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A new key to the species of the genus *Cradytes* Casey (Insecta: Coleoptera: Melyridae)

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Abstract: A new key is presented to separate adults of the four currently-recognized species of the genus *Cradytes* Casey (Insecta: Coleoptera: Melyridae): *C. longicollis* Casey, *C. serricollis* (LeConte), *C. serrulatus* (LeConte), and *C. ursinus* Blaisdell. The inaccurate statements in an earlier key to species of *Cradytes* are discussed.

Introduction

The genus *Cradytes* Casey contains the largest North American species in the subfamily Dasytinae of the beetle family Melyridae. Adults of *C. serricollis* (LeConte) are common to abundant on flowers in dry grasslands throughout much of western North America, while adults of *C. longicollis* Casey, *C. serrulatus* (LeConte) and *C. ursinus* Blaisdell are found on flowers in southeastern Arizona. The taxonomy of *Cradytes* was last reviewed by Blaisdell (1924), who provided a key to the four species of this genus that relied primarily on characters of elytral pigmentation and coloration of the elytral vestiture.

I recently had the opportunity to study a large collection of *Cradytes* species in the collection of the National Museum of Natural History, Smithsonian Institution (NMNH). These studies have revealed problems with several of the characters chosen by Blaisdell (1924) to separate the species of this genus. Although four distinct species of *Cradytes* do occur in America north of México, these species cannot be accurately separated using Blaisdell's key. Individuals of *C. serricollis* with uniformly black elytral pigmentation will run to *C. ursinus* in this key. The legs of specimens of *C. serrulatus* are shades of reddish-brown, not black as was erroneously stated in Blaisdell's key. And the statement in Blaisdell's key that the erect elytral setae of *C. longicollis* are pale (rather than black) is misleading, since all of the specimens of this species that I have examined have at least some black erect elytral setae, and in some specimens there are numerous erect black setae. To facilitate the identification of these large, common melyrids, I have provided a new, corrected key to the species of the genus *Cradytes* below.

Cradytes Casey

Cradytes Casey (1895:458, 533-536), Blaisdell (1924:336-337; 1938:8, 21).

Trichochrous Motschulsky, subgenus *Cradytes* Casey, Pic (1937:90).

Type Species: *Pristoscelis serricollis* LeConte (designation by Blaisdell 1938:21).

Diagnosis: *Cradytes* belongs to a group of genera of Dasytinae in which one of the two spurs of the protibiae and mesotibiae in the male is strongly curved, enlarged, and more or less spatulate; the remaining tibial spur is a short unmodified spine. *Trichochrous* Motschulsky is probably the most familiar genus in this group. From related genera, *Cradytes* can be easily recognized by the strongly serrate lateral margins of the pronotum and by the comparatively large body size of its species. The serrations of the lateral pronotal margin are particularly well developed towards the anterior end of the prothorax. Keys to genera of Nearctic Dasytinae by Blaisdell (1938) and Arnett (1968) will help to separate adults of *Cradytes* species from related genera.

Key to Species of *Cradytes* Casey

1. Legs dark brownish-black to black; body elongate and slender, especially the pronotum in male; width of elytra across humeri 1.1-1.4 mm; elytra dark brown or black, never with yellow pigmentation *C. longicollis* Casey
- Legs bright reddish-orange or red, at least in part; body stout, robust; width of elytra across humeri 1.5 mm or greater (often 2.0 mm or greater); elytra with yellow pigmentation in one species..... 2

2. Elytral and pronotal vestiture sparse, punctures and surface of elytra easily visible; elytra always black 3
- Elytral and pronotal vestiture dense, punctures and surface of elytra not easily visible; elytra often yellow, at least in part
..... *C. serricollis* (LeConte)
3. Reclinate portion of elytral vestiture very short (0.2-0.4 mm); femora darker in color than tibiae; body slightly smaller in size, overall length 3.9-4.0 mm, width across humeri 1.6-1.7 mm.
..... *C. serrulatus* (LeConte)
- Reclinate portion of elytral vestiture elongate (0.4-0.7 mm); femora and tibiae both reddish-orange; body slightly larger in size, overall length 4.3-6.0 mm, width across humeri 1.75-2.4 mm *C. ursinus* Blaisdell

Cradytes longicollis Casey

Cradytes longicollis Casey (1895:533-535), Blaisdell (1924:337) (HOLOTYPE male, and 8 PARATYPES, 5 male, 3 female, labeled "Ari", NMNH type 37367, examined).

Trichochrous longicollis (Casey), Pic (1937:94).

Diagnosis: The elongate, slender body (especially the elongate, slender pronotum of the male) will readily separate this species from other species of *Cradytes*.

Additional specimens examined: México: Sonora: Nogales, 3.VIII.1940, on cut flowers (1, NMNH), 17.IX.1940 (1, NMNH), 28.IX.1940 (1, NMNH), 3.X.1941 (1, NMNH). USA: Arizona: Douglas, 20.IX.1944 (6, NMNH); Nogales, 26.IX.1946, on *Aster tanacetifolius* (5, NMNH). New Mexico: Luna (2, NMNH); 2 miles NE Santa Rosa, 7.IX.1929, on *Salsola pestifer* (1, NMNH).

Cradytes serricollis (LeConte)

Pristoscelis serricollis LeConte (1866:356) (Two SYNTYPE males, labeled "Col" and "NM", MCZC type 3508, examined).

Cradytes serricollis (LeConte), Casey (1895:534), Blaisdell (1924:337), Mawdsley (1999:253, 257-258).

Trichochrous serricollis (LeConte), Pic (1937:95).

Diagnosis: Most specimens of this species can be readily identified by the presence of yellow pigmentation on the elytra. The elytra may be entirely yellow, yellow with a black or brown basal macula-

tion, yellow with brown or black vittae, brown or black with yellow vittae, or entirely black. Specimens with the elytra entirely black may be confused with *C. ursinus*, but in that species the vestiture of the pronotum and elytra is much sparser.

Notes: It is clear from my examinations of numerous additional specimens that this species is extremely variable in its elytral coloration. Blaisdell (1924) states that *C. serricollis* can be distinguished from the remaining species of *Cradytes* by its yellow elytra; the elytra of other species are said to be entirely black. However, specimens of *C. serricollis* collected in southeastern Arizona, western Texas, and southern New Mexico frequently have the elytra partly or entirely brownish-black, and some specimens from these states have the elytra entirely black. Specimens of the latter form are similar in appearance to the sympatric *C. ursinus*.

Additional specimens examined: México: Sonora: Nogales, 28.IX.1940, on cut flowers (1, NMNH). USA: Arizona: Cochise Co., Bisbee, 28.IX.1981, on wild cotton (3, NMNH), Douglas, 17.IX.1944 (11, NMNH), 9.IX.1956 (1, NMNH), 7.IX.1957 (2, NMNH), Dos Cabezas, 6.IX.1969 (1, NMNH), Portal, 3.IX.1957 (12, NMNH), 5.IX.1947 (5, NMNH), 6.IX.1957 (1, NMNH), 3 miles S Portal, 11.IX.1957 (3, NMNH); Coconino Co., Moenkopi Wash, 2 miles SE Tuba City, 31.VIII.1986 (2, NMNH); Navajo Co., Dinnebito Wash, 5 miles NW Hotevilla, 31.VIII.1986 (7, NMNH), Winslow (2, NMNH), 12.IX.? (1, NMNH); Santa Cruz Co., Nogales, 30.V.1919 (4, NMNH), 26.IX.1946 (4, NMNH), Pena Blanca, 11.X.1971 (4, NMNH), San Rafael Valley, 3.X.1971 (2, NMNH), Tubac, 15.IX.1970 (2, NMNH); no locality specified (3, NMNH). Colorado: Denver Co., Denver (71, NMNH), 5.IX.? (12, NMNH), ?V.III.? (1, NMNH); Las Animas Co., Trinidad, 12.IX.1898 (4, NMNH); Weld Co., near Carr, 11.IX.1975 (14, NMNH), Nunn, Pawnee Grassland, Pasture 31, 21.IX.1972, feeding on stems of *Chrysothamnus nauseosus* (1, NMNH), Pasture YP-1, 19.VIII.1972 (1, NMNH); no locality specified (9, NMNH). Additional Colorado localities are given by Mawdsley (1999). New Mexico: Colfax Co., Koehler, prairie near, (6, NMNH), ?V.III.? (3, NMNH), ?IX.? (3, NMNH); Eddy Co., Whites City, 27.IX.1971 (12, NMNH); Hidalgo Co., Rodeo, 3.IX.1957 (1, NMNH), 11.IX.1957 (3, NMNH), 4 miles S Rodeo, 18.IX.1957 (1, NMNH), 23.IX.1957 (3, NMNH), 25.IX.1957 (7, NMNH), 6 miles S Ro-

deo, 28.IX.1957 (1, NMNH); no locality specified (1, NMNH). Texas: Presidio Co., Presidio, 4.X.1945, on flowers *Viguiera stenoloba* (1, NMNH), 8.X.1947 (91, NMNH), 27.X.1948 (6, NMNH), on flowers *Bahia pedata*, 3.X.1947 (7, NMNH), on flowers *Haplopappus* sp., 6.X.1948 (1, NMNH). Utah: Uintah Co., Fort Duchesne, 3.IX.1937 (1, NMNH). Wyoming: Campbell Co., 40 miles S Gillette, 14.VIII.1961 (8, NMNH); Carbon Co., Medicine Bow, 20.VIII.1934 (1, NMNH); Niobrara Co., Old Woman Creek, 23.VIII.1915 (1, NMNH); Platte Co., Wheatland, Laramie River, 9.IX.1974 (10, NMNH); "Western Wyoming" (1, NMNH); no locality specified (1, NMNH). Question mark (?) indicates data missing from original label.

Cradytes serrulatus (LeConte)

Pristoscelis serrulatus LeConte (1866:356) (HOLOTYPE female, labeled "Ariz.", MCZC type 3509, examined).

Cradytes serrulatus (LeConte), Casey (1895:535-536), Blaisdell (1924:337).

Trichochrous serrulatus (LeConte), Pic (1937:96).

Diagnosis: The short and sparse reclinate setae on the elytra of this species will readily separate it from other species of *Cradytes*, in which the reclinate elytral setae are much longer.

Notes: Blaisdell (1924) states that the legs of this species are black. However, in both the holotype and the second specimen examined, the legs are reddish-brown with the femora brownish.

Additional specimens examined: USA: Arizona: no locality specified (1, NMNH).

Cradytes ursinus Blaisdell

Cradytes ursinus Blaisdell (1924:336-337) (HOLOTYPE male and ALLOTYPE female plus one PARATYPE, sex not determined, AZ: Nogales, 4.IX.1906, CASC type 2718; types not examined).

Trichochrous ursinus (Blaisdell), Pic (1937:97).

Diagnosis: This species is easily confused with melanic individuals of *C. serricollis*, which have the elytral setae much denser. *Cradytes serrulatus* is also similar in general body form, but adults of that species are slightly smaller and their elytral setae are significantly shorter, as described in the key.

Notes: My concept of this species is based on the two additional specimens listed below, which were labeled *C. ursinus* in the NMNH collection. These specimens conform closely to the detailed description of *C. ursinus* provided by Blaisdell (1924) and represent a species of *Cradytes* that is distinct in its external anatomy from the three other species discussed above.

Additional specimens examined: USA: Arizona: Cochise Co., Cochise Stronghold, 22.IX.1971 (1, NMNH); Santa Cruz Co., Pena Blanca, 10.IX.1970 (1, NMNH).

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