

**THE GENUS *AMBLYSELLUS* (HOMOPTERA: CICADELLIDAE): A KEY  
TO THE KNOWN SPECIES, WITH DESCRIPTIONS OF EIGHT NEW SPECIES**

DWIGHT M. DELONG  
The Ohio State University, Columbus, U.S.A.

K. G. A. HAMILTON  
Biosystematics Research Institute, Canada Department of Agriculture, Ottawa, Canada

**Abstract** *Can. Ent.* 106: 841-849 (1974)  
Eight new species of *Amblysellus* are described and illustrated: *A. cereus* n. sp. from Guatemala, *A. torqus* n. sp. and *A. excavus* n. sp. from Ecuador, *A. dedecus* n. sp., *A. necopiuis* n. sp., *A. copulus* n. sp., and *A. macularis* n. sp. from Mexico, and *A. acuerus* n. sp. from North America north of Mexico. A key to the known species of the genus is presented.

INTRODUCTION

The deltocephaline genus *Amblysellus* was described by Slesman (1929) for the unique leafhopper *A. curtisii* (Fitch). Kramer (1971) redefined the genus placing five species previously included in *Deltocephalus* in *Amblysellus*, and describing one new species. Eight additional species are described as new at this time: one from the North American plains, two from Ecuador, one from Guatemala, and four from Mexico. A key to the males of the known species of *Amblysellus* is included.

**The Genus *Amblysellus* Slesman 1929**

Type-species: *Amblycephalus curtisii* Fitch 1851, Homop. N.Y. St. Cab., p. 61.

Head as wide as pronotum, crown produced beyond eyes and acutely or bluntly angular at apex; anterior margin of crown broadly and smoothly rounded to face. Forewings either long and extending beyond apex of abdomen or short and exposing apical portion of abdomen, usually with three antepical cells. Connective of male linear and fused with aedeagus. Aedeagus obliquely upturned distally, extreme apex enlarged and irregularly oval with fin-like, hood-like, or lanceolate processes near and extending beyond ventral margin of aedeagus (except in *curtisii*); gonopore more extensive on ventral than on dorsal side of shaft. Style in dorsal view with mesal lobe moderately long and stout, and lateral lobe short, broad, and blunt. Containing rather small and robust species.

KEY TO MALES OF *Amblysellus*

1. Anterior half of pronotum black contrasting with pale posterior half ..... *curtisii* (Fitch)  
Pronotum unicolorous, or bearing weak longitudinal stripes ..... 2
2. Subgenital plates much shorter than pygofer ..... 12  
Subgenital plates as long as pygofer ..... 3
3. Aedeagal shaft bearing paired ventral processes near mid-length ..... 7  
Aedeagal shaft unarmed, or at most bearing short, rounded lobes near base ... 4
4. Apex of style twisted ..... 5  
Apex of style not twisted ..... 6
5. Apex of aedeagus in ventral aspect narrower than shaft ..... *torqus* n. sp.  
Apex of aedeagus in ventral aspect wider than shaft ..... *excavus* n. sp.
6. Head bearing two prominent spots between eyes ..... *durus* (Beam. & Tuth.)  
Head without spots between eyes ..... *wyonus* Kramer
7. Aedeagal processes closer to base of aedeagus than to apex ..... 11  
Aedeagal processes closer to apex of aedeagus than to base ..... 8

8. Style tip with a raised rim or collar at mid-length (Kramer 1971, fig. 43) . . . . . 10  
 Style tip without such rim or collar (Fig. 27) . . . . . 9
9. Apex of aedeagus in ventral aspect narrower than shaft (Kramer 1971, fig. 37) . . . . .  
 . . . . . *punctatus* (Osb. & Ball)  
 Apex of aedeagus in ventral aspect wider than shaft . . . . . *macularis* n. sp.
10. Aedeagal processes slender . . . . . *grex* (Oman)  
 Aedeagal processes broader than long, or at least arising from broad base (Kramer 1971, fig. 27) . . . . . *dorsti* (Oman)
11. Base of aedeagus in ventral view, nearly as wide as long (Beirne 1956, fig. 1257) . . . . .  
 tapering abruptly after processes . . . . . *valens* (Beam. & Tuth.)  
 Base of aedeagus in ventral view narrow, scarcely wider than shaft beyond processes . . . . .  
 . . . . . *acuerus* n. sp.
12. Styles apically massive . . . . . *copulus* n. sp.  
 Styles apically slender and hooked . . . . . 13
13. Aedeagus terminating in caudally-directed prongs . . . . . *necopinus* n. sp.  
 Aedeagus terminating in dorsally curved spatulate tip . . . . . 14
14. Subgenital plates truncate; aedeagus not split apically . . . . . *cereus* n. sp.  
 Subgenital plates rounded; aedeagus narrowly split apically . . . . . *dedecus* n. sp.

***Amblysellus cereus* n. sp.**

Figs. 1, 2, 3, 4

Crown bluntly angled, almost  $\frac{3}{4}$  as long at middle as basal width between eyes. Forewings normal. Length: male, 3.5 mm; female, 4.0 mm.

Colour pale yellow tinged with green. Clypeus with a series of black arcs, clypellus with a median broad longitudinal brown stripe. Large black spot notched at middle, at apex of crown, and two elongate spots, enlarged at middle, forming a broken transverse band between anterior margins of eyes (Fig. 1). Pronotum with small irregular dark brown markings on anterior marginal area and brownish smoky coloration on disc and posterior area. Scutellum with a dark brown longitudinal stripe broadened anteriorly and posteriorly and brown coloration on outer margin of each basal angle. Forewings smoky subhyaline with white veins.

**Male.** Plates convexly rounded on outer margin, apically truncate, almost as broad at base as median length. Style in lateral view with mesal lobe narrow, truncate at apex with outer margin of apex rounded and inner margin curved; in ventral view (Fig. 4) with elongate finger-like mesal lobe dentate on outer margin, apex bearing a dorsal flange on inner margin. Aedeagal shaft in lateral view (Fig. 2) long, abruptly constricted at two-thirds its length with an enlarged spoon-like apical portion; apex pointed. Apex in ventral view (Fig. 3) blunt, rounded, cleft for a short distance, with two appressed, blunt tips.

**Female.** Seventh sternum same as *A. dedecus* n. sp. (Fig. 39) with lateral margins sloping to form two rounded produced lobes between which the posterior margin is broadly excavated almost one-half distance to base of segment. Marginal infuscation causing excavation to appear notched each side of a median produced lobe. Portions of underlying segment visible laterally, each side of seventh sternum.

**TYPES.** Holotype:  $\delta$ , Patzun, Guatemala, 31 Aug. 1959 (R. J. Dysart) GL 529. Allotype:  $\varphi$ , same data as holotype. Paratypes: 3  $\delta$ , 1  $\varphi$ , same data as holotype. Holotype, allotype, and paratypes No. 13294 in the Canadian National Collection; paratype in the DeLong Collection.

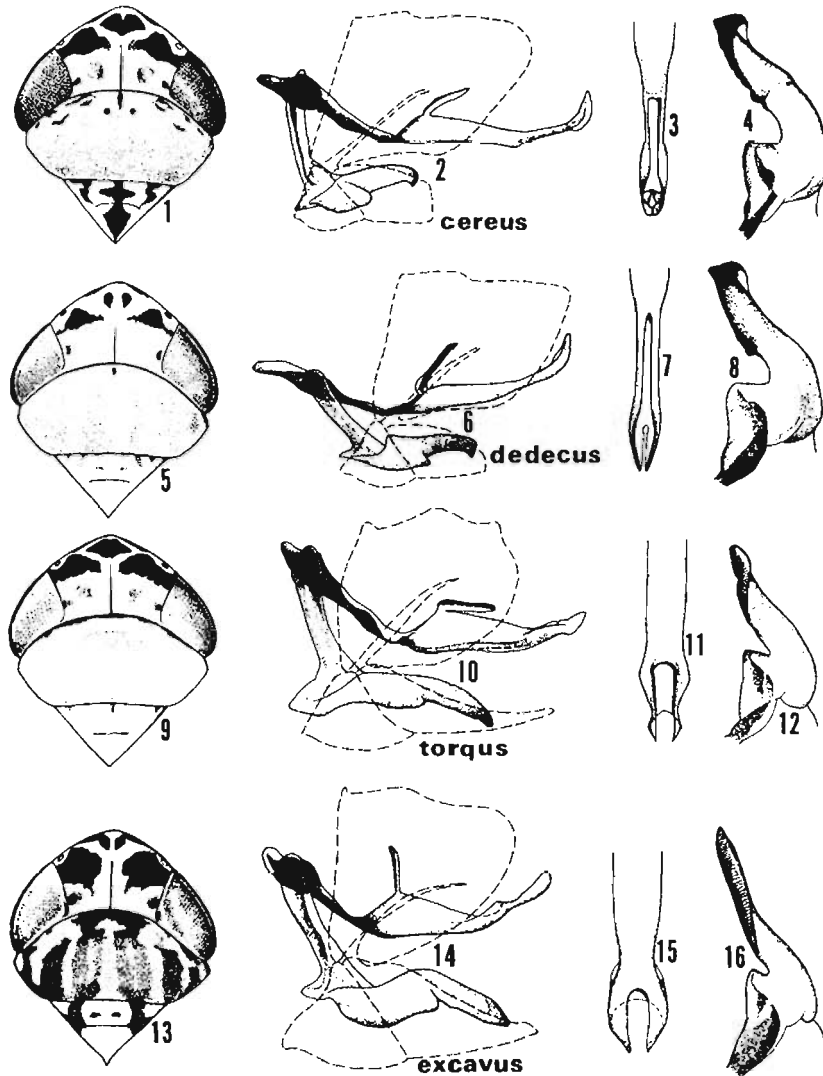
**REMARKS.** This species is closely allied to *dedecus* n. sp., from which it may be distinguished by the truncate plates and the appressed apical lobes of the aedeagus. The females are separable only by the more extensive markings of the crown.

***Amblysellus dedecus* n. sp.**

Figs. 5, 6, 7, 8, 39

Crown bluntly angled,  $\frac{3}{4}$  as long at middle as width at base between eyes. Forewing normal. Length: male, 4.0 mm; female, 4.0-4.5 mm.

Colour of centre of abdomen and thorax black with yellow spots, male plates black, yellow margined, lorae and genae yellow, face black with yellow arcs. Crown, pronotum, and scutellum yellow, a pair of small black spots at apex of crown and a pair of transverse black spots broadened on inner half between the anterior margins of the eyes (Fig. 5). Pronotum with disc and posterior portion grey-green. Scutellum with a pair of small round brown spots near middle. Forewings hyaline, veins pale yellow.



FIGS. 1-16. *Amblysellus* spp. 1, 5, 9, 13, dorsum of head and thorax; 2, 6, 10, 14, genital capsule, lateral aspect; 3, 7, 11, 15, apex of aedeagus, ventral aspect; 4, 8, 12, 16, style apex, ventral aspect. Species as labelled.

**Male.** Plates almost as wide as long, margins rounded, apices bluntly pointed. Style in lateral view with mesal lobe narrow, truncate at apex with outer margins of apex pointed and inner margin curved; in ventral view (Fig. 8) resembling that of *cereus*. Aedeagal shaft in lateral view (Fig. 6) long, slender on apical third, bluntly pointed. Apex of aedeagus narrowly cleft in ventral view (Fig. 7) with two proximal pointed tips.

**Female.** Seventh sternum (Fig. 39) with lateral margins sloping to form two rounded produced lobes between which the posterior margin is broadly excavated almost one-half distance to base of segment. Marginal infuscation causing excavation to appear notched each side of a median produced lobe. Portions of underlying segment visible laterally each side of seventh sternum.

**TYPES.** Holotype: ♂, San Cristobal de las Casas, Chis., 2000 m, 5 June 1926. Allotype: ♀, Santa Barbara—25 mi E. Mexico City, D. F., 12 May 1927. Paratypes: 12 ♂, 16 ♀, same data as holotype; 1 ♀, San Cristobal, Chis., 29 June 1926; 1 ♂, same data, except 6 July 1926; 1 ♀, Irapuato, Gto., 11 Sept. 1927; 1 ♀, San Jacinto, D. F., 24 Sept. 1929. All material collected in Mexico by A. Dampf. Holotype, allotype, and paratypes in the DeLong Collection; paratypes No. 13295 in the Canadian National Collection.

**REMARKS.** This species is closely allied to *cereus*, from which it can be distinguished by the characters cited under that species. The style is also similar to that of *necopinus* n. sp., but the aedeagus is entirely dissimilar.

#### *Amblysellus torqus* n. sp.

Figs. 9, 10, 11, 12, 34

Crown blunt at apex, almost  $\frac{3}{4}$  as long as middle as basal width between eyes. Forewings normal. Length: male, 3.0 mm; female, 3.5 mm.

Colour pale yellow. Crown with three black areas, forming a broken band just posterior to yellowish marginal area (Fig. 9). Pronotum pale yellow, posterior half evenly olivaceous or with six longitudinal brown stripes. Scutellum pale yellow with a median longitudinal dark brown stripe; basal angles pale brown. Forewings appearing dark brown with white veins.

**Male.** Plates triangular, twice as long as basal width. Style in lateral view broad at base, tapering to a bluntly pointed apex, in ventral aspect (Fig. 12), apical third appears curled or twisted inwardly. Aedeagal shaft in lateral view (Fig. 10) rather broad throughout, narrowed a little just before short apical enlargement; apex bluntly pointed. Apex in ventral view (Fig. 11) deeply broadly incised forming a pair of narrow pointed apices.

**Female.** Lateral margins of seventh sternum (Fig. 34) concavely rounding and exposing conspicuous portions of underlying segment. Lateral angles rounded to posterior margin which is broadly deeply excavated one-fourth distance to base forming two separated narrow, rounded lobes. Median excavation more than one-third width of segment, bearing a broad, slightly produced lobe at centre.

**TYPES.** Holotype: ♂, Pulumahua, Prov. Pichiucha, Ecuador (N. of San Antonio), 2600–2850 m, 23 June 1966 (C. B. Heiser) #6578. Allotype: ♀, same data as holotype. Paratypes: 15 ♂, 26 ♀, same data as holotype; 39 ♂, 33 ♀, Izobamba (8 mi S. of Quito), Pichiucha, Ecuador, 3052 m, 20 June 1962 (C. B. Heiser) #6115.

Holotype, allotype, and paratypes No. 13296 in the Canadian National Collection; paratypes in the DeLong Collection.

**REMARKS.** This species is allied to *excavus* n. sp. in possessing a curiously twisted style apex. It may be distinguished from that species by the narrower aedeagal tip in ventral view. The coronal markings are distinctive, differing from other darkly marked species such as Mexican *A. grex* (Oman) (Fig. 29) in having the apical spots fused.

*Amblysellus excavus* n. sp.

Figs. 13, 14, 15, 16, 42

Crown blunt, apex rounded,  $\frac{3}{4}$  as long at middle as basal width between eyes. Forewings normal. Length: male, 3.0 mm; female, 3.5 mm.

Colour pale yellow heavily inscribed with dark brown and black markings. Clypeus with the lower central area yellow, with a series of broad black arcs above; clypellus with a median brown stripe. Lorae with brown margins. Crown with a pair of small proximal black spots at apex, a large black spot each side extending from margin of eye almost to median line partly enclosing ocellus, and a small black spot each side near base contiguous to eye (Fig. 13). Pronotum with six dark brown longitudinal stripes. Scutellum pale yellow, a dark brown stripe on outer margin of each yellow basal angle and a discal pair of small round black spots. Forewings dark brown to black, veins white to gray.

Male. Plates triangular,  $\frac{1}{2}$  longer than width at base, apices blunt. Style in lateral view long, slender, in ventral view (Fig. 16) appearing curled inwardly on apical two-thirds, apex bluntly pointed. Aedeagal shaft in lateral view (Fig. 14) strongly flattened at two-thirds its length, then enlarged on apical quarter to rounded apex. Tip of aedeagal shaft in ventral view (Fig. 15) wide, medially incised with a broad U-shaped incision, a sharp-pointed apex at each side.

Female. Lateral margins of seventh sternum (Fig. 42) concavely rounded exposing portions of underlying segment. Lateral angles rounded to posterior margin which is angularly excavated more than one-third distance to base, between lateral angles. Excavation with an embrowned border and a narrow, slightly produced tooth at centre.

Types. Holotype: ♂, Loja, Ecuador, 2100 m, 12 June 1966 (C. B. Heiser), #6547. Allotype: ♀, same data as holotype. Paratypes: 10 ♂, 13 ♀, same data as holotype. Holotype, allotype, and paratypes No. 13297 in the Canadian National Collection; paratypes in the DeLong Collection.

Remarks. This species is allied to *torqus* n. sp. in the shape of the style. In *excavus*, however, the style is longer, the apex more slender, and the apex of the aedeagus is broader and flatter. This is the most heavily marked of all the known species of *Amblysellus*.

*Amblysellus necopinus* n. sp.

Figs. 17, 18, 19, 20, 36

Crown bluntly angled at apex, a little longer at middle than basal width between eyes. Forewing extending beyond tip of abdomen in male and often in female (macropterous forms) or shortened and exposing most of genital segments with apical cells distinctly shortened; antepical cells normal, not divided. Length: male, 3.0 mm; female, 3.5 mm.

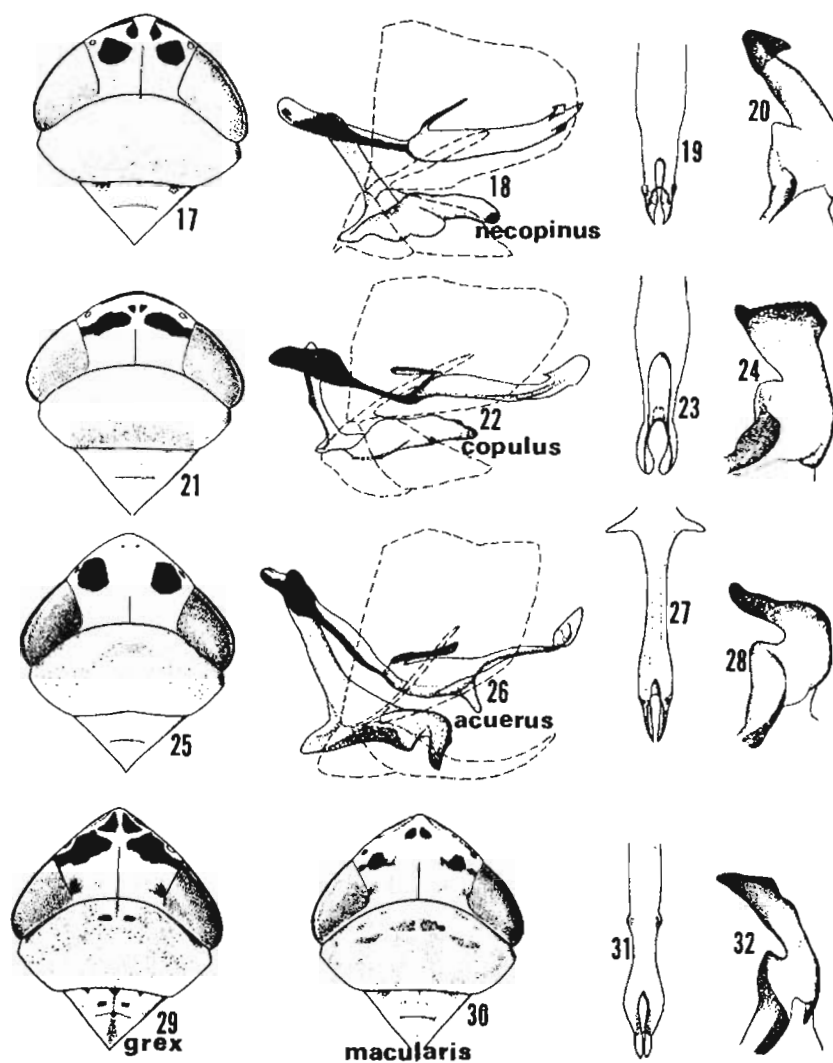
Colour of venter of abdomen black except yellowish genital segments. Legs yellow with brown spotting. Face dark brown with yellow clypeal arcs. Crown, pronotum, and scutellum dull yellow with a pair of black spots at apex of crown and a pair of large round black spots between anterior margins of eyes (Fig. 17). Pronotum with six pale brown longitudinal stripes. Scutellum with three brown stripes, the outer two reaching only to middle. Forewings brown subhyaline, veins pale yellow, wing appearing longitudinally striped.

Male. Plates subtruncate, less than twice as long as basal width, apices blunt, rounded. Style in lateral view digitate, in ventral aspect with mesal lobe bearing an apical wing-like protrusion on ventral margin (Fig. 20). Aedeagal shaft pointed at apex in lateral view (Fig. 18); apex in ventral view (Fig. 19) tapered, deeply cleft with a pair of sharp pointed apices.

Female. Seventh sternum (Fig. 36) with lateral angles sloping caudally to narrow, rounded projections each side of a median excavation which contains a broadly rounded, slightly produced lobe one-fourth the width of segment. Portions of underlying segment produced beyond lateral margins of seventh sternum at each side.

Types. Holotype: ♂, Cosomatepec, V.C., 30 Sept. 1924. Allotype: ♀, same data as holotype. Paratypes: 2 ♂, 11 ♀, same data as holotype; 1 ♂, Rancho Monter, Oax. 14 July 1927; 1 ♂, 4 ♀, Cuernavaca, Mor., 11 Sept. 1939 (DeLong and Plummer); 2 ♀, same data, except 8 Sept. 1939; 6 ♂, 6 ♀, Orizaba, V.C., 8 Oct. 1941 (DeLong, Good, Caldwell, Plummer); 7 ♂, 4 ♀, Zitacuara,

Mich., 29 Sept. 1941 (DeLong, Good, Plummer, Caldwell); 6 ♂, 6 ♀, Zacapu, Mich., 4 Oct. 1941 (DeLong, Good, Caldwell, Plummer); 4 ♂, 4 ♀, Cordoba, V.C., 8 Oct. 1941 (DeLong, Good, Caldwell, Plummer); 1 ♂, 5 ♀, Jacala, Hgo., 26 Sept. 1941 (DeLong, Good, Caldwell, Plummer); 1 ♂, 1 ♀, Fortin, V.C.,



FIGS. 17-32. *Amblysellus* spp. 17, 21, 25, 29, 30, dorsum of head and thorax; 18, 22, 26, genital capsule, lateral aspect; 19, 23, 27, 31, apex of aedeagus, ventral aspect; 20, 24, 28, 32, style apex, ventral aspect. Species as labelled.

8 Oct. 1941 (DeLong, Good, Caldwell, Plummer); 2 ♂, Carapan, Mich., 2 Oct. 1941 (DeLong, Good, Caldwell, Plummer) K-432; 1 ♂, Tepoztlán, Mor., 11 Sept. 1941 (DeLong, Good, Caldwell, Plummer). All material collected in Mexico. Holotype, allotype, and paratypes in the DeLong Collection; paratypes No. 13298 in the Canadian National Collection.

**REMARKS.** This species is the only species in *Amblysellus* which lacks an enlarged aedeagal apex, and has the crown about as narrow as the width of one eye. The largely ventral gonopore demonstrates its placement in *Amblysellus*, and the short plates and peculiar style tip ally it to *cereus* n. sp. and *dedecus* n. sp.

*Amblysellus copulus* n. sp.

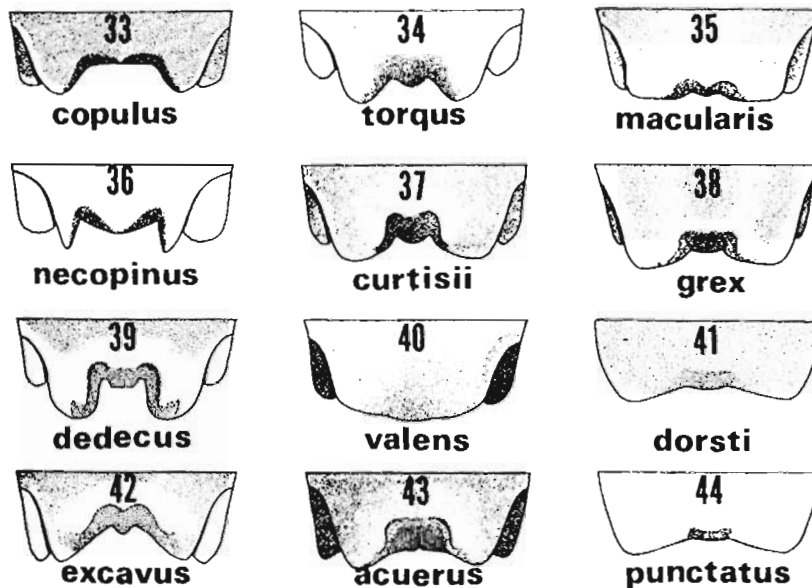
Figs. 21, 22, 23, 24, 33

Crown scarcely angled, appearing rounded, more than half as long at middle as width at base between eyes. Forewings normal. Length: male, 3.7-4.4 mm; female, 4.5 mm.

Colour of venter of abdomen and thorax black, sclerites margined with yellow. Lorae and genae yellow, face black with yellow clypeal arcs. Crown, pronotum, and scutellum yellow. Crown with two small black spots at apex and a broad, black, interrupted transverse band between anterior margins of eyes. Pronotum usually with traces of longitudinal stripes, discal and posterior portion dull gray-green. Forewings hyaline, veins inconspicuous.

**Male.** Plates triangular,  $\frac{1}{4}$  longer than basal width, apices narrow, rounded. Style in lateral view strongly tapered, in ventral view (Fig. 24) with mesal lobe broad, blunt, serrate at apex with a rounded protrusion on outer apical margin. Aedeagal shaft in lateral view (Fig. 22) with a fishhook-like anteapical tooth on dorsal margin, apex rounded; ventral view (Fig. 23) appearing roundly excavated between a pair of narrow, rounded, curving lobes.

**Female.** Seventh sternum (Fig. 33) without lateral angles; posterior margin sloping from near base to median produced portion two-thirds width of segment, which is broadly, shallowly excavated on median half. Portions of underlying segment visible at each side of seventh sternum.



Figs. 33-44. *Amblysellus* spp. Ventral view of female seventh sternum. Species as labelled.

**TYPES.** Holotype: ♂, Coatepec, V.C., 14 Oct. 1945 (Shaw, DeLong, Hershberger), K-342. Allotype: ♀, Laguna de Zempoala, Mor., 21 Oct. 1945 (Plummer, DeLong, Hershberger, Elliott). Paratypes: 1 ♂, same data as holotype; 9 ♂, 11 ♀, same data as allotype; 1 ♀, Tcpoztlán, Mor., 11 Sept. 1941 (DeLong, Good, Caldwell, Plummer); 1 ♂, La Guarda, D.F., 26 Oct. 1941 (DeLong, Good, Plummer, Caldwell), K-40. All material collected in Mexico. Holotype, allotype, and paratypes in the DeLong Collection; paratypes No. 13299 in the Canadian National Collection.

**REMARKS.** The coronal band and enlarged style process readily distinguish this species from all other *Amblysellus*.

***Amblysellus acuerus* n. sp.**

Figs. 25, 26, 27, 28, 43

Crown bluntly pointed, almost as long as middle as basal width between eyes. Forewings normal. Length: male, 3.0 mm; female, 3.3 mm.

Colour pale yellow, crown with a pair of large, round black spots, one next to each ocellus. Forewings pale yellowish, subhyaline.

**Male.** Plates triangular, almost 3 times as long as basal width, apices narrow, pointed. Style in ventral view (Fig. 28) broad at base with apical half narrow, finger-like, curving outwardly, apex blunt. Aedeagal shaft in lateral view (Fig. 26) with basal third broad then abruptly narrowed to form a slender portion extending to enlarged apical portion, apex bluntly pointed, ventral margin at terminus of basal third with paired finger-like processes extending ventrally; in ventral view (Fig. 27) slender beyond basal third, widening distally, apex narrowly cleft.

**Female.** Lateral margins of seventh sternum sloping to lateral angles and exposing portions of underlying segments (Fig. 43). Lateral angles rounded to posterior margin which is broadly, slightly concavely rounded, with a tiny median notch. Central half of posterior margin broadly embrowned.

**TYPES.** Holotype: ♂, St. Victor, Sask., Canada, 49°20' 105°54', 27 June 1955 (J. R. Vockeroth). Allotype: ♀, same data as holotype. Paratypes: 1 ♂, Polawatown Co., Ks., U.S.A., 7 June 1963 (Ross and Ross) GL 473; 2 ♂, Dunn Center, L. Ilo Ntl. W. Ref., N.D., U.S.A., 4 July 1968 (Harris and Cooley) GL 810; 1 ♂, James Rd. at Rt. 46, N.D., U.S.A., 3 July 1968 (Harris and Cooley) GL 799. Holotype, allotype, and paratypes No. 13300 in the Canadian National Collection; paratypes in the DeLong Collection.

**REMARKS.** The division of the aedeagus into bulbous basal third and slender apical portion ally this species to *valens* (Beam. & Tuth.), from which it may be distinguished by the characters given in the key.

***Amblysellus macularis* n. sp.**

Figs. 30, 31, 32, 35

Crown bluntly angled, almost as long as middle as width at base between eyes. Forewings normal; middle anteapical cell may be divided. Length: male, 3.5 mm; female, 3.5-4.0 mm.

Colour of venter of abdomen and thorax black, marked with yellow. Lorae and genae yellow with dark brown markings; face dark brown with yellow areas. Crown yellow with a pair of proximal black spots just above apex and a black spot just posterior to each ocellus near anterior margin of eye (Fig. 30). Pronotum yellow, marked with dark brown and paler brown spots. Scutellum yellow with a brown spot in each basal angle. Forewings gray-hyaline, veins bordered with brown.

**Male.** Plates triangular, elongate, twice as long as basal width, apices pointed. Style in ventral view (Fig. 32) with mesal lobe sharply pointed on outer margin, apex obliquely truncate. Aedeagal shaft in lateral view similar to that of *A. punctatus* (Osb. & Ball)



(Kramer 1971, fig. 35), in dorsal view (Fig. 31) rather widened then abruptly narrowed at apex; apex cleft, the incision broadened near base; apices appressed and bluntly pointed.

**Female.** Seventh sternum (Fig. 35) with lateral angles rounding to truncate posterior margin which is slightly excavated on median third; the median half bears an embrowned border and the median portion of the excavation is slightly broadly produced.

**TYPES.** Holotype: ♂, San Cristobal de las Casas, Chis., Mexico, 2000 m, 5 June 1926 (A. Dampf). Allotype: ♀, Jiutepec, Mor., Mexico, 6 Sept. 1939 (DeLong and Plummer). Paratypes: 1 ♂, same data as holotype; 1 ♂, Cerro de Zontchuitz near San Cristobal, Chiapis, 2800 m, 20 June 1926 (A. Dampf) on *Baccharis* and *Gaultheria*; 1 ♀, Lomas de Chapultepec (near Mexico City) 2300 m, 25 May 1938 (A. Dampf); 1 ♀, Desierto de Leones, D. F., Mexico, 3000 m, 22 Feb. 1925 (A. Dampf) from *Baccharis* bushes; 1 ♂, 2 ♀, Cosometepec, V.C., Mexico, 30 Sept. 1924 (A. Dampf) (MB-163). Holotype, allotype, and paratypes in the DeLong Collection; paratypes No. 13301 in the Canadian National Collection.

**REMARKS.** This species is allied to *grex* (Oman) and *punctatus* (Osborne & Ball), from which it may be separated by the obliquely truncate, unarmed style tip. The aedeagal apex resembles that of *grex* rather than that of *punctatus*, but the ventral aedeagal processes are narrower than those of *grex*, more closely akin to those of *punctatus*.

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