THE GENERA STIRELLUS AND COMMELLLUS
(HOMOPTERA, CICADELLIDAE)

by

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TABLE OF CONTENTS

Introduction ........................................... 1
Description of the Genus Stirellus ............ 3
Key to species .......................................... 4
S. bicolor ............................................. 5
S. obtutus ............................................ 7
S. mexicanus .......................................... 9
S. convexus ........................................... 11
S. dixianus ............................................ 13
S. dixianus var. robustus ...................... 15
S. dixianus var. acutus ......................... 17
The Genus Comellus ............................... 18
C. planus ............................................. 19
INTRODUCTION

The subgenus *Stirellus* was established by Osborn and Ball in 1902 to include a small group of leaf hoppers under the genus *Athyasanus*. Ball in 1929 raised it to generic rank. Three species have previously been known in this genus. Two new species and two new varieties are described in this paper.

The chief characters used to separate the species include the shape of the vertex, color markings of the vertex and elytra, and form of the male plates. Thus, *S. dixianus* var. *robustus* while it is very similar in general color markings to *bicolor* is distinguished by the possession of convexly rounding male plates in contrast to the distinctly truncate plates of the latter. The truncate plates of *S. obtutus* were also used as a character for its separation from other species. An additional character of the external genitalia found to be of specific importance was a small, lateral spine on the pygofer, present in all of the species except *S. convexus*. In the external genitalia of the female the comparative lengths of the ultimate and penultimate segments of the abdomen and in *S. mexicanus* the greatly elongated ovipositor were good characters. The internal male genitalia were found to be of little or no value in the separation of species.

Members of this genus, with the exception of
S. convexus and S. bicolor which have been taken as far north as Iowa and Michigan, have been collected almost entirely from the southern states extending from Florida to Arizona.

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DESCRIPTION OF THE GENUS

Small species, greenish yellow or brown in color usually with darker markings.

Head as wide as or slightly wider than pronotum. Vertex usually definitely produced, longer on middle than width between eyes; disc sloping, with ocelli on rounded margin next to the eyes. Pronotum over twice as broad as long with very short lateral margins and a slightly emarginate posterior margin. Elytra sometimes as long as but usually shorter than ovipositor in female; much longer than abdomen in male; venation obscure or distinct, with three ante-apical and four apical cells. Male plates usually short and last ventral segment of female usually slightly emarginate.
KEY TO SPECIES

1. Elytra distinctly greenish yellow usually striped
   with black ------------------------------------------ 2
   Elytra usually light to dark brown and marked
   with fuscous -------------------------------------- 3

2. Apex of vertex entirely black, male plates
   truncate ------------------------------------------- bicolor (VanDuzee)
   Apex of vertex light or with light line or spots,
   male plates convex -- [dixianus var. robustus var. n.]

3. Vertex usually broadly obtuse, elytral veins light
   with distinct brown stripes between------------------
   --mexicanus (Osborn & Ball)
   Vertex more acute, elytra not as above---------------- 4

4. Both sexes distinctly brown, veins light except apical
   ones, elytra usually longer than ovipositor----- 5
   Females yellowish often with fuscous claval and apical
   nervures, males usually darker, elytra shorter
   than ovipositor-------------------------------------- 6

5. Vertex with two or four small spots, male plates
   convex, species lighter-- -- convexus sp. n.
   Vertex with two large spots and usually two smaller
   ones, male plates truncate, species darker --
   --obtusus (VanDuzee)------------------------------ 6

6. Vertex quite acute, slender species, usually
   light ------------------------------------- dixianus var. acutus var. n.
   Vertex more obtuse, more robust species, usually
   darker------------------------------------------ dixianus sp. n.
Stirellus bicolor (VanDuzee)
Pl.I, figs.4, 4a; Pl.II, figs.1,1a,lb.

A striking black and yellowish-green species. Length of female 3.5 mm.; male 3mm.

Head slightly wider than pronotum. Vertex slightly longer at middle than width between eyes, nearly one-half longer at middle than next the eye. Pronotum more than twice as wide as long, slightly longer than vertex in male, definitely longer in female; lateral margins very short, humeral margins long, posterior margin barely emarginate. Elytra exceeding abdomen in male, distinctly or but slightly shorter than ovipositor in female; rounding apically, venation indistinct.

Color: Vertex with anterior half solid black; posterior half yellow. Pronotum yellowish green with anterior black band, Scutellum with black basal band and yellowish-green tip. Elytra greenish yellow with humeral, sutural, and apical margins, and claval suture fuscous or black, and frequently with fuscous stripes extending obliquely backward from middle of costal margin; fuscous markings more prominent in male, sometimes whole elytron dark. Face black, with broad, transverse, yellow band below eyes. Venter fuscous to black.

Genitalia: Plates about as long as last ventral segment, truncate, slightly exceeding triangular valve and bearing row of stout marginal spines. Pygofer
extending beyond plates about one-half length of latter.
Female last ventral segment as long as penultimate,
posterior margin shallowly excavated. Pygofer rather
robust, sparsely spined. Ovipositor greatly exceeding
pygofer.

**Distribution:** Hitherto recorded chiefly from the
south but extending as far north as Michigan and as far
west as Kansas and Nebraska. Specimens at hand now
extend the range southwest to Arizona. It is also known
from neotropical regions.

This species is described from a specimen from
Mississippi and one from Kansas. Judging from the
description these two specimens are not alike in color
markings and the Kansas specimen may represent the species
here described as *dixianus* var. *robustus*. The first
mentioned specimen, the one from Mississippi, was kindly
loaned for study by Dr. H. H. Knight of the Iowa State
Agricultural College. It has the apex of the head solid
black and, therefore, definitely fixes the status of this
species.
Stirellus obtusus (VanDuzee)
Pl. I, figs. 6, 6a; Pl. II, fig. 5.


A distinctly brownish species; vertex marked with two large, black spots and usually two smaller posterior ones. Length of female 3.5 mm.; male 3 mm.

Head of about the same width as pronotum. Vertex slightly longer at middle than width between eyes, nearly one-half longer at middle than next the eye. Pronotum more than twice as wide as long; slightly longer than vertex; lateral margins very short, humeral margins long, posterior margin slightly emarginate. Elytra exceeding abdomen in male, and reaching tip of ovipositor in female; rounding apically; venation distinct particularly the apical veins.

Color: Vertex brownish or testaceous with a pair of dark, irregular spots on anterior margin, frequently confluent in male; two large, nearly square, black spots encircled by a paler area on disc, frequently a smaller pair behind them. Pronotum brownish with a few of dark, irregular spots near anterior margin merging in male to form band. Scutellum brownish with basal angles darkened and sometimes with dark spot between. Elytra fuscous with light nervures except for the apical ones which are strongly fuscous. Face light with dark arcs frequently
converging to form a dark spot on upper part of front; apex of clypeus fuscous. Venter dark with yellowish markings.

Genitalia: Plates truncate, slightly exceeding triangular valve, and bearing a few submarginal spines. Pygofer nearly twice the length of the plates. Female last ventral segment as long as penultimate, posterior margin slightly sinuate. Pygofer rather narrow, sparsely spinous. Ovipositor greatly exceeding pygofer.

Distribution: Widely distributed in southern states from Maryland to Arizona. Specimens are at hand from Louisiana, Missouri, and Kansas.

Through the courtesy of Dr. H. H. Knight of the State Agricultural College, Ames, Iowa, the type specimen of this species was also examined.
Stirellus mexicanus (Osborn & Ball)
Pl.I, figs. 1, la; Pl.II, figs. 2, 2a.


A yellowish-green species with brown stripes usually with broadly rounded vertex. Length of female 3.8 mm.; male 2.8 mm.

Head slightly wider than pronotum. Vertex narrow, distinctly longer at middle than width between eyes, slightly longer at middle than next the eye. Pronotum more than twice as wide as long, usually slightly longer than vertex; lateral margins very short, humeral margins long, posterior margin slightly emarginate. Elytra exceeding abdomen in male, distinctly shorter than ovipositor in female; rounding apically.

Color: Vertex dull yellow with two large, black spots near anterior margin. Pronotum greenish yellow with row of small confluent spots near anterior margin; markings often indistinct. Scutellum yellow with two indistinct, brownish triangles at base. Elytra yellowish or greenish yellow with distinct, brownish, longitudinal stripes and light nervures. Face yellowish, sutures dark, front with dark arcs. Venter yellow.

Genitalia: Male plates convexly rounding, twice as long as triangular valve and bearing a row of stout marginal spines. Pygofer extending slightly beyond plates.
Female last ventral segment nearly twice longer than penultimate, posterior margin slightly sinuate to truncate. Pygofer long, slender, sparsely spined. Ovipositor longer than in S. bicolor.

**Distribution:** Specimens at hand from Victoria, Aransas, and Brooks counties, Texas, give the first record for this species outside of Mexico.
Stirellus convexus sp.n.
F1.1, figs. 2, 2a; Pl.II, figs. 4,4a,4b.

Resembling S. obtutus but lighter and with smaller spots on vertex. Length of female 3.5 mm.; male 3.2 mm.

Head slightly wider than pronotum. Vertex slightly longer at middle than width between eyes, nearly one-half longer at middle than next the eye. Pronotum over twice as wide as long; about the same length as the vertex; lateral margins very short, humeral margins long, posterior margin barely emarginate. Elytra exceeding abdomen in male, as long as ovipositor in female; rounding apically.

Color: Vertex fulvous with two pairs of dark spots on disc, posterior pair small, frequently indistinct. Pronotum fulvous with a row of small dots parallel to anterior margin, middle pair frequently elongated. Scutellum yellowish brown with two pairs of dark spots along basal margin, outer pair frequently extending under pronotum. Elytra brownish with pale nervures except for apical ones which are fuscous. Face pale brown with dark arcs, dark band across apex of clypeus. Venter dark with yellowish markings.

Genitalia: Plates convexly rounding slightly exceeding valve and bearing row of stout marginal spines. Pygofer wider and nearly one-half longer than plates and lacking the small lateral spine found in all other members
of the genus. Female last ventral segment about one-third longer than preceding segment, posterior margin shallowly excavated. Pygofer rather narrow, sparsely spinous. Ovipositor greatly exceeding pygofer.

Holotype, male, Douglas County, Kansas, April 10, 1923, H. B. Hungerford. Allotype, female, Douglas County, Kansas, April, 1923, R. H. Beamer.

Paratypes, four females from Atherton, Missouri; Caddo Parish, Louisiana; Ames, Iowa; and Douglas County, Kansas. Two males from Ames, Iowa, and Bluff City, Kansas.

Types deposited in Snow Entomological Collection.
Stirellus dixianus sp.n.
Pl.I, figs. 5, 5a; Pl.II, figs. 3, 3a.

Similar to S. bicolor but lighter and with apex of vertex light. Length of female 3.6 mm.; male 3 mm.

Head about the same width as pronotum. Vertex distinctly longer at middle than width between eyes, nearly one-half longer at middle than next the eye. Pronotum over twice as broad as long; as long as or slightly shorter than vertex; lateral margins very short, humeral margins long, posterior margin slightly emarginate. Elytra greatly exceeding abdomen in male, distinctly shorter than ovipositor in female; rounding apically, apical cells short.

Color: Vertex yellow with two pairs of dark spots, anterior pair large and frequently confluent in male to form dark band across vertex, posterior pair small, frequently indistinct or lacking. Pronotum yellowish or greenish yellow with a pair of large, irregular, dark spots on anterior margin which usually fuse in male to form a dark band. Scutellum yellow with two to four dark spots along base which extend under pronotum, and are frequently nearly or entirely confluent to form dark basal band. Elytra subhyaline or yellowish green, usually with fuscous claval sutures and apical nervures; male frequently with whole elytron dark or subhyaline with irregular, dark stripes. Face brownish or fuscous with dark arcs, with
pale transverse band below eyes, and apex of clypeus dark brown. Venter dark in male; yellowish with dark markings in female.

Genitalia: Plates about as long as last ventral segment convexly rounding, nearly one-third longer than triangular valve and bearing marginal row of stout spines. Pygofer extending beyond the plates about one-half the length of the latter. Female last ventral segment slightly longer than penultimate, posterior margin slightly concave. Pygofer rather robust, sparsely spined, and greatly exceeded by ovipositor.


Paratypes, fifteen females from Fulton and Shuqualak, Mississippi; and Walnut, North Carolina. Eight males from Fulton, Shuqualak, and Weir, Mississippi; and Walnut, North Carolina.

This species has formerly been included in S. bicolor. It has, however, the tip of the vertex light, back of which are two dark spots which may be more or less confluent, whereas in bicolor the entire apical half of the vertex is solid black. Also the male plates are rounded while they are truncate in bicolor.

Types deposited in Snow Entomological Collection.
Stenellus dixianus var. robustus var. n.
Pl. I, figs. 7, 7a.

Similar to *S. dixianus* but slightly larger and more robust. Vertex more broadly rounded. Length of female 3.8 mm.; male 3.2 mm.

Color: Vertex yellow with a pair of large, dark spots frequently partly or entirely confluent forming dark band just back of anterior margin, tip of vertex yellow or separated from dark band by a yellow line or spot. Pronotum greenish yellow with a pair of large, dark spots usually forming a black band across anterior margin. Scutellum yellowish usually with a black basal band. Elytra greenish yellow with fuscous markings nearly lacking in some females or more usually with fuscous marks along sutural and claval sutures, in apical cells and sometimes one or two stripes extending obliquely backward from near middle of costa.

*Holotype*, female, Greenwood County, Kansas, August 2, 1923. R. H. Beamer and P. B. Lawson. *Allotype*, male, same place and date as for holotype.

*Paratypes*, forty-two females and seven male specimens, the majority of which were collected in Greenwood, Montgomery, and Wilson counties, Kansas. Other localities in which specimens were taken include Woodson, Cherokee, Republic, and Phillips counties, Kansas; Shuqualak and Hamilton, Mississippi; and Kerr, Hidalgo, and Palopinto counties, Texas.
Types deposited in the Snow Entomological Collection.
Stirellus dixianus var. acutus var.n.
Pl. I, figs. 3, 3a.

Similar to S. dixianus but slender with a distinctly more acute vertex. Length of female 3.5 mm.; male 2.8 mm.

Color: General color light brown. Vertex straw yellow with two pairs of dark spots, anterior pair larger occasionally confluent in male; posterior pair frequently indistinct or lacking. Pronotum yellowish with row of dark spots near anterior margin, median pair usually largest. Scutellum yellowish with two pairs of dark spots, outer pair extending under pronotum. Elytra subhyaline usually with fuscous apical nervures. In male fuscous markings more prominent, claval sutures, apical cells, and stripes on elytra frequently fuscous. Face brownish to nearly black with dark arcs, yellowish transverse band below eyes, apex of clypeus usually dark. Venter dark in male, light in female.


Paratypes, thirty-nine females from Hilliard, Loughman, Yankeetown, Florida; Tupelo, Fulton, and Woodville, Mississippi; Gallion, Alabama; and Natchitoche County, Louisiana. Thirteen males from Hilliard, Loughman, Plant City, Florida; and Woodville, Mississippi.

Types deposited in the Snow Entomological Collection.
The Genus *Commellius* Osborn & Ball

The genus *Commellius* has included three very distinct species. An additional one is here described.

Key to Species

1. Two pairs of large, black spots on margin of vertex - 2
   One pair of large, black spots on margin of vertex - 3
2. Elytra with four separate stripes - - - - - - comma
   Elytra with eight separate stripes - - - - - - colon
3. Margin of vertex acute, disc flat or slightly concave - - - - - - - - - planus sp.n.
   Margin of vertex not acute, disc convex - sexvittatus
Commellus planus sp.n.
Pl.I, fig. 9; Pl.II, figs. 7, 7a.

Similar to C. sexvittatus, but with vertex slightly concave and with sharp anterior margin. Length of female 5 to 5.5 mm.; male 3.8 to 4.2 mm.

Head slightly wider than pronotum. Vertex nearly two-thirds wider between eyes than length at middle, nearly one-half longer at middle than next the eye; anterior margin turned slightly upward to form distinctly concave disc, sharply angled with front. Pronotum over two and one-half times as wide as long; about the same length as the vertex; lateral and humeral margins long, posterior margin slightly emarginate. Elytra usually shorter than abdomen in both sexes but slightly longer, narrower, and with fewer cross-veins than in sexvittatus.

Color: Pale or straw-colored marked with brown and black. Vertex with two black marginal spots cut off from front by a distinct suture, and two pairs of brown to nearly black spots caudad of these. Pronotum with six, brown to black, longitudinal stripes, the two median ones extending across scutellum. Elytral nervures and sutures broad and pale with distinct, brown stripes between. Apical cells distinct bordered with dark brown. Face pale frequently with faint, brownish arcs, sutures slightly darkened and with small, frequently indistinct, dark spots above antennae and larger ones below eye.
Genitalia: Plates twice as long as large, triangular valve, gradually tapering to broad apices, with acute meso-caudal angles, and slightly shorter than the robust pygofer. Female last ventral segment over twice longer than preceding, posterior margin with a large notch which extends over half way to base, its sides very slightly sinuate, its apex very broadly rounding with a narrow slit extending through the dark spot at apex of notch. Pygofer robust, slightly exceeded by ovipositor, sparsely spined.

Holotype, male, Barclay, Utah, July 2, 1931, R. H. Beamer. Allotype, female, Barclay, Utah, July 2, 1931, R. H. Beamer.

Paratypes, fifteen females and fifteen males all of which were collected at Barclay, Utah, July 2, 1931, by R. H. Beamer.

The tips of the male plates are more rounded in C. sexvittatus and the apex of the notch in the last ventral segment of the female is much more obtuse.

Types deposited in Snow Entomological Collection.