

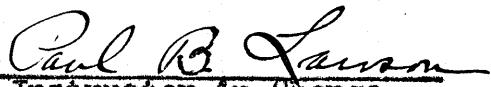
THE GENUS XESTOCEPHALUS IN NORTH AMERICA
(HOMOPTERA, CICADELLIDAE)

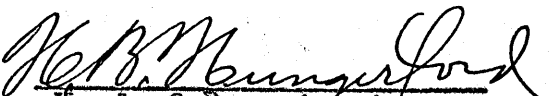
by

Harold T. Peters
A.B. '31, Univ. of Kansas.

Submitted to the Department
of Entomology and the Faculty of the
Graduate School of the University
of Kansas in partial fulfillment of
the requirements for the degree of
Master of Arts.

Approved by:


Instructor in Charge.


Head of Department.

May 28, 1932

T A B L E O F C O N T E N T S

Introduction - - - - - 1
Description of the genus - - - - - 2
Key to the genus- - - - - 2a
X. tessellatus- - - - - 3
X. robustus - - - - - 4
X. trimaculatus - - - - - 6
X. lunatus- - - - - 7
X. coronatus- - - - - 9
X. pulicarius - - - - - 11
X. similis- - - - - 13
X. piceus - - - - - 15
X. brunneus - - - - - 16
X. nigrifrons - - - - - 17
X. fulvifrons - - - - - 19
X. superbus - - - - - 21

INTRODUCTION

The genus *Xestoccephalus* is represented in North America by twelve species. Seven of these have previously been described. Five new species are described in this paper.

The characters which are used to separate species are chiefly the markings on the vertex and pronotum. In the cases of those without markings on vertex and pronotum, the general color of the vertex and its shape are used. The markings of the wings, while in general alike for some species, yet often show specific differences of definite value in separating species. The size of *robustus* and *trimaculatus*, as well as their markings, separates them from all other species. The external genitalia are of little or no specific importance. The internal male genitalia are also of little value except in the separation of *similis* from *pulicarius* in which instance the style shows constant characters for each species. The oedagus is of little practical value in classification.

Members of this genus seem to be taken for the most part in the southern and eastern states.

X. pulicarius has been taken as far north as New York and Canada and *X. superbus* and *X. nigrifrons* are reported from Maine, but as a whole, the members of the genus occur most abundantly in the south.

DESCRIPTION OF THE GENUS

Small ovate shiny species, usually dark in color, nearly unicolorous or mottled with brown.

Head slightly narrower than pronotum, sloping and subconical. Vertex very broadly rounded with front bearing ocelli on anterior margin distant from eyes. Front very broad above, tapering rapidly to short broad clypeus, genae broad. Eyes subtriangular with slight emargination opposite crowding antennae. Pronotum short and broad, over twice as broad as long, with distinct lateral and humeral angles. Scutellum large, nearly as long as pronotum. Elytra long, strongly exceeding abdomen.

Genitalia: Male last ventral segment about twice as long as penultimate. Valve barely visible or concealed. Plates rather broad at base, tapering to acute tips, covered with long fine white hairs and with a few spines on inner margin. Female last ventral segment about twice as long as penultimate; posterior margin with slight median emargination. Pygofer stout bearing a number of stout spines; ovipositor slightly exceeding pygofer.

KEY TO THE GENUS XESTOCEPHALUS IN NORTH AMERICA

1. Vertex with distinct dots or lines - - - - - 2
 Vertex without distinct dots or lines- - - - - 8
2. Vertex and pronotum with numerous small dots,
 large (3.9 mm.) - - - - - tessellatus VanDuzee
 Vertex with linear markings- - - - - 3
3. Females large (over 3.75 mm.) and dark - - - - - 4
 Females smaller, less than 3.75 mm.- - - - - 5
4. Females very dark with hyaline spots on elytra
 small, more brown than hyaline- - - - robustus sp.n.
 Females not so dark and hyaline spots on elytra very
 large, more hyaline than brown- - trimaculatus sp.n.
5. Vertex black, distinct geminate lines ending in
 diverging lobes towards apex- - - - - lunatus sp.n.
 Vertex not so marked and lighter - - - - - 6
6. Pronotum black with single white transverse band
 before posterior margin- - coronatus Osborn & Ball
 Pronotum brown marked with spots - - - - - 7
7. Small, entire median apical cell of elytra
 brown- - - - - pulicarius VanDuzee
 Larger, only posterior part of median apical cell
 colored by brown tip of elytra- - - similis sp.n.
8. Large, 4 mm., piceous- - - - - piceus Osborn
 Smaller- - - - - 9

9. Uniformly rich brown with few hyaline markings

near apex of elytra- - - - - brunneus VanDuzee

Not uniformly brown- - - - - -10

10. Mostly jet black species - - - - - nigrifrons Osborn

Not black- - - - - -11

11. Vertex broadly rounded, fulvous,

immaculate - - - - - fulvifrons sp.n.

Vertex at least slightly angulate, light brown and

often with faint markings - superbus (Provancher)

Xestocephalus tessellatus VanDuzee

Xestocephalus tessellatus VanDuzee, Bul. Buf. Soc.
Nat. Sci., v, p.216, 1894.

A large robust species with head and pronotum tessellate, elytra light with veins and irregular spots, brown. Length female 3.9 mm.; male 3.4 mm.

Head slightly narrower than pronotum. Vertex twice as wide as long in female, not quite so wide in male, one-half longer at middle than next eye. Anterior margin almost evenly rounded, very broadly rounded with front. Pronotum two-thirds longer than vertex, over twice as wide as long, humeral margins one-half longer than lateral. Elytra strongly exceeding abdomen.

Color: Vertex and pronotum rich brown profusely dotted with small white dots. A black spot on pronotum behind the inner angle of each eye. Scutellum light brown with faint lighter markings, basal angles and spot between them blackish with a small light dot on basal markings on posterior margin. Clavus with two small white spots in blackish area at base, veins with alternate dark brown and white markings, tips of claval veins white; usually a fine irregular line along claval suture ending in small brown tip of clavus. Corium with veins irregularly alternate brown and white; large brown spots at ends of veins. Tip of corium, except for most of median apical cell, brown. Costal margin with two large

spots, two small ones between them, and quadrate spot just anterior to brown tip of elytra darker brown. Face of male pale, immaculate; female brown with pale dots and marks, darker immediately beneath antennae. Venter of male light brown, darker in female.

Genitalia: Male last ventral segment almost twice as long as penultimate. Valve concealed, Plates viewed ventrally, fairly broad at base tapering strongly beyond middle to acute tips, covered with long fine, white hairs and with a few stout spines on inner margin. Female last ventral segment twice as long as penultimate; posterior margin nearly straight with slight but definite median emargination. Pygofer stout, bearing a number of stout spines; ovipositor slightly exceeding pygofer.

Distribution: This species has been recorded from Florida, Mississippi and Texas. Specimens are also at hand from Alabama and Louisiana.

Xestoccephalus robustus sp.n.

A large dark brown robust species, as large as X. tessellatus. Marked on vertex and pronotum much as in X. pulicarius. Elytra with a number of variously shaped hyaline spots. Length female 3.9 mm.

Head narrower than pronotum. Vertex more than twice as wide as long, two-thirds longer at middle than next the eye, anterior margin evenly rounded, very broadly rounded with front. Pronotum almost one-half

longer than vertex, two and one-half times as wide as long. Humeral margins slightly longer than lateral. Elytra distinctly exceeding abdomen.

Color: Vertex, pronotum and scutellum very dark brown; elytra somewhat lighter. Vertex with light marks as follows: a circular spot at apex, a pair of lines along median line diverging near apex, running parallel to the front margin, forming a loop opposite the ocelli, and proceeding to the eye, a straight line connecting ocelli with the eye. Pronotum with four spots on anterior submargin, a spot in each lateral angle and a larger one mesad of this, and numerous smaller irregular spots on disk, posterior margin and humeral angles with thin subhyaline border. Scutellum dark with a pair of diverging oblong spots at base, and a spot on each lateral margin. Clavus with hyaline spots at end of claval veins and one on each margin near base, smaller faint spots scattered over surface. Corium covered with irregular hyaline spots, the larger hyaline areas are along costal margin anterior to brown tip of corium and contain two rectangular or quadrate spots. Face dark brown with two crescentic lines on upper part enclosing a dark crescent and a semicircular spot on margin of genae beneath eye. Venter dark brown, legs slightly paler.

Genitalia: Female last ventral segment over twice as long as penultimate, posterior margin slightly concave to narrow median notch. Pygofer stout, bearing a number of rather stout dark spines; ovipositor slightly exceeding

pygofer.

Holotype: Female, Ft. Pierce, Florida, Aug. 7,
1930. R. H. Beamer.

Type deposited in Snow Entomological Collection.

Xestocephalus trimaculatus sp.n.

As large as X. tessellatus but resembling X. pulicarius in markings. Elytra with many clear spots. Length female 3.9 mm.

Head narrower than pronotum. Vertex nearly twice as wide as long, one-half longer at middle than next the eye, anterior margin rounded. Pronotum almost one-half longer than vertex, about two and one-half times as broad as long; lateral and humeral margins equal. Elytra strongly exceeding abdomen.

Color: Dark brown marked with fulvous. Vertex with a pair of L-shaped lines, one part parallel to median line and the other parallel to the front margin. Some pale marks between these and eye. Pronotum dark marked with two small spots on anterior submargin, hind margin and humeral angles with thin light border, numerous light spots on disc. Scutellum dark brown, apex lighter, two light spots on lateral margins. Clavus marked with small hyaline spots, one at base, one at end of each claval vein and two others next claval suture. Corium covered with irregular hyaline and yellowish spots, a very large one on costal margin containing quadrate brown spot. Apex

of elytra brown including entire middle apical cell. Face brown. Venter dark brown, legs paler.

Genitalia: Female last ventral abdominal segment twice as long as penultimate; posterior margin with wide and shallow median notch. Pygofer rather short and stout bearing a number of long stout spines; the ovipositor slightly exceeding pygofer.

Holotype: Female, Beauregard Co., Louisiana, 8-16-28, A.M. James.

Type deposited in Snow Entomological Collection.

Xestoccephalus lunatus sp.n.

A medium sized species resembling X. pulicarius but darker and with more definite markings. Elytra with many clear spots. Length female 2.8 mm.; male 2.3 mm.

Head slightly narrower than pronotum. Vertex about twice as wide as long in female, slightly longer in male, one-half longer at middle than next the eye, anterior margin rounded. Pronotum one-half longer than vertex, two and one-half times as wide as long; lateral and humeral margins subequal. Elytra greatly exceeding abdomen.

Color: Dark brown marked with fulvous. Vertex very dark brown marked with pale yellow as follows: a circular spot at apex, a line between ocellus and eye, a spot on inner margin of eye, a pair of lines each starting next

the eye, extending along posterior margin of vertex, almost meeting at median line, then running parallel anteriorly well towards apex of the head and ending in diverging lobes. Pronotum dark brown with four spots on anterior submargin, lateral angles, two large spots on disc and two smaller ones between these and lateral markings, fulvous. Scutellum dark brown with pair of diverging oblong spots at anterior margin and apex lighter. Clavus marked with hyaline spots, the one at the base and the ones at the ends of the claval veins seem to be constant. Corium covered with irregular hyaline spots, an unusually large one on the costal margin just anterior to brown tip of elytra containing small quadrate spot. Face brown, with crescentic light line on upper part, the tips of which are joined by another light line in females enclosing a dark crescent. Venter dark brown, legs slightly paler.

Genitalia: Male last ventral abdominal segment twice as long as penultimate. Valve barely visible. Plates broad at base tapering rather sharply to acute tip; covered with fine long silky hair and with a few spines on inner margin. Female last ventral abdominal segment more than twice as long as penultimate; posterior margin nearly straight with a slight median emargination. Pygofer rather short and stout bearing a number of long stout spines; the ovipositor slightly exceeding pygofer.

Holotype, male, Plant City, Fla., Aug. 15, 1930.

J. O. Nottingham. Allotype, female, Yankeetown, Fla.,
July 31, 1930, R. H. Beamer.

Paratypes, fourteen females from Sanford, Yankeetown,
Fort Meyers, Sebring, Fruitville, Plant City, all in
Florida.

Types deposited in Snow Entomological Collection.

Xestocephalus coronatus Osborn

Xestocephalus coronatus Osborn, Proc. Iowa Acad.
Sci., iv, 1896.

The following is the original description:

"Form and size of pulicarius nearly, but with head
and pronotum shining black, with white markings; length,
female 3 mm.; male, hardly 2.50 mm.

Female. Head nearly equalling pronotum in width;
vertex two-thirds the length of the pronotum, one-half
longer on middle than next eye; width at base nearly
twice the length, convexly rounding to the front; lateral
and posterior margins, a median stripe extending forward
across the disk, and ocelli white; tip white, broadly
margined with orange. A broad lateral margin approaching
so near the ocelli as almost to complete the white margin
and reduce the black to a large spot on either side of the
median line of the disk. Front narrow at ocelli, widening

to antennal pits, then rapidly narrowing to the clypeus; light orange above, shading to black below; clypeus and lorae black; genae broad, white; antennae long, arising from under a distinct ledge; pronotum short, margins nearly parallel, black, with a transverse white band just before the posterior margin; scutellum, basal half black, with a narrow median stripe, apical half orange; Elytra maculate with black as follows: The middle and tip of clavus, apex of elytra, a small spot on the costa before the apex, a broad slightly oblique band arising beyond the middle of the costa and extending to the clavus, branching before the middle and running narrowly to the anal cell and a smaller curved band near the base of the costa, sometimes uniting with a median one near the claval suture.

Male. Vertex without the median stripe or orange marking; upper part of front and all the vertex within the white margin, shining black, except ocelli and a point on the tip equalling them in size, white; lower part of front and clypeus orange.

Genitalia. Ultimate ventral segment of female very broad, posterior margin straight, roundly notched in the center, slightly deeper than in pulicarius. Male valve short, obtusely concavely pointed; plates inflated, broad at base, concave, narrowing to an acute apex; apex together with the plates, are margined with plumose white hairs.

Two males and one female of this very distinct little species were taken from a deeply shaded patch of bluegrass in August. Ames, Iowa."

Xestocephalus pulicarius VanDuzee

Xestocephalus pulicarius VanDuzee, Bul. Buf. Soc. Nat. Sci., v, pp.197, 215, 1894.

A small species marked with lines on vertex, spots on pronotum and large clear spots on elytra. Length female 2.7 mm.; male 2.4 mm.

Head slightly narrower than pronotum. Vertex one-half wider than long in male, almost twice as wide as long in females; more than one-half longer at middle than next the eye; anterior margin almost evenly rounded, very broadly rounded with front. Pronotum almost one-half longer than vertex, over twice as wide as long, humeral margins slightly shorter than lateral. Elytra strongly exceeding abdomen.

Color: Brown marked with fulvous. Vertex marked as follows: a circular spot at apex, larger in females than in males, a pair of median lines running anteriorly, diverging near apex, running parallel to front margin forming a loop opposite ocelli and proceeding to eye. A line connecting ocelli and eye, a spot on posterior margin at inner angle of eye. Pronotum with four spots on

anterior submargin, a spot on each lateral angle and a few spots on disk, posterior margin and humeral angles with thin subhyaline border. Scutellum dark with a pair of diverging oblong spots at base and a spot on each lateral margin. Clavus with hyaline spots as follows: one at base, one at end of each claval vein and two or three scattered over surface. Corium covered with large hyaline spots so that brown is confined to veins and broadens at tips of veins. Brown tip of elytra covers entire median apical cell. Face of male fulvous, immaculate; face of female dark with one or two wavy lines on upper part. Venter dark brown in female, light brown in male, legs slightly paler.

External Genitalia: Male last ventral abdominal segment about twice as long as penultimate. Valve barely visible. Plates, viewed ventrally, rather broad at base tapering to acute tips, covered with long fine white hairs and with a few spines on inner margin. Female last ventral segment at least twice as long as penultimate; posterior margin sloping to broad median emargination. Pygofer stout bearing a number of stout spines; ovipositor slightly exceeding pygofer.

Internal Male Genitalia: Styles very characteristic, basal portion pointed, widening caudad to thick broad U-shaped portion, then turning abruptly through acute angle and narrowing to slender neck, terminating at the

caudal end in a foot-like process; flat portion convex or at least slightly so; oedagus somewhat V-shaped bearing two lateral spines and terminating in a sharp point.

Distribution: This species has been reported from Canada, New York, Ohio, and Maine. Specimens are at hand from Florida, Mississippi, Alabama, Texas, Arkansas, Louisiana, and Kansas. Its range is greater than that of any other species in this genus.

Xestocephalus similis sp.n.

A medium sized species resembling X. pulicarius but larger, paler and less distinctly marked. Elytra with many large clear spots. Length female 3.5 mm.; male 3 mm.

Head slightly narrower than pronotum. Vertex more than twice as wide as long in male, longer in female, one-half longer at middle than next eye, anterior margin rounded. Pronotum almost twice as long as vertex, more than twice as wide as long, lateral and humeral margins almost equal. Elytra greatly exceeding abdomen.

Color: Brown marked with fulvous. Vertex with faint markings similar to X. pulicarius. Pronotum marked with numerous indistinct spots. Scutellum with two spots at anterior margin and two on lateral margins fulvous. Elytra so covered with hyaline spots as to appear light

marked with occasional brown spots and brown veins. Clavus with spots at ends of claval veins and irregular spots along claval suture. Corium covered with large hyaline spots, brown tip of elytra not including entire middle apical cell. Just anterior to this brown tip is a large hyaline spot on the costal margin containing a small quadrate spot. Face fulvous and unmarked in male; light brown and two large spots on lorae in female. Venter brown, legs fulvous, generally darker in female.

External Genitalia: Male last ventral abdominal segment almost twice as long as penultimate. Valve barely visible. Plates broad at base tapering to acute tip; covered with long white silky hairs and with a few stout spines on inner margin. Female last abdominal segment twice as long as penultimate. Posterior margin concave to slight median emargination. Pygofer rather short and stout bearing long stout spines; ovipositor slightly exceeding pygofer.

Internal Male Genitalia: Similar to X. pulicarius except that in the styles the basal angle of the slender portion is not so sharp, there is more of a hook-like projection on the inner end of the foot and the flat portion of the foot is concave, at least slightly so. The oedagus is similar to that of X. pulicarius.

Holotype: Male, Doniphan Co., Kansas, Aug. 20, 1924. R. H. Beamer. Allotype: Female, Douglas Co., Kansas, Aug. 31, 1930. Trap light, P. B. Lawson.

Paratypes: Fifteen males from Douglas Co., Doniphan Co., and Leavenworth Co., Kansas. Eleven females from Douglas Co., Kansas.

Types deposited in the Snow Entomological Collection.

This species has hitherto been confused with and included in X. pulicarius. It occurs along with that species in Kansas, but is definitely larger and lighter in color.

Xestoccephalus piceus Osborn

Xestoccephalus piceus Osborn, Ohio Biol. Surv. Bul. 14, iii, No.4, p. 244, 1928.

The following is the original description:

"Pitchy black with upper part of face and forepart of vertex paler, brownish, vertex about twice as long at middle as next the eye; front slightly convex; clypeus longer than broad, sides nearly parallel; lorae short, checks with margins nearly straight; pronotum a little longer than vertex, broadly arched in front, scarcely concave behind. Female last ventral segment nearly twice as long as preceding, truncate or faintly sinuate.

Color, dark piceous with tip of the head chestnut brown; the elytra uniformly piceous except faint subhyaline spots on the costa near the apex. Beneath piceous. Length 4 mm.

Described from three females (type and paratypes), collected at Apple Grove, Ohio, August 17, 1915.

C. J. Drake. This species is larger than nigrifrons, about uniformly pitchy black."

Xestocephalus brunneus VanDuzee

Xestocephalus brunneus VanD., Bul. Buf. Soc. Nat. Sci., viii, No.5, p.62, 1907.

A small rich brown species with unmarked vertex, pronotum and scutellum, elytra brown except for few subhyaline spots on the corium. Length female 2.5 mm; male 2.1 mm.

Head slightly narrower than pronotum. Vertex nearly twice as wide as long, one-half longer at middle than next the eye, anterior margin slightly angulate, very broadly rounded with the front. Pronotum one-third longer than vertex, humeral margins one-half longer than lateral. Elytra strongly exceeding abdomen.

Color: Vertex, pronotum and scutellum rich brown without markings. Elytra of female brown with hyaline spots in posterior half as follows: one at tip of clavus, another a little caudad of this and two larger spots on the costal margin directly opposite these. Male with three hyaline spots on costal margin. General color of

female darker than male. Face of male pale; brown in the female. Venter of male dark brown, legs straw yellow; female very dark brown, legs dark brown.

Genitalia: Male, last abdominal segment one-half longer than penultimate. Valve barely visible. Plates, viewed ventrally, broad at base tapering beyond middle to acute tips, covered with long fine white hair and with a few stout spines on inner margin. Female, last ventral segment twice as long as penultimate, distinctly convex, posterior margin nearly straight but with definite short median notch. Pygofer stout bearing numerous stout spines; ovipositor slightly exceeding pygofer.

This species has been reported from Rhode Island. Specimens are at hand from Florida, Mississippi and Georgia.

Xestocephalus nigrifrons Osborn

Xestocephalus nigrifrons Osborn, Me. Agri. Exp. Sta., Bul. No.238, p.109, 1915.

The following is the original description:

"Size and general structure of fulvocapitatus but mostly jet black, lower part of face including most of frons, black. Length 3 mm.

Head rounded, nearly as wide as pronotum, ocelli near together and close to the front margin of the vertex;

face tumid, polished, sutures obscure; pronotum rounded in front sloping to sides slightly excavated posteriorly.

Color black with a few white points, vertex black at base, brownish near apex, ocelli white with black central dot, face brown above, two transverse wavy lines on margin next vertex, rest of face polished black, pronotum and scutellum black, the latter with four white points, two at base and one each on hind border opposite the suture, elytral picture like fulvocapitatus but basal part black, two white dots on clavus, several on basal half, apical part semitransparent with smoky patch on apex. Beneath black, legs light brown.

Genitalia: Female ventral segment similar to fulvocapitatus but more distinctly notched at middle.

One specimen Orono, Maine, Aug. 10, 1913. This may possibly be a black variety of fulvocapitatus but is widely different from any specimens I have seen especially in color of face. From coronatus O. & B. it differs in larger size and especially in color pattern of pronotum and elytra."

Xestocephalus fulvifrons sp.n.

A narrow species with unmarked yellowish vertex and pronotum, elytra with many large clear spots.

Length female 2.8 mm.; male 2.6 mm.

Head slightly narrower than pronotum. Vertex two and one-half times as wide as long in male, one-third longer at middle than next the eye, anterior margin almost evenly rounded, very broadly rounded with front. Pronotum one-half longer than vertex, over twice as wide as long, humeral margin slightly longer than lateral. Elytra narrow, strongly exceeding abdomen.

Color: Vertex, pronotum and scutellum straw yellow except for dark brown basal angles of latter; sometimes darker markings showing through pronotum. Clavus with six hyaline spots; one just caudad of scutellum, two at ends of claval veins and three next claval suture, the apical two often coalescing forming a hyaline band. Corium covered with large hyaline spots usually much coalesced; an unusually large hyaline spot on costal margin containing small quadrate brown spot just anterior to brown apex of elytra. Face of male pale brown, darker immediately beneath antennae; face of female darker brown with similar darker areas beneath antennae. Venter dark brown, hind margins of some

segments sometimes pale. Legs lighter brown.

Genitalia: Male last ventral abdominal segment about twice as long as penultimate. Valve barely visible. Plates, viewed ventrally, rather broad at base tapering beyond middle to acute tips, covered with long fine white hairs and with a few spines on inner margin. Female last ventral segment twice as long as penultimate; posterior margin nearly straight with a slight but definite median emargination. Pygofer stout, bearing a number of stout spines; ovipositor slightly exceeding pygofer.

Holotype, male, Valentine, Texas, July 13, 1927.

R. H. Beamer. Allotype, female, same data. Paratypes, two males from Valentine, Texas, and Holtville, California, and two females from Valentine, Texas and Holtville, California.

Types deposited in the Snow Entomological Collection.

Xestoccephalus superbus (Provancher)

Dolicocephalus superbus Provancher, Pet. Faune Ent.
Can., iii, p.530, 1890.

A species about same shape and size of X. pulicarius with faintly marked vertex and pronotum. Elytra mostly hyaline marked with brown veins and marginal spots. Length female 3.5 mm. ; male 3 mm.

Head slightly narrower than pronotum, vertex two-thirds wider than long in male, almost twice as wide as long in female; twice as long at middle as next the eyes; anterior margin rather angulate in male, more rounded in female, broadly rounded with front. Pronotum about one-half longer than vertex, two and one-third times as broad as long, lateral and humeral angles subequal. Elytra strongly exceeding abdomen.

Color: Vertex and pronotum fulvous, often marked with lighter, scutellum darker at base, lighter towards apex, sometimes indistinctly marked with two light posteriorly diverging vittae. Clavus with base and ends of claval veins white, brown markings between them. Corium hyaline with brown confined to veins, tip, a quadrate spot on either margin just anterior to tip and a darker quadrate mid-coxal spot. Face of male fulvous immaculate, face of female somewhat darker. Venter medium brown, legs pale.

Genitalia: Male last ventral abdominal segment almost twice as long as penultimate. Valve barely visible. Plates rather broad at base tapering to acute tips, covered with long, white silky hairs and with a few spines on inner margin. Female last ventral segment twice as long as penultimate; posterior margin slightly concave with slight median emargination. Pygofer stout, bearing a number of stout spines; ovipositor slightly exceeding pygofer.

Distribution: It has been reported from New York and Ohio. Specimens are at hand from Kansas, Missouri, and Mississippi.