. Pronotum, length 0.48, width at base 1.08; disk rather flat, anterior margin and calli

about smaller areole green; tip of rostrum black. Male genital claspers distinctive for species, fig. 132.

FEMALE.—Length 4.10, width 1.48. More robust than male, but very similar in color and pubescence. Brachypterous females are at hand from Iowa; in these the last two segments of abdomen are exposed, cuneus short and membrane lacking.

HOST PLANTS.—Wild garlic (*Allium canadense*) and wild onion (*Allium cernuum*);

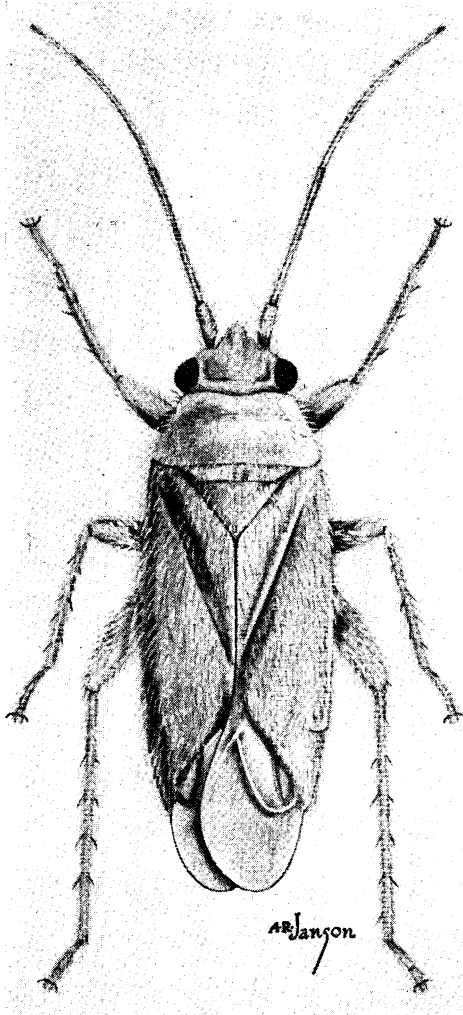


Fig. 130.—*Labopidea allii*, the long-winged form.

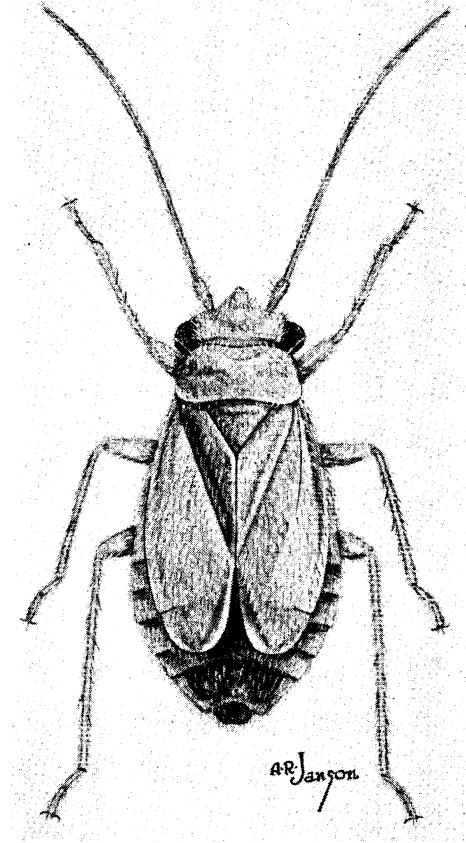


Fig. 131.—*Labopidea allii*, the short-winged form.

slightly arched. Body clothed with fine, erect, simple, pale hairs, this pubescence longest on clavus, base of embolium, margins of pronotum, and frons; on pronotum and hemelytra minute, silvery, sericeous hairs which shine in certain lights also present. General color a pale blue green; antennae, except first segment, brownish; membrane uniformly pale fumate, veins

this species often migrates to cultivated onions, where it becomes exceedingly abundant, often killing the plants. In southern Missouri from 1934 to 1936, many plantings of Bermuda onions were destroyed. *Labopidea allii* is also reported as a pest in southern Iowa and eastern Kansas. The bug winters as an egg in old onion stems. Destroying the old onion tops and eradicat-

ing the nearby stands of the wild host should keep the pest under control.

KNOWN DISTRIBUTION.— Illinois, Indiana, Iowa, Kansas, Missouri, Oklahoma.

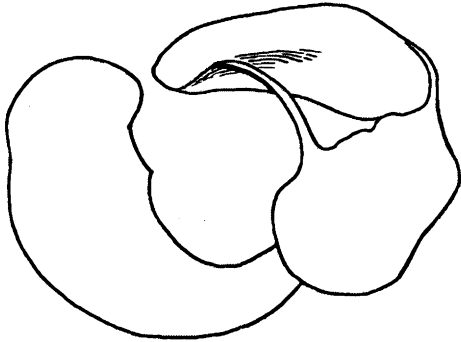


Fig. 132.—Male genital claspers of *Labopidea alli*.

Illinois Records.—Sixteen males and 15 females, taken May 7 to October, are from Green County, Alto Pass, Anna, Cache, Cobden, Dongola, Elizabethtown, Fountain Bluff, Grand Tower, Olney, Rattlesnake Ferry, Urbana.

Heterocordylus Fieber

Heterocordylus malinus Reuter

Heterocordylus malinus Reuter (1909, p. 71).

MALE.—Length 6.20, width 2.20. Head width 1.12, vertex 0.58. Antennae, first segment, length 0.47; second, 1.80, maximum thickness equal to that of first segment, pubescence prominent, black; third, length 0.73, moderately slender; fourth, length 0.52, slender. Pronotum, length 1.12, width at base 1.95. General color black, usually with a patch of red on basal angles of pronotum and hemelytra. Clothed with very fine, yellowish to dusky, simple pubescence, intermixed with rather sparsely placed tufts of white, deciduous, tomentose pubescence.

FEMALE.—Fig. 133. Length 6.20, width 2.40. Antennae with second segment nearly as thick as first segment but more slender on basal half. Red areas often broader than those of male; usually with basal half of pronotum, embolium, inner half of corium, base and exterior margin of clavus, and cuneus, red; more rarely entirely black, as in male. Pubescence as in male.

FOOD PLANTS.—Hawthorn (*Crataegus* sp.) is the original host, but in many locali-

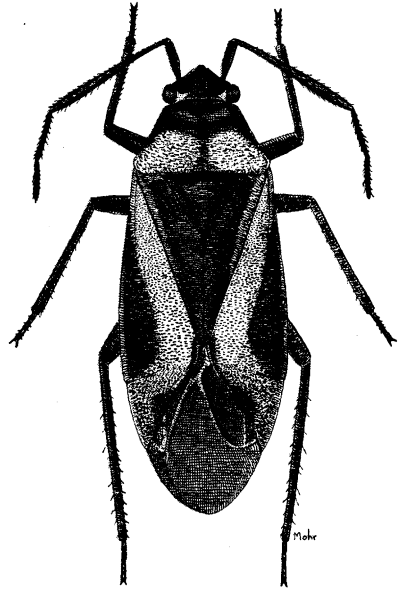


Fig. 133.—*Heterocordylus malinus*, ♀.

ties the species migrates and breeds on cultivated apple (*Pyrus malus*). A single Illinois specimen was collected on locust (*Robinia pseudoacacia*). Known as a pest of apple in New York where the nymphs have been observed to puncture the small fruits; this species is not, however, so serious a pest as *Lygidea mendax* Reuter.

KNOWN DISTRIBUTION.— Illinois, Indiana, Iowa, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, New York, Ohio, Ontario, Pennsylvania, Wisconsin.

Illinois Records.— Twenty-one males and 33 females and 7 nymphs, taken May 23 to June 27, are from Eldorado, Elizabeth, Galena, Galesburg, Glen Ellyn, Manito, Pegrin, Willow Springs.

CERATOCAPSINI

KEY TO GENERA

- Pronotum anterior to middle nearly cylindrical, rather abruptly flaring behind middle, basal half of disk strongly convex; emboliar margins sulcate on basal half..... **Pamillia**, p. 108
- Pronotum regularly narrowed anteriorly, its sides not constricted at middle; emboliar margins not sulcate, fig. 197..... **Ceratocapsus**, p. 108

Pamillia Uhler

No Illinois species; *Pamillia davisi* Knight is known from New Jersey.

Ceratocapsus Reuter

KEY TO SPECIES

1. Clothed only with simple pubescence, although sometimes also with prominent, long, pilose hairs. 2
Clothed with two types of pubescence; bearing either more or less closely appressed, silky, tomentose pubescence, or scalelike pubescence, and in addition intermixed, more erect pubescence. 6
2. Head and antennae chiefly red; dorsum uniformly yellowish. 3
Head and antennae not distinctly red; dorsum more or less darkened. 4
3. Antennae entirely red.
Antennae with first segment and basal part of second yellowish.
..... **lutescens**, p. 111
4. Dorsum dark brown, a broad pale or yellowish mark extending across hemelytra just beyond tip of scutellum. **fasciatus**, p. 109
Dorsum without transverse pale fascia 5
5. Robust; head and thorax not, or scarcely, darker than hemelytra, which are very dark brown with basal half frequently paler; length 4.30. **modestus**, p. 111
Slender; head and thorax black, hemelytra yellowish with a fuscous cloud on corium; sometimes brachypterous; length 4.50.
..... **nigrocephalus**, p. 111
6. Dorsum dark brown, a broad, pale mark extending across hemelytra just beyond tip of scutellum; this pale area in cuticula, not formed by pubescence. **pilosulus**, p. 109
Dorsum without transverse pale mark 7
7. Pronotum impunctate, sometimes with vague, minute cracks. 8
Pronotum punctate, these punctures sometimes rather minute, but always distinctly present. 14
8. Clavus bearing long, pilose hairs. 9
Clavus without long, pilose hairs. 11
9. Length of first antennal segment

- equal to not more than three-fourths width of vertex in male, in female less than three-fourths; male slender, length of second antennal segment only slightly exceeding width of head; female brachypterous, disk of corium swollen, convex
..... **camelus**, p. 114
Length of first antennal segment approximately equal to width of vertex. 10
10. Second antennal segment fuscous at apex; male best distinguished by structure of genital claspers, fig. 134
..... **husseyi**, p. 113
Second antennal segment uniformly pale yellowish; male best distinguished by structure of genital claspers, fig. 134. **sericus**, p. 113
 11. Length of third antennal segment not equal to width of vertex plus dorsal width of one eye; color uniformly yellowish, antennae brownish apically. **luteus**, p. 111
Length of third antennal segment greater than width of vertex plus dorsal width of one eye. 12
 12. Length of second antennal segment approximately equal to or greater than width of pronotum at base; color very dark brown, almost black; length 4.50. **nigellus**, p. 111
Length of second antennal segment less than width of pronotum at base. 13
 13. Third and fourth antennal segments approximately equal in length; total length 3.10. **taxodii**, p. 111
Third antennal segment distinctly longer than fourth; total length 3.40. **vicinus**, p. 112
 14. Length of third antennal segment greater than width of vertex plus dorsal width of one eye. 15
Length of third antennal segment equal to or less than width of vertex plus dorsal width of one eye. 17
 15. Length of third antennal segment equal to width of head; female ovate, brachypterous, length 2.50; male length 3.10. **setosus**, p. 115
Length of third antennal segment less than width of head. 16
 16. Pronotum with a fuscous spot behind each callus; scutellum and clavus bearing a few long, pilose hairs.
..... **complicatus**, p. 114

- Pronotum with calli and anterior area of disk dark fuscous to black; scutellum and clavus rather thickly clothed with suberect, yellowish pubescence, but without long, pilose hairs. **pumilus**, p. 112
17. Length of second antennal segment greater than width of head plus dorsal width of one eye. **incisus**, p. 113
Length of second antennal segment not exceeding width of head plus dorsal width of one eye. 18
18. Membrane uniformly pale, darkest specimens with membrane slightly smoky; length 2.80. **quadrispiculus**, p. 114
Membrane dark. 19
19. Second and third antennal segments uniformly pale yellowish. **uniformis**, p. 113
Third antennal segment dark or reddish brown. 20
20. Dorsum densely clothed with erect, rather bristly pubescence. **digitulus**, p. 115
Dorsum more sparsely clothed with semierect pubescence. 21
21. Membrane uniformly fuscous. **decurvatus**, p. 116
Membrane pale, fuscous on apical one-third only. **fuscinus**, p. 115

Ceratocapsus fasciatus (Uhler)

Megacoelum fasciatum Uhler (1877, p. 421).

MALE.—Length 3.00, width 1.30. Head width 0.65, vertex 0.28. Antennae, first segment, length 0.26; second, 0.91; third, 0.60; fourth, 0.48. Pronotum, length 0.56, width at base 1.04. General color dark chestnut brown with legs and antennae paler; hemelytra with a broad, transverse, pale yellowish band behind tip of scutellum; clothed only with fine recumbent, yellowish pubescence. Genital claspers as in fig. 134.

FEMALE.—Length 3.10, width 1.40. Head width 0.67, vertex 0.33. Antennae, first segment, length 0.29; second, 0.99; third, 0.61; fourth, 0.52. Pronotum, length 0.56, width at base 0.67. Very similar to male in color and pubescence.

HOST PLANT.—Hickory (*Carya* sp.).

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Mis-

issippi, New York, North Carolina, Ohio, Virginia.

ILLINOIS RECORDS.—ILLINOIS: July 16, 1892, 1 ♂; 1 ♂, 2 ♀. ARGO: Aug. 13, 1916, W. J. Gerhard, 1 ♂, FM. DUBOIS: July 2, 1909, beating from tree, 1 ♀. GALESBURG: June 27, 1892, 2 ♀. PALOS PARK: July 27, 1913, on hickory, W. J. Gerhard, 1 ♀, FM.

Ceratocapsus rubricornis Knight

Ceratocapsus rubricornis Knight (1927c, p. 145).

MALE.—Length 4.30, width 1.70. Antennae deep red, last two segments somewhat darker red. Clothed with simple, yellowish pubescence; a few longer, more nearly erect hairs on base of clavus, scutellum and disk of pronotum. Color uniformly pale yellowish; antennae, head, propleura above middle of coxal cleft, and hind tibiae, bright red. Genital claspers distinctive, fig. 134; differ from those of *lutescens* Reuter by long, decurved, sickle-shaped apical half of right clasper and by broader basal spine.

FEMALE.—Length 4.40, width 1.90. In coloration and pubescence similar to male.

FOOD PLANTS.—Collected on linden (*Tilia americana*).

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Mississippi.

ILLINOIS RECORD.—GALESBURG: August, on linden, 1 ♀.

Ceratocapsus pilosulus Knight

Ceratocapsus pilosus Knight (1923d, p. 526). *Preoccupied*.

Ceratocapsus pilosulus Knight (1930c, p. 198).

This species is very similar to *fasciatus* (Uhler) in size and coloration but is readily to be distinguished by the long, pilose hairs on the head and the dorsum, and by the claspers, fig. 134.

MALE.—Length 3.40, width 1.30. Front beset with several prominent, erect hairs. Rostrum attaining hind margins of posterior coxae. Antennae with second segment becoming gradually thicker from base to apex, yellowish brown; third brownish; fourth dark brown. Pronotum clothed with fine, yellowish pubescence, margins of disk beset with prominent pilose hairs. General color dark brown; hemelytra with a broad, transverse, pale yellowish fascia just behind apex of scutellum. Hemelytra clothed with very

fine, closely appressed, sericeous pubescence, intermixed with longer recumbent pubescence and sparsely set, erect, pilose hairs, pubescence taking color of surface beneath.

FEMALE.—Length 3.60, width 1.60. More robust than male, but very similar in color and pubescence.

FOOD PLANTS.—Collected on hop horn-

beam (*Ostrya virginiana*), bur oak (*Quercus macrocarpa*) and hazelnut (*Corylus americana*).

KNOWN DISTRIBUTION.—Illinois, Iowa, Massachusetts, Minnesota, New York.

Illinois Records.—NORTHERN ILLINOIS: July, 1 ♀; 1 ♂, 1 ♀. ALGONQUIN: June 10, 1896, 2 ♂, 1 ♀. GALENA: June 30, 1932,

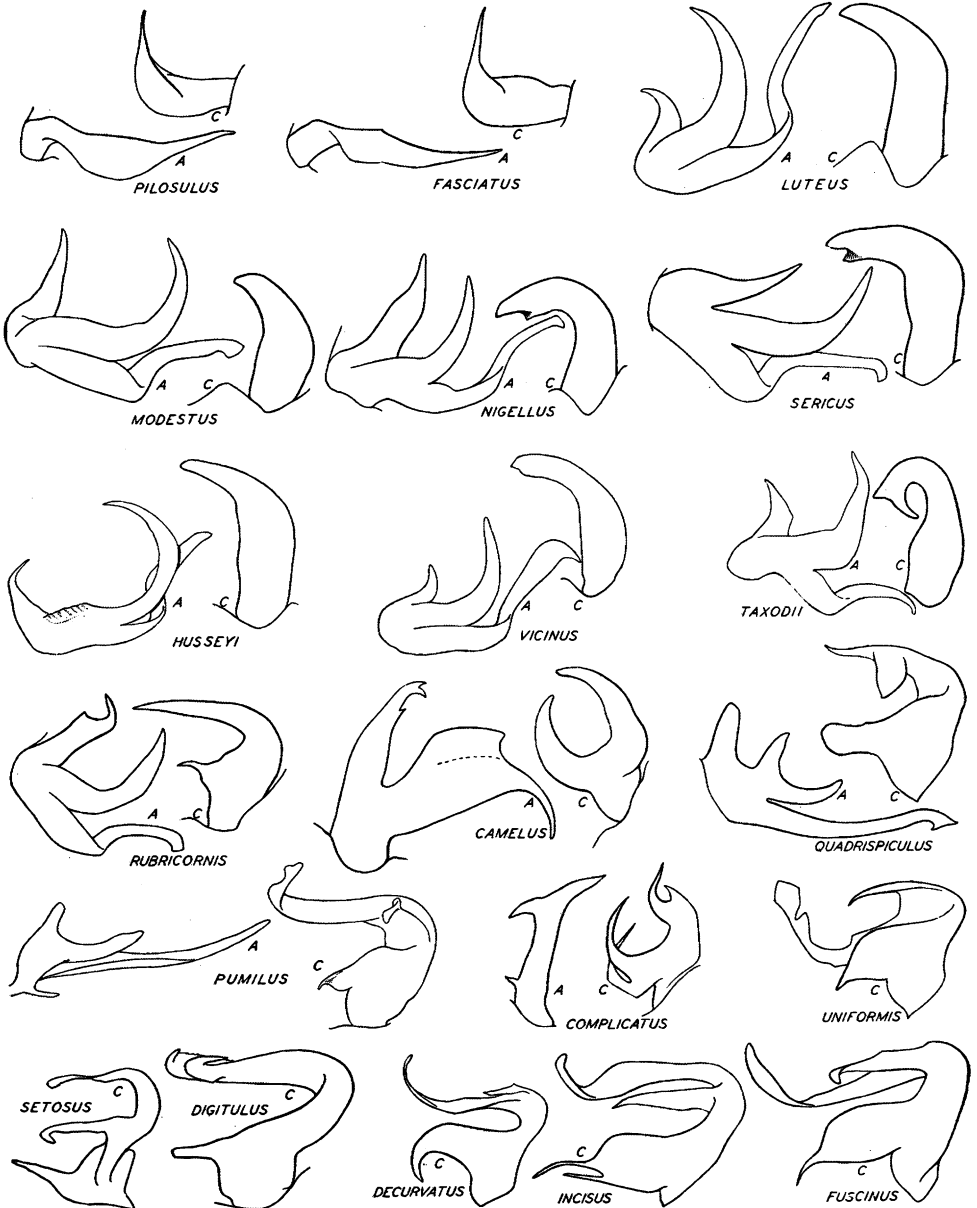


Fig. 134.—Male genital claspers of *Ceratocapsus*. A, left clasper, lateral aspect; C, right clasper, lateral aspect.

Dozier & Mohr, on *Corylus* sp., 9 ♂, 5 ♀.
WILLOW SPRINGS: June 28, 1903, W. J. Gerhard, 1 ♂, 2 ♀, FM; June 26, 1904, W. J. Gerhard, 1 ♂, FM; July 8, 1906, W. J. Gerhard, 1 ♀, FM; July 18, 1909, A. B. Wolcott, 1 ♂, FM.

Ceratocapsus lutescens Reuter

Ceratocapsus lutescens Reuter (1876, p. 87).

Not taken in Illinois; known from Florida, Kansas, Long Island, New York, Texas.

Ceratocapsus nigrocephalus Knight

Ceratocapsus nigrocephalus Knight (1923d, p. 534).

Not taken in Illinois; known from Iowa, Michigan, Minnesota, New Hampshire, Ontario, Quebec, South Dakota.

Ceratocapsus modestus (Uhler)

Melinna modesta Uhler (1887c, p. 69).

MALE.—Length 4.00, width 1.40. General color yellowish brown to dark fuscous brown. Dorsum impunctate, surface very finely alutaceous; scutellum, clavus and inner apical margin of corium beset with a few long erect hairs, but devoid of closely appressed, sericeous pubescence. Genital claspers as in fig. 134.

FEMALE.—Length 4.40, width 1.70. Similar to male in general color.

FOOD PLANTS.—Occurs on basswood (*Tilia americana*), oak (*Quercus* sp.), alder (*Alnus rugosa*) and grape (*Vitis* sp.).

KNOWN DISTRIBUTION.—Extensive over the eastern United States.

Illinois Records.—Thirty males and 22 females, taken June 24 to Sept. 4, are from Algonquin, Antioch, Argo, Cary, Chicago, De Soto, Eichorn, Fox Lake, Galesburg, Glen Ellyn, Havana, Pulaski, Starved Rock State Park, Urbana, Waukegan, West Pullman, Willow Springs.

Ceratocapsus nigellus Knight

Ceratocapsus nigellus Knight (1923d, p. 528).

This resembles the dark forms of *modestus* (Uhler), but is readily distinguished by the pubescence of the scutellum.

MALE.—Length 4.50, width 1.70. Antennae clothed with short, closely set pubescence; dark reddish brown to blackish. Pronotum alutaceous, finely and sparsely pu-

bescent, a few, more nearly erect hairs also present. Scutellum, clavus and basal half of corium clothed with closely appressed, scalelike pubescence sparsely intermixed with simple pubescence. General color very dark brown, almost black; cuneus frequently more reddish brown; tibiae yellowish brown. Membrane and veins uniformly fuscous, area bordering apex of cuneus slightly paler. Genital claspers as in fig. 134.

FEMALE.—Length 4.60, width 1.84. Very similar to male in color and pubescence.

HABITS.—Collected on hickory (*Carya* sp.), the nymphs frequently found on the trunk and larger limbs of the trees; perhaps predacious.

KNOWN DISTRIBUTION.—Georgia, Illinois, Iowa, Maryland, Minnesota, New Jersey, New York, North Carolina, Ohio, Virginia.

Illinois Records.—Nineteen males and 22 females, taken June 11 to Aug. 9, are from Galena, Galesburg, La Rue, Monticello, Oakwood, Round Lake, Shawneetown, Urbana, Waukegan, White Pines Forest State Park, Zion.

Ceratocapsus luteus Knight

Ceratocapsus luteus Knight (1923d, p. 527).

MALE.—Length 3.80, width 1.46. Antennae with first segment yellowish, second yellowish, brownish on apical half, third fusco-brownish, fourth very dark brown. Pronotum impunctate, somewhat alutaceous. Dorsum clothed with very fine, simple, yellowish pubescence, intermixed with closely appressed, silvery, scalelike pubescence on scutellum, clavus and inner half of corium. General color uniformly yellowish, tinged with brownish; membrane uniformly pale fumate, veins tinged with yellowish. Claspers as in fig. 134.

FEMALE.—Length 4.00, width 1.64. Very similar to male in color and pubescence.

KNOWN DISTRIBUTION.—Illinois, New York, West Virginia.

Illinois Record.—BEACH: Aug. 7, 1935, DeLong & Ross, 1 ♂, 1 ♀.

Ceratocapsus taxodii Knight

Ceratocapsus taxodii Knight (1927c, p. 143).

This species is allied to *luteus* Knight but is distinguished by its smaller size, longer second antennal segment, and yellow antennae with a reddish fourth segment.

MALE.—Length 3.20, width 1.30. Antennae with all segments nearly equal in thickness; all but fourth yellow; the fourth segment reddish. Pronotum impunctate, alutaceous. Dorsum clothed with fine, simple, yellowish pubescence, intermixed on scutellum, clavus and inner half of corium with closely appressed, silvery, scalelike pubescence. General color light reddish; hemelytra more or less translucent, old specimens may become brownish red; membrane pale fuscous, becoming gradually paler toward base. Genital claspers distinctive, fig. 134.

FEMALE.—Length 3.10, width 1.30. Very similar to male in pubescence and coloration.

FOOD PLANT.—Cypress (*Taxodium distichum*).

KNOWN DISTRIBUTION.—Florida, Illinois, Louisiana, Mississippi, Tennessee.

Illinois Records.—CAIRO: July 27, 1930, on *Taxodium distichum*, Knight & Ross, 4 ♂, 2 ♀. ELIZABETHTOWN: July 25, 1930, on *Taxodium distichum*, Knight & Ross, 1 ♂, 8 ♀. HORSESHOE LAKE: July 11, 1935, DeLong & Ross, 11 ♂, 22 ♀. JONESBORO: Aug. 2, 1932, on *Taxodium distichum*, H. L. Dozier, 2 ♂, 6 ♀. KARNAK: July 26, 1930, on *Taxodium distichum*, Knight & Ross, 4 ♂, 13 ♀; June 23, 1932, Ross, Dozier & Park, 1 ♂.

Ceratocapsus pumilus (Uhler)

Melinna pumila Uhler (1887c, p. 69).

MALE.—Length 3.70, width 1.50. Antennae with first segment yellowish, a red mark present near base; second yellowish, third yellowish, apical half reddish brown; fourth brownish. Dorsum with fine, black punctures; thickly clothed with prominent, simple, yellowish pubescence intermixed with shorter, closely appressed, silvery yellow, sericeous pubescence. General color yellowish brown to dark brown, calli and anterior third of pronotum almost black; dark specimens with the whole dorsum very dark brown, almost black; membrane fuscous, paler on basal half. Genital claspers distinctive, fig. 134.

FEMALE.—Fig. 135. Length 3.90, width 1.70. More robust than male, but very similar in color, pubescence and puncturation.

FOOD PLANTS.—Occurs most frequently on grape (*Vitis* sp.) and willow (*Salix* sp.); also taken on red birch (*Betula nigra*).

KNOWN DISTRIBUTION.—Extensive over the eastern United States and Canada.

Illinois Records.—One hundred one males and 81 females, taken June 10 to Sept. 20, are from Algonquin, Alton, Antioch, Apple River Canyon State Park, Beardstown, Browns, Carbondale, Des Plaines, Dolson, Eichorn, Elizabethtown, Galesburg, Golconda, Hardin, Harrisburg, Herod, Homer Park, Kampsville, Kankakee, Kansas,

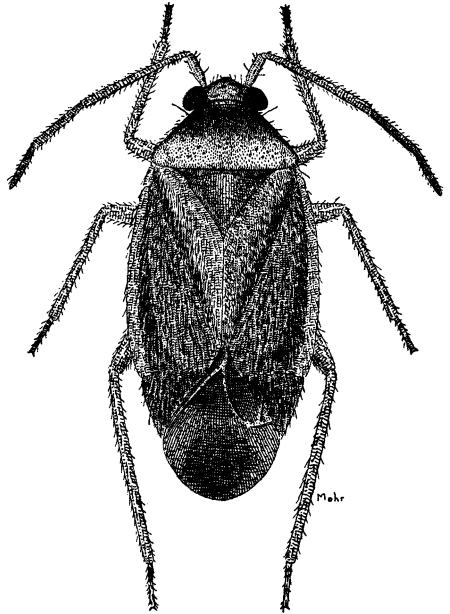


Fig. 135.—*Ceratocapsus pumilus*, ♀.

Metropolis, Monticello, Muncie, Pike, Putnam, Savanna, Seymour, Starved Rock State Park, Topeka, Vienna, Walnut Prairie, West Union, White Heath, York.

Ceratocapsus vicinus Knight

Ceratocapsus vicinus Knight (1923d, p. 529)

MALE.—Length 3.40, width 1.40. Antennae with first segment yellowish, frequently a red mark on ventral surface; second yellowish, brownish at apex; third reddish brown; fourth reddish brown. Pronotum impunctate, alutaceous, sparsely clothed with fine, yellowish pubescence. Scutellum, clavus and basal half of corium covered with closely appressed, silvery, scalelike pubescence. General color fulvous to reddish; scutellum and apical half of hemelytra dark brownish to blackish; legs yellowish; membrane pale, apical half fus-

cous. Genital claspers distinctive, fig. 134.

FEMALE.—Length 3.60, width 1.60. More robust than male, but very similar in color and pubescence.

KNOWN DISTRIBUTION.—Illinois, New Jersey, New York.

Illinois Records.—ASHLEY: Aug. 7, 1917, 1 ♀. MEREDOSIA: Aug. 22, 1917, sand pit, 1 ♀.

Ceratocapsus sericus Knight

Ceratocapsus sericus Knight (1923*d*, p. 530).

MALE.—Length 3.90, width 1.56. Dorsum clothed with rather sparsely set, erect, yellowish, pilose hairs; scutellum, clavus and inner half of corium covered with closely appressed, sericeous or scalelike pubescence. General color very dark brown; legs and antennae yellowish; third and fourth antennal segments dark reddish brown. Membrane and veins uniformly pale fuscous, a small clear spot bordering apex of cuneus. Genital claspers distinctive, fig. 134.

FEMALE.—Length 4.10, width 1.66. Very similar to male in color and pubescence.

KNOWN DISTRIBUTION.—Illinois, Michigan, New Jersey, New York, Pennsylvania, Wisconsin.

Illinois Records.—GALESBURG: 1 ♂; July 16, 1892, 1 ♀.

Ceratocapsus incisus Knight

Ceratocapsus incisus Knight (1923*d*, p. 532).

MALE.—Length 3.70, width 1.50. Antennae with second segment slender at base and gradually thickened toward apex; third brownish, nearly equal in thickness to second segment; fourth brownish, equal in thickness to third segment. Disk with fine, black punctures similar to those on clavus and corium. Dorsum clothed with prominent, suberect, yellowish pubescence, intermixed on scutellum, clavus and corium with closely appressed, silvery, sericeous or scalelike pubescence. General color very dark brown, more yellowish on clavus, embolium and base of pronotum; membrane and veins pale fumate, apical half fuscous, margins slightly paler. Legs yellowish to greenish; femora scarcely darker. Genital claspers distinctive, fig. 134.

FEMALE.—Length 4.00, width 1.70. Antennae with second segment slender, slightly thicker apically, yellowish; third brownish, paler at base; fourth brownish. Very simi-

lar to male in pubescence and coloration.

FOOD PLANTS.—Occurs on willow (*Salix* sp.), alder (*Alnus rugosa*) and hornbeam (*Carpinus caroliniana*).

KNOWN DISTRIBUTION.—Illinois, Iowa, New York, Ohio.

Illinois Records.—NORTHERN ILLINOIS: 1 ♀. EICHORN: June 24, 1932, Hicks Branch, on *Alnus rugosa*, Ross, Dozier & Park, 1 ♀. ELIZABETHTOWN: June 22-24, 1932, Ross, Dozier & Park, 2 ♂, 2 ♀. HARRISBURG: June 25, 1932, on *Carpinus caroliniana*, Ross, Dozier & Park, 6 ♂, 7 ♀. KARNAK: June 14, 1934, DeLong & Ross, 4 ♂.

Ceratocapsus husseyi Knight

Ceratocapsus husseyi Knight (1930*c*, p. 196).

MALE.—Length 4.00, width 1.57. Antennae with second segment yellowish, fuscous on apical one-third; third fuscous with a narrow yellowish area at base; fourth fuscous. Pronotum impunctate, alutaceous. Dorsum clothed with two types of pubescence; sparsely set with rather long, erect hairs; and scutellum, clavus and corium also bearing closely appressed, silvery, scalelike hairs. General color very dark brown; inner half of clavus, narrow area at base of corium, entire embolium, and base of pronotum, yellowish. Membrane uniformly fuscous, paler within areoles and on areas bordering cuneus. Genital claspers distinctive, fig. 134, differing from *sericus* Knight particularly in left clasper.

FEMALE.—Length 4.40, width 1.60. Very similar to male in color and pubescence.

KNOWN DISTRIBUTION.—Illinois and Michigan.

Illinois Record.—GALESBURG: July 16, 1892, Stromberg, 2 ♀.

Ceratocapsus uniformis Knight

Ceratocapsus uniformis Knight (1927*c*, p. 147).

The dorsum of this species is more sparsely covered with yellowish, simple pubescence than in *pumilus* (Uhler), and the pubescence in *uniformis* is intermixed with silvery, sericeous hairs; the punctation in *uniformis* is stronger and more distinct than in *pumilus*.

MALE.—Length 3.00, width 1.50. Rostrum reaching middle of hind coxae. Antennae yellowish, with fourth segment brownish. General color uniformly dark reddish

brown; darker at anterior half of pronotum and somewhat paler at basal margin. Membrane and veins uniformly fuscous, a pale spot present near apex of cuneus. Genital claspers distinctive, fig. 134.

FEMALE.—Length 3.00, width 1.50. Similar to male in punctuation, pubescence and coloration.

FOOD PLANT.—Collected on walnut (*Juglans nigra*).

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Maryland, Mississippi, Missouri, Ohio, Virginia, West Virginia.

Illinois Records.—DE SOTO: July 28, 1930, Knight & Ross, 1 ♂. GRAFTON: July 20, 1932, on *Juglans nigra*, Ross & Dozier, 2 ♂, 2 ♀. METROPOLIS: July 26, 1930, Knight & Ross, 1 ♀.

Ceratocapsus camelus Knight

Ceratocapsus camelus Knight (1930c, p. 187).

MALE.—Length 3.80, width 1.08. Form slender. Head width 0.73; vertex 0.38, convexly rounded, basal edge thin, slightly overlapping collar. Pronotum, length 0.82, width at base 1.08; nearly campanulate in form, lateral margins sulcate, coxal clefts visible from above; disk strongly convex, smooth, shining; calli scarcely evident. General color dark brown to almost black; pronotal disk and cuneus darker and shining; ostiolar peritreme white, somewhat protruding laterally. Hemelytra dark brown, translucent, strongly shining, emboliar margins sinuate; a silvery, sericeous, pubescent band extending across middle of corium and clavus near apex; also with similar pubescence at base of clavus and across middle of scutellum; scutellum, clavus and inner angle of corium beset with several erect, moderately long, yellowish, bristlelike hairs; cuneus scarcely deflexed, uniformly very dark brown. Membrane uniformly dark fuscous, area bordering cuneus, and spaces between and within larger areoles, pale. Genital structures distinctive, right clasper bifurcate, each half curving in a semicircle, tips nearly in contact, fig. 134.

FEMALE.—Length 2.80; brachypterous, width across abdomen 1.12. Head width 0.80, vertex 0.52; large, eyes rather small, frons, vertex and tylus forming an arcuate line as viewed from side. Antennae, first segment, length 0.22, pale brownish; second, 1.77, becoming progressively larger from base to apex, very dark brown. Pronotum,

length 0.65, width at base 0.67; disk strongly convex, base strongly depressed below level of anterior margin, sides rounded and slightly sinuate, coxal clefts visible from above. Scutellum depressed, small, triangular, mesoscutum visible, sharply declivent. Hemelytra abbreviated, reaching to middle of abdomen, depressed at base, corium tumidly convex on apical area, shining, apical and inner margins thickly clothed with silvery, sericeous pubescence and also beset with several erect, fine, long hairs; cuneus and membrane absent. Basal abdominal sternite with a frosted spot just posterior to each hind coxa.

KNOWN DISTRIBUTION.—Illinois.

Illinois Records.—ALGONQUIN: July 17, 1896, 1 specimen. URBANA: Aug. 21, 1926, Vera Smith, 1 ♂, 1 ♀.

Ceratocapsus complicatus Knight

Ceratocapsus complicatus Knight (1927c, p. 148).

MALE.—Length 3.80, width 1.50. Antennae with first segment yellowish, a red mark near base; second yellowish; third reddish brown; fourth dark reddish. General color and punctuation nearly as in *pumilus* (Uhler), but dorsum is clothed with silvery, sericeous pubescence sparsely intermixed with long, erect, pilose hairs and usually has two fuscous spots visible on the pronotal disk, one behind each callus. Craspers as in fig. 134.

FEMALE.—Length 3.10, width 1.40. Very similar to male in pubescence, punctuation and coloration.

KNOWN DISTRIBUTION.—Florida, Illinois, Maryland, Mississippi, Missouri, Texas, Virginia.

Illinois Records.—HARRISBURG: June 15, 1934, DeLong & Ross, 1 ♀. HAVANA: Aug. 30, 1917, 1 ♂. HEROD: Aug. 4, 1934, DeLong & Ross, 1 ♂. QUINCY: Aug. 11, 1889, C. A. Hart, 2 ♂.

Ceratocapsus quadrispiculus Knight

Ceratocapsus quadrispiculus Knight (1927c, p. 148).

This species is allied to *uniformis* Knight, and is very similar to it in size and coloration, but differs in having strongly arcuate emboliar margins, a somewhat shorter rostrum and a uniformly pale, smoky membrane; the genital claspers are distinctive, fig. 134.

MALE.—Length 2.90, width 1.50. Antennae yellowish; first segment with red mark near base; fourth segment reddish. Dorsum with irregular, fine, black punctations; clothed with prominent, erect, pale hairs intermixed with appressed, silvery, sericeous pubescence that appears to arise from punctures on hemelytra and scutellum. General color dark reddish brown, more blackish on scutellum and on anterior portion of pronotum; punctures black; legs uniformly yellowish; membrane and veins uniformly pale dusky.

FEMALE.—Length 3.20, width 1.50. More robust than male, but very similar in pubescence and coloration.

FOOD PLANT.—Collected on hornbeam (*Carpinus caroliniana*).

KNOWN DISTRIBUTION.—Illinois, Louisiana, Texas.

Illinois Records.—DONGOLA: July 2, 1916, 1 ♂. HEROD: July 24, 1930, on *Carpinus* sp., Knight & Ross, 2 ♂, 3 ♀.

Ceratocapsus digitulus Knight

Ceratocapsus digitulus Knight (1923*d*, p. 533).

MALE.—Length 3.40, width 1.60. Antennae with first segment yellowish; second yellowish, thickened on apical half, but not attaining thickness of first segment; third scarcely equal in thickness to second segment, yellowish, apical half brownish; fourth brownish. Pronotum punctate, dark brownish, almost black on calli. Dorsum rather densely clothed with erect, somewhat bristly pubescence, intermixed on scutellum and hemelytra with closely appressed, silvery, scalelike pubescence. General color dark brown with a reddish tinge; cuneus reddish brown, embolium translucent yellowish; legs greenish or yellowish; membrane uniformly fusco-brownish, scarcely paler on areas bordering cuneus. Genital claspers distinctive, fig. 134.

FEMALE.—Length 3.50, width 1.70. Antennae with second segment slender, gradually thickened apically; third nearly equal in thickness to that of apex of second segment, yellowish to brownish; fourth brownish. Hemelytra more arcuate than in male, but pubescence, punctation and coloration very similar.

KNOWN DISTRIBUTION.—Illinois, Maryland, Massachusetts, New York, North Carolina, Ontario, Virginia.

Illinois Records.—DUBOIS: July 2, 1909, beating from trees, 1 ♀. VIENNA: June 14, 1934, DeLong & Ross, 2 ♂.

Ceratocapsus setosus Reuter

Ceratocapsus setosus Reuter (1909, p. 70).

MALE.—Length 2.80, width 1.10. Antennae with first segment yellowish, a red mark near base; second yellowish; third fuscous, paler at base; fourth fuscous. Pronotum with disk finely punctate. Dorsum clothed with sparsely set, erect, pilose hairs, intermixed on hemelytra and scutellum with closely appressed, silvery, sericeous pubescence. General color dark brownish, shining; head paler; legs yellowish. Genital claspers distinctive, fig. 134.

FEMALE.—Length 2.60, width 1.43; brachypterous, ovate. Hemelytra rounded at apex, membrane absent or only a mere trace of it remaining at anal angle. Color, puncturation and pubescence similar to those of male. Macropterous females occur in southern states, but appear rarer farther north.

FOOD PLANTS.—Occurs frequently on ferns.

KNOWN DISTRIBUTION.—District of Columbia, Georgia, Illinois, Indiana, Kentucky, Maryland, Mississippi, New Jersey, Ohio, Pennsylvania, Virginia.

Illinois Records.—Eleven males and two females, taken May 19 to Aug. 23, are from Anna, Bluff Springs, Danville, Dongola, Elizabeth, Hardin, Herod, Muncie, Rockton, Union County State Forest, Urbana.

Ceratocapsus fuscinus Knight

Ceratocapsus fuscinus Knight (1923*d*, p. 531).

MALE.—Length 3.70, width 1.61. Antennae with first segment yellow, a red spot on inner side at base; second slender at base and becoming gradually thicker apically, attaining thickness of first segment, yellowish; third yellowish, becoming fuscous on apical half; fourth equal in thickness to third segment, fusco-brownish. Dorsum punctate, clothed with suberect, yellowish pubescence, this pubescence longer and more prominent than in *pumilus* (Uhler) and intermixed with closely appressed, silvery, sericeous pubescence. General color yellowish brown to very dark brown, almost black; calli and anterior portion of pronotum usually blackish; hemelytra yellowish brown, often infuscated; cuneus reddish. Legs yellowish;

femora reddish on apical half; membrane pale fumate, a distinct fuscous cloud occupying middle of apical half. Genital claspers distinctive, fig. 134, both right and left claspers composed of three prongs each.

FEMALE.—Length 3.60, width 1.60. Very similar to male in pubescence and punctation, but emboliar margins more strongly arcuate; pronotum yellowish, only calli and a ray across top of coxal cleft blackish; venter reddish to brownish.

HABITS.—Occurs on willows (*Salix nigra* and *S. amygdaloides*). Evidently predacious in habits.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Iowa, Louisiana, Maryland, Minnesota, Mississippi, Missouri, New York, Ohio.

Illinois Records.—Forty males, 49 females and 1 nymph, taken May 25 to Aug. 30, are from Algonquin, Alton, Antioch, Eichorn, Galesburg, Golconda, Grand Detour, Grand Tower, Havana, Homer Park, Kampsville, Lawrenceville, Meredosia, Metropolis, Monticello, Muncie, Paxton, Putnam, Quincy, St. Joseph, Savanna, Topeka, Urbana, West Union.

Ceratocapsus decurvatus Knight

Ceratocapsus decurvatus Knight (1930c, p. 194).

MALE.—Length 3.70, width 1.64. Antennae pale yellowish, segments three and four reddish. Dorsum punctate, clothed with prominent, nearly erect, yellowish pubescence intermixed on scutellum and hemelytra with silvery, sericeous pubescence; more strongly pubescent than *pumilus* (Uhler), although fuscous punctures on dorsum are very similar. General color yellowish to brownish, calli and propleura dark brown; cuneus reddish, except on outer margin; legs uniformly yellowish; membrane uniformly fuscous. Genital claspers distinctive for species, fig. 134.

FEMALE.—Length 3.80, width 0.88. Very similar to male in pubescence, punctation and coloration.

HABITS.—Predacious; collected on alder (*Alnus rugosa*).

KNOWN DISTRIBUTION.—Illinois, Maryland, New York, Pennsylvania.

Illinois Records.—EICHORN: June 24, 1932, on *Alnus rugosa*, Ross, Dozier & Park, 3 ♂, 1 ♀; June 13, 1934, DeLong & Ross, 6 ♂, 1 ♀.

SYSTELLONOTINI

KEY TO GENERA

Scutellum conically produced, fig. 137; hemelytra with a transverse white fascia across middle of clavus and base of corium. *Cyrtopeltocoris*, p. 117

Scutellum only moderately convex, fig. 136; hemelytra with a pale spot on clavus, or white spot at base of corium, but, in either case, these white marks not forming a complete transverse fascia. *Sericophanes*, p. 116

Sericophanes Reuter

Sericophanes heidemanni Poppius

Sericophanes ocellatus Osborn (1898, p. 238) not Reuter.

Sericophanes heidemanni Poppius (1914b, p. 260).

Sericophanes noctuans Knight (1917a, p. 4).

MALE.—Length 3.40, width 1.00. General color dark chestnut to black. Legs yellowish brown; tibiae darker, posterior coxae pale; antennae yellowish brown, darker on third and fourth segments, fourth segment slightly compressed. Hemelytra velvety brown, darker at base of clavus; two trans-

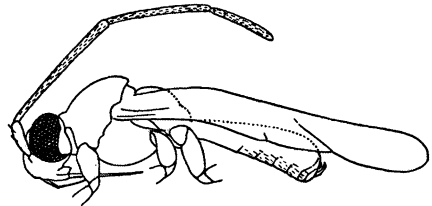


Fig. 136.—*Sericophanes heidemanni*.

verse, irregular, silvery bars over brown; a cream-colored round spot on clavus just beyond scutellum; membrane light smoky, pale areas bordering apical third of cuneus.

FEMALE.—Brachypterous. Length 3.10, width of abdomen 0.97. Antlike in form. General color yellowish brown. Prothorax subglobose; hemelytra much reduced, reaching only base of third abdominal tergite; cream-colored spot present just beyond scutellum; abdomen subglobose, pleural margins prominent, fourth to seventh segments dark brownish to piceous; sternites paler on areas bordering ovipositor.

HABITS.—This species, fig. 136, has been found to occur on grassy ridges. Males are

frequently collected at light. In New York, Dr. C. P. Alexander in letter reports this species as flying up in large numbers from the grass after sundown. In Iowa I found this species abundant in closely cropped pasture land where the little brown ants *Lasius alienus* var. *americanus* Emery were abundant.

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Montana, New York, North Carolina, Ohio, Ontario, Pennsylvania, South Dakota, Utah, Washington, Wyoming.

Illinois Records.—Seventeen males, taken May 10 to Aug. 22, are from Algonquin, Chicago, Oak Lawn, Palos Park, Urbana, Willow Springs.

Cyrtopeltocoris Reuter

Cyrtopeltocoris illini new species

This species is to be distinguished from allied species by the pointed, conical development of the scutellum, fig. 137.

MALE.—Fig. 137. Length 3.60, width 0.91. Head width 0.75, vertex 0.52; eyes scarcely raised above contour of frons, a sharp carina at base of vertex. Rostrum, length 1.40, reaching to middle of hind coxae. Antennae, first segment, length 0.28, pale to white; second, 1.25, nearly cylindrical, fuscous brown, with fine, pale pubescence; third, 0.86, equal in thickness to second segment, dark brown; fourth, 0.60, thickness equal to that of preceding segments, dark

brown. Pronotum, length 0.73, width at base 0.95, disk strongly convex on basal half, collar distinctly narrowed, not equal to width of vertex. Scutellum remarkably developed into a vertical cone with an acuminate point, mesoscutum broadly exposed and sloping downward to base of scutellum. General color medium brown to dark brown, smooth or only very minutely punctate, mod-

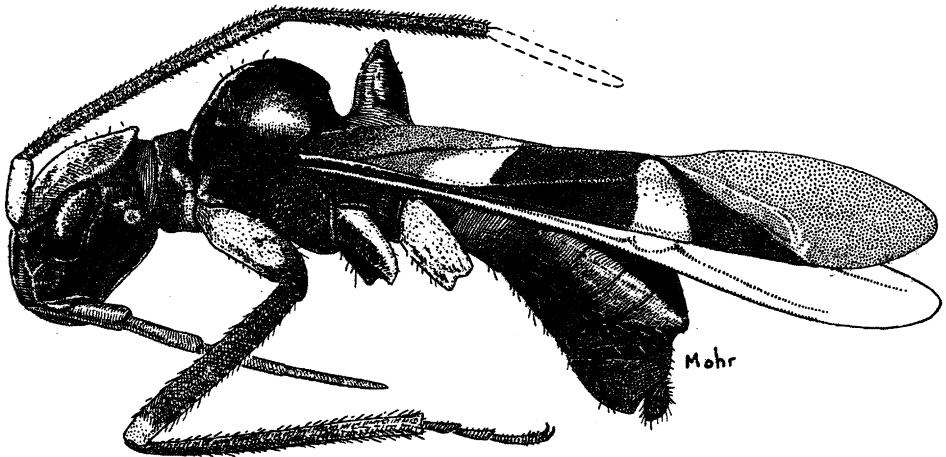
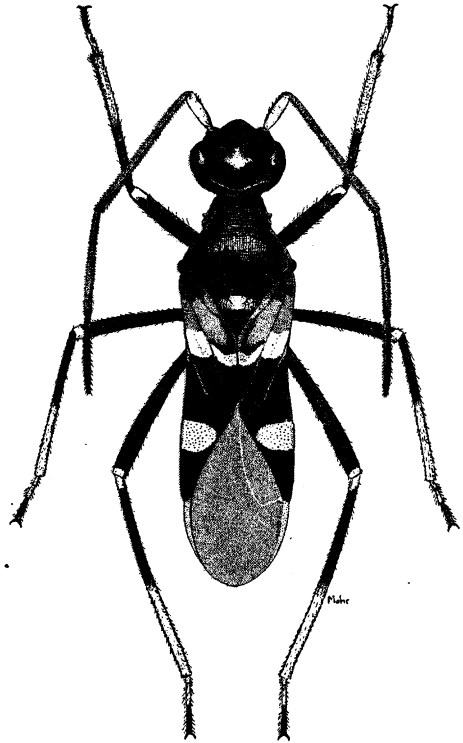


Fig. 137.—*Cyrtopeltocoris illini*, dorsal and lateral aspects.

erately shining; with sparse and very fine, pale pubescence. Hemelytra slightly constricted near middle, dark brown, strongly shining; clavus paler brown on basal half, crossed on apical half by a clear white band that becomes wider on corium and reaches costal margin; a white spot present on cori-



Fig. 138.—*Cyrtopeltocoris illini*, male claspers.

um bordering base of cuneus; membrane uniformly fuscous, slightly paler at tip of cuneus. Legs mostly medium brown to dark brown; coxae white, middle pair reddish brown at base; apex of hind femora and base of tibiae pale; tibiae paler on apical one-third. Genital segment distinctive, fig. 138.

Holotype, male —Dolson, Ill., Rocky Branch: June 25, 1932, Frison & Mohr.

Paratypes.—ILLINOIS.—Geff: June 12, 1934, DeLong & Ross, 1 ♂. MORTON: July 22, 1928, A. R. Park, 1 ♂. URBANA: July 10, 1940, in building, C. O. Mohr, 1 ♂.

MISSOURI.—St. Louis: June 25, 1939, R. C. Froeschner, 1 ♂.

PILOPHORINI

KEY TO GENERA

1. Vertex not compressed posteriorly, fig. 139; length of first antennal segment nearly equaling width of head; anterior half of pronotum constricted, its sides at that point nearly parallel **Pseudoxenetes**, p. 118
Vertex compressed posteriorly, slightly overlapping anterior edge of pronotum, fig. 140; length of first antennal segment not exceeding width of vertex 2
2. Second antennal segment scarcely thickened toward apex; width of head across eyes equal to or greater than posterior width of pronotum, fig. 140; hemelytra with emboliar margins parallel. . . . **Alepidia**, p. 119
Second antennal segment thickened

- toward apex; width of head less than width of posterior margin of pronotum, fig. 141 3
3. Lateral margins of hemelytra slightly constricted and recurved ventrad, bearing white pubescent bands, fig. 141 **Pilophorus**, p. 119
Lateral margins of hemelytra slightly arcuate, bearing silvery pubescence, but this pubescence not forming distinct bands. **Alepidiella**, p. 119

Pseudoxenetes Reuter

KEY TO SPECIES

- Entire pronotum and prosternum dark brown or black. **scutellatus**, p. 118
Disk of pronotum and prosternum orange or reddish. **regalis**, p. 119

Pseudoxenetes scutellatus (Uhler)

Xenetes scutellatus Uhler (1890, p. 81).

ADULTS.—Fig. 139. Length 6.50, width 1.20. Black; scutellum yellow, except for

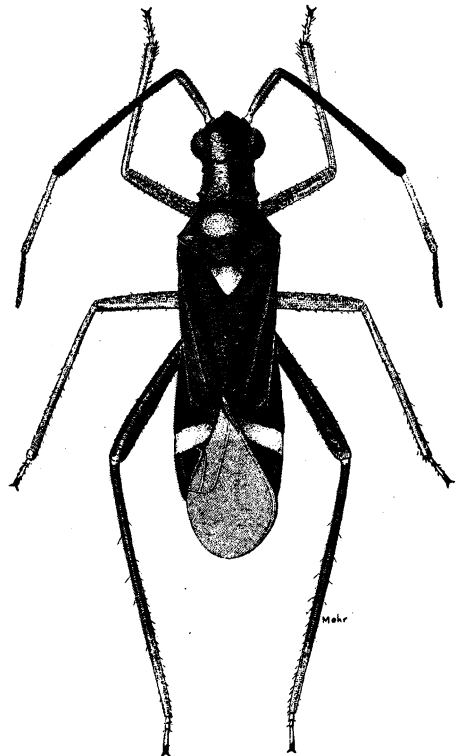


Fig. 139.—*Pseudoxenetes scutellatus*.

narrow area at base; cuneus with white translucent band at base; posterior coxae pale, legs mostly dark brownish, anterior and middle tibiae yellowish.

FOOD PLANTS.—Oaks (*Quercus muhlenbergii*, *Q. rubra* and *Q. alba*); occasionally ash (*Fraxinus* sp.). A single specimen was taken on apple in Illinois.

KNOWN DISTRIBUTION.—Connecticut, Illinois, Maryland, Massachusetts, Minnesota, New York, North Carolina, Ohio, Ontario, Pennsylvania, Virginia.

Illinois Records.—Thirty-nine males and 38 females, taken May 9 to July 8, are from Antioch, Bluff Springs, Champaign, Dongola, Dubois, Elizabeth, Fox Lake, Galesburg, Glen Ellyn, Grand Detour, Havana, Keithsburg, Meredosia, Muncie, Oregon, St. Anne, Summerfield, Urbana, Willow Springs.

Pseudoxenetus regalis (Uhler)

Xenetus regalis Uhler (1890, p. 80).

ADULTS.—Length 6.50, width 2.00. General color black; very similar to *scutellatus* (Uhler), but with basal half of pronotum, sternum and pleura largely red.

FOOD PLANTS.—Usually live oak (*Quercus virginiana*); collected also on other oaks (*Q. alba*, *Q. rubra* and *Q. marilandica*) in Illinois.

KNOWN DISTRIBUTION.—Florida, Georgia, Illinois, Maryland, Mississippi, North Carolina, Oklahoma.

Illinois Records.—Ten males and 11 females, taken May 15 to June 15, are from Dubois, Galesburg, Havana, Keithsburg, Meredosia, St. Anne.

Alepidia Reuter

Alepidia gracilis (Uhler)

Pilophorus gracilis Uhler (1895, p. 42).

ADULTS.—Fig. 140. Length 4.20, width 1.30. General color black, slightly shining; hemelytra ferruginous black, membrane pale fuscous; a darker spot on either side covering apex of brachium; pale area present bordering cuneus; antennae and legs pale yellowish; femora sometimes darkened; abdomen with a patch of silvery scales on either side near base.

HOST PLANTS.—Red pine (*Pinus resinosa*), Scotch pine (*P. sylvestris*) and Austrian pine (*P. nigra* var. *austriaca*).

A single female of this species from Galena shows a greater development of spots of silver pubescence on the hemelytra and is referable to the variety *squamosa* Knight (1926d, p. 26).

KNOWN DISTRIBUTION.—Alabama, Colorado, District of Columbia, Florida, Geor-

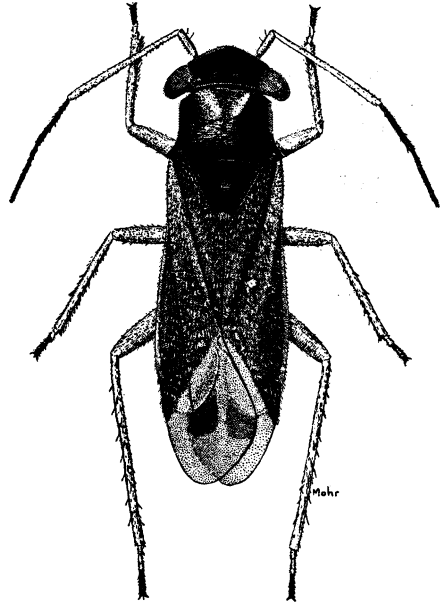


Fig. 140.—*Alepidia gracilis*.

gia, Illinois, Indiana, Iowa, Maryland, Massachusetts, New Jersey, New York, West Virginia.

Illinois Records.—GALENA: June 30, 1932, on Austrian pine, Dozier & Mohr, 1 ♀. GALESBURG: July 23, 1893, Scotch pine, 6 ♀. URBANA: July 20, 1889, sweepings, Hart & Terrill, 5 ♂, 1 ♀; July 21, 1889, sweepings in forest, C. A. Hart, 2 ♂, 1 ♀.

Alepidiella Poppius

No Illinois species; *Alepidiella heidemanni* Poppius is known from District of Columbia, Maryland, Oklahoma; occurs on scrub pine (*Pinus virginiana*).

Pilophorus Westwood

KEY TO SPECIES

1. Hemelytra polished over entire width behind posterior silvery line 2

- Hemelytra behind posterior silvery line polished on area exterior to radial vein only..... 8
- 2. Hemelytra with erect, short, black bristles..... 3
- Hemelytra clothed only with fine, recumbent pubescence, this pubescence sometimes black, but not erect and bristlelike..... 4
- 3. Third antennal segment black, nearly as thick as first segment.....
..... **vanduzeei**, p. 120
- Third antennal segment pale, with apical half infuscated, slender, scarcely thicker than fourth segment..... **uhleri**, p. 122
- 4. Pronotum with silvery, silky and tomentose pubescence; length 5.00...
..... **strobicola**, p. 122
- Pronotum without silvery, silky and tomentose pubescence..... 5
- 5. Length 4.50; posterior silvery line not interrupted on corium, but slightly dislocated at claval suture; second antennal segment gradually thickened toward apex. **amoenus**, p. 122
- Length not exceeding 3.90; posterior silvery line interrupted on corium but not dislocated at claval suture. 6
- 6. Second antennal segment strongly clavate on apical one-third.....
..... **laetus**, p. 121
- Second antennal segment gradually thickened from middle to apex... 7
- 7. Third antennal segment dark brown; fourth segment pale. **taxodii**, p. 121
- Third antennal segment pale with apex darkened; fourth segment fuscous..... **juniperi**, p. 123
- 8. Transverse silvery line of clavus and corium continuous and straight, that of clavus bent slightly forward but never disconnected.....
..... **perplexus**, p. 121
- Transverse silvery line of clavus and corium dislocated at claval suture or on corium at radial vein..... 9
- 9. Posterior silvery band widely dislocated at radial vein, inner portion set forward and forming a straight, transverse line with that on clavus; length 3.20..... **geminus**, p. 122
- Posterior silvery band not widely dislocated on corium at radial vein, often sloping forward to join band on clavus, but not forming a

- straight, transverse line with claval band.....10
- 10. Hemelytra clothed with fine, soft, recumbent pubescence only.....11
- Hemelytra bearing sparsely set, erect, short, stiff hairs intermixed with soft, recumbent pubescence.....12
- 11. Length of second antennal segment less than distance between tip of tylus and posterior margin of pronotum; length 3.50. **walshii**, p. 123
- Length of second antennal segment equal to or slightly greater than distance between tip of tylus and posterior margin of pronotum; length 4.00..... **brunneus**, p. 123
- 12. Length of second antennal segment distinctly greater than distance between tip of tylus and posterior margin of pronotum; clavus with a distinctly darker area bordering scutellum and commissure; length 4.50-5.00..... **clavatus**, p. 124
- Length of second antennal segment equal to or only slightly greater than distance between tip of tylus and posterior margin of pronotum; clavus same brown color as corium; length 3.70-3.90..... **setiger**, p. 124

Pilophorus vanduzeei Knight

Pilophorus vanduzeei Knight (1923*d*, p. 540).

MALE.—Length 5.00, width 1.66. Head width 1.25, vertex 0.66, from tip of tylus to basal margin of head 1.11; sharp basal margin of vertex beset with six black bristles, front sparsely clothed with silvery, deciduous and scalelike hairs, which are interspersed with erect bristles. Rostrum, length 2.27, scarcely attaining hind margin of middle coxae. Antennae, first segment, length 0.44, thickness 0.11; second, length 2.22, gradually thickened from base toward apex (0.15 thick), dark brownish black, clothed with short black pubescence; third, length 0.80, thickness 0.08, uniformly black; fourth, length 0.72, pale, infuscated apically. Pronotum, length 0.94, width at base 1.53, anterior angles 0.83; anterior half of disk sparsely clothed with silvery, deciduous pubescence quite similar to that on front of head. Scutellum with apical half and slender lateral margins flat, abruptly convex on basal half but flattened basally, flattened apical half more or less covered with silvery, scalelike pubescence. Hemelytra, dark fus-

co-brownish, opaque anterior to posterior silvery line, basal half with a silvery sheen apparent in certain lights; beset with erect, short, black bristles; posterior silvery line nearly straight, slender, behind this distinctly polished, apex of clavus included. Membrane uniformly darkened with fuscous, an opaque black cloud bordering apex of larger areole. Legs uniformly brownish black, a pale spot on anterior aspect of front coxae near base; hind tibiae strongly flattened and distinctly curved. Venter with a patch of silvery, scalelike pubescence laterally on third segment.

FEMALE.—Length 5.30, width 1.80; very similar to the male, but third antennal segment perceptibly thicker (0.10 thick), nearly equal to thickness of first segment.

HABITS.—Occurs on pines (*Pinus sylvestris* and *P. resinosa*).

KNOWN DISTRIBUTION.—Alabama, Illinois, Iowa, Maryland, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania.

Illinois Records.—**ANTIOCH:** July 5-7, 1932, T. H. Frison, *et al.*, 1 ♀. **GRAND DETOUR:** July 2, 1932, Castle Rock, Dozier & Mohr, 1 ♂. **STARVED ROCK STATE PARK:** July 14, 1932, on Scotch pine, Dozier & Park, 3 ♂. **URBANA:** June 20, 1932, T. H. Frison, 1 ♀.

Pilophorus laetus Van Duzee

Pilophorus laetus Van Duzee (1918, p. 294).

Not taken in Illinois; breeds on scrub pine (*Pinus virginiana*). Known from Alabama, District of Columbia, Maryland, Massachusetts, New York, Tennessee, Virginia.

Pilophorus perplexus Douglas & Scott

Pilophorus perplexus Douglas & Scott (1875, p. 101).

Not taken in Illinois; known from Connecticut, New York, Nova Scotia, Ontario.

Pilophorus taxodii new species

This species is allied to *juniperi* Knight, but is distinguished by the dark third antennal segment and pale fourth segment.

MALE.—Fig. 141. Length 3.70, width 1.30. Head width 1.03, vertex 0.52. Rostrum, length 1.56, dark brown, reaching to posterior margin of middle coxae. Antennae,

first segment, length 0.30, yellowish brown; second, 1.25, yellowish brown, darker on apex, clothed with fine, short, black pubescence; third, 0.47, uniformly brown; fourth, 0.52, pale. Pronotum, length 0.74, width at base 1.12, very dark brown, paler on anterior half, finely rugulose. Mesoscutum and scutellum very dark brown, disk of scutellum strongly convex; bordered with silvery, scalelike pubescence. Hemelytra fulvous to brown, but black behind posterior sil-

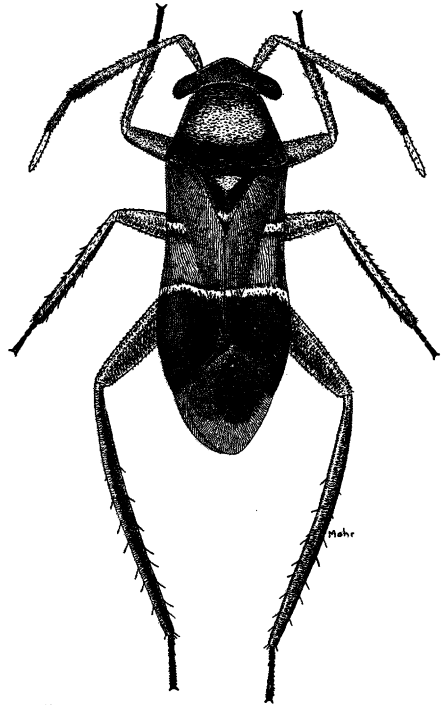


Fig. 141.—*Pilophorus taxodii*.

very line; clothed with fine, short, recumbent, black pubescence; posterior silvery line transverse, nearly straight, not interrupted; basal silvery line restricted to corium and embolium; surface behind posterior silvery line polished, black; pubescence fine, black, cuneus very similar; membrane pale fuscous, an opaque, dull, very dark brown spot covering larger areole and an equal area extending toward middle of membrane. Legs yellowish brown; hind tibiae dark brown, strongly compressed, edges carinate, spines rather short; tarsi fuscous. Venter very dark brown, polished, fulvous brown at base and with a patch of silvery scales on either side at margin of dark color.

FEMALE.—Length 3.90, width 1.30. Slightly more robust than male, but very similar in color and pubescence.

HOST PLANT.—Cypress (*Taxodium distichum*).

Holotype, male.—Karnak, Ill.: June 23, 1932, on cypress, Ross, Dozier & Park.

Allotype, female.—Same data as for holotype.

Paratypes.—ILLINOIS.—Same data as for holotype, 7 ♂, 2 ♀. HORSESHOE LAKE: July 11, 1935, on cypress, DeLong & Ross, 3 ♂, 4 ♀.

Pilophorus geminus Knight

Pilophorus geminus Knight (1926d, p. 22).

Not taken in Illinois; known only from Minnesota and Wisconsin.

Pilophorus strobicola Knight

Pilophorus strobicola Knight (1926d, p. 19).

MALE.—Length 5.10. Head width 1.06, vertex 0.50. Antennae, first segment, length 0.39; second, 1.94, gradually thickened apically (0.13 thick), dark fusco-brownish, apical half black; third, 0.66, pale fuscous at apex; fourth, 0.61, pale fuscous. Front of head and pronotum clothed with fine, silvery pubescence, that on hemelytra more nearly golden; scutellum clothed with silvery, scalelike pubescence, this pubescence denser at basal angles and apex; hemelytra polished behind posterior silvery line, but rather thickly clothed with recumbent golden pubescence; posterior tibiae distinctly compressed; venter with an oblique patch of silvery, scalelike pubescence on either side of third to sixth sternites.

FEMALE.—Length 5.00, width 1.61. Length of second antennal segment, 2.19, greatest thickness 0.17, more distinctly thickened on apical one-third than in male.

HOST PLANTS.—White pine (*Pinus strobus*) and Scotch pine (*P. sylvestris*), but may be in part predacious.

KNOWN DISTRIBUTION.—Illinois, Iowa, Minnesota, New Hampshire, New York, North Carolina, Ohio.

Illinois Records.—BEACH: Aug. 7, 1935, DeLong & Ross, 1 ♂, 1 ♀. GALESBURG: July 23, 1893, on Scotch pine, 1 ♂, 3 ♀. QUINCY: Aug. 13, 1889, in street, 1 ♂. URBANA: July 20, 1889, sweepings, Hart & Terrill, 1 ♀; June 20, 1892, swept from bluegrass, F. McElfresh, 1 ♂. WHITE

PINES FOREST STATE PARK: July 4, 1932, on *Pinus strobus*, Dozier & Mohr, 29 ♂, 15 ♀; July 12, 1934, DeLong & Ross, 5 ♂, 8 ♀.

Pilophorus amoenus Uhler

Pilophorus amoenus Uhler (1887b, p. 30).

MALE.—Length 5.00, width 1.64. Antennae, first segment, length 0.39, fuscous; second, 1.83, greatest thickness 0.12, gradually thickened from base to apex, black, fusco-brownish on basal half; third, length 0.72, slender, pale; fourth, length 0.64, pale, dusky on apical half. Hemelytra anterior to posterior silvery line cinnamon fulvous in color; distad of this, polished and piceous; posterior silvery line nearly straight, not interrupted on corium. Hind tibiae distinctly compressed.

FEMALE.—Length 4.80, width 1.70; very similar to male in structure and coloration.

HOST PLANT.—Scrub pine (*Pinus virginiana*).

KNOWN DISTRIBUTION.—District of Columbia, Georgia, Illinois, Maryland, Massachusetts, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Virginia.

Illinois Record.—ILLINOIS: 1 ♀.

Pilophorus uhleri Knight

Pilophorus uhleri Knight (1923d, p. 541).

MALE.—Length 5.00, width 1.90. Head width 1.14, vertex 0.53. Rostrum, length 1.80, nearly attaining hind margins of middle coxae. Antennae, first segment, length 0.38; second, 1.86, gradually thickened apically (0.14 thick), brownish to black; third, 0.66, thickness 0.06, pale, apical half infuscated, sometimes tinged with pink; fourth, 0.61, pale, apex dusky. Pronotum, length 0.83, width at base 1.44, uniformly black, bearing a few short, erect bristles. Scutellum covered with silvery, scalelike pubescence on sides and base. Hemelytra dark brown; black and polished behind posterior silvery line; beset with erect, short, black bristles, posterior silvery line transverse, broader than in *vanduzeei* Knight; membrane fusco-brownish, a darker, cloudlike spot covering larger areole and surrounding area.

FEMALE.—Length 4.80, width 1.77; very similar to male in color and pubescence.

HABITS.—Occurs on larch (*Larix laricina*) and Scotch pine (*Pinus sylvestris*).

KNOWN DISTRIBUTION.—Illinois, Iowa, New Jersey, New York, Ontario.

Illinois Records.—ANTIOCH: July 5-7, 1932, on *Larix* sp., T. H. Frison *et al.*, 6 ♀. VOLO: Aug. 24, 1935, DeLong & Ross, 1 ♂.

Pilophorus juniperi Knight

Pilophorus juniperi Knight (1923*d*, p. 543).

This species is allied to *laetus* Van Duzee, but is darker in coloration; it differs in the shorter and more gradually thickened second antennal segment; also in the narrower head.

MALE.—Length 3.70, width 1.30. Head width 0.91, vertex 0.49. Rostrum, length 1.06, attaining middle of intermediate coxae. Antennae, first segment, length 0.28, brownish; second, 1.11, gradually thickened from middle toward apex (0.10 thick), length not equal to distance between tip of tylus and base of pronotum, brown, apical half black; third, length 0.44, pale, infuscated apically; fourth, length 0.42, infuscated. Pronotum, length 0.71, width at base 1.11; very dark brown, sides more gradually sulcate than in *laetus*. General color very dark brown, almost black; hemelytra nearly as in *laetus*, but darker; membrane blackish on basal half, pale fuscous on apical half and on area bordering cuneus; legs fusco-brownish, venter very dark brown, a patch of silvery hairs present on either side of third to fifth sternites.

FEMALE.—Length 3.50, width 1.12. Very similar to male in structure and coloration.

HABITS.—Breeds on red cedar (*Juniperus virginiana*) and may be predacious in habits.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, New York, South Dakota.

Illinois Record.—STARVED ROCK STATE PARK: July 14, 1932, on *Juniperus virginiana*, Dozier & Park, 27 ♂, 57 ♀.

Pilophorus walshii Uhler

Pilophorus walshii Uhler (1887*b*, p. 30).

MALE.—Length 3.20, width 1.17; head width 0.82, vertex 0.41. Rostrum, length 0.95, reaching only to near posterior margin of mesosternum. Antennae, first segment, length 0.22, pale, brownish above; second, 0.97, cylindrical, slightly more slender basally, mostly brown; blackish on apical third;

third, 0.35, mostly pale, apex fuscous; fourth, 0.32, fuscous. Pronotum, length 0.64, width at base 1.05; from tip of tylus to basal margin of pronotal disk, 1.14. General color dark brown; hemelytra lighter brown; corium behind posterior silvery band and exterior to radial vein dark brown and polished; membrane pale fuscous, a brown cloud covering larger areole and area just behind. Dorsum clothed with short, soft pubescence except for bands; posterior silvery band slightly irregular, widely disconnected at claval suture, that portion on clavus set well forward but transverse in position; basal band thick, just opposite tip of scutellum, extending from costal edge to claval suture; sides of venter with arcuate band of dense, silvery pubescence extending from second to sixth sternites; paracuneus with two spots of silvery pubescence.

FEMALE.—Length 3.70, width 1.30. More robust than male, but very similar in color and pubescence.

HABITS.—Breeds on honey locust (*Gleditsia triacanthos*), but may be in part predacious. A single, probably accidental, specimen was taken in Illinois on apple.

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Indiana, Iowa, Maryland, Missouri, Ohio, Virginia.

Illinois Records.—Nineteen males and 31 females, taken June 22 to Sept. 24, are from Darwin, Dubois, Elizabethtown, Galesburg, Kansas, Lawrenceville, Metropolis, Monticello, Murphysboro, Paxton, Pike, Quincy, Rock Island, Savanna, Starved Rock State Park, Urbana, White Heath, Willow Springs. Blatchley (1926*b*, p. 815) records it also from Palos Park.

Pilophorus brunneus Poppius

Pilophorus brunneus Poppius (1914*a*, p. 244).

MALE.—Length 4.00, width 1.40; from tip of tylus to basal margin of pronotum, 1.38. Antennae, first segment, length 0.28, fusco-brownish; second, 1.47, dark brownish, more nearly black at apex; third, 0.61, fuscous, basal one-fourth pale; fourth, 0.61, fuscous, narrow pale area at base. Pronotum, length 0.73, width at base 1.21.

FEMALE.—Length 3.80, width 1.51; from tip of tylus to basal margin of pronotum, 1.33; more robust than male but very similar in pubescence and coloration. Second antennal segment, length 1.33, slightly thicker

toward apex but scarcely exceeding thickness of first segment.

HABITS.—Occurs on willow (*Salix* sp.).

KNOWN DISTRIBUTION.—Illinois, Indiana, Iowa, Maryland, Minnesota, Missouri, New York, Ohio, Ontario.

Illinois Records.—Ten males and 16 females, taken May 29 to Aug. 23, are from Algonquin, Alton, Antioch, Byron, Campaign, Dubois, Eichorn, Kankakee, Meredosia, Savanna, Urbana, Waukegan.

Pilophorus clavatus (Linnaeus)

Cimex clavatus Linnaeus (1767, p. 729).

MALE.—Length 4.60, width 1.53; from tip of tylus to basal margin of pronotum, 1.50. Rostrum, length 1.73, reaching to middle of hind coxae. Antennae, first segment, length 0.33, fusco-brownish; second, 1.75, gradually thickened from base toward apex, greatest thickness 0.11, slightly greater than thickness of first segment, dark brownish black, more nearly black on apical half; third, length 0.66, fuscous, pale on basal half; fourth, length 0.39, fuscous, paler at base. Pronotum, length 0.73, width at base 1.40. General color very dark brown, almost black; hemelytra brown; clavus darker than corium except for area bordering claval suture; polished only behind posterior silvery line exterior to radial vein. Dorsum clothed with fine, short, golden and yellowish pubescence intermixed with short, erect, stiff bristles; posterior silvery line dislocated at claval suture, but not disconnected with portion on clavus.

FEMALE.—Length 4.60, width 1.67; from tip of tylus to basal margin of pronotum, 1.55; very similar to male in form, color and pubescence.

HABITS.—Occurs on oaks (*Quercus* spp.).

KNOWN DISTRIBUTION.—This is a European species known in America from British Columbia, Colorado, Illinois, Iowa, Massachusetts, Michigan, Minnesota, New York, North Dakota, Ontario.

Illinois Records.—ILLINOIS: 2 ♀. CARY: Aug. 27, 1905, on oak, W. J. Gerhard, 1 ♂, 2 ♀, FM. KANKAKEE: Aug. 1, 1933, Ross & Mohr, 1 ♀.

Pilophorus setiger new species

MALE.—Length 3.90, width 1.50. Head width 0.91, vertex 0.45. Rostrum, length 1.51, reaching base of hind coxae. Antennae,

first segment, length 0.30, yellowish brown; second, 1.34, yellowish, apical one-fourth very dark brown, slender, slightly thicker apically; third, 0.48, pale, apical half fuscous; fourth, 0.39, fuscous. Pronotum, length 0.73, width at base 1.23; from tip of tylus to basal margin of pronotum 1.38. Dorsum clothed with fine, simple, yellowish pubescence intermixed with sparsely set, suberect, bristlelike hairs; posterior silvery band dislocated at claval suture, but still making contact with that part on clavus; basal band thick, extending from costal edge to claval suture at a point very slightly behind tip of scutellum; paracuneus with two silvery patches. General color dark brown to almost black, hemelytra brown, corium dark brown and shining on area behind posterior silvery line and exterior to radial vein, cuneus also dark brown and shining; membrane pale fuscous, a large brown cloud covering larger areole and central area of membrane; legs brown; coxae partly paler; hind tibiae very slightly curved.

FEMALE.—Length 3.90, width 1.50. Very similar to male in general proportions, color and pubescence.

Holotype, male.—Kings Bluff, Winona County, Minn.: June 30, 1922, H. H. Knight, KC.

Allotype, female.—Same data as for holotype, KC.

Paratypes.—ILLINOIS.—GALENA: June 30, 1932, Dozier & Mohr, 2 ♀; July 10, 1934, DeLong & Ross, 1 ♂. PALOS PARK: May 31, 1914, W. J. Gerhard, 1 ♀. WILLOW SPRINGS: June 9, 1912, 1 ♂; June 28, 1903, 1 ♀; Sept. 4, 1904, W. J. Gerhard, 1 ♀, FM.

SOUTH DAKOTA.—TRAIL COUNTY: Aug. 19, 1923, A. A. Nichol, 1 ♂, KC.

MIRINAE

KEY TO GENERA

1. Pronotum distinctly swollen at middle as wide as or wider than hind margin, fig. 142. 2
Pronotum widest at hind margin, not noticeably swollen at middle, fig. 145 3
2. Length of first antennal segment less than width of vertex; pronotum not extending back to basal angles of hemelytra; base of scutellum poorly defined. **Pithanus**, p. 125
Length of first antennal segment

greater than width of vertex, fig. 142; pronotum extending back to basal angles of hemelytra, and hemelytra usually depressed near base and tip of scutellum, arched over middle of abdomen.....**Mimoceps**, p. 125

3. Head strongly exserted with eyes placed near middle, thus far removed from anterior of pronotum, fig. 143.**Collaria**, p. 126

Head not or only slightly exserted; eyes in contact with pronotum or nearly so, fig. 144. 4

4. Pronotum impunctate or nearly so. . . . 5
Pronotum coarsely and deeply punctured. 8

5. Antennal segments thickly covered with long, erect, black hairs, fig. 144; body covered with fine, long, erect pubescence; eyes slightly removed from anterior angles of pronotum. . . .**Miris**, p. 127

Antennal segments clothed with very short pubescence, fig. 145; body nearly glabrous, at most with very short pubescence. 6

6. Head short and greatly flattened, front scarcely protruding beyond bases of antennae, fig. 145; head with a broad and shallow median basin; first antennal segment slender and curved, thickest near base, tapering to become slender at middle, then becoming slightly enlarged at apex.**Teratocoris**, p. 128

Head long and pointed, front projecting sharply beyond bases of antennae, compare fig. 144; first antennal segment not formed as above. 7

7. Rostrum not extending behind middle coxae.....**Trigonotylus**, p. 129

Rostrum extending to base of abdomen.....**Megaloceroea**, p. 125

8. First antennal segment with very short pubescence, practically glabrous; pronotum and scutellum sparsely covered with deep punctures.....**Mesomiris**, p. 131

First antennal segment thickly covered with long pubescence; punctures of pronotum and scutellum deep and closely placed....**Stenodema**, p. 130

Megaloceroea Fieber

No Illinois species; *Megaloceroea recticornis* (Geoffroy) is apparently an imported

European species which has been recognized in British Columbia, Idaho, Iowa, Ontario, Wisconsin. It has not as yet been collected in Illinois, but most likely it will be found here eventually.

Pithanus Fieber

No Illinois species; *Pithanus maerkelii* (Herrich-Schaeffer) is known from British Columbia, Maine, New York, Washington.

Mimoceps Uhler

Mimoceps insignis Uhler

Mimoceps insignis Uhler (1890, p. 84).

MALE.—Length 3.50, width 0.91. Head width 0.82, vertex 0.43. Rostrum, length 1.25, reaching to base of middle coxae. Antennae, first segment, length 0.60, pale, black on base; second, 1.70, pale; third, 1.21, fuscous; fourth, 0.95, fuscous. Pronotum, length 0.78, width at base 0.73; calli large, convex, smooth, occupying middle of disk.

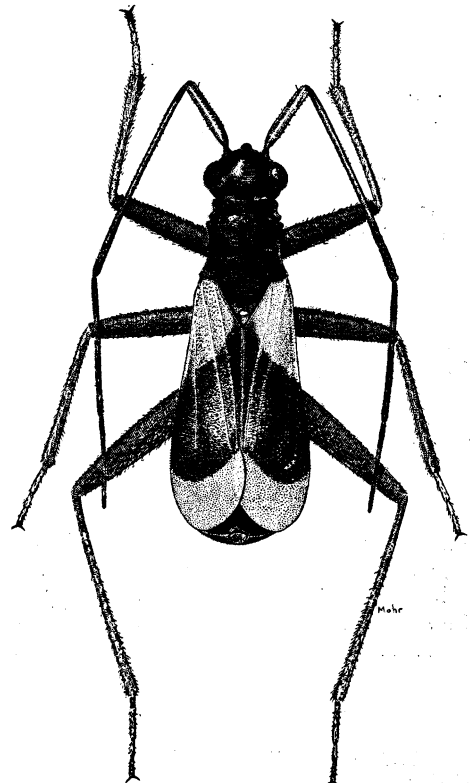


Fig. 142.—*Mimoceps insignis*, brachypterous♀.

Hemelytra short, membrane absent, apices rounded, covering three-fourths of abdomen, depressed at base, apical half more convex; dorsum glabrous, shining. General color black; white spot present on either side at base of hemelytra; legs pale, femora reddish except at base; coxae fuscous at bases; rostrum pale, except at base and apex.

FEMALE.—BRACHYPTEROUS: Fig. 142. Length 4.50, width 1.30. Head width 0.95, vertex 0.52. Antennae, first segment, length 0.61; second, 1.77. Pronotum, length 0.91, width at base 0.82. Form of hemelytra and coloration similar to male. **MACROPTEROUS:** Length 4.80, width 1.34. Head width 0.82, vertex 0.43. Antennae, first segment, length 0.61; second, 1.78. Pronotum, length 0.82, width at base 1.08. Hemelytra with membrane developed, fuscous; brachium distinct; cuneus large, outer margin arcuated. Color black; basal half of clavus and corium pale yellowish; legs and rostrum as in male. The macropterous form is rare.

Paler specimens of this species, in which the hemelytra are almost entirely creamy white, belong to the variety *gracilis* Uhler (1890, p. 85).

FOOD PLANTS.—Sedges.

KNOWN DISTRIBUTION.—Colorado, Idaho, Illinois, Iowa, Minnesota, Montana, New Mexico, New York, North Dakota, Ohio, Ontario, Utah, Wisconsin.

Illinois Records.—Four males and 11 females, taken June 10 to Aug. 26, are from Algonquin, Argo, Beach, Champaign, Fox Lake, Galesburg, Grayslake, Palos Park, Rock Island, Volo, Zion.

Collaria Provancher

KEY TO SPECIES

- Pronotal disk brown to fuscous, conspicuous black spot present on either side of basal half of disk. *oculata*, p. 127
 Pronotal disk black, black spots obscure *meilleurii*, p. 126

Collaria meilleurii Provancher

Collaria meilleurii Provancher (1872, p. 79; 1886, p. 102).

MALE.—Length 6.00–7.00, width 1.70. Head width 1.08, vertex 0.48. Antennae,

first segment, length 0.78, yellowish brown, base blackish; second, 4.11, black; third, 2.64; fourth, 1.56. Pronotum, length 0.99, width at base 1.17; calli strongly convex, nearly as high as base of pronotum; basal

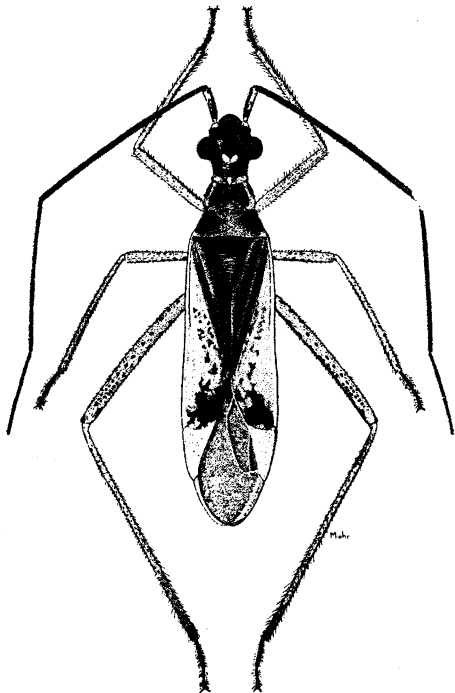


Fig. 143.—*Collaria meilleurii*, ♀.

half of disk with an opaque black spot on either side near basal angle, these spots inconspicuous on the black background. General color black; front of head shining; legs yellowish brown; femora with small, black spots; hemelytra translucent, yellowish; clavus and irregular area on apical half of corium, fuscous to black.

FEMALE.—Fig. 143. More robust than male, but very similar in color and scarcity of pubescence.

HOST PLANTS.—Bluejoint grass (*Calamagrostis canadensis*) and other grasses in damp situations.

KNOWN DISTRIBUTION.—Alberta, Connecticut, Illinois, Indiana, Maine, Massachusetts, Michigan, Minnesota, New Brunswick, New Hampshire, New York, North Dakota, Ohio, Ontario, Pennsylvania, West Virginia, Wisconsin, Vermont.

Illinois Records. — Twenty-four males and 16 females, taken June 14 to Aug. 4, are from Algonquin, Antioch, Browns, Ce-

dar Lake, Dug Hill, Homer Park, Oakwood, Urbana, Volo, West Union.

Collaria oculata (Reuter)

Trachelomiris oculatus Reuter (1876, p. 61).

MALE.—Length 6.00, width 1.50. Head width 0.93, vertex 0.39. Antennae, first segment, length 0.95; second, 2.84; third, 1.94; clothed with long, pilose hairs. Pronotum, length 0.99, width at base 1.30; disk brownish, a large opaque, black spot each side near basal angle; calli only moderately convex. General color brownish with fuscous; hemelytra chiefly brown; legs pale to brownish yellow; hind femora with seriate fuscous spots on anterior aspect.

FEMALE.—Length 6.75, width 1.75. More robust than the male but very similar in general form and color.

HOST PLANTS.—Occurs on grasses in dry sandy meadows; this species found breeding on panic grass (*Panicum huachucae*) in Virginia.

KNOWN DISTRIBUTION.—Common in the southern United States and known from as far north as Connecticut, Illinois, Indiana, Iowa, New York, Ohio.

Illinois Records.—Thirty-two males and 54 females, taken May 15 to Sept. 30, are from Ashley, Carbondale, Chautauqua Bluff, Clay City, Dixon Springs, Dolson, Dongola, Dubois, Elizabethtown, Fulton, Herod, Mahomet, Meredosia, Murphysboro, Norris City, Odin, Palos Park, Pulkaski, St. Anne, Saratoga, Shawneetown, Thebes, Waukegan.

Miris Fabricius

Miris dolabratus (Linnaeus)

Meadow Plant Bug

Cimex dolabratus Linnaeus (1758, p. 449).

ADULTS.—Fig. 144. Length 7.30–8.50, width 2.40. General color pale greenish with fuscous and black markings; pronotum with two black stripes that run over the scutellum; clothed with fine, long, erect pubescence. Brachypterous females common. Females have the second antennal segment uniformly slender, which distinguishes them from *ferrugatus* Fallen.

Darker males of this species, in which the hemelytra are tawny brown, are referable to the variety *aurantiacus* Reuter (1875,

p. 16). These and the lighter specimens occur together in Illinois.

FOOD PLANTS.—Bluegrass (*Poa pratensis*), timothy (*Phleum pratense*) and frequently other grasses. A series of specimens was taken in this state on spiderwort (*Tradescantia* sp.). These bugs puncture grass stems, causing the tops of the plants to wilt.

KNOWN DISTRIBUTION.—This is a common European species which is now widely distributed in the eastern United States and

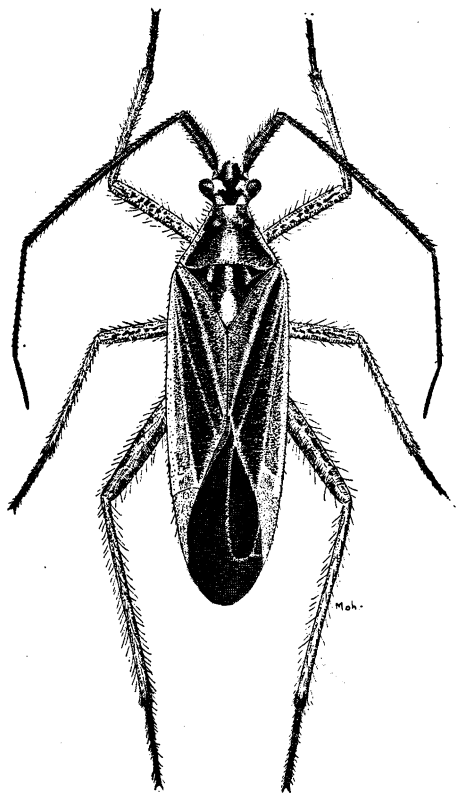


Fig. 144.—*Miris dolabratus*, ♂.

Canada. The fact that this bug is not evenly distributed through the states where it occurs lends evidence to the view that it may have arrived here after the advent of white men.

Illinois Records.—One hundred forty-nine males, 122 females and 2 nymphs, taken May 18 to July 11, are from Algonquin, Amboy, Antioch, Aurora, Custer Park, Danvers, Dixon, East Dubuque, Erie, Freeport, Galena, Glendon Park, Grand Detour, Grandview, Hamilton, Hardin, Harvard,

Joliet, Keithsburg, Lyndon, Mahomet, Marengo, Mount Carroll, Muncie, Oakwood, Oregon, Palos Park, Peoria, Putnam, Quincy, Rock Island, Rockton, St. Anne, St. Joseph, Savanna, Seaton, Seymour, Sheldon, Urbana, Watseka, Waukegan, White Heath, White Pines Forest State Park, Willow Springs, Zion.

Teratocoris Fieber

KEY TO SPECIES

- Scutellum and clavus fuscous to black **discolor**, p. 128
 Scutellum and clavus uniformly green **paludum**, p. 128

Teratocoris discolor Uhler

Teratocoris discolor Uhler (1887c, p. 68).

MALE.—Length 4.80, width 1.25. Head width 0.86, vertex 0.38. Rostrum, length 1.17, reaching slightly beyond middle of

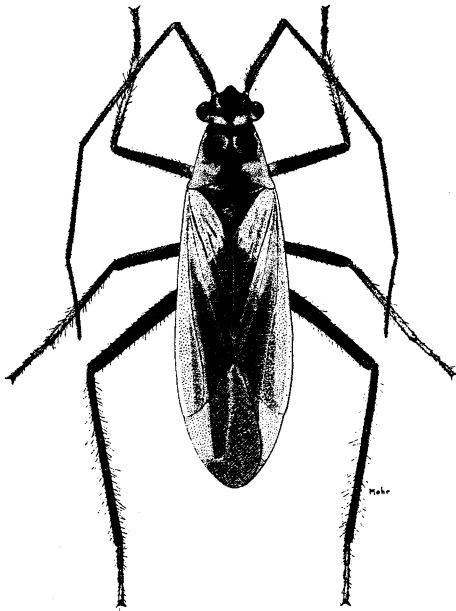


Fig. 145.—*Teratocoris discolor*, ♀.

sternum. Antennae, first segment, length 1.04, thicker on basal half, reddish, blackish at base; second, 2.07, reddish; third, 1.47, fuscous; fourth, 0.99, blackish. Pronotum, length 0.77, width at base 1.04. Tibiae and ventral margins of femora bearing long, pilose hairs. General color pale greenish

with fuscous and black areas; basal angles of pronotum, base of hemelytra, and full length of embolium, pale or greenish; legs reddish, bases of femora and tips of coxae paler.

FEMALE.—Fig. 145. Length 5.60, width 1.64. More robust than male, hemelytra and venter much paler in color; usually only slightly fuscous along claval suture and inner angles of corium, sometimes tinged with reddish.

HOST PLANTS.—Occurs on sedges (*Scirpus* and *Carex*). Frequently collected at lights.

KNOWN DISTRIBUTION.—Colorado, Illinois, Indiana, Iowa, Massachusetts, Michigan, Missouri, Ohio, Ontario, Quebec, South Dakota, Utah.

Illinois Records.—Eleven males and 42 females, taken May 30 to Sept. 8, are from Champaign, Chicago, Galena, Grayslake, Havana, Momence, Odin, Urbana.

Teratocoris paludum J. Sahlberg

Teratocoris paludum J. Sahlberg (1871, p. 291).

MALE.—Length 5.40, width 1.21. Head width 0.78, vertex 0.39. Rostrum, length 1.17, just reaching middle of sternum. Antennae, first segment, length 1.43, thicker on basal half, reddish; second, 2.81, reddish; third, 1.47, fuscous; fourth, 1.08, black. Pronotum, length 0.74, width at base 1.02. General color light green, yellowish on head and mesoscutum; legs green; hind tibiae and tips of femora bright red; hind tibiae with long, pilose hairs.

FEMALE.—Length 5.80, width 1.34. More robust than male, but very similar in coloration.

HOST PLANT.—Occurs on sedge (*Carex vesicaria*), which probably is the plant on which this species breeds. Frequently collected at lights.

KNOWN DISTRIBUTION.—Illinois, Iowa, Minnesota, New York, Ontario, South Dakota; Finland.

Illinois Records.—**CHICAGO**: May 23, W. J. Gerhard, 3 ♀, FM; June 13, W. J. Gerhard, 1 ♀, FM; May 25, 1906, at light, W. J. Gerhard, 3 ♂, 1 ♀, FM; May 31, 1906, at light, W. J. Gerhard, 1 ♂, FM; July, 1915, W. J. Gerhard, 2 ♂, FM. **GRAYSLAKE**: Aug. 27, 1932, Ross & Mohr, 2 ♂. **HAVANA**: May 29, 1936, Mohr & Burks, 1 ♂. **URBANA**: May 20, 1887, at light, 1 ♀.

Trigonotylus Fieber

KEY TO SPECIES

1. Posterior tarsi and apices of posterior tibiae black. **tarsalis**, p. 129
Posterior tarsi and apices of posterior tibiae pale or reddish. 2
2. Length of first antennal segment less than width of head across eyes.
..... **brevipes**, p. 129
Length of first antennal segment exceeding width of head across eyes. 3
3. Clavus and corium roseate; second antennal segment pale to yellowish.
..... **pulcher**, p. 129
Clavus and corium pale to dusky or greenish; antennae reddish.
..... **ruficornis**, p. 130

Trigonotylus pulcher Reuter

Trigonotylus pulcher Reuter (1876, p. 59).

MALE.—Length 4.50, width 0.99. Head width 0.62, vertex 0.31. Rostrum, length 1.38, reaching to near apices of middle coxae. Antennae, first segment, length 0.64, thickness 0.15, pale, tinged with roseate; second, length 1.49, pale; third, length 1.31, pale; fourth, length 0.65, brownish. Pronotum, length 0.52, width at base 0.86. General color pale, clavus and corium tinged with roseate; two brown, longitudinal lines on middle of pronotum and scutellum; a roseate to fuscous line present on either side of head along inner margin of eye and extending to basal margin of pronotum.

FEMALE.—Length 5.40, width 1.25. More robust than male, but very similar in coloration.

KNOWN DISTRIBUTION.—Recorded from Minnesota south to Texas and eastward.

Illinois Record.—ANNA: Oct. 11, 1933, Frison & Ross, 1 ♀.

Trigonotylus tarsalis (Reuter)

Callimiris tarsalis Reuter (1876, p. 60).

MALE.—Length 5.40, width 1.12. Head width 0.75, vertex 0.43. Rostrum, length 1.38, reaching nearly to posterior margin of sternum. Antennae, first segment, length 0.80, green; second, 2.34, green, apical half pink; third, 2.60, pink; fourth, 0.95, pink. Pronotum, length 0.65, width at base 0.97. Pubescence very short, dorsum nearly glabrous; tibial spines weak. General color

medium green to bright green; apices of posterior tibiae, and tarsi, black; antennae pink to reddish on apical half; membrane pale, veins green.

FEMALE.—Length 6.30, width 1.51. More robust than male, but very similar in form and coloration.

FOOD PLANT.—Slough grass (*Spartina michauxiana*).

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Kansas, Manitoba, Massachusetts, Minnesota, New Hampshire, North Dakota, South Dakota, Texas, Wisconsin.

Illinois Records.—Fifty-five males and 122 females, taken May 15 to Oct. 1, are from Allerton, Antioch, Argo, Beach, Bondville, Champaign, Chicago, Grayslake, Moline, Momence, Oak Lawn, Ogden, St. Anne, Savanna, Seymour, Urbana, Watseka, Waukegan, Zion.

Trigonotylus brevipipes Jakovlev

Trigonotylus brevipipes Jakovlev (1880, p. 215).

MALE.—Length 4.10, width 0.95. Head width 0.60, vertex 0.28. Rostrum, length 1.25, reaching to near tips of middle coxae. Antennae, first segment, length 0.51, thickness 0.13, usually greenish yellow, sometimes pink, clothed with short fuscous pubescence; second, length 1.51, cylindrical, 0.07 thick, usually pale yellowish, sometimes pink, clothed with very short, minute pubescence; third, length 1.30, pallid to dusky; fourth, length 0.47, fuscous. Pronotum, length 0.47, width at base 0.82, basal margin broadly concave; disk minutely rugulose, median line slightly elevated, pallid, dusky on each side; calli distinct, a foveate puncture on each inner angle. Dorsal surface nearly glabrous, claval vein and brachium on corium, distinctly elevated. General color pallid to greenish yellow; hemelytra subtranslucent; cuneus nearly clear; membrane sometimes dusky, veins pale to greenish.

FEMALE.—Length 4.85, width 0.96. Slightly larger than the male but very similar in form and coloration.

FOOD PLANTS.—Bermuda grass (*Cynodon dactylon*) and perhaps related grasses.

KNOWN DISTRIBUTION.—Alabama, Arizona, California, Colorado, Connecticut, Florida, Georgia, Illinois, Kentucky, Maryland, New York (coastal), North Carolina, South Carolina, Tennessee, Texas, Utah, Virginia; also Cuba and Mexico.

Illinois Records.—METROPOLIS: Aug. 17, 1891, Shiga & Hart, 2 ♀; Aug. 20, 1916, C. A. Hart, 1 ♂, 1 ♀.

Trigonotylus ruficornis (Geoffroy)

Cimex ruficornis Geoffroy (1785, p. 209).

MALE.—Length 5.30, width 1.17. Head width 0.69, vertex 0.36. Rostrum, length 1.56, reaching to middle of intermediate coxae. Antennae red, first segment often more or less pale; first segment, length 0.73; second, 2.31; third, 1.95; fourth, 0.56. Pronotum, length 0.65, width at base 0.95. Pubescence short on antennae and legs; dorsum practically glabrous. General color pale yellowish green to green; pronotum with four longitudinal, fuscous stripes, median pair extending to apex of scutellum and separated by a slender, pale line; membrane pale to dusky, veins green.

FEMALE.—Length 6.00, width 1.34. More robust than male, but very similar in form and coloration.

FOOD PLANTS.—Cultivated oats (*Avena sativa*) and closely related wild grasses.

KNOWN DISTRIBUTION.—This is a Holarctic species, widely distributed in the United States and Canada, most abundant in the Boreal region.

Illinois Records.—Twenty-two males and 64 females, taken May 22 to Aug. 28, are from Amboy, Antioch, Chicago, Elizabeth, Frankfort, Galena, Grand Detour, Havana, Hoopston, Macomb, Orangeville, St. Anne, Savanna, Starved Rock State Park, Urbana, Warren, White Pines Forest State Park, Zion.

Stenodema Laporte

KEY TO SPECIES

- Hind femora with three strong spines on apical half of posterior margin, fig. 146.
 **trispinosum**, p. 130
 Hind femora without spines.
 **vicinum**, p. 130

Stenodema trispinosum Reuter

Stenodema trispinosum Reuter (1904, pp. 4, 8).

ADULTS.—Length 7.00–7.50, width 1.70. General color pale yellowish to greenish; hemelytra sometimes bright green; membrane pale, veins green. Dorsum clothed

with short, pale pubescence; antennae with prominent pale hairs, first segment more thickly clothed. Pronotum thickly and rather coarsely punctate; median line raised into

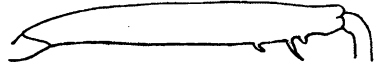


Fig. 146.—*Stenodema trispinosum*, hind femur.

a callus. Posterior margin of hind femora with three spines, one of them much reduced in size.

FOOD PLANTS.—Occurs on grasses in moist meadows; adults hibernate.

KNOWN DISTRIBUTION.—A Holarctic species that is widely distributed in the northern United States and Canada.

Illinois Records.—Fifty-one males and 37 females, taken April 15 to Oct. 6, are from Algonquin, Allerton, Alto Pass, Anna, Antioch, Apple River Canyon State Park, Carbondale, Carmi, Champaign, Chicago, Dubois, Elizabethtown, Fern Cliff, Fountain Bluff, Golconda, Grand Tower, Herod, Jonesboro, Kampsville, Lawrenceville, Mahomet, Mount Carmel, Muncie, Palos Park, Parker, Pulaski, Quincy, Robinson, Shawneetown, Snyder, Springfield, Thebes, Urbana, Vienna, Waukegan.

Stenodema vicinum (Provancher)

Miris vicinus Provancher (1872, p. 77).

ADULTS.—Length 7.00–7.50, width 1.70. Femora devoid of spines; pronotum and scutellum coarsely and closely punctate, a callous median line evident; first antennal segment thickly clothed with long pubescence, second segment with short pubescence only. General color yellowish to greenish with fuscous markings; dorsum with a median pale stripe and fuscous areas on either side extending from tylus back over pronotum, scutellum and hemelytra; clavus and inner half of corium dark fuscous to blackish in male; antennae reddish, in dark specimens dusky red.

FOOD PLANTS.—Occurs on grasses in moist meadows; adults hibernate.

KNOWN DISTRIBUTION.—This is a common species in the eastern United States and Canada.

Illinois Records.—Fifty-two males, 35 females and 2 nymphs, taken April 26 to Nov. 26, are from Algonquin, Amboy, Apple

River Canyon State Park, Argo, Bowmanville, Chicago, Elizabeth, Fort Sheridan, Galesburg, Geneseo, Ingleside, Lake Villa, Normal, Oquawka, Palos Park, Port Byron, Riverside, Roby, Rockford, Savanna, Urbana, Waukegan, White Pines Forest State Park.

Mesomiris Reuter

No Illinois species; *Mesomiris curtulus* Reuter is known from Colorado eastward to Pennsylvania and Connecticut. It has not yet been collected in Illinois, but should be found here eventually.

CAPSINAE

KEY TO TRIBES

1. Elongate antlike species, figs. 180, 181; abdomen constricted at base; lateral margins of pronotum indistinct, more or less sinuate; emboliar margins of hemelytra recurved ventrad. **Myrmecorini**, p. 209
- Not antlike, figs. 154, 155; abdomen not distinctly constricted at base; pronotum with lateral margins distinct, frequently finely carinate; hemelytra with emboliar margins straight or slightly arcuate, not recurved ventrad. **2**

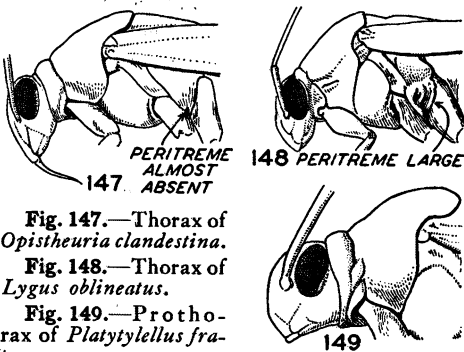


Fig. 147.—Thorax of *Opistheuria clandestina*.
 Fig. 148.—Thorax of *Lygus oblineatus*.
 Fig. 149.—Prothorax of *Platytylellus fraternus*.

2. Ostiolar peritreme small, indistinct, fig. 147, its dorsal margin scarcely extending dorsad as far as ventral margin of mesepimeron; body impunctate; pronotal collar broad, strongly convex, mesal length of collar usually as great as width of calli. **Resthenini**, p. 131

Ostiolar peritreme prominent, fig. 148, its dorsal margin extending well above ventral margin of mesepimeron; dorsum frequently punctate; pronotal collar not so broad and prominent as above. . . **Capsini**, p. 136

RESTHENINI

KEY TO GENERA

- Stricture of pronotal collar joining base of coxal cleft, fig. 147; head oblique as viewed from side; gula rather long, oblique. **Opistheuria**, p. 131
- Stricture of pronotal collar interrupted at side, not joining directly with base of coxal cleft, fig. 149; head short, vertical; gula short, scarcely apparent. **Platytylellus**, p. 132

Opistheuria Reuter

Opistheuria clandestina Van Duzee

Opistheuria clandestina Van Duzee (1915, p. 110).

MALE.—Length 7.00, width 2.80. Head width 1.30, vertex 0.61. Rostrum, length 1.90, reaching to middle of intermediate coxae. Antennae black; first segment, length 1.08, slender, 0.13 thick, clothed with long, suberect, fuscous hairs; second, length 2.20, cylindrical; third, 1.70; fourth, 1.08. Pronotum, length 1.43, width at base 2.20. Emboliar margins distinctly arcuate on apical half. Clothed with erect, rather short, pale pubescence, longer and more fuscous on legs and antennae. Color orange red; antennae, front and tylus, all but central area of disk of scutellum, all but outer margins of hemelytra, and genital segment, black; legs black; coxae reddish; femora more or less pale at base.

FEMALE.—Length 7.10, width 3.00. More robust than male, but very similar in color and pubescence.

All our Illinois specimens but one have the pronotal disk variously marked with black and are referable to the variety *dorsalis* Knight (1918d, p. 115); the exception is the single female from West Pullman which has the venter more or less fuscous or black and belongs to the variety *ventralis* Knight (1918d, p. 115).

HABITS.—Occurs on willow (*Salix* sp.) and beans (*Phaseolus* spp.).

KNOWN DISTRIBUTION.—Florida, Illinois, Louisiana, Minnesota, New York, North Dakota, Ohio, Oklahoma, Ontario, Wisconsin.

Illinois Records.—GOLCONDA: June 22, 1932, on *Salix* sp., Ross, Dozier & Park, 1 ♂. GRAND DETOUR: June 27, 1906, on willow, 1 ♂, 2 ♀; June 30, 1909, sweeping grass, 1 ♂; July 24, 1905, 2 ♂: Aug. 26, 1889, C. A. Hart, 2 ♂. WEST PULLMAN: July 10, 1910, A. B. Wolcott, 1 ♀, FM.

Platytyellus Reuter

KEY TO SPECIES

1. Length of first antennal segment less than width of vertex: 2
 Length of first antennal segment equal to or greater than width of vertex: 4
2. Pronotal disk without median red vitta; length of first antennal segment twice lateral width of an eye. **nigricollis**, p. 133
 Pronotal disk with median red vitta that extends to join red area on scutellum. 3
3. Hemelytra uniformly black; scutellum red; length 5.00–5.30. **rubrovittatus**, p. 133
 Hemelytra with lateral margins pale to orange colored; commissure pale; scutellum black with a broad, red median line; length 6.20–6.60. **zonatus**, p. 133
4. Pronotum yellow to orange yellow. 5
 Pronotum red, or red with black, or chiefly black. 7
5. Scutellum black; male genital segment with a prominent tubercle at base of each clasper, as in fig. 150. **nigroscutellatus**, p. 134
 Scutellum orange yellow; male genital segment without tubercles. 6
6. Width of pronotal collar slightly greater than width of head; length 8.70 **insitivus** var. **insitivus**, p. 133
 Width of pronotal collar less than width of head; length 6.80–8.00. **insitivus** var. **angusticollis**, p. 133
7. Male with a prominent lateral tubercle near base of left genital clasper, fig. 150; both sexes with pronotal disk uniformly red, or red and black; in latter case, black always present along median line, but sometimes black spreads to cover all but narrow area along lateral margins; lateral margins of hemelytra frequently red or pale. 8
 Male without tubercle near base of left genital clasper; both sexes usually with pronotal disk black; frequently pronotal disk red and with black, but, in that case, red color present along median line, thus leaving a black ray present on either side; these rays may be reduced to spots near basal margin; lateral margins of hemelytra sometimes red, but, in that case, median line of pronotum red with a black vitta on either side. 11
8. Hemelytra uniformly black.
 . . . **fraternus** var. **fraternus**, p. 134
 Hemelytra with lateral margins pale or red. 9
9. Scutellum uniformly bright red.
 . . . **fraternus** var. **regalis**, p. 134
 Scutellum black. 10
10. Calli black. **fraternus** var. **rubromarginatus**, p. 134
 Calli red.
 . . . **fraternus** var. **discifer**, p. 134
11. Hemelytra with red lateral margins; pronotal disk red at median line, thus leaving a black or fuscous vitta at either side; vitta sometimes reduced to a black spot near basal margin. **circumcinctus**, p. 135
 Hemelytra uniformly black. 12
12. Length of first antennal segment equal to width of vertex plus one-third dorsal width of an eye; length 7.90. **rubellicollis**, p. 136
 Length of first antennal segment only slightly greater than width of vertex, less than width of vertex plus one-third dorsal width of an eye; length 7.70, or less. 13
13. Head black, basal margin of vertex with a narrow red line; pronotal collar red, with usually a black area above; base of venter red beneath; gula never red; surface coarsely granulate. **borealis**, p. 136
 Head red, tylus and variable areas on juga and lora black; surface very finely granulate. 14
14. Venter black, with not more than a red tinge at base; scutellum red, lateral margins black; pronotal disk

with a broad central red area, this area not forming a clearly defined vitta; length 6.70-7.50.....

- *insignis*, p. 135
 Venter red; scutellum black; basal half of pronotal disk black; length 5.10-5.80..... *fraterculus*, p. 136

Platytylellus rubrovittatus (Stål)

Resthenia rubrovittata Stål (1862, p. 318).

MALE.—Length 5.00, width 1.70; emboliar margins moderately arcuate; surface distinctly granulate. Head width 1.08, vertex 0.51. Antennae, first segment, length 0.44; second 1.71, cylindrical, nearly as thick as first; third, 1.26; fourth, 0.81. General color black; head except tylus and eyes, basal segment of rostrum, pronotum except a flaring ray extending from callus to basal margin on either side of disk, scutellum, mesoscutum except outer angles, sternum except cloud on either side, pleura, venter except vagina exterior, coxae, femora except narrow area at base and apical one-third, red or orange red.

FEMALE.—Length 5.30, width 2.00; very similar to male in coloration; second antennal segment slightly more slender and less cylindrical.

HOST PLANT.—Collected on willow (*Salix* sp.).

KNOWN DISTRIBUTION.—Originally described from a single male specimen with the locality given as "boreal America." Now known from Nova Scotia southward to Florida and westward to Texas.

Illinois Records.—ALDRIDGE: Aug. 11, 1891, sweepings, Mississippi bottoms, Hart & Shiga, 1 ♂. GOLCONDA: June 22, 1932, on *Salix* sp., Ross, Dozier & Park, 5 ♂, 3 ♀. GRAND TOWER: July 12, 1909, on willow, 1 ♂. KARNAK: July 10, 1935, DeLong & Ross, 1 ♂. URBANA: Aug. 17, 1916, 1 ♂.

Platytylellus nigricollis (Reuter)

Resthenia nigricollis Reuter (1876, p. 65).

MALE.—Length 6.00, width 2.30. Head width 1.14, vertex 0.66, lateral width of eye 0.28. Rostrum, length 2.20, reaching to middle of hind coxae. Antennae, first segment; length 0.58; second, 1.76; third, 1.14; fourth, 0.90. Pronotum, length 1.04, width at base 1.82. Surface rather coarsely and thickly granulate, clothed with short, black pubescence. General color black; head ex-

cept tylus, collar, xyphus, and sides of pronotum, scutellum except basal angles, sternum except cloud on either side of median line, pleura, venter except beneath on genital segment, red; legs black; coxae and basal one-third of hind femora pale to red.

FEMALE.—Length 6.40, width 2.60; very similar to male in color, pubescence and surface granulation.

KNOWN DISTRIBUTION.—Connecticut, Illinois, Indiana, Iowa, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Ontario, Pennsylvania, Texas, Virginia.

Illinois Records.—ANTIOCH: July 5-7, 1932, T. H. Frison *et al.*, 1 ♂, 1 ♀. GRAND DETOUR: July 2, 1932, Dozier & Mohr, 1 ♂.

Platytylellus zonatus Knight

Platytylellus zonatus Knight (1926*h*, p. 254).

MALE.—Length 6.20, width 2.40. Head width 1.26, vertex 0.68. Rostrum, length 2.20, just attaining bases of hind coxae. Antennae, first segment, length 0.58; second, 2.00; third, 1.46; fourth, 0.77. Pronotum, length 1.31, width at base 2.10. General color black; vertex except for lunate marks, lower half of face except tylus and apex of lora, collar, lateral margins and median line of pronotum, and median one-third of scutellum, orange red; embolium and narrow outer margin of corium, outer half of cuneus, and commissure of hemelytra, orange colored. Variable areas on pleura and sides of venter orange obscured with blackish. Femora yellowish to orange, with anterior and posterior faces obscured with fuscous. Body surface covered with fine granules, and thickly clothed with fine, short, yellowish to fuscous pubescence. Genital segment without tubercles.

FEMALE.—Length 6.60, width 2.60. Slightly more robust than male, but very similar in coloration and pubescence.

KNOWN DISTRIBUTION.—Illinois, Manitoba, Michigan, Minnesota, North Dakota, Wisconsin.

Illinois Records.—ANTIOCH: July 5-7, 1932, T. H. Frison *et al.*, 3 ♂.

Platytylellus insitivus (Say)

Capsus insitivus Say (1832, p. 21; 1859, p. 340).

MALE.—Length 8.70, width 3.60. General color black, pronotum and scutellum orange yellow; surface very finely granulate,

opaque, with short pubescence; width of collar greater than width of head. Head width 1.36, vertex 0.81. Width of collar 1.40. Rostrum, length 2.40, attaining tips of middle coxae. Antennae, first segment length 1.07; second, 3.00, nearly cylindrical, length of hairs not equal to thickness of segment; third, 1.98; fourth, 0.94. Pronotum, length 1.73, width at base 2.77

FEMALE.—Length 8.70, width 3.50; very similar to male in form and coloration.

The single male from Palos Park, listed below, which is smaller in size and has the width of the head greater than the width of the collar, belongs to the variety *angusticollis* Knight (1923*d*, p. 556). It may prove to be biologically distinct from the typical form.

KNOWN DISTRIBUTION.—Connecticut, Florida, Illinois, Indiana, Iowa, New Jersey, New York, Ontario, Pennsylvania.

Illinois Records.—GALENA: June 27, 1928, T. H. Frison, 1 ♂; June 30, 1932, Dozier & Mohr, 2 ♂. GALESBURG: June 21, 1892, Stromberg, 2 ♀; June 27, 1893, Stromberg, 2 ♀. HARDIN: June 5-9, 1932, H. L. Dozier, 2 ♂, 2 ♀. PALOS PARK: June 19, 1933, Ross & Mohr, 1 ♂. ROCK ISLAND: 1880, 1 ♀. WILLOW SPRINGS: July 12, 1903, W. J. Gerhard, 1 ♂, FM.

Platytylellus nigroscutellatus Knight

Platytylellus nigroscutellatus Knight (1923*d*, p. 557).

MALE.—Length 9.20, width 3.70. Head width 1.71, vertex 0.94; black with gula, genae, bucculae, and margins of lora and juga, orange yellow. Rostrum black, length 3.10, extending slightly beyond hind margins of middle coxae. Antennae black; first segment, length 1.19, clothed with erect, almost pilose hairs, length of hairs not exceeding thickness of segment; second, 3.43, cylindrical, strongly pubescent, a few erect hairs near base as long as thickness of segment; third, 1.66; fourth, 0.94. Pronotum, length 1.89, width at base 2.94, collar 1.36; uniformly orange yellow, finely granulate, clothed with short, erect, pale pubescence. Scutellum black; sternum blackish; pleura orange yellow, becoming fuscous on central area of metepisternum. Hemelytra, emboliar margins very slightly arcuate for most of their length; black, faintly shining, clothed with very fine, short pubescence. Legs black; tibiae clothed with erect, prom-

inent hairs, length of many hairs exceeding thickness of segment; spines not evident. Venter black, with a velvety luster; clothed with erect, fine, dusky pubescence.

FEMALE.—Length 9.70, width 3.50. Very similar to male in form and color.

KNOWN DISTRIBUTION.—Illinois, Michigan, New York, North Carolina, Pennsylvania.

Illinois Record.—HEYWORTH: Aug. 14, 1909, A. B. Wolcott, 1 ♀, FM.

Platytylellus fraternus Knight

Platytylellus fraternus Knight (1923*d*, p. 557).

The color pattern of this form is suggestive of that of *confraternus* (Uhler), but this is larger, and the length of the first antennal segment is equal to the width of the vertex plus one-half the dorsal width of an eye.

MALE.—Length 9.40, width 3.50. Head width 1.56, vertex 0.86; red, with tylus, front and vertex chiefly black. Rostrum, length 2.85, reaching to middle of hind coxae. Antennae, first segment, length 1.06; second, 3.23, thickest near base and tapering to become more slender at apex, clothed with short, stiff, black hairs and fine pubescence, length of longest hairs not exceeding thickness of segment; third, 1.71; fourth, 1.28. Pronotum, length 1.74, width at base 2.92, collar 1.31; surface very slightly shining, thickly clothed with short, pale pubescence; red, with dorsal area of collar, calli except at outer angles, and a broad band extending to basal margin of disk, black. Scutellum black; sternum blackish, median line red; pleura red or becoming dusky. Hemelytra with emboliar margins only slightly arcuate; black, opaque, surface somewhat scabridulous, clothed with

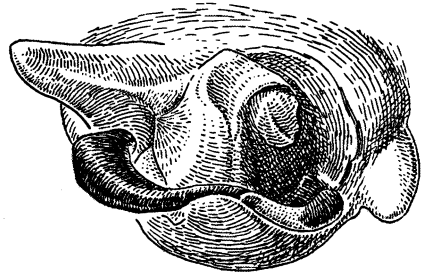


Fig. 150.—Male genitalia of *Platytylellus fraternus*.

short, dusky pubescence, hairs somewhat decumbent on apical half. Legs black, thickly clothed with prominent, erect hairs. Venter red; genital segment becoming black; a large, prominent, erect tubercle present just

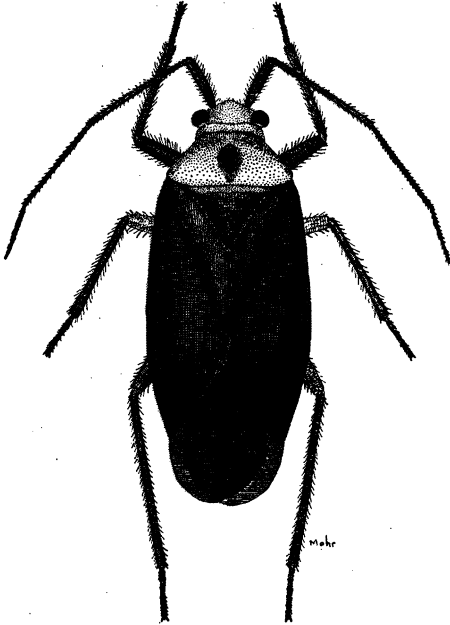


Fig. 151.—*Platytylellus fraternus*, ♀.

above base of left genital clasper, and another, smaller tubercle directed distad from near base of right clasper, fig. 150.

FEMALE.—Fig. 151. Length 9.10, width 3.50. Pronotum, length 1.52, width at base 2.64. Similar to male in form and color.

This species varies greatly in color, and many color combinations have been given varietal names. The typical form and variety *rubromarginatus* Knight (1923*d*, p. 558) have been recognized in Illinois material; varieties *regalis* Knight (1923*d*, p. 559) and *discifer* Knight (1923*d*, p. 559) have not.

HOST PLANT.—Apparently breeds on sumach (*Rhus aromatica*).

KNOWN DISTRIBUTION.—Connecticut, District of Columbia, Florida, Georgia, Illinois, Maryland, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Virginia, West Virginia.

Illinois Records.—BISHOP: June 23, 1906, 1 ♂, 1 ♀. BLUFF SPRINGS: June 10, 1932, Ross & Mohr, 4 ♂, 10 ♀. FOREST

CITY: June 6, 1905, 1 ♂. HARDIN: June 5-9, 1932, H. L. Dozier, 2 ♀. HAVANA: June 3, 1918, 1 ♀; June 8, 1905, Devil's Hole, 2 ♂; June 23, 1926, Devil's Hole, Frison & Hayes, 22 ♂, 12 ♀. KEITHSBURG: June 15, 1932, on *Rhus aromatica*, H. L. Dozier, 22 ♂, 7 ♀. MAKANDA: June 26, 1909, sweepings, 1 ♂. NORMAL: 1 ♂.

Platytylellus circumcinctus (Say)

Capsus circumcinctus Say (1832, p. 23; 1859, p. 343).

MALE.—Length 7.10, width 2.70. Head width 1.28, vertex 0.71. Antennae, first segment, length 0.77; second, 2.34; third, 1.54; fourth, 0.95. Head red, with front and tylus blackish and juga and lora more or less black; pronotum red; calli blackish, a flaring black ray located behind each callus and extending to basal margin of disk; scutellum and mesoscutum red, basal angles black; pleura red; sternum reddish, but becoming blackish on either side of median line; hemelytra black; embolium, outer margin of corium and cuneus red; legs black, tinged with reddish near bases of femora; venter chiefly red with genital segment and variable areas at sides black.

FEMALE.—Length 7.40, width 2.70. More robust than male, but very similar in coloration.

KNOWN DISTRIBUTION.—Originally described from Indiana, and now known from District of Columbia, Illinois, Maine, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Virginia.

Illinois Records.—DOLSON: June 25, 1932, Rocky Branch, Frison & Mohr, 1 ♂. OAKWOOD: June 16, 1925, T. H. Frison, 1 ♂.

Platytylellus insignis (Say)

Capsus insignis Say (1832, p. 22; 1859, p. 342).

MALE.—Length 6.70, width 2.60. Head width 1.19, vertex 0.67. Antennae, first segment, length 0.74; second, 2.20; third, 1.54; fourth, 0.97. General color black, opaque; finely granulate; head red, tylus and variable areas on juga and lora blackish; pronotum red, basal half of disk largely blackish, but broad central area of disk red, this red area not forming a clearly defined vitta; scutellum red, lateral margins blackish; ven-

ter black with not more than a red tinge at base.

FEMALE.—Length 7.60, width 2.80. Larger and more robust than male, but very similar in coloration.

KNOWN DISTRIBUTION.—Common over the eastern United States.

Illinois Record.—WEST PULLMAN: July 13, 1902, W. J. Gerhard, 1 ♀, FM.

Platytylellus fraterculus Knight

Platytylellus insignis fraterculus Knight (1923*d*, p. 554).

MALE.—Length 5.10, width 1.90. Head width 1.00, vertex 0.51; red, tylus blackish. Rostrum, length 1.69, black, basal segment red. Antennae, first segment, length 0.51; second, 1.90; third, 1.43; fourth, 0.80. Pronotum, length 0.90, width at base 1.60; bright red; disk black from just behind calli to basal margin and with a very slight indication of median vitta. Scutellum black; sternum and pleura red. Hemelytra black, very slightly shining; thickly clothed with fine dusky pubescence, hairs recumbent on apical half. Legs black with red coxae. Venter uniformly red and genital claspers black.

FEMALE.—Length 5.60, width 2.00. Slightly larger and more robust than male, but similar in coloration.

KNOWN DISTRIBUTION. — Illinois, Indiana, Michigan, Minnesota, Ontario, Pennsylvania, Wisconsin.

Illinois Record.—NORTHERN ILLINOIS: Bolter, 1 ♀.

Platytylellus borealis Knight

Platytylellus borealis Knight (1923*d*, p. 553).

Not taken in Illinois; known from Alberta, Maine, Manitoba, Michigan, Minnesota, New York, North Dakota, Ontario, Vermont.

Platytylellus rubellicollis Knight

Platytylellus rubellicollis Knight (1923*d*, p. 555).

Not taken in Illinois; known from British Columbia, Maine, Michigan, Minnesota, Nebraska. Nymphs and adults of this species have been collected on the figwort (*Scrophularia leporella*), but it has not been proved that this plant is normally their host.

CAPSINI

KEY TO GENERA

- 1. Pronotum punctate, sometimes only very finely punctate but usually distinctly so; strongly shining, calli usually prominent, figs. 152, 153.. 2
- Pronotum impunctate, or with fine aciculate punctures only.....11

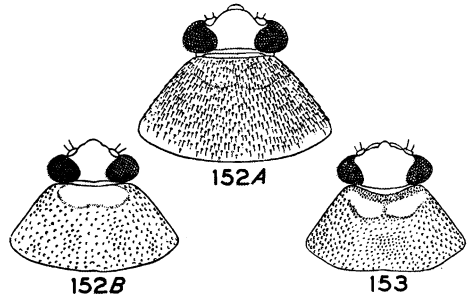


Fig. 152.—A, head and pronotum of *Neolygus invitus*; B, head and pronotum of *Lygus oblineatus*.

Fig. 153.—Head and pronotum of *Neoborus glaber*.

- 2. Second antennal segment clavate, fig. 154; juga tumidly convex; vertex broad, transversely striolate on either side near eyes; short oval, convex, chiefly black species..... **Capsus**, p. 138
- Second antennal segment linear or practically so, fig. 155..... 3
- 3. Pronotum punctate between calli and posterior to collar..... 4
- Pronotum impunctate between calli and posterior to collar..... 6
- 4. Lateral margins of pronotum not carinate; form more elongate and subparallel..... **Xenoborus**, p. 143
- Lateral margins of pronotum carinate or at least with a calloused line; form ovoid..... 5
- 5. First antennal segment distinctly thicker than second segment and both segments black; body color red and black..... **Tropidostepes**, p. 139
- First antennal segment slender, scarcely equaling thickness of second segment at apex; if body colored reddish, first and second antennal segments pale or yellowish..... **Neoborus** p. 139

- 6. First and second antennal segments thickly clothed with heavy black pubescence, fig. 155; large red species, length 8.00.....
 **Coccobaphes**, p. 138
 First antennal segment more sparsely clothed with pale pubescence, fig. 156; size less than 7.50..... 7
- 7. Pronotum with lateral margins sharply angulate, carinate near posterior angle; body red and black, fig. 159.
 **Neocapsus**, p. 147
 Pronotum with lateral margins rounded or angulate, but not carinate... 8
- 8. Rostrum extending to fourth or fifth abdominal sternite; dorsum glabrous..... **Platylygus**, p. 147
 Rostrum rarely extending beyond tips of hind coxae; if so, then dorsum distinctly pubescent..... 9
- 9. Pronotum very finely punctate, fig. 152*A*; body integument more thinly chitinized, more fragile.....
 **Neolygus**, p. 154
 Pronotum coarsely, or at least distinctly punctate, fig. 152*B*; body integument heavily chitinized..... 10
- 10. Second antennal segment distinctly more slender at base, fig. 162; lateral margins of pronotum angulate.
 **Lygus**, p. 148
 Second antennal segment cylindrical, scarcely more slender at base, fig. 158; lateral margins of pronotum rounded..... **Lygidea**, p. 145
- 11. First antennal segment thickened, clothed with numerous flattened hairs, fig. 172. **Neurocolpus**, p. 181
 First antennal segment devoid of flattened hairs, fig. 170..... 12
- 12. Pronotum with two subexcavated, dull, black spots situated behind the callosities, fig. 170; first antennal segment clothed with long black hairs and setae.....
 **Paracalocoris**, p. 176
 Pronotum without black spots, or with only superficial ones, and with first antennal segment without prominent, long, black setae; length of hairs on first antennal segment rarely exceeding thickness of segment..... 13
- 13. Second antennal segment thickened; somewhat spindle shaped, fig. 171
 **Garganus**, p. 181
- Second antennal segment linear, or only very slightly thickened at tip, fig. 168..... 14
- 14. Hind femora long, extending much beyond tip of abdomen, and flattened, broadest before middle and more slender at apex, fig. 177.....
 **Phytocoris**, p. 184
 Hind femora shorter, not or scarcely extending beyond tip of abdomen, fig. 169..... 15
- 15. First segment of hind tarsus distinctly longer than third.....
 **Stenotus**, p. 175
 First segment of hind tarsus shorter than third..... 16
- 16. Dorsal surface distinctly pubescent, dull, fig. 166..... 17
 Dorsal surface glabrous, highly polished, fig. 167..... 20
- 17. Body above and below clothed with silky or woolly pubescence.....
 **Polymerus**, p. 166
 Body clothed only with simple pubescence, never woolly..... 18
- 18. Head broad, eyes practically in contact with pronotal angles, hind margins of eyes somewhat flattened and forming an arcuate line with base of vertex, fig. 166.....
 **Dichroscytus**, p. 165
 Head not unusually broad, eyes convex behind and well removed from pronotal angles, fig. 168..... 19
- 19. Thickness of fourth antennal segment almost equal to that of base of second segment; mesal length of collar subequal to thickness of fourth antennal segment, fig. 168..
 **Adelphocoris**, p. 174
 Fourth antennal segment distinctly thinner than base of second segment; mesal length of collar distinctly greater than thickness of fourth segment... **Calocoris**, p. 137
- 20. Rostrum short, scarcely surpassing anterior coxae.....
 **Poecilocapsus**, p. 172
 Rostrum longer, at least reaching posterior margins of middle coxae..
 **Horcias**, p. 172

Calocoris Fieber

No Illinois species; *Calocoris norvegicus* (Gmelin) is a European species now known

from Connecticut, Maine, Massachusetts, New Jersey, New York, Nova Scotia, Quebec, where it occurs on grasses.

Capsus Fabricius

KEY TO SPECIES

- Second antennal segment strongly clavate on apical half, thickness nearly twice that of first segment, fig. 154. *ater*, p. 138
- Second antennal segment only moderately clavate on apical half, thickness only slightly greater than that of first segment. *simulans*, p. 138

Capsus ater (Linnaeus)

Cimex ater Linnaeus (1758, p. 447).

MALE.—Length 5.70, width 2.60. Head width 1.43, vertex 0.75. Antennae, first segment, length 0.65, thickness 0.13; second,

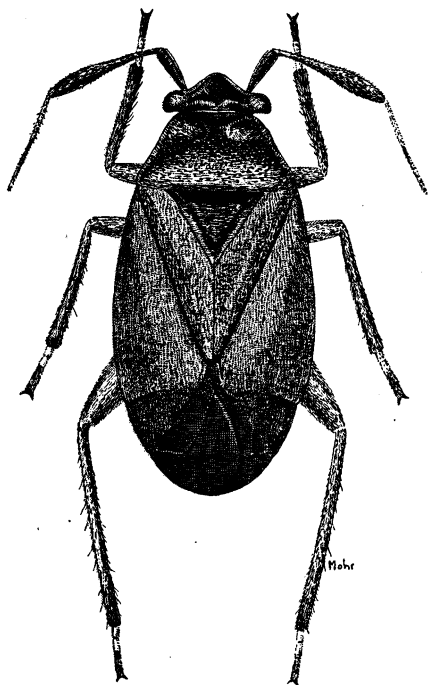


Fig. 154.—*Capsus ater*, ♀.

1.86, strongly clavate, greatest thickness 0.22; third, 0.73, slender; fourth, 0.91. Pronotum, length 1.21, width at base 2.03. Head and body uniformly black, moderately shining; the pronotum shallowly, but rather

coarsely, punctate; clothed with pale to yellowish pubescence.

FEMALE.—Fig. 154. Length 5.80, width 3.10. Very similar to male in color, pubescence and punctuation.

The typical form of this species has black legs, variety *tyrannus* (Fabricius) (1794, p. 177) has yellow brown or reddish legs, and variety *semiflavus* (Linnaeus) (1767, p. 725) has the legs, head and pronotum reddish. All three forms and their intergrades have been taken together in Illinois. All Illinois specimens with the reddish head and pronotum are females.

FOOD PLANTS.—Canada bluegrass (*Poa compressa*), couch grass (*Agropyron repens*); occasionally other grasses, such as timothy (*Phleum pratense*).

KNOWN DISTRIBUTION.—This European species is common throughout the eastern United States and Canada.

Illinois Records.—One hundred fifteen males, 67 females and 1 nymph, taken May 13 to Aug. 12, are from Algonquin, Amboy, Antioch, Aurora, Bloomington, Chicago, Des Plaines, East Dubuque, Edgebrook, Elizabeth, Erie, Fort Sheridan, Frankfort, Freeport, Galena, Galesburg, Glendon Park, Glen Ellyn, Grayslake, Harvard, Havana, Joliet, Monticello, Normal, Oregon, Palos Park, Pecatonica, Rock Island, Savanna, Starved Rock State Park, Urbana, Willow Springs.

Capsus simulans (Stål)

Deraeocoris simulans Stål (1858, p. 186).

This species is distinguished from *ater* (Linnaeus) by its more slender second antennal segment. It is a palearctic form that feeds on brome grass (*Bromus inermis*) and has been found in Alaska, Alberta, Iowa, Minnesota, Montana, South Dakota, Wyoming. Not as yet found in Illinois, but it should be taken here eventually.

Coccobaphes Uhler

Coccobaphes sanguinarius Uhler

Coccobaphes sanguinarius Uhler (1878, p. 401).

ADULTS.—Fig. 155. Length 7.50, width 3.40. General color bright red with a dusky space either side of hemelytral commissure; membrane, first two segments of antennae, tibiae, and apices of tarsi, black; third an-

tennal segment pale; fourth segment fuscous.

FOOD PLANTS.—Sugar maple (*Acer saccharum*) and occasionally red maple (*A.*

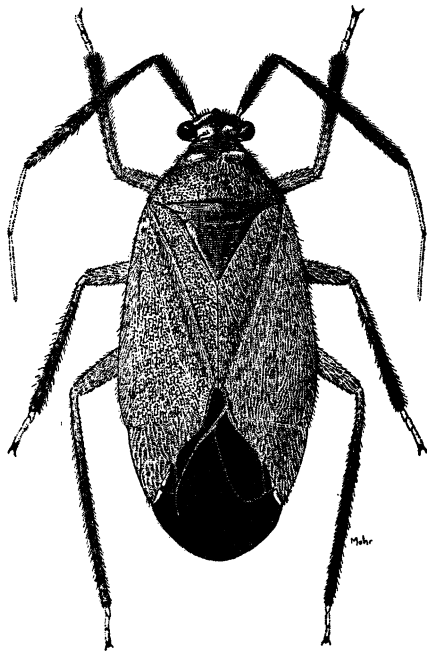


Fig. 155.—*Coccobaphes sanguinarius*.

rubrum); breeds most abundantly on second growth or young trees.

KNOWN DISTRIBUTION.—Connecticut, Illinois, Indiana, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Ohio, Ontario, Pennsylvania, Tennessee, Vermont, Wisconsin.

Illinois Records.—Nine males and 7 females, taken May 24 to Aug. 9, are from Carbondale, Champaign, Elizabethtown, Hardin, Herod, Makanda, Urbana.

Tropidosteptes Uhler

Tropidosteptes cardinalis Uhler

Tropidosteptes cardinalis Uhler (1878, p. 404).

ADULTS.—Length 5.50, width 2.60; general color bright red with antennae, tylus, legs except apices of front and middle femora, space on either side of commissure of hemelytra, and membrane, black.

FOOD PLANT.—White ash (*Fraxinus americana*) and occasionally other species

of ash; occurs most frequently on young trees.

KNOWN DISTRIBUTION.—Connecticut, Florida, Illinois, Iowa, Massachusetts, Michigan, Mississippi, New Hampshire, New Jersey, New York, Ohio, Ontario, Pennsylvania, Texas, Vermont.

Illinois Records.—DUBOIS: May 14, 1916, 1 ♀; May 15, 1916, 2 ♂; May 21, 1917, 3 ♂, 5 ♀; May 23, 1917, 1 ♂, 2 ♀; May 24, 1917, 1 ♂. FRANKFORT: June 8, 1933, Mohr & Townsend, 4 ♂, 2 ♀, HEROD: May 29, 1936, Ross & Mohr, 1 ♀. URBANA: June 3, 1936, on elder, 1 ♀.

Neoborus Reuter

KEY TO SPECIES

1. Dorsum practically glabrous..... 2
Dorsum strongly pubescent..... 8
2. Rostrum attaining hind margins of middle coxae; a black line bordering outer margin of radius and curving mesad across apical area of corium..... **palmeri**, p. 141
Rostrum not extending beyond posterior margin of mesosternum..... 3
3. Antennae very dark brown; scutellum dark brown, basal angles pale; hemelytra dark brown to pitch black, pale or yellowish at base of corium and embolium and on areas extending along radius..... **glaber**, p. 140
First antennal segment pale, rarely somewhat dusky..... 4
4. Dorsum uniformly black with cuneus pale, except apically, and membrane black; sometimes with a small pale spot at base of corium..... **geminus**, p. 140
Dorsum more or less pale, frequently marked with red; scutellum usually with some pale or yellow, but, if black, then membrane and cuneus pale..... 5
5. Chiefly pale, with apical area of corium reddish.....
... **amoenus** var. **amoenus**, p. 140
Chiefly black or very dark brown, almost black..... 6
6. Membrane slightly smoky, paler on area bordering apex of cuneus....
... **amoenus** var. **scutellaris**, p. 140
Membrane entirely pale..... 7
7. Very dark brown, almost black; lateral

and median vittae on pronotal disk, all of scutellum except basal angles and median line at base, and corium, more or less pale.

- **amoenus** var. **signatus**, p. 140
 Black; only cuneus and membrane pale.
- **amoenus** var. **atriscutis**, p. 140
8. First antennal segment black..... 9
 First antennal segment pale..... 11
9. Scutellum very dark brown on either side of median line, basal angles paler; hemelytra translucent reddish brown; cuneus colored similarly to corium..... **rufusculus**, p. 143
 Scutellum testaceous, sometimes brownish on middle at base, never black with median line paler..... 10
10. Second antennal segment yellowish brown, sometimes black near base; cuneus translucent yellowish to brownish..... **canadensis**, p. 141
 Second antennal segment uniformly black; cuneus clear and translucent..... **populi**, p. 142
11. Dorsum uniformly black, cuneus clear, legs pale..... **tricolor**, p. 143
 Dorsum more or less pale, scutellum always partly yellowish..... 12
12. Scutellum with a median black line extending from base to apex; female with embolium and outer margin of corium black and inner apical angle of corium dull yellow brown.....
 **vittiscutis**, p. 142
 Scutellum yellow, sometimes dark at middle of base, but never with a median black line; female with inner apical angle of corium black and embolium chiefly pale.....
 **pubescens**, p. 141

Neoborus geminus (Say)

Capsus geminus Say (1832, p. 24; 1859, p. 344).

ADULTS.—Length 4.80–5.30, width 2.20. General color deep black, shining; legs, first antennal segment and base of second, and cuneus except apex, pale; front of head usually with pale marks.

FOOD PLANT.—White ash (*Fraxinus americana*). Usually occurs with *amoenus* (Reuter) during June.

KNOWN DISTRIBUTION.—Described from Indiana and since recognized from Illinois, Ohio, Ontario, New York.

Illinois Records.—GALESBURG: June 8, 1893, 1 ♀. SHAWNEETOWN: May 27, 1928, T. H. Frison, 1 ♂.

Neoborus amoenus (Reuter)

Tropidostepes amoenus Reuter (1909, p. 48).

ADULTS.—Length 4.30–5.00, width 2.00. General color pale yellowish, marked with reddish and fuscous, and sometimes with black; pronotum with five to seven fuscous or reddish rays, clavus and apical area of corium marked with bright red, sometimes tinged with fuscous; apex of second antennal segment and sometimes third and fourth fuscous.

The typical form of this species is mostly pale; darker specimens may be designated by varietal names. Of these, *amoenus signatus* (Reuter) (1909, p. 49) and *scutellaris* (Reuter) (1909, p. 49) and intergrading forms have been taken together in Illinois; variety *atriscutis* Knight (1929c, p. 10) has not yet been taken in the state.

FOOD PLANTS.—White ash (*Fraxinus americana*) and red ash (*F. pennsylvanica*), especially the latter. Nymphs occur on the trees from May to September; there are apparently two broods per year.

KNOWN DISTRIBUTION.—Common from Texas and Kansas northward to North Dakota and eastward to the Atlantic Coast.

Illinois Records.—Ninety-six males, 107 females and 2 nymphs, taken May 24 to Oct. 2, are from Antioch, Chicago, De Soto, Dubois, Elizabeth, Elizabethton, Evanston, Gibsonia, Glen Ellyn, Golconda, Harrisburg, Havana, Iroquois, Kappa, Keithsburg, Monticello, Mound City, Normal, Oregon, Pinkstaff, Quincy, St. Joseph, Savanna, Shawneetown, Starved Rock State Park, Ullin, Urbana.

Neoborus glaber Knight

Neoborus glaber Knight (1923d, p. 563).

MALE.—Length 4.60, width 1.90. Pronotum grabrous, shining, coarsely punctate, lateral margins sharply defined, but not prominently carinate; yellowish testaceous with a large, flaring, dark brown ray extending from each callus to posterior margin. Hemelytra with emboliar margin slightly sinuate, widest behind middle; very dark brown to piceous, shining, coarsely and rather closely punctate, glabrous or with only a minute hair set in pit of coarse punctures;

area at base of corium and embolium, and areas extending for a space along radius, yellowish testaceous; cuneus yellowish translucent, apical half and area extending along inner margin to basal angle, fusco-brownish. Membrane and veins uniformly fuscous, a small pale spot bordering apex of cuneus. Legs pale yellowish; femora with two subapical brownish bands, these bands lacking on front pair. Venter yellowish, two subdorsal lateral lines dark brownish, genital segment brownish; fine, pale pubescence present on venter, hairs more prominent on genital segment.

FEMALE.—Length 4.80, width 2.20. More robust than male and usually with pale areas broader; basal half of corium and more than basal half of cuneus yellowish.

FOOD PLANT.—White ash (*Fraxinus americana*); often found associated with *amoenus* (Reuter). A single Illinois specimen was taken on hickory (*Carya* sp.).

KNOWN DISTRIBUTION.—Connecticut, Illinois, Iowa, Michigan, Minnesota, New York, North Dakota, Ohio, Ontario, South Dakota.

Illinois Records.—**NORTHERN ILLINOIS:** 1 ♂. CHAMPAIGN: June 9, 1888, at light, C. A. Hart, 1 ♂. FRANKFORT: June 8, 1933, Mohr & Townsend, 2 ♂, 11 ♀. OQUAWKA: June 13, 1932, on *Carya* sp., H. L. Dozier, 1 ♀. RAGO: May 6, 1932, swamp, H. L. Dozier, 1 ♂. URBANA: May 16, 1887, C. A. Hart, 1 ♂.

Neoborus palmeri Reuter

Neoborus amoenus palmeri Reuter in Van Duzee (1908, p. 112).

ADULTS.—Length 5.70, width 2.40. General color pale yellowish with a brown sheilla-like gloss; each callus with a transverse mark; line along lateral margin of pronotal disk, and usually a second one parallel to it, line along outer margin of radius which widens apically and crosses corium to inner angle of cuneus, fuscous to black; in pale specimens, black color showing only on corium; sides of pleura frequently black; apex of second antennal segment and entire third and fourth segments fuscous to black.

FOOD PLANT.—White ash (*Fraxinus americana*) and probably other ash trees.

KNOWN DISTRIBUTION.—Illinois, Minnesota, New York, South Dakota.

Illinois Records. — BEVERLY HILLS:

Aug. 2, 1920, W. J. Gerhard, 1 ♂, FM. ELIZABETH: July 7, 1917, 1 ♂. FREEPORT: July 4, 1917, 1 ♀.

Neoborus pubescens Knight

Neoborus pubescens Knight (1917c, p. 81).

ADULTS.—Length 4.60, width 1.70. General color very dark brown marked with pale; clothed with prominent, erect pubescence; more coarsely punctured than in *amoenus* (Reuter). Pronotum, lateral margins distinctly carinate only on anterior half; black with top of collar, rather wide median stripe on disk, one and sometimes two rays behind each callus, pale yellow. Scutellum yellow, black at middle of base; mesoscutum black; sternum and pleura black; ostiolar peritreme pale; hemelytra pale; inner half of clavus, area along claval suture, large apical spot on corium and small area at edge of embolium, black; membrane mostly pale; in female, dark fuscous to black within cells and on areas margining veins; in male, dark fuscous extending to include middle of membrane; venter black, sometimes less dark in female.

FOOD PLANT.—White ash (*Fraxinus americana*); found developing only on young plants growing in the shade.

KNOWN DISTRIBUTION.—Illinois, Massachusetts, Michigan, New Hampshire, New York, Ohio, Ontario, Pennsylvania, Quebec.

Illinois Record.—PALOS PARK: July 4, 1910, W. J. Gerhard, 1 ♂, FM.

Neoborus canadensis (Van Duzee)

Tropidosteptes canadensis Van Duzee (1912, p. 486).

MALE.—Length 4.70, width 2.00. Head width 1.08, vertex 0.41. Antennae with first segment black; second fusco-brownish, more nearly black at base, pubescence dusky, cylindrical, constricted at base, nearly attaining the thickness of first segment; third fuscous; fourth fuscous. General color yellowish testaceous; clavus, apical area of corium, two subapical bands on hind femora, and calli, very dark brown; pronotal disk obscure brownish to fuscous on either side of median line; base of scutellum at middle brownish, brown color somewhat notched by paler on median line; dorsum coarsely and rather closely punctate, clothed with erect, yellowish pubescence.

FEMALE.—Length 5.30, width 2.40; more

robust than male; dark color more brownish than black.

FOOD PLANT.—White ash (*Fraxinus americana*).

KNOWN DISTRIBUTION.—Illinois, Iowa, Michigan, Minnesota, Ohio, Pennsylvania, Quebec, South Dakota, Texas.

Illinois Records.—**NORTHERN ILLINOIS:** June, 3 ♀. **FRANKFORT:** June 8, 1933, on *Fraxinus* sp., Mohr & Townsend, 7 ♂, 35 ♀. **PALOS PARK:** June 19, 1909, A. B. Wolcott, 1 ♂, FM. **ROCKFORD:** June 11, 1933, Mohr & Townsend, 1 ♀. **URBANA:** June 1, 1889, 1 ♂, 1 ♀.

Neoborus populi Knight

Neoborus populi Knight (1929c, p. 4).

MALE.—Length 4.20, width 1.70. Head yellowish; tylus, spot above each antennal socket, and mark either side of median line of frons, black. Rostrum, length 1.06, nearly attaining hind margin of sternum, yellowish, apex black. Antennae with first and second segments black, third brownish, fourth yellowish. Calli prominent, black, surrounded by yellowish, posterior half of disk black, but this not joined with black on calli; lateral margins of disk slightly sinuate, not distinctly carinate. Body clothed with prominent, erect, pale pubescence, hairs longer

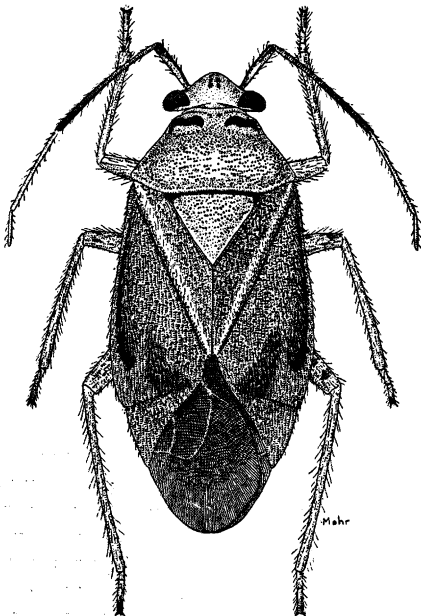


Fig. 156.—*Neoborus populi*, ♀.

and more prominent than in *pubescens* Knight. General color pale to yellowish, shaded with black; scutellum yellow, without vitta; calli, mesoscutum, inner apical half of clavus, all except apex of embolium, outer margin of corium exterior to radial vein, line extending across apical area of corium to inner angles, pleura, and sternum, black. Cuneus clear; membrane and veins very dark, almost black. Legs yellowish, apical halves of hind femora and bases of tibiae becoming almost black.

FEMALE.—Fig. 156. Length 4.60, width 1.90. Very similar to male in pubescence and coloration, except black areas somewhat reduced; hind femora each with two incomplete, subapical black annuli; membrane fuscous to almost black.

FOOD PLANT.—Cottonwood (*Populus* sp.).

KNOWN DISTRIBUTION.—Illinois.

Illinois Records.—**ILLINOIS:** 1 ♂, 3 ♀. **GALESBURG:** July 16, 1892, 2 ♂, 2 ♀. **URBANA, BROWNFIELD WOODS:** July 19, 1926, Vera G. Smith, 1 ♂, 1 ♀, KC; July 28, 1889, C. A. Hart, 1 ♀.

Neoborus vittiscutis Knight

Neoborus vittiscutis Knight (1923d, p. 566).

MALE.—Length 4.00, width 1.86. Head almost black; bucculae, and margins of juga and lora, paler. Rostrum, length 1.16, reaching to middle of intermediate coxae, pale, apex black; antennae pale except second segment, which is reddish or dusky apically. Pronotum coarsely punctate, with an erect, pale hair arising from each puncture; black, shining, spot on median line, an indistinct ray behind each callus, and carinate lateral margin, pale. Scutellum pale with a narrow, black area at base and a median black line, median line more slender apically; mesoscutum black, clothed with pale pubescence; sternum and pleura black. Hemelytra with emboliar margins slightly sinuate; black, shining, coarsely punctate, slightly paler and somewhat translucent along claval veins at a spot near base of corium; cuneus pale translucent, apex with a narrow fuscous area. Membrane uniformly fuscous, scarcely paler near apex of cuneus. Legs uniformly pale.

FEMALE.—Length 5.00, width 2.30. Antennae pale. Pronotal disk yellowish testaceous with a black line bordering lateral carina and an indistinct, fuscous line be-

hind outer margin of callus. Scutellum colored similarly to that of male, median black line broader near base. Hemelytra pale testaceous with embolium and outer margin of corium exterior to radial vein black and tip of embolium pale; membrane pale, areoles except small spot near basal angle of cuneus, veins, and area bordering areoles, dark fuscous. More robust than male and with pale areas broader.

FOOD PLANT.—Ash (*Fraxinus* sp.).

KNOWN DISTRIBUTION.—District of Columbia, Illinois, Maryland, Mississippi, Missouri, Virginia.

Illinois Records.—DARWIN: July 23, 1932, on *Fraxinus americana*, Dozier & Park, 1 ♀. ELIZABETHTOWN: June 22-24, 1932, on *Fraxinus americana*, Ross, Dozier & Park, 1 ♂, 2 ♀. HARDIN: June 5-9, 1932, on *Fraxinus americana*, H. L. Dozier, 5 ♂, 3 ♀. HARRISBURG: June 25, 1932, on *Fraxinus americana*, Ross, Dozier & Park, 1 ♀. KARNAK: June 23, 1932, on *Fraxinus americana*, Ross, Dozier & Park, 2 ♀. LILLY: June 11, 1914, Mackinaw River, 1 ♂, 1 ♀. WILLOW SPRINGS: June 27, 1909, A. B. Wolcott, 1 ♂, FM.

Neoborus tricolor (Van Duzee)

Tropidostepes tricolor Van Duzee (1912, p. 487).

ADULTS.—Length 5.70, width 2.80. Antennae pale, second segment pale with apex fuscous. Dorsum rather coarsely punctured, with an erect, prominent, pale hair arising from each puncture. General color black with rostrum except apex, legs, ostiolar peritreme, and cuneus, pale; front of head reddish to brownish.

KNOWN DISTRIBUTION.—Described from New Jersey, and since recognized only from Illinois, Indiana, Mississippi, Missouri.

Illinois Records.—URBANA: Aug. 9, 1920, J. R. Malloch, 1 ♂. VIENNA: June 14, 1934, DeLong & Ross, 1 ♀.

Neoborus rufusculus Knight

Neoborus rufusculus Knight (1923d, p. 564).

ADULTS.—Length 4.60, width 1.86. General color of head yellowish; tylus, median line of front and joining arc above, and juga except sutural margins, blackish. Antennae, first segment black; second fusco-blackish; third and fourth fuscous. Pronotum, length 0.94, width at base 1.69; coarse-

ly and rather closely punctate, shining, clothed with erect, pale yellowish pubescence; brownish black; collar, median line of disk that narrows near basal margin, spot behind outer angle of each callus, and slender basal margin, yellowish testaceous; carinate lateral margins of disk only moderately distinct, slightly more sulcate than in *canadensis* (Van Duzee). Scutellum coarsely punctate, clothed with erect, yellowish pubescence; brownish black, median line and basal angles paler; mesoscutum brownish with prominent pubescence. Sternum brownish black, median line yellowish, pleura blackish, clothed with prominent pubescence; ostiolar peritreme pale. Hemelytra, emboliar margins nearly straight, but curved at each end; reddish brown, translucent, darker on clavus bordering scutellum and commissure; rather coarsely and closely punctate, shining, clothed with prominent, erect, yellowish pubescence; cuneus reddish brown, translucent, scarcely paler at base. Membrane and veins fusco-brownish, a small pale spot bordering apex of cuneus. Legs yellowish; apical half of hind femora, somewhat on apex of middle pair, base of tibiae and somewhat on middle of hind pair, blackish; apices of tarsi fuscous. Venter blackish; ventral surface except on genital segment, yellowish; pubescence pale.

FOOD PLANT.—Ash (*Fraxinus americana*).

KNOWN DISTRIBUTION.—Illinois, Minnesota, Mississippi, New York, Texas.

Illinois Record.—WHITE PINES FOREST STATE PARK: June 4, 1933, Ross & Townsend, 1 ♂.

Xenoborus Reuter

KEY TO SPECIES

1. Membrane pale or, if fuscous, paler on middle..... 2
- Membrane uniformly fuscous or black. 3
2. Dorsum uniformly pale greenish yellow, fuscous along commissure of hemelytra; length 6.40.....
- **commissuralis**, p. 144
- Dorsum with black areas broader; calli, spot either side of median line on pronotal disk, clavus except along claval vein, and spot on apical area of corium, very dark fuscous, almost black; membrane fuscous, with an oval spot on middle of apical half;

within areoles, distinctly paler; length 5.00..... **plagifer**, p. 144

- 3. Posterior tibiae uniformly pale; femora pale or only rarely dusky near apex; embolium and basal half of corium pale in both sexes... **neglectus**, p. 144

Posterior tibiae fuscous, almost black near base; posterior femora black apically or with dark color forming two bands; embolium and basal half of corium pale in some female specimens..... **pettiti**, p. 145

Xenoborus commissuralis Reuter

Xenoborus commissuralis Reuter in Van Duzee (1908, p. 112).

ADULTS.—Length 6.40, width 2.30. General color uniformly pale greenish, becoming yellowish after death; antennae, a narrow streak along commissure of hemelytra, tips of tarsi, and tip of rostrum, very dark fuscous, almost black; membrane pale translucent; brachium and a streak beyond apex of larger areole dusky.

FOOD PLANT.—Black ash (*Fraxinus nigra*); occurs during July and August.

KNOWN DISTRIBUTION.—Illinois, Iowa, Minnesota, New York, Nova Scotia, Ontario, Quebec.

Illinois Records.—NORTHERN ILLINOIS: 1 ♂, 4 ♀. GALESBURG: July 16, 1892, 2 ♀.

Xenoborus plagifer (Reuter)

Tropidosteptes plagifer Reuter (1909, p. 51).

ADULTS.—Length 5.00, width 1.90. General color pale yellowish testaceous; antennae, calli, male usually with a spot either side of median line on pronotal disk, clavus except claval vein, and spot on apical area of corium, very dark brown, almost black; scutellum yellow; membrane fuscous, with an oval spot on middle of apical half, and area within areoles, distinctly paler; female with pale areas broader, infuscation on apical half of membrane forming a ray at either side behind areoles. Male claspers as in fig. 157.

FOOD PLANT.—Black ash (*Fraxinus nigra*); occurs during August and September.

KNOWN DISTRIBUTION.—Illinois, Minnesota, New York, Ontario, Wisconsin.

Illinois Records.—NORTHERN ILLINOIS: 2 ♂, 6 ♀. GALESBURG: Sept. 12, 1888, 2 ♂, 2 ♀.

Xenoborus neglectus Knight

Xenoborus neglectus Knight (1917c, p. 82).

MALE.—Length 5.40, width 2.10. General color black with pale areas; antennae almost black, paler on base of first segment; head with lower half of face fuscous; front pale, flecked with reddish; carina and a small median dash at middle of vertex almost black. Pronotum not carinate, punctation and pubescence nearly as in *plagifer* (Reuter); collar and large median spot or ray on disk white or pale yellow; pale ray extending from outer angle of callus

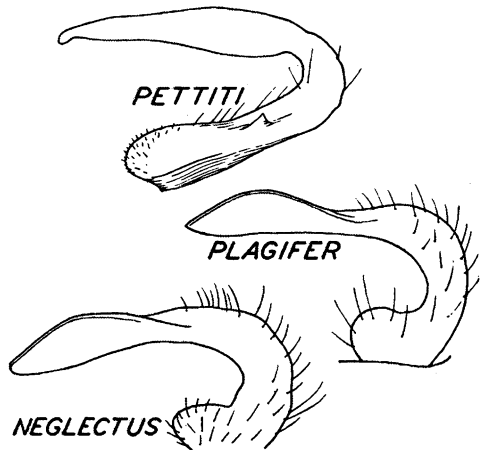


Fig. 157.—Male left genital claspers of *Xenoborus*.

along lateral margin of disk to basal angle; scutellum pale yellowish, mesocutum almost black. Hemelytra very dark brown, almost black; embolium, basal angle of corium and cuneus, pale translucent; membrane uniformly fuscous. Legs pale yellowish; hind femora sometimes dusky near apices, but never distinctly banded. Claspers as in fig. 157.

FEMALE.—Membrane slightly paler on middle; a black ray present behind each callus; lateral margin and basal angle of disk remaining yellowish.

FOOD PLANTS.—Occurs during June and probably breeds on black ash (*Fraxinus nigra*). Found on pignut (*Carya glabra*) in Illinois.

KNOWN DISTRIBUTION.—Illinois, Michigan, New York, Ohio, Ontario.

Illinois Record.—EAST DUBUQUE: June 1, 1933, on *Carya glabra*, Ross & Townsend, 2 ♂, 8 ♀.

Xenoborus pettiti (Reuter)

Tropidosteptes pettiti Reuter (1909, p. 50).

ADULTS.—Length 5.70, width 2.10. General color black; scutellum yellow; sometimes with embolium, basal half of corium, and all of cuneus except apex, pale; front of head and pronotal disk sometimes reddish; lateral margins and basal angles of disk never so pale as median line, except in teneral specimens killed before any black color develops on pronotum; legs pale, with posterior femora almost black apically, or with dark color forming two subapical bands. Male claspers as in fig. 157.

FOOD PLANT.—White ash (*Fraxinus americana*); occurs during May and June.

KNOWN DISTRIBUTION.—Iowa, Kansas, Minnesota and eastward.

Illinois Records.—NORTHERN ILLINOIS: 1 ♂. ALGONQUIN: June 12, 1897, 1 ♀; June 29, 1907, W. A. Nason, 1 ♂, 1 ♀. CHICAGO: June 5, 1908, at light, W. J. Gerhard, 1 ♂, FM. FRANKFORT: June 8, 1933, Mohr & Townsend, 4 ♀. PALOS PARK: June 20, 1909, at light, W. J. Gerhard, 4 ♂, FM. URBANA: May 19, 1889, C. A. Hart, 1 ♂; May 31, 1889, C. A. Hart, 1 ♀. WHITE PINES FOREST STATE PARK: June 4, 1933, Ross & Townsend, 1 ♀.

Lygidea Reuter

KEY TO SPECIES

1. Rostrum scarcely attaining posterior margin of intermediate coxae. 2
 Rostrum reaching to near apices of hind coxae. 4
2. Length of first antennal segment equal to width of vertex plus one-half dorsal width of an eye; hemelytra with pubescence chiefly suberect, set moderately close; cuneus chiefly pale, red only along inner margin and at apex. **viburni**, p. 145
 Length of first antennal segment less than or scarcely greater than width of vertex. 3
3. Second antennal segment provided with several erect hairs that in length exceed thickness of segment; length 6.00–6.30. **rosacea**, p. 145
 Second antennal segment provided only with short hairs that in length are less than thickness of segment; length 5.60–5.90. **salicis**, p. 146

4. Color orange red with basal margin of pronotum and variable areas of outer margins of hemelytra fuscous to almost black. **mendax**, p. 146
 Color chiefly fuscous to almost black with ground color pale to greenish, never reddish. **obscura**, p. 145

Lygidea rosacea Reuter

Lygidea rubecula rosacea Reuter (1909, p. 46).

MALE.—Length 6.70, width 2.00. Head width 1.26, vertex 0.63. Rostrum, length 1.85, reaching to middle of intermediate coxae. Antennae, first segment, length 0.60; second, 2.10, pubescence dense and intermixed with several erect hairs which in length exceed thickness of segment; third, 0.88; fourth, 0.57. Hemelytra densely clothed with closely appressed, golden yellow pubescence; clavus and apical half of corium fuscous to black, basal half of corium and embolium yellowish translucent. Cuneus red with a yellowish area at base and extending to middle along outer margin.

FEMALE.—Length 6.50, width 2.60. Head width 1.34, vertex 0.68. Antennae, first segment, length 0.60; second, 1.90; third, 0.80; fourth, 0.60. Dorsum chiefly red, although in dark forms clavus and apical half of corium becoming infuscated.

FOOD PLANT.—Sandbar willow (*Salix longifolia*).

KNOWN DISTRIBUTION.—Illinois, Iowa, Minnesota, Ohio, South Dakota.

Illinois Records.—Fifteen males and 32 females, taken June 1 to July 7, are from Champaign, Chicago, Elizabethtown, Freeport, Grand Tower, Grayslake, Iroquois, Kampsville, Keithsburg, New Milford, Pike, Prophetstown, Savanna, Urbana, Vienna, Willow Springs.

Lygidea viburni Knight

Lygidea viburni Knight (1923*d*, p. 569).

No Illinois specimens; known from Massachusetts, New Hampshire, New York. Breeds on nannyberry (*Viburnum lentago*).

Lygidea obscura Reuter

Lygidea rubecula obscura Reuter (1909, p. 46).

MALE.—Length 6.00, width 2.20. Smaller and darker colored than *rubecula* (Uhler).