



# Diversity of the longhorned beetles (Coleoptera: Cerambycidae) from Cuatro Ciénegas Basin, Coahuila, Mexico

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## Abstract

### Background

Cerambycidae is one of the most diverse families in the order Coleoptera with more than 37,000 species described in all continents. Cerambycid beetles have a worldwide distribution from sea level to montane sites. In Mexico, more than 1,600 species have been recorded. Nevertheless, the diversity and distribution of this family in the Mexican deserts is poorly known.

### New information

A first checklist of Cerambycidae from seven localities of Cuatro Ciénegas Basin is presented. This study is the result of sampling carried out between 2009 to 2013. Some material from other collections is also included. The species list includes four subfamilies, 13 tribes, 32 genera and 37 species, from which 13 are new records for the state of

Coahuila and three species represent new records for Mexico. These results highlight the paucity of knowledge of insects in the deserts of Mexico.

## Keywords

Cerambycid beetles, Chihuahuan desert, distribution, North America.

## Introduction

Cerambycidae comprise one of the largest families of Coleoptera, represented by more than 37,000 species, described in more than 5,300 genera from eight subfamilies (Monné et al. 2017, Tavakilian and Chevillotte 2020). Cerambycid beetles are distributed worldwide wherever their hosts plants are found from sea level to montane sites as high as 4,200 m elevation (Bezark et al. 2013). Due to its ecological, biological and evolutionary importance, this family has been studied extensively. The diversity of the Cerambycidae in Mexico was summarised by Noguera (2014). However, knowledge of the diversity and distribution of the family Cerambycidae in the Mexican deserts is poor, with just some isolated records (Bezark 2020).

The Cuatro Ciénegas Basin (CCB) (Souza et al. 2012) is located at the south-eastern portion of the Chihuahuan Desert (Fig. 1). With more than 450,000 km<sup>2</sup>, it is the largest desert in North America. This, along with its high biological diversity, makes it one of the most important deserts in the world (Morafka 1977). The CCB has a unique geological and biological history which dates from at least 40 mya in the Middle Eocene. At this point the region was isolated from the Atlantic Ocean by the rise of the Sierra Madre Oriental (Álvarez and Ojeda 2019). The subterranean water, which currently emerges, forms ponds and streams that distinguish this region from other surrounding desert areas. This, plus the isolation of the CCB, has resulted in a high degree of endemism in some taxonomic groups (Souza et al. 2012).

The fauna that occurs in the CCB is a mixture of species with Neotropical and Nearctic biogeographic origins or affinities. This important region of transition can represent the distributional limits of both groups (Souza et al. 2012, Álvarez and Ojeda 2019). This work is a result of a study of diverse taxonomic groups in the CCB (Álvarez and Ojeda 2019), undertaken for the purpose of providing a better understanding of its local diversity. There are no published records of cerambycids from this region. This study is the first approach that aims to contribute to the general knowledge of this group in the Mexican deserts.

## Materials and methods

The dominant habitat in CCB is desertic shrub of the microphyle and rosetophyle variants, which include sotol, mesquite, secondary grassland and semi-aquatic vegetation associated with ponds. The climate is desertic dry (BW) (García 1964) with three well-defined seasons: rainy, cold dry and hot dry. All localities that were selected have

superficial water (except Río Cañón) and included all habitats present in CCB. Most habitats had some degree of perturbation due to different issues such as cattle grazing, agriculture and tourism. The localities were the following: (1) Churince ( $26^{\circ}50'30.3''\text{N}$ ,  $102^{\circ}08'9.9''\text{W}$ ), (2) Rancho PRONATURA ( $26^{\circ}49'38.9''\text{N}$ ,  $102^{\circ}01'24.4''\text{W}$ ), (3) Rancho Orozco ( $26^{\circ}52'18.3''\text{N}$ ,  $102^{\circ}05'16.8''\text{W}$ ), (4) Antiguos Mineros ( $26^{\circ}46'57.7''\text{N}$ ,  $102^{\circ}00'20.2''\text{W}$ ), (5) Poza Azul ( $26^{\circ}55'21.2''\text{N}$ ,  $102^{\circ}72'3.6''\text{W}$ ), (6) Río Cañón ( $27^{\circ}00'33.7''\text{N}$ ,  $102^{\circ}04'42.3''\text{W}$ ) and (7) San José del Anteojo ( $26^{\circ}58'11.5''\text{N}$ ,  $102^{\circ}07'26.4''\text{W}$ ) (Fig. 1). The distribution map was made using ArcGIS server (Bader 2005).

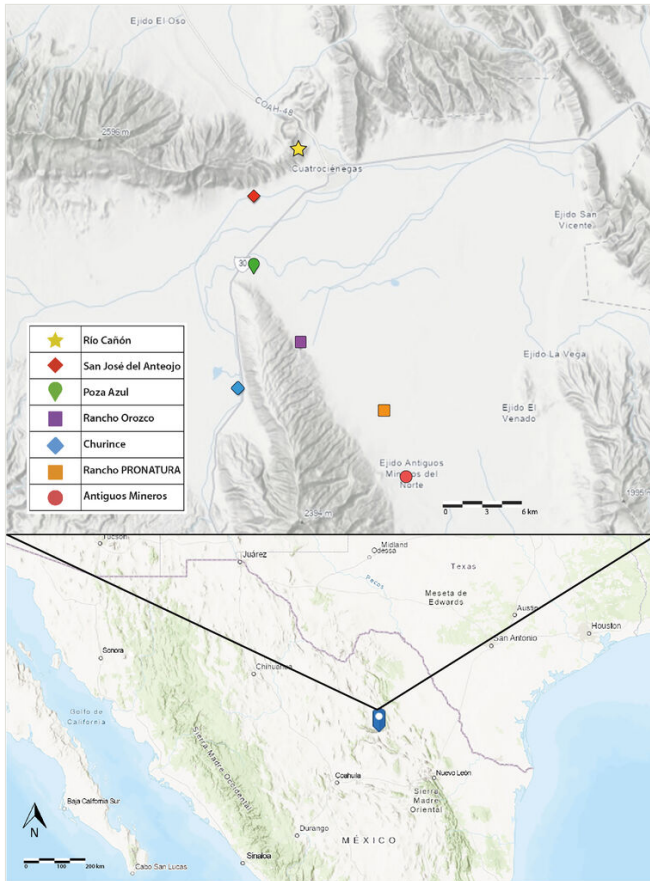


Figure 1. [doi](#)

Map showing sampling localities from Cuatro Ciénegas Basin, Coahuila, Mexico.

Fourteen field trips were performed during 2012 and 2013. Records from sporadic trips in 2009 and 2010 are also included. Sampling totalled 84 collecting days with at least three people collecting each day (09:00 to 16:00 h). Different sampling techniques (direct and indirect) were applied: by hand, sweep net and light traps. Cerambycid beetles were identified to species level with specialised literature (Chemsak 1991, Chemsak and Linsley

1965, Chemsak and Noguera 2005, Giesbert and Chemsak 1989, Giesbert and Chemsak 1993, Grzymala and Miller 2013, Linsley 1963, Linsley 1964, Linsley and Chemsak 1972, Noguera 2002, Santos-Silva 2007, Santos-Silva et al. 2016, Turnbow and Thomas 2002) and by comparison with identified specimens from the National Collection of Insects of the Biology Institute, UNAM. All specimens were deposited in the Insect Collection of the Zoological Museum “Alfonso L. Herrera” of the Faculty of Sciences, UNAM. The National Collection of Insects (CNIN) was revised and all the records belonging with CCB were included (Suppl. material 1).

## List of Cerambycidae from Cuatro Ciénegas Basin. The taxonomy is based on Bezark (2020)

### Subfamily Prioninae

#### Tribe Prionini

#### *Derobrachus hovorei* Santos-Silva, 2007

##### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho PRONATURA; verbatimCoordinates: 26°49'38.9"N, 102°01'24.4"W; samplingProtocol: Light trap; eventDate: 7-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB01; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: Light trap; eventDate: 20-Apr-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB02; basisOfRecord: Preserved Specimen

**Host of:** *Cercidium microphyllum* Rose and I. M. Johnston (Caesalpiaceae), *Quercus* sp. (Fagaceae), *Prosopis juliflora* (Swartz) de Candolle (Mimosaceae), *Morus rubra* Linnaeus (Moraceae), *Citrus* sp. (Rutaceae), *Populus* sp. (Salicaceae), *Ulmus* sp. (Ulmaceae), *Vitis* sp. (Vitaceae). (Monné 2020)

**Distribution:** USA: Arizona, California, Nevada, New Mexico, Texas; MEXICO: Chihuahua, Coahuila, Durango, Nuevo León, Sonora, Tamaulipas.

**Notes:** MZ-FC

***Prionus (Prionus) poultoni* Lameere, 1912****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: La Becerra; samplingProtocol: By hand; eventDate: 15-Aug-14; habitat: Desertic shrub; recordedBy: Antonio Castro; collectionCode: CNIN\_CCB01; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Chihuahua, Coahuila, Nuevo León, Oaxaca, Veracruz.

**Notes:** CNIN

**Subfamily Lepturinae****Tribe Lepturini*****Meloemorpha aliena* (Bates, 1880)****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'19.36", 102°09'04.38"W; samplingProtocol: By hand; eventDate: 21-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB02; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'19.36"N, 102°09'04.38"W; samplingProtocol: By hand; eventDate: 21-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB03; basisOfRecord: Preserved Specimen

**Host of:** *Pinus pseudostrobus* Lindley, *P. rudis* Endlicher (Pinaceae). (Monné 2020)

**Distribution:** MEXICO: Ciudad de México, Coahuila (new state record), Guerrero, Hidalgo, México, Michoacán, Morelos, Nuevo León, Veracruz; GUATEMALA.

**Notes:** CNIN

***Typocerus sinuatus* (Newman, 1841)****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 12-Apr-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB03; basisOfRecord: Preserved Specimen

**Distribution:** USA: Colorado, New Mexico; MEXICO: Coahuila (new country record).

**Notes:** MZ-FC

## Subfamily Cerambycinae

### Tribe Bothriospilini

#### *Knulliana cincta* subsp. *cincta* (Drury, 1773)

##### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojo; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: By hand; eventDate: 23-May-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB04; basisOfRecord: Preserved Specimen

**Distribution:** USA: Texas; MEXICO: Coahuila (new state record), Nuevo León, Sonora.

**Notes:** MZ-FC

### Tribe Clytini

#### *Megacyllene antennata* (White, 1855)

##### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 24-Sep-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB05; basisOfRecord: Preserved Specimen

**Host of:** *Celtis reticulata* Torr. (Cannabaceae), *Prosopis juliflora* (Swartz) de Candolle, *Senegalia greggii* A. Gray (Mimosaceae). (Monné 2020)

**Distribution:** USA: California, Texas; MEXICO: Baja California Norte, Coahuila (new state record), Sinaloa, Sonora.

**Notes:** MZ-FC

#### *Neoclytus mucronatus* subsp. *mucronatus* (Fabricius, 1775)

##### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; samplingProtocol: By hand; eventDate: 17-Oct-16; habitat: Desertic shrub; recordedBy: Rodolfo Trejo; collectionCode: CNIN\_CCB04; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; samplingProtocol: By hand; eventDate: 17-Oct-16; habitat: Desertic shrub; recordedBy: Rodolfo Trejo; collectionCode: CNIN\_CCB05; basisOfRecord: Preserved Specimen

- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; samplingProtocol: By hand; eventDate: 17-Oct-16; habitat: Desertic shrub; recordedBy: Rodolfo Trejo; collectionCode: CNIN\_CCB06; basisOfRecord: Preserved Specimen

**Host of:** *Acer rubrum* Linné (Aceraceae), *Celtis laevigata* Willdnow (Cannabaceae), *Juniperus virginiana* Linné (Cupressaceae), *Diospyros virginiana* Linné (Ebenaceae), *Quercus* sp. (Fagaceae), *Carya glabra* (Miller) Sweet, *C. illinoensis* (Wangenheim) K. Koch, *C. ovata* (Miller) K. Koch, *C. tomentosa* Nuttall (Juglandaceae), *Pinus contorta* Douglas ex Loudon, *P. resinosa* Aiton (Pinaceae), *Ulmus* sp. (Ulmaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Coahuila (new country record).

**Notes:** CNIN

### ***Placosternus erythropus* (Chevrolat, 1835)**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 23-Oct-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB06; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 23-Oct-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB07; basisOfRecord: Preserved Specimen
- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'21.2"N, 102°72'3.6"W; samplingProtocol: Sweeping; eventDate: 24-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB08; basisOfRecord: Preserved Specimen

**Host of:** *Baccharis neglecta* Nuttall (Asteraceae), *Acacia hindsii* Bentham, *Prosopis dulcis* Kunth, *P. juliflora* (Swartz) de Candolle (Mimosaceae), *Condalia globosa* I. M. Johnston (Rhamnaceae), *Crataegus pubescens* Steudel, *Malus sylvestris* Miller, *Prunus capollin* Zuccarini, *P. domestica* Linné, *P. persica* (Linné) Batsch, *Pyrus communis* Willdenow (Rosaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Ciudad de México, Coahuila, Durango, Guanajuato, Hidalgo, Jalisco, México, Morelos, Puebla, Sonora, Tabasco, Tamaulipas, Veracruz; GUATEMALA; COSTA RICA

**Notes:** MZ-FC

***Tanyochraethes hololeucus* (Bates, 1892)****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: By hand; eventDate: 22-Nov-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB09; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: By hand; eventDate: 22-Nov-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB10; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Durango, Tamaulipas.

**Notes:** MZ-FC

**Tribe Eburini*****Eburia juanita* Chemsak and Linsley, 1970****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Sweeping; eventDate: 7-Jul-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB11; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Jalisco, Morelos, Oaxaca, Sinaloa.

**Notes:** MZ-FC

***Eburia maccartyi* Noguera, 2002****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'28.03"N, 102°06'56.46"W; samplingProtocol: Sweeping; eventDate: 29-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB07; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Colima, Guanajuato, Guerrero, Jalisco, Nayarit, Oaxaca.

**Notes:** CNIN



***Eburia paraegrota* Chemsak and Linsley, 1973****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojó; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: By hand; eventDate: 23-Aug-09; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB12; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojó; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: By hand; eventDate: 23-Aug-09; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB13; basisOfRecord: Preserved Specimen
- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojó; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: By hand; eventDate: 23-Aug-09; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB14; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Colima, Jalisco, Sinaloa.

**Notes:** MZ-FC

**Tribe Elaphidiini*****Aneflus (Aneflus) obscurus* (LeConte, 1873)****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Light trap; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB15; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Light trap; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB16; basisOfRecord: Preserved Specimen

**Host of:** *Acacia* sp. (Mimosaceae). (Monné 2020)

**Distribution:** USA: Arizona, Texas; MEXICO: Chihuahua, Coahuila.

**Notes:** MZ-FC

***Aneflus (Aneflus) prolixus* subsp. *insoletus* Chemsak and Linsley, 1963****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: Light trap; eventDate: 20-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB17; basisOfRecord: Preserved Specimen

**Host of:** *Acacia berlandieri* Bentham (Mimosaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Chihuahua, Coahuila, Durango, Hidalgo, San Luis Potosí, Tamaulipas.

**Notes:** MZ-FC

### ***Aneflomorpha rectilinea* subsp. *rectilinea* Casey, 1924**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho PRONATURA; verbatimCoordinates: 26°49'38.9"N, 102°01'24.4"W; samplingProtocol: Light trap; eventDate: 6-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB18; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho PRONATURA; verbatimCoordinates: 26°49'38.9"N, 102°01'24.4"W; samplingProtocol: Light trap; eventDate: 7-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB19; basisOfRecord: Preserved Specimen

**Host of:** *Rhus aromatica* Aitchison (Anacardiaceae), *Baccharis sarothroides* A. Gray (Asteraceae), *Quercus* sp. (Fagaceae). (Monné 2020)

**Distribution:** USA: Arizona, New Mexico, Texas; MEXICO: Baja California Norte, Coahuila (new state record), Jalisco, Sinaloa.

**Notes:** MZ-FC

### ***Aneflomorpha wernerii* Chemsak, 1962**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'21.2"N, 102°72'3.6"W; samplingProtocol: Light trap; eventDate: 12-Apr-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB20; basisOfRecord: Preserved Specimen

**Distribution:** USA: Texas; MEXICO: Coahuila (new country record).

**Notes:** MZ-FC

### ***Anelaphus moestus* subsp. *moestus* (LeConte, 1854)**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: Light trap; eventDate: 21-Jun-09; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB21; basisOfRecord: Preserved Specimen

**Host of:** *Rhus aromatica* Aitchison (Anacardiaceae), *Grindelia* sp. (Asteraceae), *Celtis laevigata* Willdenow, *C. lindheimeri* Engelm. *C. reticulata* Torrey (Cannabaceae), *Sophora secundiflora* (Ortega) de Candolle (Fabaceae), *Quercus* sp. (Fagaceae), *Juglans nigra* Linnaeus (Juglandaceae), *Pithecellobium flexicaule* (Benth.) Coulter, *Prosopis juliflora* (Swartz) de Candolle, *Vachellia rigidula* (Benth.) Seigler and Ebinger, (Mimosaceae), *Morus rubra* Linnaeus (Moraceae), *Pinus cembroides* Zuccarini (Pinaceae), *Zanthoxylum clava-herculis* Linnaeus (Rutaceae). (Monné 2020)

**Distribution:** USA: Arizona, Texas; MEXICO: Coahuila.

**Notes:** MZ-FC

### ***Anopliomorpha rinconia* (Casey, 1924)**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Light trap; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB22; basisOfRecord: Preserved Specimen

**Host of:** *Quercus grisea* Liebmann (Fagaceae). (Monné 2020)

**Distribution:** USA: Arizona; MEXICO: Baja California Norte, Coahuila (new state record), Oaxaca, Sinaloa, Sonora.

**Notes:** MZ-FC

### ***Elaphidionopsis fasciatipennis* Linsley, 1936**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho PRONATURA; verbatimCoordinates: 26°49'38.9"N, 102°01'24.4"W; samplingProtocol: By hand; eventDate: 8-Jul-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB23; basisOfRecord: Preserved Specimen

**Host of:** *Celtis reticulata* Torrey (Cannabaceae), *Dermatophyllum secundiflorum* (Ortega) Gandhi and Reveal (Fabaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Coahuila.

**Notes:** MZ-FC

### ***Neaneflus brevispinus* Chemsak, 1962**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: Light

- trap; eventDate: 20-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB24; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: Light trap; eventDate: 20-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB25; basisOfRecord: Preserved Specimen

**Host of:** *Dalea formosa* Torrey (Fabaceae). (Monné 2020)

**Distribution:** USA: California, Texas; MEXICO: Coahuila (new state record), Zacatecas.

**Notes:** MZ-FC

### ***Stenosphenus dolosus* Horn, 1885**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'28.03"N, 102°06'56.46"W; samplingProtocol: Sweeping; eventDate: 29-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB08; basisOfRecord: Preserved Specimen

**Host of:** *Baccharis halimifolia* Linnaeus (Asteraceae), *Acacia rigidula* Bentham, *Leucaena* sp., *Prosopis juliflora* (Swartz) de Candolle, *Vachellia farnesiana* (Linnaeus) Wight and Arn., *V. rigidula* (Benth.) Seigler and Ebinger (Mimosaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Coahuila, Nuevo León, San Luis Potosí, Tamaulipas, Veracruz.

**Notes:** CNIN

### **Tribe Hesperophanini**

#### ***Haplidus laticeps* Knull, 1941**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Light trap; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB26; basisOfRecord: Preserved Specimen

**Host of:** *Acacia constricta* Bentham ex Gray, *Prosopis juliflora* (Swartz) de Candolle (Mimosaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Chihuahua, Coahuila (new state record).

**Notes:** MZ-FC

## Tribe Methiini

### *Methia mormona* Linell, 1897

#### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Sweeping; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB27; basisOfRecord: Preserved Specimen

**Host of:** *Berberis harrisoniana* Kearney and Peebles (Berberidaceae), *Juniperus deppeana* Steudel (Cupressaceae), *Juglans major* A. A. Heller (Juglandaceae), *Salix* sp. (Salicaceae). (Monné 2020)

**Distribution:** USA: Arizona, Colorado, New Mexico, Utah; MEXICO: Chihuahua, Coahuila (new state record).

**Notes:** MZ-FC

## Tribe Rhopalophorini

### *Rhopalophora angustata* Schaeffer, 1905

#### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Emilio Bichara; samplingProtocol: By hand; eventDate: 25-Sep-16; habitat: Desertic shrub; recordedBy: Cecilia Fernández; collectionCode: CNIN\_CCB09; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Emilio Bichara; samplingProtocol: By hand; eventDate: 25-Sep-16; habitat: Desertic shrub; recordedBy: Cecilia Fernández; collectionCode: CNIN\_CCB10; basisOfRecord: Preserved Specimen

**Host of:** *Baccharis neglecta* Nuttall (Asteraceae), *Celtis berlandieri* Klotzsch (Cannabaceae), *Diospyros texana* Scheele (Ebenaceae), *Eysenhardtia polystachya* (Ortega) Sargent, *E. texana* Scheele (Fabaceae), *Pithecellobium flexicaule* (Benth) Coulter, *P. pallens* (Benth) Standley (Mimosaceae), *Citrus sinensis* (Linnaeus) Osbeck, *Zanthoxylum fagara* (Linnaeus) Sargent (Rutaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Coahuila (new state record), Nuevo León, Tamaulipas.

**Notes:** CNIN

## Tribe Tillomorphini

### *Euderces basimaculatus* Giesbert and Chemsak, 1997

#### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: PRONATURA; samplingProtocol: By hand; eventDate: 21-Aug-15; habitat: Desertic shrub; recordedBy: Mayra Cervantes; collectionCode: CNIN\_CCB11; basisOfRecord: Preserved Specimen

**Host of:** *Lysiloma acapulcense* (Kunth.) Benth., *Haematoxylum brasiletto* H. Karst., *Vachellia pennatula* (Schltdl. and Cham.) Seigler and Ebinger (Fabaceae). (Monné 2020)

**Distribution:** MEXICO: Coahuila (new state record), Colima, Durango, Guerrero, Hidalgo, Jalisco, Michoacán, Nayarit, Oaxaca, Puebla.

**Notes:** CNIN

## Tribe Trachyderini

### *Chemsakiella michelbacheri* (Chemsak, 1984)

#### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: PRONATURA; samplingProtocol: By hand; eventDate: 25-Aug-15; habitat: Desertic shrub; recordedBy: Mayra Cervantes; collectionCode: CNIN\_CCB12; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Tamaulipas, Zacatecas.

**Notes:** CNIN

### *Crossidius mexicanus* Chemsak and Noguera, 1997

#### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; samplingProtocol: By hand; eventDate: 18-Aug-14; habitat: Desertic shrub; recordedBy: Ángel Neria; collectionCode: CNIN\_CCB13; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'19.36"N, 102°09'04.38"W; samplingProtocol: Sweeping; eventDate: 21-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB14; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Coahuila, Nuevo León, Zacatecas.

Notes: CNIN

### ***Crossidius suturalis* subsp. *suturalis* LeConte, 1858**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB28; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB29; basisOfRecord: Preserved Specimen
- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 4-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB30; basisOfRecord: Preserved Specimen
- d. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 26-Apr-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB31; basisOfRecord: Preserved Specimen
- e. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: By hand; eventDate: 29-Oct-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB32; basisOfRecord: Preserved Specimen
- f. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: By hand; eventDate: 29-Oct-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB33; basisOfRecord: Preserved Specimen

**Host of:** *Chrysothamnus viscidiflorus* (Hooker) Nuttall, *Gutierrezia longifolia* Greene, *G. lucida* Greene, *G. wrightii* A. Gray, *Haplopappus hartwegi* (Gray) Blake, *H. pluriflorus* (Gray) Hall, *Xanthocephalum glutinosum* (Sprengel) Shinnery, *X. sarothrae* (Pursh) Shinnery (Asteraceae). (Monné 2020)

**Distribution:** USA: Arizona, New Mexico, Texas; MEXICO: Chihuahua, Coahuila (new state record), Sonora.

Notes: MZ-FC

### ***Elytroleptus divisus* (LeConte, 1884)**

#### **Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'19.36"N, 102°09'04.38"W; samplingProtocol: Sweeping; eventDate: 21-Jul-15; habitat: Desertic shrub; recordedBy: Oscar Pérez; collectionCode: CNIN\_CCB15; basisOfRecord: Preserved Specimen

**Distribution:** USA: Texas; MEXICO: Coahuila, Nuevo León, Querétaro, San Luis Potosí, Tamaulipas.

**Notes:** CNIN

### ***Neocrossidius trivittatus* (Bates, 1880)**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojo; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: Sweeping; eventDate: 23-May-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB34; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojo; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: Sweeping; eventDate: 23-May-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB35; basisOfRecord: Preserved Specimen

**Distribution:** MEXICO: Chihuahua, Ciudad de México, Coahuila, Durango, Michoacán, Morelos.

**Notes:** MZ-FC

### ***Parevander hovorei* Giesbert, 1984**

#### **Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: By hand; eventDate: 8-Jul-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB36; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: By hand; eventDate: 8-Jul-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB37; basisOfRecord: Preserved Specimen
- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Antiguos Mineros; verbatimCoordinates: 26°46'57.7"N, 102°00'20.2"W; samplingProtocol: By hand; eventDate: 8-Jul-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB38; basisOfRecord: Preserved Specimen

**Host of:** *Helianthus* sp., *Verbesina* sp., *Viguiera* sp. (Asteraceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Coahuila, Hidalgo, Nuevo León, San Luis Potosí, Tamaulipas.

**Notes:** MZ-FC



***Plionoma suturalis* (LeConte, 1858)****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Río Cañón; verbatimCoordinates: 27°00'33.7"N, 102°04'42.3"W; samplingProtocol: Sweeping; eventDate: 31-May-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB39; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: Sweeping; eventDate: 30-Apr-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB40; basisOfRecord: Preserved Specimen

**Host of:** *Prosopis juliflora* (Swartz) de Candolle, *Vachellia farnesiana* (Linnaeus) Wight and Arn. (Mimosaceae). (Monné 2020)

**Distribution:** USA: California, Texas; MEXICO: Baja California Norte, Coahuila (new state record), Sonora.

**Notes:** MZ-FC

***Sphaenothecus bilineatus* (Gory in Guérin-Ménéville, 1831)****Material**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: San José del Anteojo; verbatimCoordinates: 26°58'11.5"N, 102°07'26.4"W; samplingProtocol: Sweeping; eventDate: 23-May-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB41; basisOfRecord: Preserved Specimen

**Host of:** *Baccharis* sp. (Asteraceae), *Cassia* sp. (Caesalpinaceae), *Leucaena pulverulenta* (Schlechtendal) Bentham, *Prosopis juliflora* (Swartz) de Candolle, *Vachellia farnesiana* (Linnaeus) Wight and Arn. (Mimosaceae), *Ficus* sp. (Moraceae), *Coffea arabica* Linnaeus (Rubiaceae), *Ulmus crassifolia* Nuttall (Ulmaceae). (Monné 2020)

**Distribution:** USA: California, Texas; MEXICO: Baja California, Chiapas, Coahuila, Hidalgo, Jalisco, Morelos, Oaxaca, Sonora, Tamaulipas; HONDURAS; NICARAGUA.

**Notes:** MZ-FC

***Stenaspis solitaria* (Say, 1824)****Materials**

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: By hand; eventDate: 3-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB42; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: By hand;

eventDate: 3-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB43; basisOfRecord: Preserved Specimen

**Host of:** *Acacia berlandieri* Bentham, *Prosopis juliflora* (Swartz) de Candolle (Mimosaceae). (Monné 2020)

**Distribution:** USA: Arizona, California, Texas; MEXICO: Baja California Norte, Coahuila (new state record), Durango, Sonora.

**Notes:** MZ-FC

### *Tylosis jimenezi* Dugés, 1879

#### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 3-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB44; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 3-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB45; basisOfRecord: Preserved Specimen
- c. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Rancho Orozco; verbatimCoordinates: 26°52'18.3"N, 102°05'16.8"W; samplingProtocol: Sweeping; eventDate: 3-Jul-13; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB46; basisOfRecord: Preserved Specimen

**Host of:** *Sphaeralcea* sp. (Malvaceae). (Monné 2020)

**Distribution:** USA: Texas; MEXICO: Ciudad de México, Coahuila, Durango, Guanajuato.

**Notes:** MZ-FC

### Subfamily Lamiinae

#### Tribe Acanthocinini

### *Moneilema armatum* LeConte, 1853

#### Material

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Churince; verbatimCoordinates: 26°50'30.3"N, 102°08'9.9"W; samplingProtocol: By hand; eventDate: 6-Jun-10; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB47; basisOfRecord: Preserved Specimen

**Host of:** *Astrophytum asterias* (Zuccarini) Lemaire, *Homalocephala texensis* Britton and Rose, *Marginatocereus marginatus* (de Candolle) Beckeberg, *Opuntia*

*arborescens* Engelmann, *O. arbuscula* Engelmann, *O. engelmanni* Salm-Dyck, *O. imbricata* de Candolle, *O. leptocaulis* de Candolle, *O. lindheimeri* Engelmann, *O. macrocentra* Engelmann, *O. megacantha* Salm-Dyck, *O. robusta* Wendland, *O. spinosior* Toumey, *O. violacea* Engelmann, *Platyopuntia* sp. (Cactaceae). (Monné 2020)

**Distribution:** USA: Colorado, Kansas; MEXICO: Coahuila, Tamaulipas.

**Notes:** MZ-FC

## Tribe Onciderini

### *Oncideres rhodosticta* Bates, 1885

#### Materials

- a. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'21.2"N, 102°72'3.6"W; samplingProtocol: Light trap; eventDate: 24-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB48; basisOfRecord: Preserved Specimen
- b. country: Mexico; stateProvince: Coahuila; municipality: Cuatro Ciénegas; locality: Poza Azul; verbatimCoordinates: 26°55'21.2"N, 102°72'3.6"W; samplingProtocol: Light trap; eventDate: 24-Aug-12; habitat: Desertic shrub; recordedBy: Marysol Trujano and Uri García; collectionCode: MZ-FC\_CCB49; basisOfRecord: Preserved Specimen

**Host of:** *Parkinsonia aculeata* Linnaeus (Caesalpiniaceae), *Casuarina cunninghamiana* Miquel (Casuarinaceae), *Sarcobatus vermiculatus* (Hooker) Torrey (Chenopodiaceae), *Acacia greggii* A.Gray, *Mimosa* sp., *Pithecellobium flexicaule* (Bentham) Coulter, *Prosopis juliflora* (Swartz) de Candolle, *P. glandulosa* Torrey, *Vachellia farnesiana* (Linnaeus) Wight. and Arn. (Mimosaceae). (Monné 2020)

**Distribution:** USA: Arizona, New Mexico, Texas; MEXICO: Baja California Norte, Chihuahua, Coahuila, Durango, Sonora, Tamaulipas.

**Notes:** MZ-FC

## Analysis

As this study is the first species list of Cerambycidae fauna in a Mexican desert environment, it greatly increases the knowledge of this group in Mexico. We recorded 37 species from 32 genera and identified 13 tribes from four subfamilies (Prioninae, Lepturinae, Cerambycinae and Lamiinae) Table 1. The subfamily Cerambycinae had the greatest number of species at 31 (84% of the total). The other subfamilies only registered two species each. This revealed a pattern similar to that of other habitats such as tropical dry forest (e.g. Toledo et al. 2002, Noguera et al. 2012), but in this case, the results were even more pronounced.

Table 1.

Number of tribes, genera and species of the cerambycids from Cuatro Ciénegas Basin

Subfamily	No. of tribes	No. of genera	No. of species
Prioninae	1	2	2
Lepturinae	1	2	2
Cerambycinae	9	26	31
Lamiinae	2	2	2
Total	13	32	37

## Discussion

Despite the fact that Mexico has extensive area of deserts, faunistic studies relating to Cerambycidae have previously not been conducted in this or similar xerophilous habitats. In Mexico, the family Cerambycidae has been studied mainly in tropical dry forest (e.g. Chemsak and Noguera 1993, Noguera et al. 2012). Only sporadic records from desertic areas have been reported (Bezark 2020).

MacKay et al. (1987) recorded 44 species from the northern region of the Chihuahuan desert near Las Cruces, New Mexico, USA. Compared to our study, they obtained the same species distribution in subfamilies. Cerambycinae were extremely abundant, followed by Prioninae and Lamiinae, both being well represented. Only one species of Lepturinae was recorded. MacKay et al. (1987) argue that Lepturinae species depend on moisture for development, hence their species richness in arid environments is poor. On the another hand, Cerambycinae presents the greatest number of genera with diurnal habits (Linsley 1959). In the case of CCB, the genera of Cerambycinae were more common in daytime activity. This is presumably due to different types of adult feeding which is anthophilous in several genera of Cerambycinae (Švácha and Lawrence 2014).

Of the species recorded in this study, *Meloemorphia aliena* (Bates), *Knulliana cincta cincta* (Drury), *Megacyllene antennata* (White), *Aneflomorpha rectilinea rectilinea* Casey, *Anopliomorpha rinconia* (Casey), *Neaneflus brevispinus* Chemsak, *Haplidus laticeps* Knull, *Methia mormona* Linell, *Rhopalophora angustata* Schaeffer, *Euderces basimaculatus* Giesbert & Chemsak, *Crossidius suturalis suturalis* LeConte, *Plionoma suturalis* (LeConte) and *Stenaspis solitaria* (Say) are new records for the state of Coahuila. *Typocerus sinuatus* (Newman), *Neoclytus mucronatus mucronatus* (Fabricius) and *Aneflomorpha wernerii* Chemsak are reported for the first time in Mexico. These three species have been previously recorded in the southern United States (Texas).

Possibly due in part to extensive collecting efforts, the states of Veracruz (406), Oaxaca (343), Jalisco (327) and Chiapas (315) (Noguera 2014) have the highest species records of Cerambycidae (numbers in parenthesis indicate the numbers of species recorded from

the corresponding state). Noguera (2014) indicates the species richness from Coahuila at 24 species. Nevertheless, Bezark (2020) in the electronic catalogue of Cerambycidae recorded 43 species from Coahuila. Our work represents a considerable contribution and updated inventory of Mexican Cerambycidae in the Coahuila region. It presents new distributional records that represent a 41% increase in species richness. It is clear that it is necessary to continue exploring more regions of Mexico and publishing updated Cerambycidae distribution data to complete our knowledge, not only of desert environments, but also of other Mexican ecosystems present in the country.

The distribution of species that were recorded in CCB shows a mixture between cerambycid species with distributional records in United States and Mexico (Bezark 2020). Many of these species have diurnal habits and an affinity for desert environments. This is useful for understanding the distributional patterns and evolutionary history of cerambycid beetles. The ecological factors and historical events from the *Altiplano Mexicano* are relevant for determining the geographic distribution of insect species from CCB (Álvarez and Ojeda 2019). Additionally, the presence of host plants in these desert ecosystems is fundamental to their existence in these environments (Pinkava 2016).

The CCB is a unique region with different components from Neotropical and Nearctic biogeographic provinces. This makes it an essential crossroads to understand the evolution of several faunal groups (Álvarez and Ojeda 2019). This work represents the first species list of Cerambycidae in a Mexican desert (CCB, Chihuahuan desert) and Coahuila. Cerambycids provide important ecological services for desert ecosystems. They act as pollinators (MacKay et al. 1987), active agents of decomposition and recyclers of organic matter. As ecosystem agents, these beetles are indispensable for the health and permanency of CCB environments.

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## Supplementary material

### Suppl. material 1: Checklist\_Taxon\_CCB [doi](#)

**Authors:** Pérez-Flores, O.

**Data type:** Taxon information and occurrence information

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