Two New Species and Distribution Records of the Genus Acroleucus in Mexico (Hemiptera: Heteroptera: Lygaeidae: Lygaeinae)

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The genus *Acroleucus* Stål, 1874, belonging to the subfamily Lygaeinae (Heteroptera: Lygaeidae), contains 40 species (Brailovsky 1977, 1980, 1984; Brailovsky & Barrera 1984; Slater 1992). It is a Neotropical genus ranging from Mexico to Argentina, and is characterized by having the callus of the anterior pronotal lobe interrupted by longitudinal depressions flanking a distinct median carina. In Mexico 5 species have been recorded. In this paper we add 2 new species, include a synopsis treatment for previously known taxa, and provide new distribution and host plants records for some species.

**Habitat.**—Very little is known about the habitat requirements of the species of *Acroleucus*. Some species are collected on the foliage of *Solanum nigrum* L., and *Solanum nudum* H. B. M. (Solanaceae), on *Ipomoea* sp. (Convolvulaceae), and Camellias (Theaceae), while others are associated with *Tillandsia dasyirriifolia* Baker, *Tillandsia violacea* (Baker), *Tillandsia oaxacana* L. B. Sm., and *Hechtia podantha* Mez (Bromeliaceae).

All measurements are given in mm. Repositories for specimens and abbreviations given in the text are as follows: Colección Entomológica del Instituto de Biología, Universidad Nacional Autónoma de México, México, D.F. (UNAM), Colección Entomológica del Instituto de Ecología A.C., Jalapa, Veracruz, Mexico (IEEXA), and Texas A&M University, Collage Station, TX (TAMU).
Sanchez, and L. Cervantes. 1 male, 1 female: Veracruz, Fortín de Las Flores (Estación de Microondas), 10 Aug 1980, E. Barrera. 2 males, 1 female: Veracruz, Jalapa, 22 May 1982, E. Aranda. All the specimens deposited in UNAM.

**Host Plants**—Collected on *Solanum nigrum* L. (Solanaceae), *Ipomoea* sp., (Convolvulaceae), and *Camellias* (Theaceae).

*Acroleucus bromelicola* Brailovsky

*Acroleucus bromelicola* Brailovsky 1977: 124-126 (Figs. 1, 3)

This species is recognized by having the coxae, trochanters, basal third of femora, head dorsally, and bucculae yellow, antennal segment IV dark brown, and hemelytral membrane dark brown with hyaline apex digitiform, extending toward the center of the membrane. Genital capsule. Circular in cross section; inner space with lateral arms subtruncated; space between arms with deep “V” concavity (Fig. 1). Paramere. Shaft robust; posterior projection broad, hemispheric; anterior projection elongate, slender; spur apically acute, weakly directed upward (Fig. 3).

**Distribution**—Only known from México. México: Puebla: Xicotepec de Juárez and Tehuacan; and San Luis Potosi: Tamazunchale (Brailovsky 1977, 1980). The records given by Brailovsky (1977, 1980) from Sonora (Alamos and Nogales) are erroneous and belong to the new species *A. tensus*.

**New Records**—México: 1 male, 1 female: Oaxaca, Ayautla, 700 m, 17 Mar 1989, A. Cadena and Cervantes. 2 females: km 55 Oaxaca-Tehuantepec, 1950 m, 5 Sep 1979, E. Barrera. 3 males, 3 females: Puebla: Cuetzalan, Santiago Yacunculapan (Cuautanapulayan), 940 m, 19 May 1995, E. Barrera and G. Ortega-León. 2 females: km 6.5 Breca-Huazor, nr Tilazo, 26 Apr 1998, E. Barrera and C. Mayorga. 1 female: Veracruz, Municipio Buena Vista, Iztaezcoquitlan, 1000 m, 28 Jul 2000, E. Barrera and A. Ibarra. 2 females: Tamaulipas, Gómez Farias, Camino del Ejido El Azteca, 18 Sept 2003, Q. Santiago and Luis Cervantes. 1 female: Tamaulipas, Gómez Farias, El Cielo, 14 April 2003, I. Pacheco and Luis Cervantes. 1 female: Veracruz, km 13 Coatepec-Huatusco, 600 m, 12 Mar 1989, A. Cadena and L. Cervantes. The specimens are deposited in IEXA and UNAM.

**Host Plant**—Collected on *Tillandsia dasyliiris-folia* Baker (Bromeliaceae).

*Acroleucus calvatus* Brailovsky and Cervantes

**NEW SPECIES** (Fig. 6)

**Types**—Holotype female: México: Chiapas, 31 mi SE Comitan, 18-19 Jun 1965, H. R. Burke, J. R. Meyer, and J. C. Schaffner (TAMU). Paratypes: 2 females: same data as holotype (TAMU, UNAM).
yellow, and the antenniferous tubercles are yellowish orange.

**Etymology.** From the Latin, *calvata*, meaning smooth.

*Aroleucus nexus* Brailovsky and Barrera

**Acroleucus nexus** Brailovsky and Barrera 1984: 96-97

Easy to recognize by having the coxae yellow with basal third orange hazel, trochanters yellow, bucculae black, hemelytral membrane dark brown with apical border narrowly hyaline and difficult to see, pronotum, scutellum, and claval entirely dark brown, and head dorsally shiny orange with tyulus, juga, and distinct median longitudinal stripe black.

**Distribution.** Only known from México. México: Morelos, Cuernavaca (Brailovsky and Barrera 1984).

**New Records.**—1 male, 1 female: Oaxaca, Ixtepeji, Peña Prieta, Mar 2006, A. Franco (UNAM).

Host Plant—Collected on *Tillandsia violacea* (Baker) and *Tillandsia oaxacana* L. B. Sm. (Bromeliaceae).

*Aroleucus signaticollis* Stål

**Acroleucus signaticollis** Stål 1874: 114

Clearly distinguished by the coxae, trochanters, and bucculae yellow, hemelytral membrane brown to ocher with contrasting dark brown veins, and apical margin widely hyaline; head dorsally yellowish orange with distinct black median longitudinal stripe, antennal segment IV black to reddish brown, and pronotum, corium, femora, and tibiae predominantly yellow to pale brown.

**Distribution.**—Recorded from México, Honduras, Costa Rica, Panama, Colombia, British Guiana. México: San Luis Potosí: road Tamazunchale-Ciudad Valles (Brailovsky 1980).

*Aroleucus tensus* Brailovsky and Cervantes

**NEW SPECIES** (Figs. 2, 4-5, 7-8)

**Types.**—Holotype male: México: Oaxaca, km. 56, road Oaxaca-San Miguel Sola de Vega, 1 Jul 1990, E. Barrera and A. Cadena (UNAM). Paratypes: 9 males, 7 females: same data as holotype (UNAM). 1 female: Oaxaca, Municipio Tlaco-lula, San Juan Guelavia, 16°58'00"N, 96°32'57"W, 1600 m, 31 Dec 2004, H. Brailovsky and E. Barrera (UNAM). 16 males, 11 females: Oaxaca, 17 km SE de Huajuápan de León, 29 Jun 1996, E. Barrera and H. Brailovsky (UNAM). 2 males, 2 females: Oaxaca, Pochutla-Pluma Hidalgo, 3 Jun 1987, E. Barrera, F. Arias, and L. Cervantes. (UNAM). 1 female: Oaxaca, 2 km SW, El Camaron, 12 Jul 2000, E. Barrera, A. Ibarra, and C. Mayoroga (UNAM). 2 males, 2 females: Guerrero, Atoyac-Nueva Delhi, Rio Santiago, 21 Apr 1988.
A. Cadena, M. Garcia, and L. Cervantes (UNAM). 3 males, 1 female: Guerrero, Zihuatanejo, 15 Apr 1988, L. Cervantes, M. Garcia, and A. Cadena (UNAM). 1 male: Michoacán, km 93 Uruapan-Playa Azul, Finca El Manguito, 1300 m, 26 May 1988, L. Cervantes and A. Cadena (UNAM). 1 male: km 90 Patzcuaro-La Huacana, 1400 m, 1 Jun 1988, L. Cervantes and A. Cadena (UNAM). 11 males, 12 females: Hidalgo, 5 km NE Pachuca, 24 Feb 1990, E. Barrera and H. Brailovsky. Collected in *Hechtia podantha* Mez (Bromeliaceae) (UNAM). 1 male, 1 female: Hidalgo, San Miguel Regla, Hueyapan, and Peña del Aire, 24 Feb 1990, 7-8 Jun 1990, H. Brailovsky and E. Barrera (UNAM). 1 male, 1 female: Hidalgo, Zimapan, 26 Mar 1997, H. Brailovsky (UNAM). 1 male: Querétaro, Jalpan de Amoles, 1180 m, 21°11’69”N, 99°37’84”W, 5 Nov 1997, E. Barrera and G. Ortega-León (UNAM). 3 males, 4 females: Guanajuato, Yuriria, 13 Mar 1997, E. Barrera and H. Brailovsky (UNAM). 2 females: Puebla, Coscatlan, 1050 m, 5 Jul 1979, 8 Sep 1979, E. Barrera and G. Ortega-León (UNAM). 1 female: Puebla, 6 km NW Tezontepec, 1900 m, 14 Jul 1999, H. Brailovsky and E. Barrera (UNAM). 2 females: Puebla, 2.5 km SW de Zapotitlan, 1490 m, 13 Jul 1999, E. Barrera and H. Brailovsky (UNAM). 2 males: Puebla, 2 km N Calipan, 18 Mar 1993, E. Barrera (UNAM). 2 males: Puebla, San Juan Rayo, 19 Jan 1992, H. Brailovsky, E. Barrera, C. Mayorga, and G. Ortega-León (UNAM). 1 female: Puebla, Atlixco, 12 Mar 1994, E. Barrera and C. Mayorga (UNAM). 1 male, 1 female: Puebla, Axusco-Petlan, 5 Nov 1988, E. Barrera, R. Barba, and L. Cervantes (UNAM). 1 female: Chiapas, Reserva El Ocote, 29 Apr-3 May 1993, E. Barrera (UNAM). 1 female: km 6 Motozintla-Siltepec, 8 Jul 1988, A. Cadena (UNAM). 3 males, 5 females: Tamaulipas, Jaumave, el Salto, 1111 m, 23°21’23”N, 99°30’54”W, 12 May 2007, H. Brailovsky, E. Barrera and L. Cervantes (IEXA, UNAM). 1 male: Tamaulipas, Ciudad Victoria, Balcón de Moctezuma, 1000 m, 23°35’08”N, 99°11’10”W, 13 May 2007, H. Brailovsky, E. Barrera and L. Cervantes (UNAM).

**Description.**—Male (holotype). Dorsal coloration: Head pale yellowish orange, except black apex of tylus, and juga; antennal segments I to IV dark brown; pronotum dark brown with narrow brownish ocher anterolateral margins; scutellum and clavus brown; corium brown with costal margin yellow; hemelytral membrane pale brown, api-
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cal border narrowly hyaline (difficult to see). Ventral coloration: Head yellow except brown to black bucculae; rostral segments I to IV brownish hazel; thorax brown; mesosternum transversely yellowish hazel; ostiolar peritreme dark yellow tinged with pale brown marks; coxae yellow with basal third orange hazel; trochanters yellow; femora brown, basal third yellow; tibiae pale brown; tarsi brown, except each basal segment with anterior third dark yellow; abdominal sterna pale brown, pleural margins yellow; pygophore pale brown.

**Structure.**—Rostrum reaching anterior margin of abdominal sternite III; rostral segment I extending to anterior border of prosternum. Genital capsule: circular in cross section; inner space with lateral arms wide opened and robust; space between arms with “V” concavity slightly pronounced (Fig. 2). Paramere: shaft robust; posterior projection well developed, thick, subconical; anterior projection elongate, slender; spur apically acute, clearly directed upward (Fig. 4).

**Female.**—Color and habitus similar to male holotype. Spermatheca: bulb moderately broad; tube extremely elongate, slender and complexly coiled (Fig. 5).

**Variation.**—(1) Pale to dark brown color of pronotal disk, scutellum, clavus and corium usually black. (2) Head dorsally pale yellow, except black apex of tylus and juga. (3) Humeral angles yellow. (4) Ostiolar peritreme yellowish white to pale brown, suffused or not with yellow marks. (5) Inner border of clavus, and claval commissure yellow to brown.

**Measurements** (n = 10).—Male (female). Head length 0.63 (0.71); width across eyes 0.92 (1.01); interocular space 0.60 (0.65). Length of antennal segments: I, 0.22 (0.25); II, 0.62 (0.68); III, 0.54 (0.59); IV 0.78, (0.83). Pronotum: Total length 0.68 (0.72); maximum width across anterior lobe 0.83 (0.93); maximum width across posterior lobe 1.46 (1.64). Scutellar length 0.57 (0.62); width 0.77 (0.88). Total body length 4.62 (5.17).

**Discussion.**—This new species is related to *A. nexus* Brailovsky, in having the bucculae, and scutellum pale brown to black, the hemelytral membrane pale to dark brown with apical border narrowly hyaline and difficult to see, coxae yellow with basal third orange hazel, and trochanters yellow. In *A. nexus* the head dorsally is shiny orange, except tylus, juga, and distinct black median longitudinal stripe, femora entirely reddish orange, rostrum reaching posterior margin of abdominal sternite III, corium black with costal margin narrowly yellow, and mesosternum with transverse line shiny brown to black. In *A. tensus* the head dorsally is yellowish orange except black apex of tylus and juga, femora brown with the basal third yellow, rostrum reaching anterior margin of abdominal sternite III, corium brown with costal margin widely yellow, and mesosternon with transverse line yellowish hazel.

**Etymology.**—From the Latin *tensus*, referring to the narrow general shape of the species.

*Acroleucus tullus* (Stål)

*Lygaeus tullus* Stål 1862: 311

This species is separated by having the coxae yellow with basal third brownish hazel, trochanters and bucculae yellow, head dorsally and antennal segment IV black to dark brown, hemelytral membrane dark brown with apical margin widely hyaline, and pronotal disk dark brown with anterior and lateral margins widely yellowish orange, and posterior margin black or very narrowly yellowish orange usually restricted to the humeral angles.

**Distribution.**—Widely distributed through México, Guatemala, Costa Rica, Panama and Venezuela. México: Chiapas: Ocozocoautla e Ixhuatán. Guerrero: Chilpancingo. Veracruz, Cordoba, Jalapa, and Orizaba.

**New Records.**—México: 1 male: Jalisco, 12 mi S of Mazamitla, 5 Dec 1948. 2 males, 2 females: Oaxaca, km 41 Puerto Escondido-Sola de Vega, 855 m, 4 Jul 1990, E. Barrera and A. Cadena. 3 males: Oaxaca, Tlacolula, km 17 Tlacolula-El Carrizal, 2240 m, 17°03'52"N, 96°24'67"W, 4 Sep

**Fig. 8. Dorsal view of Acroleucus tensus** Brailovsky and Cervantes.
2004, L. Cervantes y J. Calonico. 1 male: Oaxaca, km 111 Oaxaca-Puerto Escondido, 1443 m, 16°26′05″N, 97°01′58″W, 1 Dec 2006, E. Barrera. 1 male: Oaxaca, San Pedro Yolox, Sta. Cruz Teoteotutla, 1167 m, 17°44′25″N, 96°33′48″W, 1 Sep 2004, L. Cervantes and J. Calonico. 1 male, 3 females: Oaxaca, Portillo del Rayo, 18 Oct 1985, 30 May 1987, E. Barrera. 1 male: Oaxaca, San Mateo Yetla, 21 Sep 1982, A. Ibarra. 1 male: Oaxaca, km 176 Puerto Ángel-Oaxaca, 18 Apr 1983, A. Ibarra. 1 female: Guerrero, Ixcateopan, km 4.5 road to Amealco, 1480 m, 13 Sept 2006, L. Cervantes and L. Lozada. All the specimens deposited in UNAM

Host Plants.—Collected on the leaves of Solanum nigrum L. and Solanum nudum H. B. M. (Solanaceae).

REVISED KEY TO MEXICAN SPECIES OF ACROLEUCUS

1. Hyaline apex of hemelytral membrane with digitiform extension toward center of membrane ................................................................. A. bromelicola Brailovsky

1'. Hyaline apex of hemelytral membrane not extended toward center of membrane, restricted to apical margin ........................................ 2

2. Bucculae black to pale brown; hyaline apex of hemelytral membrane narrow, difficult to see .................................................. 3

2'. Bucculae yellow; apical margin of hemelytral membrane widely hyaline .............................................................. 4

3. Head dorsally shiny orange, except tylus, juga, and distinct black medial longitudinal stripe; basal third of femora black to dark brown; tarsi brown to black ........................................ A. nexus Brailovsky & Barrera

3'. Head dorsally yellowish orange, except black apex and juga; basal third of femora yellow; tarsi brown except each basal segment with anterior third yellow ........ A. tensus Brailovsky & Cervantes NEW SPECIES

4. Head dorsally yellowish orange, suffused with pale brown marks .............................................................................................. 5

4'. Head dorsally black to dark brown ................................................................................................................................. 6

5. Veins of hemelytral membrane black, contrasting with dark brown surrounding areas ............................................................. A. signaticollis Stål

5'. Veins of hemelytral membrane concolorous with surrounding areas .................................................................................. 6

6. Posterior pronotal margin widely yellowish orange .................................................................................................................... 7

6'. Posterior pronotal margin black or very narrowly yellowish orange .............................................................................. A. tullus (Stål)

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