

The Mexican Forms of *Coccinella* (Coleoptera: Coccinellidae)

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Abstract

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Of the 15 Mexican forms included in *Coccinella* L. by recent authors, nine do not belong to that genus, and the records of four others may be erroneous. A key to six forms that may or do occur in Mexico is given. The two forms that surely occur there, *nugatoria* Mulsant 1850 and *sonorica* Casey 1908, are considered only subspecifically distinct from one another. No new names are proposed.

The following notes supplement Brown's revision (1962) of the forms of *Coccinella* L. that occur in America north of Mexico. Of the 15 Mexican forms included in the genus by recent authors (Nunenmacher 1944, p. 146; Blackwelder 1945, p. 454), nine are not congeneric with the type species, *Coccinella septempunctata* L., designated by Latreille (1810). Only two are surely Mexican, for the records of four may be based on misidentification or other error. Of these, the Eurasian species *quinquepunctata* L. was reported by Gorham (1891, p. 156), who saw in the Sallé collection a specimen labelled "Mexico"; this record must be erroneous, for there are no others from North America. *C. monticola* Muls. was listed without comment from Mexico by Korschefsky (1932, p. 511); the record may be correct, for *monticola* occurs southward to Dona Ana County, New Mexico, which borders on Mexico, but it may be based on *nugatoria sonorica* Csy., which closely resembles *monticola*. Mulsant (1850, p. 124) reported typical *novemnotata* Herbst, a northern form, from Mexico; like Gorham (1891, p. 157), I suspect that this record is based on specimens of *n. nugatoria* Muls. (= *transversoguttata* sensu Gorham), which *novemnotata* closely resembles. *C. franciscana* Muls., a form of *novemnotata*, has been listed without comment from Mexico by several authors, possibly because they considered the name synonymous with *novemnotata*. However, *franciscana* may extend into Mexico, as may *californica* Mann. and *johnsoni* Csy., for all these occur in San Diego County, southernmost California.

The six forms that may or do occur in Mexico may be separated by the following key.

1. Elytral suture very narrowly margined with dark brown or black; elytral spots frequently very small or, except for the scutellar, entirely lacking. (Species occurring in San Diego County, California, and possibly extending into Mexico (Brown 1962).) 2
 The sutural margins red, not or scarcely darker than the pale discal areas; elytra with moderately large spots 4
2. Head with a broad, pale band between the eyes. Anterior pronotal margin entirely pale. Elytra with no spots except the scutellar
 *novemnotata* Herbst, form *franciscana* Crotch
- Head with two pale spots on the front. Anterior pronotal margin dark at middle 3
3. Elytra with no spots except the scutellar *californicus* Mannerheim
 Elytra with a scutellar and other small spots *johnsoni* Casey
4. Ventral white spot of each anterior prothoracic angle large, subtrapezoidal or subrectangular, extended posteriorly as far as or almost as far as the dorsal spot. (Occurring in Dona Ana County, New Mexico, and possibly extending into Mexico (Brown 1962).) *monticola* Mulsant

- The ventral white spot small, subtriangular, extended posteriorly not more than half as far as the dorsal spot 5
5. Each elytron with a humeral spot and, except rarely, with a small sublateral spot at basal two-fifths. Occurring in the highlands of southern Mexico *nugatoria nugatoria* Mulsant
- Elytra lacking humeral and sublateral spots. Occurring at high altitudes in northern Mexico *nugatoria sonora* Casey

***Coccinella nugatoria nugatoria* Mulsant**

Coccinella transversalis Mulsant (not *Coccinella transversalis* Fabricius 1781) 1850, p. 117 [type locality: Mexico].

Coccinella quinquenotata transversalis: Crotch 1873, p. 370 (in part).

Coccinella nugatoria Mulsant 1850, p. 1021 (new name for *Coccinella transversalis* Mulsant, not Fabricius); Mulsant 1866, p. 97; Casey 1908, p. 403; Brown 1962, p. 972, fig. 26.

Coccinella transversoguttata, ab. *nugatoria*: Mader 1930, p. 151, pl. 28, fig. 38.

Coccinella transversoguttata nugatoria: Dobzhansky 1931, p. 16 (in part).

Coccinella transversoguttata: Crotch 1874, p. 16 (in part); Gorham 1891, p. 157 (in part), pl. 8, fig. 26.

C. nugatoria was elevated to specific rank by Brown (1962, p. 792). It had been considered a race or form of *transversoguttata* Fald. and confused with *t. richardsoni* Brown (= *quinquenotata* Kirby, not Haworth). It has been taken at numerous localities in the highlands of southern Mexico, in the general vicinity of Mexico, D. F., but it is unknown from other regions.

***Coccinella nugatoria sonora* Casey new status**

Coccinella sonora Casey 1908, p. 402 [type locality: Colonia Garcia, Chihuahua, Mexico].

Coccinella monticola sonora: Johnson 1910, p. 63, fig. 60b.

The two moderately large, transverse discal spots of each elytron are like those of *nugatoria*. Because *sonorica* and *nugatoria* are inseparable except as noted in the key, they are considered only subspecifically distinct. The genitalia of both resemble those of *transversoguttata richardsoni* (Brown 1962, p. 795, fig. 3). *C. n. sonora* is known only from high altitudes in northern Mexico; these notes are based on 12 specimens in the Canadian National Collection from Cerro Potosí, Nuevo León (10,300 feet), and from Mesa del Huracán, Chihuahua (7000 feet).

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