A New Species of Idiocerus from the Southwest and a Review of the Related Species (Homoptera: Cicadellidae)

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A NEW SPECIES OF IDIOCERUS FROM THE SOUTHWEST
AND A REVIEW OF THE RELATED SPECIES
(HOMOPTERA: CICADELLIDAE)

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While working on a revision of the North American species of the genus Idiocerus
a new species was discovered which is closely related to I. dolosus Ball and I. chisosus
DeLong and Caldwell. It was thought best to describe this species at this time
as well as redescribe I. dolosus and I. chisosus. The species of this group can best
be distinguished from each other, and from other species in the genus, by the
distinct male genitalia.

The specimens used in this study were borrowed from the following collections:
The U. S. National Museum (P. W. Oman), The Kansas State University (G. W.
Byers), The Ohio State University (J. N. Knull), and the D. M. DeLong Collection.
I am especially indebted to Dr. DeLong for the permission to examine his type
material and for his supervision of this study.

Idiocerus dolosus Ball, 1902.

Generally yellowish brown with darker irregular markings of brownish fuscous. Length: Male 4.7 to 5.8 mm, female 4.8 to 5.8 mm. Width of head: Male 1.7 to 2.1 mm, female 1.8 to 2.2 mm.

Vertex slightly curved, nearly same length in middle as near eyes. Postclypeus rounded, longer than wide; anteclypeus short, constricted in middle, expanded at apex. Elytra flaring, giving robust appearance, venation obscure except for apical veins, appendix large.

Color: Vertex and face yellowish brown, two large black spots on vertex about their own width from eyes, another pair of spots on hind margin of vertex equally spaced between first two; remainder of face patterned with brownish fuscous spots (fig. 2); apical half of clypeus except for median V-shaped area, black; antennae yellow, male with black area slightly distal to middle. Pronotum yellowish brown irregularly patterned with brownish spots, except a median line expanded in front. Scutellum yellowish brown with a pair of small black triangles near lateral angles, a pair of black spots on disc forming part of two nearly parallel longitudinal lines near middle. Elytra yellowish brown, cells, except apical cells, with large fuscous areas, apical veins dark brown, apical cells and appendix smoky brown.

Genitalia: Male (fig. 3-8) with plate long, narrow, with blunt apex; pygofer broadly rounded at distal end with thickened ventral margin; style angled, somewhat twisted at apex, with a row of short spines; connective short, thickened; aedeagus with shaft narrowing to a spatulate apex, without processes, phalotreme slitlike extending from middle to apex, apodeme wider and shorter than shaft and with small semicircular apex and large median dorsal expansion. Female (fig. 9) with a long nearly pointed ovipositor; pygofer straight sided; posterior margin of seventh sternite rounded with a median emargination.

Last nymphal instar: Similar to *I. fitchi* in body form. Length: 3 mm. Color generally yellowish brown with brown markings. Head with a wide band alongside each eye, pair of spots on vertex twice their width from each eye, parallel bands at center of vertex extending from near hind margin forward past margin then diverging to ocelli, another band extending from beneath one ocellus to point beneath other ocellus, and a central band full length of clypeus, brown. Thorax with irregular brown markings, wing pads with longitudinal brown stripes. Dorsal abdominal segments ringed basally and distally with brown.

Host plant: This species has been collected on *Rhus trilobata* Hutt. and *Quercus utahensis* Rydberg.

Specimens have been examined from the following localities:

**Arizona.**—SANTA RITA MTS.: July 17, 1932, R. H. Beamer, 9♂, 14♀; July 24, 1927, L. D. Anderson, 1♂; June 16, 1933, P. W. Oman, 9♂, 13♀, 2 nymphs; June 27, 1933, P. W. Oman, 14♂, 11♀; September 13, 1931, E. D. Ball, 1♂, 1♀; July 5, 1933, E. D. Ball, 1♂, 1♀; August 7, 1935, E. D. Ball, 3♂; August 13, 1935, F. H. Parker, 1♂, 2♀; July 13, 1937, D. J. & J. N. Knoll, 2♂, 5♀; July 11, 1949, D. J. & J. N. Knoll, 1♂; June 8, 1937, D. J. & J. N. Knoll, 5♂, 9♀; August 30, 1938, D. J. & J. N. Knoll, 1♂. YARNELL: July 25, 1932, R. H. Beamer, 1♂; July 1, 1929, R. H. Beamer, 3♂, 1♀; July 2, 1929, L. D. Anderson, 1♀. YARNELL HILL: July 2, 1929, L. D. Anderson, 2♂. YARNELL HGTs.: June 29, 1933, P. W. Oman, 6♂, 8♀; August 20, 1933, P. W. Oman, 1♀. HUACHUCA MTS.: July 8, 1932, R. H. Beamer, 1♀; August 2, 1931, E. D. Ball, 2♂; July 10, H. G. Barber, 1♀; June 11, 1933, P. W. Oman, 1♀; Ram Can., October 30, 1937, P. W. Oman, 1♂; June 9, 1932, J. N. Knoll, 1♀; July 20, 1936, J. N. Knoll, 1♂, 2♀; June 9, 1935, J. N. Knoll, 11♂, 10♀; July 20, 1937, D. J. & J. N. Knoll, 2♂, 1♀; August 19, 1950, D. J. & J. N. Knoll, 1♂, 1♀; September 9, 1938, D. J. & J. N. Knoll, 5♂, 6♀; June 5, 1937, D. J. & J. N. Knoll, 1♂, 1♀. CHIRICAHUA MTS.: June 9, 1933, P. W. Oman, 1♂; June 3, 1937, D. J. & J. N. Knoll, 1♂, 1♀; June 2, 1935, J. N. Knoll, 1♂, 1♀; July 5, 1949, D. J. & J. N. Knoll, 1♂, 3♀; June 27, 1949, D. J. & J. N. Knoll, 2♂, 1♀; September 5, 1947, D. J. & J. N. Knoll, 1♀; July 22, 1957, D. J. & J. N. Knoll, 1♂; July 26, 1952, D. J. & J. N. Knoll, 1♂, 1♀. GRAND CANYON: August 1, 1930, E. D. Ball, 2♂, 1♀. PIMA COUNTY: July 27, 1927, P. A. Readio, 1♂, 1♀. SANTA CRUZ COUNTY: August 4, 1927, R. H. Beamer, 1♂. GRANIT DELL: July 17, 1929,
Idiocerus chisosus DeLong and Caldwell

Idiocerus dolosus DeLong and Caldwell, 1937.


Resembles *I. dolosus* in form and general appearance, but smaller and darker with distinct male genitalia. Length: Male 4.1 to 5.0 mm, female 3.9 to 5.2 mm. Width of head: Male 1.6 to 1.8 mm, female 1.5 to 1.8 mm.

Vertex slightly curved, nearly same length in middle as near eyes. Postclypeus longer than wide; anteclypeus nearly parallel sided. Elytra flaring, giving robust appearance, venation obscure except for apical veins, appendix large.

Color: Vertex and face yellow, two black spots on vertex about their own width from eyes, remainder patterned with brownish spots (fig. 11); anteclypeus dark brown except for basal V-shaped area yellowish brown; antennae yellow, male disc black. Pronotum yellowish brown irregularly patterned with brown, except a median line expanded in front. Scutellum yellowish brown with a pair of triangles near lateral angles, a pair of spots on disc and a pair of

**EXPLANATION OF PLATE 1**

*Idiocerus dolosus* Ball.

**Figure 1.** Dorsal view of female (from Arizona).

**Figure 2.** Face of female (same specimen).

**Figure 3.** Ventral view of style.

**Figure 4.** Lateral view of plate.

**Figure 5.** Lateral view of pygofer.

**Figure 6.** Ventral view of aedeagus.

**Figure 7.** Lateral view of aedeagus.

**Figure 8.** Ventral view of connective.

**Figure 9.** Ventral view of female genitalia.
triangles at base black. Elytra with veins, except apical veins, yellowish white interrupted with black, apical veins dark brown, apical cells and appendix smoky brown.

Genitalia: Male (fig. 12-17) with plate long, narrow, nearly same width throughout; pygofers broadly rounded distally, slight median ventral emargination, thickening of ventral margin produced into a short terminal spine; style curved and narrowing to a fingerlike apex, with a row of short spines; connective thickened with a pointed ventral projection; aedeagus with shaft narrowing to a pointed apex, phallobase apical to middle on ventral surface, apodeme expanded beyond middle with rounded apex, moderate dorsal expansion. Female (fig. 18) with ovipositor short; pygofers rounded, extending nearly to end of ovipositor; posterior margin of seventh sternite rounded with median emargination.

Last nymphal instar: Unknown.
Host plant: Unknown.

An examination of many specimens collected after I. chisosus and I. caliginosus were described seems to indicate that I. chisosus represented the teneral form of this species, while I. caliginosus represented the fully mature adult. Therefore, since the description of I. chisosus precedes I. caliginosus, the name I. chisosus is the name retained for this species. This species is only known from Texas, as the one female paratype from Chiricahua Mts., Arizona, is not I. chisosus but probably a female of I. pyramidatus.

Specimens, other than the types, have been examined from the following localities:

Idiocerus spinosus sp. n.

Resembles I. chisosus in form and general appearance, but larger, darker, and with distinct male genitalia. Length: Male 4.7 to 5.1 mm, female 4.6 to 5.2 mm. Width of head: Male 1.7 to 1.9 mm, female 1.8 to 2.0 mm. Vertex slightly curved, nearly same length in middle as near eyes. Postclypeus rounded and raised, nearly same width as length; anteclypeus parallel sided and slightly wider at apex. Male antennae with flattened disc just beyond middle. Elytra flaring, giving a robust appearance, venation obscure except for apical veins, appendix large.

EXPLANATION OF PLATE II

Idiocerus chisosus DeLong and Caldwell.

Figure 10. Dorsal view of head, pronotum, and scutellum of female (from Texas).
Figure 11. Face of female (same specimen).
Figure 12. Lateral view of plate.
Figure 13. Ventral view of style.
Figure 14. Lateral view of pygofer.
Figure 15. Ventral view of connective.
Figure 16. Ventral view of aedeagus.
Figure 17. Lateral view of aedeagus.
Figure 18. Ventral view of female genitalia.
Color: Vertex and face yellowish brown, two black spots on vertex about their own width from eyes, remainder patterned with brownish fuscous spots (fig. 20); anteclypeus dark brown except for basal U-shaped area yellowish brown; antennae yellow, male disc black. Pronotum yellowish brown irregularly patterned with brownish spots. Scutellum yellowish brown with a pair of dark brown triangles near the lateral angles, a pair of dark brown spots on disc usually separate from the two longitudinal brown lines near middle. Elytra with veins, except apical veins, yellowish white interrupted by dark brown areas, apical veins dark brown, apical cells and appendix smoky brown.

Genitalia: Male (fig. 21–26) with plate long, narrow, slightly pointed at apex; pygofer broadly rounded distally, median emargination on ventral margin, ventral margin thickened and developed into a spine distally from emargination; style curved, narrowing to a nearly pointed apex, a row of small spines near apex; connective thickened, squared, with a pointed ventral projection; aedeagus with shaft angled, narrowing to a pointed apex, without processes, phalotreme near middle on ventral surface, apodeme expanded beyond middle with pointed lateral projections and apical margin rounded, large broadly rounded dorsal expansion. Female (fig. 27) with ovipositor long, narrow; pygofer rounded, narrowed at distal end; posterior margin of seventh sternite rounded with wide median emargination.

Last nymphal instar: Similar to I. fitchi in body shape. Length: 2.7 mm. Color generally yellow brown with brownish markings. Head with a pair of brown spots on vertex at their width from eyes; area between spots and antennae generally brown excluding sutures, ocelli, and spots adjacent to ocelli; clypeus with a row of spots down each side and all of apical area, brown; pronotum with anterior half marked with brown; dorsal abdominal segments brown except for a small median spot, yellow, on all segments but last which is ringed medially with yellow.

Host plant: Unknown.


Other specimens which were examined and not included in the type series are as follows: Arisona.—TOMBSTONE: June 16, 1936, E. D. Ball, 3♂.

EXPLANATION OF PLATE III

Idiocerus spinosus sp. n.

FIGURE 19. Dorsal view of head, pronotum, and scutellum of female (from California).
FIGURE 20. Ventral view of female (same specimen).
FIGURE 21. Ventral view of style.
FIGURE 22. Lateral view of plate.
FIGURE 23. Ventral view of pygofer.
FIGURE 24. Ventral view of connective.
FIGURE 25. Ventral view of aedeagus.
FIGURE 26. Lateral view of aedeagus.
FIGURE 27. Ventral view of female genitalia.
REFERENCES
