

Taxonomy and systematics

## Checklist of the caddisflies (Insecta: Trichoptera) from Oaxaca, Mexico

### *Listado de tricópteros (Insecta: Trichoptera) de Oaxaca, México*

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#### Abstract

An updated checklist of the caddisflies from the State of Oaxaca, Mexico is presented, based primarily on a bibliographic review. Fourteen families, 44 genera and 216 species of caddisflies have been recorded, 38 (17.51%) of which are endemic, and 9 species are recorded for the first time from Oaxaca. For each species, we describe its geographic distribution, provide references with distribution records, and highlight those that are endemic to Oaxaca and Mexico. Although there has been a significant increase in taxonomic work on Mexican caddisflies, it is still necessary to continue studying the systematics, ecology, and biogeography of Trichoptera from Oaxaca, especially in poorly explored regions.

*Keywords:* Species richness; Faunistic inventory; Geographic distribution; Endemism

#### Resumen

Se presenta una lista actualizada de los tricópteros del estado de Oaxaca, México, basada principalmente en una revisión bibliográfica. Se registraron 14 familias, 44 géneros y 216 especies de tricópteros, de las cuales 38 (17.51%) son endémicas y 9 especies se registran por primera vez para Oaxaca. Para cada especie describimos su distribución geográfica, proporcionamos referencias con registros de distribución y destacamos aquellas que son endémicas de

Oaxaca y México. Aunque ha habido un incremento significativo en los trabajos taxonómicos sobre los tricópteros mexicanos, aún es necesario continuar estudiando la sistemática, ecología y biogeografía de los Trichoptera de Oaxaca, especialmente en las regiones poco exploradas.

*Palabras clave:* Riqueza específica; Inventario faunístico; Distribución geográfica; Endemismo

## Introduction

Trichoptera is the most diverse order of water-dependent insects. The caddisflies are widely distributed around the world and currently there are about 16,300 known species (Morse, 2019), of which 602 are found in Mexico. These holometabolous insects inhabit a wide diversity of aquatic microhabitats becoming key components of food web, as well as excellent indicators of water quality (Springer, 2010).

The State of Oaxaca is located in southeastern Mexico (Fig. 1) and covers an area of approximately 95,364 km<sup>2</sup>, equivalent to 4.8% of the country's total area (García-Mendoza et al., 2004; INEGI, 2016). Based on the biogeographic regionalization proposed by Morrone et al. (2017), Oaxaca is part of the Balsas Basin, Sierra Madre del Sur, Veracruz, Pacific Lowlands and Chiapas Highlands provinces (Fig. 1), belonging to the Mexican Transition Zone and the Neotropical region. This state has a vast mosaic of climates, ranging from semi-warm humid and sub-humid to semi-cold and temperate humid in the higher elevations (Trejo, 2004), associated with a wide range of temperatures and a great variety of vegetation types, among which the high evergreen forest and the montane cloud forest stand out (Arriaga et al., 2000).

Until this work, Oaxaca ranked third in caddisfly biodiversity in the country with 161 species, after Chiapas (188) and Veracruz (180), but its fauna has long remained unknown. The first inventory conducted by Bueno-Soria (2010a) reported 102 species. However, the number of known Trichoptera species has increased considerably

since then due to: 1) a study at Santa Catarina Lachatao (Razo-Gonzalez, 2018), 2) a literature compilation of species recorded from Oaxaca, 3) and more recently, to a study conducted in the Sierra de Juárez (Razo-Gonzalez et al., 2023).

Since the publication of Bueno-Soria (2010a), several new distribution records and descriptions of new species have been published, making a new list necessary as a starting point for future studies on Trichoptera diversity from Oaxaca, and Mexico. In an effort to provide relevant information to the inventory of biological diversity in Mexico and the world, the state distribution for each species was also included, endemic taxa were noted, and the distribution of Mexican caddisflies in other countries was detailed.

## Material and methods

Distribution data of species from Oaxaca were obtained through a comprehensive review of published literature, including catalogues, taxonomic reviews, the Universidad Nacional Autónoma de México's open data portal (DGRU, 2023), and the Trichoptera World Checklist (Morse, 2023). Some records that have not been published yet were included in this compilation, records come from biological material collected in the field and deposited in the National Insect Collection of the Institute of Biology at Universidad Nacional Autónoma de México (CNIN-IBUNAM). The bibliographic citations of the records corresponding to Oaxaca were mentioned in parentheses at the end of the distribution of each species.

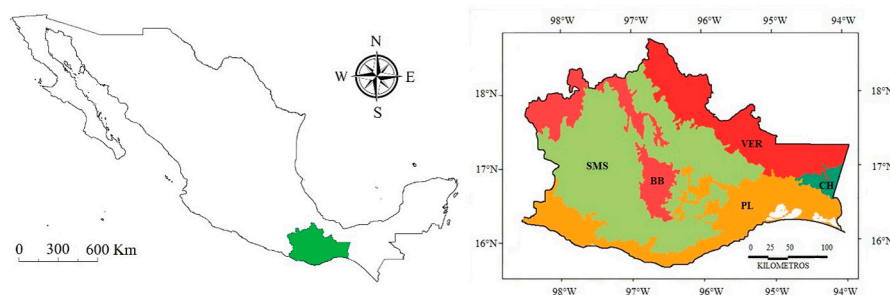


Figure 1. Geographic location of Oaxaca State and the biogeographic provinces that it encompasses. SMS = Sierra Madre del Sur, BB = Balsas Basin, PL = Pacific Lowlands, VER = Veracruz, CH = Chiapas Highlands.

The list of Mexican caddisflies was structured according to the classification scheme proposed by Holzenthal et al. (2007) for the suborders and that of Wiggins and Wichard (1989) for the lower taxonomic categories, and the genera and species were ordered alphabetically. The valid names of the species, the author and year, the references where distribution records for Oaxaca are reported, their synonyms and geographic distribution is detailed, and the endemic species for Oaxaca and Mexico are stated. For distribution outside Mexico, the work of Holzenthal and Calor (2017) was employed.

The biogeographic provinces included in Oaxaca follow the criteria of Morrone et al. (2017), the abbreviations used to name these provinces are: Sierra Madre del Sur (SMS), Balsas Basin (BB), Pacific Lowlands (PL), Veracruz (VER) and Chiapas Highlands (CH) (Fig. 1). A map of species richness by state also was produced. To construct the species accumulation curve, the number of new records for Oaxaca per year was counted, the total number of species accumulated per year from 1950 to date was calculated, and finally the graph was constructed.

## Results

This research provides a checklist of the caddisflies of the state of Oaxaca, which includes 14 families, 44 genera and 216 species (Table 1), representing 35.88% of the species of Trichoptera recorded from Mexico. The richest families in Oaxaca are (Table 1): Hydroptilidae (13 genera, 45 spp.), Philopotamidae (2 genera, 34 spp.), Hydropsychidae (8 genera, 29 spp.), and Glossosomatidae (3 genera, 27 spp.). These families represent 62.21% of the caddisflies richness in Oaxaca. As part of the field-collected material, 9 species were recorded for the first time for Oaxaca (Table 2).

This is the first work that synthesizes the information on the caddisflies registered in Oaxaca, and makes it the most species-rich state in Mexico (Table 3). The families Calamoceratidae, Limnephilidae, Odontoceridae and Psychomyiidae are the poorest represented. Guanajuato, Querétaro, Quintana Roo, and Yucatán were not included in this checklist due to the lack of caddisfly records for them.

Bueno-Soria et al. (2022) reported in their work that *Xiphocentron julus* is distributed in Oaxaca; however, as we could not find the publication where this record is reported, we consulted Bueno-Soria directly, who carried out a revision and noted that there is an error to be corrected in the aforementioned publication, as *X. julus* has not been collected in Oaxaca (Bueno-Soria, pers. comm.).

Table 1

Families and number of subfamilies, tribes, genera, and species reported from Oaxaca, Mexico.

Family	Subfamily	Tribe	Genus	Species
Calamoceratidae	-	-	2	4
Glossosomatidae	1	-	3	27
Helicopsychidae	-	-	2	11
Hydrobiosidae	-	-	1	12
Hydropsychidae	4	2	8	29
Hydroptilidae	1	5	13	45
Lepidostomatidae	1	-	1	8
Leptoceridae	2	4	4	17
Limnephilidae	1	-	1	1
Odontoceridae	1	-	1	4
Philopotamidae	1	-	2	34
Polycentropodidae	1	-	3	20
Psychomyiidae	1	-	1	1
Xiphocentronidae	-	-	2	5

## Checklist

### Suborder Annulipalpia

#### Superfamily Hydropsychoidea

#### Family Hydropsychidae Curtis, 1835

##### Subfamily Dipletroninae Ulmer, 1951

##### *Dipletrona chiapensis* Flint, 1967

Guatemala, Mexico (Chiapas, Estado de México, Guerrero, Morelos, Oaxaca, Veracruz) (Razo-González, 2018).

##### *Dipletrona solitaria* Bueno-Soria, 1986

Mexico (Oaxaca). Endemic to Oaxaca (Bueno-Soria, 1986).

##### Subfamily Hydropsychinae Curtis, 1835

##### *Cheumatopsyche gelita* Denning, 1952

Mexico (Aguascalientes, Chihuahua, Durango, Estado de México, Jalisco, Nuevo León, Oaxaca, Tamaulipas), USA (Razo-González, 2018).

##### *Hydropsyche ancestralis* (Ross & Unziker, 1977)

Mexico (Oaxaca). Endemic to Oaxaca (Ross & Unziker, 1977).

##### *Hydropsyche delrio* Ross, 1941

Mexico (Nuevo León, Oaxaca, Puebla, San Luis Potosí, Tamaulipas, Veracruz), USA (DGRU, 2023).

##### *Hydropsyche toschieae* (Denning, 1965)

Table 2

Species recorded for the first time in Oaxaca, Mexico.

Species	Locality	Coordinates	Altitude (m asl)
<i>Smicridea soyatepecana</i> Bueno-Soria, 1986	San Juan Bautista Valle Nacional, San Mateo Yetla	17°45'27" N 96°18'54" W	130
<i>Hydroptila longissimus</i> Bueno-Soria, 1984	San Pedro Yaneri, San Juan Tepanzacoalco	17°24'18" N 96°22'15" W	1,320
<i>Byrsopteryx tabasquensis</i> Bueno-Soria, Santiago-Fragoso, Barba-Álvarez, 2001	San Juan Bautista Valle Nacional, San Mateo Yetla	17°45'27" N 96°18'54" W	130
<i>Leucotrichia extraordinaria</i> Bueno-Soria, Santiago-Fragoso, Barba-Álvarez, 2001	San Pedro Yaneri, San Juan Tepanzacoalco	17°24'18" N 96°22'15" W	1,320
<i>Metrichia longitudinis</i> Bueno-Soria, 2002	Santiago Comaltepec, San Martín Soyolapam	17°41'47" N 96°16'54" W	136
<i>Nectopsyche gracilis</i> (Banks, 1901)	Santiago Comaltepec, San Martín Soyolapam	17°41'47" N 96°16'54" W	136
<i>Oecetis marquesi</i> Bueno-Soria, 1981	San Pedro Yaneri, San Juan Tepanzacoalco	17°24'18" N 96°22'15" W	1,320
<i>Chimarra cornuta</i> Ross, 1959	San Juan Bautista Valle Nacional, San Mateo Yetla	17°45'27" N 96°18'54" W	130
<i>Coenocentron trilineatum</i> (Mosely, 1934)	San Juan Bautista Valle Nacional, San Mateo Yetla	17°45'27" N 96°18'54" W	130

Belize, Colombia, Costa Rica, Grenada, Guatemala, Honduras, Mexico (Estado de México, Guerrero, Oaxaca, San Luis Potosí, Veracruz) (Razo-González, 2018).

*Plectropsyche hoogstraali* Ross, 1947

= *Plectropsyche pitella* (Denning, 1968)

Guatemala, Honduras, Mexico (Chiapas, Chihuahua, Estado de México, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), Nicaragua (Bueno-Soria, 2010a; Bueno-Soria & Barba-Álvarez, 2015).

*Plectropsyche velascoi* Bueno-Soria & Barba-Álvarez, 2015  
 Mexico (Estado de México, Guerrero, Nuevo León, Michoacán, Morelos, Oaxaca, Veracruz) (Bueno-Soria & Barba-Álvarez, 2015). Endemic to Mexico.

Subfamily Macronematinae Ulmer, 1905

Tribe Macronematini Ulmer, 1905

*Centromacronema auripenne* (Rambur, 1842)

= *Centromacronema cupreum* (Walker, 1852)

= *Centromacronema niveistigma* (Walker, 1860)

= *Centromacronema abjurans* (Walker, 1860)

= *Centromacronema quadrifurca* (Walker, 1860)

= *Centromacronema extensum* Banks, 1913

Bolivia, Brazil, Colombia, Costa Rica, El Salvador, French Guiana, Guatemala, Guyana, Honduras, Mexico

(Chiapas, Guerrero, Michoacán, Nuevo León, Oaxaca, San Luis Potosí, Tabasco, Veracruz), Nicaragua, Panama, Peru, Venezuela (Bueno-Soria & Flint, 1978; Holzenthal, 1988a).

*Centromacronema oaxacensis* Bueno-Soria, in Flint et al., 1999

Mexico (Oaxaca, Veracruz) (Bueno-Soria, 1986). Endemic to Mexico.

*Leptonema albovirens* (Walker, 1852)

= *Leptonema guatemalum* Banks, 1913

Belize, Colombia, Costa Rica, Grenada, Guatemala, Honduras, Mexico (Chiapas, Chihuahua, Colima, Guerrero, Hidalgo, Michoacán, Morelos, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), Nicaragua, Panama, St. Vincent, Tobago, Trinidad, USA, Venezuela (Bueno-Soria & Flint, 1978).

*Leptonema championi* Mosely, 1933

Guatemala, Mexico (Oaxaca, Veracruz) (Flint et al., 1987).

*Leptonema crassum* Ulmer, 1905

= *Leptonema grisolinum* Navás, 1933

= *Leptonema radiale* Navás, 1972

Argentina, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico (Chiapas, Michoacán, Oaxaca, Tabasco, Veracruz), Nicaragua, Panama, Paraguay, Peru, Venezuela (Flint et al., 1987).

Table 3

Number of species of caddisflies by state in Mexico. Ags = Aguascalientes, BC = Baja California, BCS=Baja California Sur, Cam = Campeche, Chis = Chiapas, Chih = Chihuahua, Coa = Coahuila, Col = Colima, CdMx = Ciudad de México, Dgo = Durango, EdoM = Estado de México, Gro = Guerrero, Hgo = Hidalgo, Jal = Jalisco, Mich = Michoacán, Mor = Morelos, Nay = Nayarit, NL = Nuevo León, Oax = Oaxaca, Pue = Puebla, SLP = San Luis Potosí, Sin = Sinaloa, Son = Sonora, Tab = Tabasco, Tam = Tamaulipas, Tlax = Tlaxcala, Ver = Veracruz, Zac = Zacatecas.

Families	Calamoceratidae	Ecnomiidae	Glossosomatidae	Helicopsychidae	Hydrobiosidae	Hydropsychidae	Hydroptilidae	Lepidostomatidae	Lepetoceridae	Limnephilidae	Odontoceridae	Philopotamidae	Polycentropodidae	Xiphocentronidae	Total
States															
Ags	-	-	-	-	-	2	-	-	1	-	-	-	-	-	3
BC	1	-	-	2	1	4	-	1	2	2	1	4	1	-	23
BCS	-	-	-	-	-	-	1	-	-	-	2	-	-	-	3
Cam	-	-	-	-	-	3	1	-	-	-	-	-	1	-	5
Chis	2	-	19	9	6	22	48	2	12	1	4	29	27	7	188
Chih	2	1	11	6	1	11	32	1	5	3	2	13	4	-	92
Coa	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Col	-	-	1	-	-	1	-	-	-	-	-	1	-	-	3
CdMx	1	-	-	-	-	2	2	1	1	3	-	-	1	2	13
Dgo	1	-	2	4	5	8	1	5	4	10	3	4	6	-	53
EdoM	-	-	4	3	5	8	5	5	5	5	1	3	3	3	50
Gro	2	1	12	7	1	18	40	1	2	-	2	20	6	-	112
Hgo	-	-	2	2	3	4	15	3	0	1	-	3	2	-	35
Jal	-	-	1	2	1	5	-	-	3	-	1	4	3	-	20
Mich	1	-	6	4	1	13	6	3	2	-	1	5	7	3	52
Mor	2	-	6	3	4	13	19	1	4	2	1	6	4	-	65
Nay	-	-	-	1	-	2	1	1	-	-	-	7	2	-	14
NL	-	-	2	5	-	5	14	1	3	1	1	9	3	3	47
Oax	4	-	27	11	12	29	45	8	16	1	4	34	20	5	216
Pue	-	-	9	2	1	4	5	-	2	1	1	5	5	3	38
SLP	2	1	5	-	1	12	24	-	7	-	1	13	6	4	76
Sin	1	-	2	1	-	4	1	1	2	-	-	3	2	-	17
Son	1	-	-	1	-	3	8	-	1	-	2	10	-	-	26
Tab	-	-	7	4	1	14	44	-	4	-	2	14	5	6	101
Tam	1	-	1	1	1	6	8	-	2	-	1	7	4	-	32
Tlax	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1
Ver	4	1	20	5	7	25	50	3	19	1	2	21	15	7	180
Zac	-	-	-	1	-	-	-	-	-	-	-	-	2	-	3

- Leptonema moselyi* Flint, McAlpine & Ross, 1987  
Mexico (Chihuahua, Durango, Estado de México, Michoacán, Morelos, Oaxaca) (Flint et al., 1987). Endemic to Mexico.
- Leptonema pinotepa* Bueno-Soria, Santiago-Fragoso & Barba-Álvarez, 2001  
Mexico (Oaxaca) (Bueno-Soria et al., 2001). Endemic to Oaxaca.
- Leptonema plicatum* Mosely, 1933  
Guatemala, Mexico (Chiapas, Guerrero, Jalisco, Michoacán, Morelos, Oaxaca, Veracruz) (DGRU, 2023).
- Leptonema simulans mayanum* Flint, McAlpine & Ross, 1987  
Guatemala, Mexico (Chiapas, Michoacán, Oaxaca, Tabasco, Veracruz), Nicaragua (Flint et al., 1987).
- Macronema variipenne* Flint & Bueno-Soria, 1979  
Costa Rica, Ecuador, Mexico (Chiapas, Oaxaca, San Luis Potosí, Tabasco, Veracruz), Nicaragua, Panama (Flint & Bueno-Soria, 1979; Holzenthal, 1988a).
- Tribe Polymorphanisini Lestage, 1936
- Synoestropsis punctipennis* Ulmer, 1905  
Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Guyana, Honduras, Mexico (Campeche, Oaxaca), Nicaragua, Peru (Bueno-Soria & Flint, 1978).
- Subfamily Smicrideinae Flint, 1974
- Smicridea (Smicridea) bulara* Flint & Denning, 1989  
Mexico (Oaxaca, Tabasco), Trinidad (Razo-González et al., 2023).
- Smicridea (Smicridea) dampfi* Flint, 1974  
Mexico (Chiapas, Oaxaca, Tabasco) (Razo-González et al., 2023). Endemic to Mexico.
- Smicridea (Smicridea) lacanha* Bueno-Soria & Hamilton, 1986  
Guatemala, Mexico (Chiapas, Oaxaca) (Razo-González et al., 2023).
- Smicridea (Smicridea) pochutla* Bueno-Soria, Santiago-Fragoso & Barba-Álvarez, 2001.  
Mexico (Guerrero, Oaxaca) (Bueno-Soria et al., 2001). Endemic to Mexico.
- Smicridea (Smicridea) varia* (Banks, 1913)  
Costa Rica, Ecuador, Guatemala, Mexico (Campeche, Chiapas, Ciudad de México, Guerrero, Hidalgo, Morelos, Oaxaca, Sinaloa, Sonora, Tabasco, Veracruz), Nicaragua, Panama (Flint, 1974a).
- Smicridea (Smicridea) soyatepecana* Bueno-Soria, 1986  
Mexico (Guerrero, Oaxaca, Tabasco) (new state record). Endemic to Mexico.
- Smicridea (Rhyacophylax) dispar* (Banks, 1905)  
= *Smicridea utico* Ross, 1947  
Mexico (Estado de México, Guerrero, Jalisco, Michoacán, Morelos, Oaxaca, Sinaloa, Sonora) (Flint, 1974a; Razo-González, 2018). Endemic to Mexico.
- Smicridea (Rhyacophylax) dithyra* Flint, 1974  
Argentina, Bolivia, Guatemala, Honduras, Mexico (Chiapas, Guerrero, Morelos, Oaxaca, Puebla, Tabasco, Veracruz) (Razo-González et al., 2023).
- Smicridea (Rhyacophylax) radula* Flint, 1974  
Brazil, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico (Chiapas, Oaxaca, Veracruz), Nicaragua, Panama (Flint, 1974a).
- Smicridea (Rhyacophylax) signata* (Banks, 1903)  
Guatemala, Mexico (Campeche, Chiapas, Ciudad de México, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, Oaxaca, San Luis Potosí, Tabasco, Veracruz), Nicaragua, Panama, USA (Flint, 1974a).
- Superfamily Philopotamoidea Stephens, 1829  
Family Philopotamidae Stephens, 1829  
Subfamily Philopotaminae Stephens, 1829
- Wormaldia arizonensis* (Ling, 1938)  
Mexico (Chihuahua, Durango, Estado de México, Nuevo León, Oaxaca), USA (Muñoz-Quesada & Holzenthal, 2015).
- Wormaldia barbai* Muñoz-Quesada, 2003  
Mexico (Michoacán, Oaxaca, Veracruz) (Muñoz-Quesada & Holzenthal, 2015). Endemic to Mexico.
- Wormaldia dampfi* Ross & King, 1956  
Mexico (Chiapas, Nuevo León, Oaxaca), Nicaragua (Muñoz-Quesada & Holzenthal, 2015).
- Wormaldia dorsata* Ross & King, 1956  
Mexico (Chiapas, Oaxaca) (Bueno-Soria & Flint, 1978). Endemic to Mexico.
- Wormaldia isela* Muñoz-Quesada, 2003  
Mexico (Nuevo León, Oaxaca) (Muñoz-Quesada & Holzenthal, 2015). Endemic to Mexico.
- Wormaldia luma* Bueno-Soria & Holzenthal, 1986  
Mexico (Oaxaca) (Bueno-Soria & Holzenthal, 1986; Muñoz-Quesada & Holzenthal, 2015). Endemic to Oaxaca.
- Wormaldia navarroae* Muñoz-Quesada, 2003  
Mexico (Guerrero, Oaxaca) (Muñoz-Quesada & Holzenthal, 2015). Endemic to Mexico.
- Wormaldia noveloi* Razo-González, 2018  
Mexico (Oaxaca) (Razo-González, 2018). Endemic to Oaxaca.
- Wormaldia palma* Ross & King, 1956  
Colombia, Mexico (Oaxaca) (Razo-González, 2018).
- Wormaldia planae* Ross & King, 1956  
= *Wormaldia arcopa* Denning, in Denning & Sykora, 1966  
Brazil, Colombia, Costa Rica, Dominica, Ecuador, Grenada, Guatemala, Guyana, Martinique, Mexico (Chiapas,

- Guerrero, Michoacán, Oaxaca, Tabasco, Veracruz), Nicaragua, Panama, St. Vincent, Tobago, Trinidad, USA, Venezuela (Muñoz-Quesada & Holzenthal, 2015).  
*Wormaldia tarasca* Bueno-Soria & Holzenthal, 1986  
Mexico (Estado de México, Guerrero, Michoacán, Oaxaca, Puebla, Veracruz) (Muñoz-Quesada & Holzenthal, 2015; Razo-González, 2018). Endemic to Mexico.
- Subfamily Chimarrinae Rambur, 1842  
*Chimarra (Chimarra) acuta* Ross, 1959  
= *Chimarra (Chimarra) boneti* Ross, 1959  
Guatemala, Honduras, Mexico (Chiapas, Chihuahua, Estado de México, Guerrero, Jalisco, Morelos, Oaxaca, Tabasco, Veracruz), Nicaragua (Blahnik, 1998).  
*Chimarra (Chimarra) angustipennis* (Banks, 1903)  
= *Chimarra (Chimarra) siva* Denning, 1949  
Colombia, Costa Rica, Guatemala, El Salvador, Honduras, Mexico (Baja California, Chiapas, Chihuahua, Coahuila, Guerrero, Oaxaca, San Luis Potosí, Sonora, Tabasco, Veracruz), Nicaragua, Panama, USA, Venezuela (Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) beameri* Denning, 1950  
= *Chimarra (Chimarra) calva* Ross, 1959  
Belize, Mexico (Chiapas, Chihuahua, Oaxaca, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), USA (Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) bicolor* (Banks, 1901)  
= *Chimarra (Chimarra) xesta* Denning, 1952  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Chihuahua, Guerrero, Morelos, Oaxaca, Sinaloa, Sonora, Tabasco, Veracruz), Nicaragua (Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) butleri* Denning, 1962  
Mexico (Chihuahua, Oaxaca, Sonora), USA (Razo-González, 2018).  
*Chimarra (Chimarra) cornuta* Ross 1959  
Mexico (Chiapas, Oaxaca) (new state record). Endemic to Mexico.  
*Chimarra (Chimarra) curfmani* Ross, 1959  
Mexico (Chiapas, Oaxaca, Veracruz) (Bueno-Soria & Flint, 1978; Blahnik, 1998). Endemic to Mexico.  
*Chimarra (Chimarra) dentosa* Ross, 1948b  
Costa Rica, Guatemala, Mexico (Chiapas, Michoacán, Nayarit, Oaxaca, San Luis Potosí, Tamaulipas, Veracruz), Nicaragua, Panama (Bueno-Soria & Flint, 1978; Bueno-Soria, 2010a).  
*Chimarra (Chimarra) elia* Ross, 1944  
= *Chimarra (Chimarra) barranca* Denning, 1962  
Costa Rica, Guatemala, Mexico (Baja California, Chiapas, Chihuahua, Guerrero, Jalisco, Nayarit, Nuevo León, Oaxaca, San Luis Potosí, Sonora, Veracruz), Nicaragua, USA (Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) embia* Ross, 1959  
= *Chimarra (Chimarra) rizona* Denning, 1962  
= *Chimarra (Chimarra) spicula* Denning, 1962  
= *Chimarra (Chimarra) stellula* Denning, 1962  
El Salvador, Honduras, Mexico (Chiapas, Guerrero, Morelos, Nayarit, Oaxaca, San Luis Potosí, Sinaloa, Sonora, Veracruz), Nicaragua (Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) flinti* Bueno-Soria, 1985  
Belize, Brazil, Colombia, Costa Rica, Honduras, Mexico (Chiapas, Oaxaca, Tabasco), Nicaragua, Panama, Tobago, Trinidad, Venezuela (Bueno-Soria, 1985).  
*Chimarra (Chimarra) oaxaca* Blahnik, 1998  
Mexico (Oaxaca) (Blahnik, 1998). Endemic to Oaxaca.  
*Chimarra (Chimarra) ortiziana* Flint, 1967  
Belize, Costa Rica, Guatemala, Mexico (Chiapas, Hidalgo, Oaxaca, Tabasco, Veracruz) (Blahnik, 1998).  
*Chimarra (Chimarra) pelaezi* Bueno-Soria, 1985  
Mexico (Guerrero, Oaxaca) (Blahnik, 1998). Endemic to Mexico.  
*Chimarra (Chimarra) ridleyi* (Denning, 1941)  
Costa Rica, El Salvador, Guatemala Honduras, Mexico (Chiapas, Chihuahua, Guerrero, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Sonora, Tabasco, Tamaulipas, Veracruz), Nicaragua, USA (Blahnik, 1998).  
*Chimarra (Chimarra) schiza* Ross, 1959  
Mexico (Guerrero, Jalisco, Nuevo León, Oaxaca, San Luis Potosí, Sonora, Tamaulipas), USA (Ross, 1959; Bueno-Soria & Flint, 1978).  
*Chimarra (Chimarra) setosa* Ross, 1959  
Guatemala, Mexico (Chiapas, Guerrero, Chihuahua, Oaxaca, Tabasco, Veracruz), Nicaragua (Bueno-Soria & Flint, 1978).  
*Chimarra (Curgia) barrettae* (Banks, 1900)  
Costa Rica, Guatemala, Mexico (Chiapas, Hidalgo, Oaxaca, Puebla, Veracruz), Nicaragua, Panama (Flint, 1998).  
*Chimarra (Curgia) blepharophera* Flint, 1998  
Mexico (Guerrero, Jalisco, Nayarit, Oaxaca) (Flint, 1998). Endemic to Mexico.  
*Chimarra (Curgia) laguna* Ross, 1951  
= *Chimarra (Curgia) brustia* Ross, 1959  
= *Chimarra (Curgia) alamosa* Denning, 1962  
Belize, Costa Rica, Guatemala, Honduras, Mexico (Baja California Sur, Chiapas, Colima, Estado de México, Guerrero, Jalisco, Michoacán, Morelos, Nayarit, Oaxaca, Sinaloa, Sonora, Tabasco, Veracruz), Nicaragua (Flint, 1998).  
*Chimarra (Curgia) mexicana* (Banks, 1900)  
Guatemala, Mexico (Chiapas, Chihuahua, Durango, Guerrero, Morelos, Nayarit, Oaxaca, Puebla, Sonora, Veracruz) (Flint, 1998).  
*Chimarra (Curgia) nasuta* Flint, 1998

- Mexico (Guerrero, Nayarit, Oaxaca, Veracruz) (Flint, 1998). Endemic to Mexico.
- Chimarra (Curgia) texana* (Banks, 1920)  
= *Chimarra (Curgia) betteni* Denning, 1941  
Mexico (Hidalgo, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Tamaulipas, Veracruz), USA (Flint, 1998; Razo-González, 2018).
- Family Polycentropodidae Ulmer, 1903  
Subfamily Polycentropodinae Ulmer, 1903
- Cernotina calcea* Ross, 1938  
Mexico (Michoacán, Oaxaca, San Luis Potosí, Veracruz), Nicaragua, USA (Razo-González et al., 2023).
- Cernotina chiapaneca* Bueno-Soria, 2010  
Mexico (Chiapas, Oaxaca) (Razo-González et al., 2023). Endemic to Mexico.
- Cernotina taeniata* Ross, 1951  
Costa Rica, Guatemala, Mexico (Chiapas, Oaxaca, Tabasco), Nicaragua, Panama (Bueno-Soria & Flint, 1978; Holzenthal, 1988a).
- Cernotina zanclana* Ross, 1951  
Belize, Mexico (Oaxaca) (Ross, 1951; Bueno-Soria & Flint, 1978).
- Polycentropus aliciae* Barba-Álvarez & Bueno-Soria, 2005  
Mexico (Chiapas, Oaxaca, Veracruz) (Barba-Álvarez & Bueno-Soria, 2005). Endemic to Mexico.
- Polycentropus ariensis* Denning & Sykora, 1966  
Mexico (Estado de México, Guerrero, Michoacán, Morelos, Oaxaca, Puebla) (Bueno-Soria & Flint, 1978; Razo-González, 2018). Endemic to Mexico.
- Polycentropus aztecus* Flint, 1967  
Mexico (Chiapas, Chihuahua, Durango, Estado de México, Michoacán, Oaxaca, Veracruz), USA (Bueno-Soria, 2010a; Razo-González, 2018).
- Polycentropus casicus* Denning & Sykora, 1966  
Mexico (Durango, Estado de México, Michoacán, Oaxaca, Veracruz) (Razo-González, 2018). Endemic to Mexico.
- Polycentropus encera* Denning & Sykora, in Denning, 1971  
Mexico (Chiapas, Oaxaca, Tabasco, Veracruz) (Bueno-Soria, 2010a). Endemic to Mexico.
- Polycentropus giovannae* Barba-Álvarez & Bueno-Soria, 2005  
Mexico (Oaxaca) (Barba-Álvarez & Bueno-Soria, 2005). Endemic to Oaxaca.
- Polycentropus mayanus* Flint, 1981  
Costa Rica, Mexico (Chiapas, Oaxaca, Tabasco), Nicaragua (Razo-González et al., 2023).
- Polycentropus mexicanus* (Banks, 1901)  
Mexico (Chiapas, Ciudad de México, Oaxaca) (Razo-González, 2018). Endemic to Mexico.
- Polycentropus mixteco* Barba-Álvarez & Bueno-Soria, 2005  
Mexico (Oaxaca) (Barba-Álvarez & Bueno-Soria, 2005). Endemic to Oaxaca.
- Polycentropus palmitus* Flint, 1967  
Mexico (Chiapas, Guerrero, Oaxaca, Sinaloa) (Bueno-Soria, 2010a). Endemic to Mexico.
- Polycentropus veracruzensis* Flint, 1981  
Mexico (Oaxaca, Puebla, Veracruz) (Bueno-Soria, 2010a). Endemic to Mexico.
- Polycentropus zanclus* Flint, 1981  
Guatemala, Mexico (Chiapas, Oaxaca, Veracruz), Nicaragua (Bueno-Soria, 2010a).
- Polyplectropus carolae* Bueno-Soria, 1990  
Mexico (Oaxaca, Veracruz) (Razo-González et al., 2023). Endemic to Mexico.
- Polyplectropus charlesi* (Ross, 1941)  
Mexico (Chiapas, Durango, Guerrero, Michoacán, Morelos, Oaxaca, Puebla, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), Nicaragua, Panama, USA (Bueno-Soria & Flint, 1978).
- Polyplectropus hamatus* Bueno-Soria, 1990  
Belize, Mexico (Chiapas, Oaxaca) (Chamorro & Holzenthal, 2010).
- Polyplectropus oaxaquensis* Bueno-Soria, 1990  
Mexico (Oaxaca), Peru (Bueno-Soria, 1990; Chamorro & Holzenthal, 2010).
- Family Xiphocentronidae Ross, 1949  
Subfamily Xiphocentroninae Ross, 1949
- Caenocentron trilineatum* (Mosely, 1934)  
El Salvador, Mexico (Oaxaca, Tabasco, Veracruz) (new state record).
- Xiphocentron (Antillotrichia) serestus* Schmid, 1982  
Mexico (Michoacán, Oaxaca) (Razo-González, 2018). Endemic to Mexico.
- Xiphocentron (Antillotrichia) rhamnes* Schmid, 1982  
Mexico (Estado de México, Puebla, Oaxaca, Veracruz) (Bueno-Soria et al., 2022). Endemic to Mexico.
- Xiphocentron (Ramphocentron) numanus* Schmid, 1982  
Mexico (Oaxaca) (Schmid, 1982). Endemic to Oaxaca.
- Xiphocentron (Xiphocentron) aureum* Flint, 1967  
Mexico (Oaxaca, Veracruz), Panama (Razo-González et al., 2023).
- Suborder “Spicipalpia”  
Family Hydrobiosidae Ulmer, 1905  
Subfamily Hydrobiosinae Ulmer, 1907
- Atopsyche (Atopsyche) aplita* Ross & King, 1952  
Mexico (Estado de México, Oaxaca, Puebla) (DGRU, 2023). Endemic to Mexico.



- Atopsyche (Atopsyche) bifurcata* Razo-González & Novelo-Gutiérrez, 2021.  
Mexico (Oaxaca) (Razo-González et al., 2021). Endemic to Oaxaca.
- Atopsyche (Atopsyche) calopta* Ross & King, 1952  
Mexico (Chiapas, Chihuahua, Durango, Estado de México, Hidalgo, Morelos, Nuevo León, Oaxaca, Veracruz) (Flint, 1967a; Bueno-Soria & Flint, 1978). Endemic to Mexico.
- Atopsyche (Atopsyche) dampfi* Ross & King, 1952  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Estado de México, Hidalgo, Oaxaca, Puebla, Veracruz), Nicaragua, Panama (Ross & King, 1952; Bueno-Soria & Flint, 1978; Holzenthal, 1988a).
- Atopsyche (Atopsyche) erigia* Ross, 1947  
Brazil, Costa Rica, Guatemala, Mexico (Chiapas, Hidalgo, Jalisco, Morelos, Nuevo León, Oaxaca, San Luis Potosí, Tabasco, Tamaulipas, Veracruz), Nicaragua, Panama, USA (Ross & King, 1952; Bueno-Soria & Flint, 1978).
- Atopsyche (Atopsyche) hidalgoi* Flint, 1967  
Mexico (Chiapas, Ciudad de México, Estado de México, Morelos, Oaxaca) (DGRU, 2023). Endemic to Mexico.
- Atopsyche (Atopsyche) hispida* Denning, 1965  
Mexico (Chiapas, Oaxaca, Puebla, Veracruz) (DGRU, 2023). Endemic to Mexico.
- Atopsyche (Atopsyche) huenga* Flint, 1974  
Guatemala, Mexico (Chiapas, Oaxaca), Nicaragua (Razo-González et al., 2023).
- Atopsyche (Atopsaura) japoda* Ross & King, 1952  
Mexico (Oaxaca), Nicaragua (Razo-González et al., 2023).
- Atopsyche (Atopsyche) jujmi* Razo-González & Novelo-Gutiérrez, 2021  
Mexico (Oaxaca) (Razo-González et al., 2021). Endemic to Oaxaca.
- Atopsyche (Atopsaura) majada* Ross, 1947  
Belize, Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Estado de México, Hidalgo, Michoacán, Morelos, Oaxaca, Puebla, Veracruz), Nicaragua, Panama (Razo-González et al., 2023).
- Atopsyche (Atopsyche) pilcomayo* Schmid, 1989  
Mexico (Oaxaca) (Schmid, 1989; Razo-González et al., 2021). Endemic to Oaxaca.
- Family Glossosomatidae Wallengren, 1891  
Subfamilia Protoptilinae Ross, 1956
- Culoptila aluca* Mosely, 1954  
Mexico (Guerrero, Michoacán, Morelos, Oaxaca) (Blahnik & Holzenthal, 2006). Endemic to Mexico.
- Culoptila barrerae* Bueno-Soria & Santiago-Fragoso, 1996  
Mexico (Oaxaca) (Bueno-Soria & Santiago-Fragoso, 1996; Blahnik & Holzenthal, 2006). Endemic to Oaxaca.
- Culoptila jamapa* Bueno-Soria & Santiago-Fragoso, 1996  
Mexico (Oaxaca, Puebla, Veracruz) (Razo-González et al., 2023). Endemic to Mexico.
- Culoptila pararusia* Blahnik & Holzenthal, 2006  
Mexico (Chiapas, Oaxaca, Veracruz) (Blahnik & Holzenthal, 2006). Endemic to Mexico.
- Mortoniella brachyrhachos* Blahnik & Holzenthal, 2008  
Mexico (Oaxaca) (Blahnik & Holzenthal, 2008). Endemic to Oaxaca.
- Mortoniella buenoi* Blahnik & Holzenthal, 2008  
Mexico (Oaxaca) (Blahnik & Holzenthal, 2008). Endemic to Oaxaca.
- Mortoniella falcicula* Blahnik & Holzenthal, 2008  
Mexico (Oaxaca) (Blahnik & Holzenthal, 2008). Endemic to Oaxaca.
- Mortoniella florica* (Flint, 1974)  
Mexico (Oaxaca, Tabasco, Veracruz), Nicaragua (Blahnik & Holzenthal, 2008).
- Mortoniella meralda* (Mosely, 1954)  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Chihuahua, Estado de México, Guerrero, Michoacán, Morelos, Nuevo León, Oaxaca, Puebla, Tabasco, Veracruz), Nicaragua (Razo-González, 2018).
- Mortoniella mexicana* Blahnik & Holzenthal, 2008  
Mexico (Oaxaca, Puebla) (Razo-González et al., 2023). Endemic to Mexico.
- Protoptila bicornuta* Flint, 1963  
Belize, Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Oaxaca, Tabasco, Veracruz), Panama (Bueno-Soria & Flint, 1978; Holzenthal, 1988a).
- Protoptila cardela* Mosey, 1954  
Mexico (Chiapas, Oaxaca, San Luis Potosí, Tabasco, Veracruz) (Bueno-Soria & Flint, 1978). Endemic to Mexico.
- Protoptila chontala* Flint, 1974  
Mexico (Chiapas, Oaxaca, San Luis Potosí, Tabasco, Veracruz) (Bueno-Soria, 2010a). Endemic to Mexico.
- Protoptila huava* Flint, 1974  
Mexico (Chiapas, Oaxaca) (Flint, 1974b; Bueno-Soria & Flint, 1978). Endemic to Mexico.
- Protoptila ixtala* Mosely, 1937  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Guerrero, Oaxaca, Puebla, San Luis Potosí, Tabasco, Veracruz), Nicaragua (Bueno-Soria, 2010a).
- Protoptila leonilae* Bueno-Soria & Santiago-Fragoso, 1995  
Mexico (Oaxaca) (Bueno-Soria & Santiago-Fragoso, 1995). Endemic to Oaxaca.
- Protoptila liqua* Mosey, 1954  
Mexico (Chiapas, Oaxaca, Veracruz) (Razo-González et al., 2023). Endemic to Mexico.
- Protoptila lorada* Mosey, 1954

- Mexico (Guerrero, Oaxaca) (Bueno-Soria & Flint, 1978). Endemic to Mexico.  
*Protophila mixteca mixteca* Flint, 1974  
Mexico (Chiapas, Oaxaca, Veracruz) (Flint, 1974b). Endemic to Mexico.  
*Protophila olvidada* Bueno-Soria, Santiago-Fragoso & Barba-Álvarez, 2004.  
Mexico (Oaxaca) (Bueno-Soria et al., 2004). Endemic to Oaxaca.  
*Protophila piacha* Mosely, 1954  
Mexico (Chiapas, Guerrero, Nuevo León, Oaxaca) (Bueno-Soria, 2010a). Endemic to Mexico.  
*Protophila pseudopiacha* Bueno-Soria, 1984  
Mexico (Durango, Oaxaca) (Bueno-Soria, 1984). Endemic to Mexico.  
*Protophila resolda* Mosely, 1937  
Mexico (Chiapas, Chihuahua, Guerrero, Hidalgo, Michoacán, Nayarit, Oaxaca, Puebla, San Luis Potosí, Veracruz), Nicaragua (Razo-González et al., 2023).  
*Protophila rota* Mosely, 1937  
Mexico (Chiapas, Oaxaca, Veracruz), Nicaragua (Bueno-Soria, 2010a).  
*Protophila salta* Mosely, 1937  
Guatemala, Mexico (Chiapas, Estado de México, Guerrero, Jalisco, Oaxaca), Nicaragua (Bueno-Soria, 2010a).  
*Protophila spangleri* Flint, 1967  
Mexico (Oaxaca, Tabasco, Veracruz) (Razo-González et al., 2023). Endemic to Mexico.  
*Protophila techila* Mosely, 1954  
Mexico (Oaxaca) (Mosely, 1954; Bueno-Soria & Flint, 1978). Endemic to Oaxaca.
- Family Hydroptilidae Stephens, 1936  
Subfamily Hydroptilinae Stephens, 1936  
Tribe Hydroptili  
*Hydroptila arctia* Ross, 1938  
Mexico (Chihuahua, Guerrero, Morelos, Oaxaca, Tamaulipas), USA (Bueno-Soria, 1984; Razo-González, 2018).  
*Hydroptila denza* Ross, 1948a  
Mexico (Guerrero, Nayarit, Oaxaca, Tamaulipas, Veracruz) (Bueno-Soria, 1984; Holzenthal, 1988a). Endemic to Mexico.  
*Hydroptila furtiva* Bueno-Soria, 1984  
Mexico (Oaxaca) (Bueno-Soria, 1984). Endemic to Oaxaca.  
*Hydroptila lacandona* Bueno-Soria, 1984  
Mexico (Chiapas, Oaxaca) (Bueno-Soria, 1984). Endemic to Mexico.  
*Hydroptila longissimus* Bueno-Soria 1984  
Honduras, Mexico (Chiapas, Guerrero, Morelos, Oaxaca) (new state record).
- Hydroptila mexicana* Mosely, 1937  
Costa Rica, Honduras, Mexico (Chiapas, Oaxaca, Tabasco), Nicaragua (Bueno-Soria, 1984).  
*Hydroptila misolha* Bueno-Soria, 1984  
Belize, Costa Rica, Honduras, Mexico (Chiapas, Oaxaca, Tabasco, Veracruz), Nicaragua (Bueno-Soria, 1984).  
*Oxyethira azteca* (Mosely, 1937)  
Belize, Colombia, Costa Rica, Ecuador, French Guyana, Grenada, Guatemala, Mexico (Chiapas, Chihuahua, Guerrero, Hidalgo, Oaxaca, San Luis Potosí, Tabasco, Veracruz), Nicaragua, Panama, Peru, Suriname, Tobago, Trinidad, USA, Venezuela (Razo-González, 2018).  
*Oxyethira desadorna* Moulton & Harris, 1997  
Mexico (Chihuahua, Nuevo León, Oaxaca) (Razo-González et al., 2023). Endemic to Mexico.  
*Oxyethira tica* Holzenthal & Harris, 1992  
Barbados, Brazil, Costa Rica, Dominica, Ecuador, French Guyana, Grenada, Guadeloupe, Honduras, Martinique, Mexico (Chiapas, Oaxaca), Nicaragua, Panama, St. Lucia, St. Vincent, Trinidad, Venezuela (Razo-González et al., 2023).
- Tribe Leucotrichiini  
*Anchitrichia spangleri* Flint, 1970  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Oaxaca, Puebla, San Luis Potosí, Tabasco, Veracruz), Nicaragua, Panama (Razo-González et al., 2023).  
*Byrsopteryx tabasquensis* Bueno-Soria, Santiago-Fragoso & Barba-Álvarez, 2001  
Mexico (Oaxaca, Tabasco) (new state record). Endemic to Mexico.  
*Costatrichia lodora* Mosely, 1937  
Costa Rica, Mexico (Chiapas, Oaxaca, Tabasco, Veracruz), Nicaragua (Razo-González et al., 2023).  
*Leucotrichia extraordinaria* Bueno-Soria, Santiago-Fragoso y Barba-Álvarez, 2001  
Mexico (Oaxaca, Tabasco) (new state record), Panama.  
*Leucotrichia imitator* Flint, 1970  
Costa Rica, Guatemala, Mexico (Chihuahua, Morelos, Oaxaca, Veracruz) (Razo-González, 2018).  
*Leucotrichia limpia* Ross, 1944  
Costa Rica, Mexico (Chiapas, Chihuahua, Guerrero, Hidalgo, Oaxaca, San Luis Potosí), USA (Flint, 1970; Bueno-Soria & Flint, 1978, Holzenthal, 1988a).  
*Leucotrichia melleopicta* Mosely, 1934b  
Mexico (Oaxaca, Tabasco), Panama, Venezuela (Razo-González et al., 2023).  
*Leucotrichia sarita* Ross, 1944  
Costa Rica, El Salvador, Grenada, Guatemala, Mexico (Chiapas, Chihuahua, Michoacán, Morelos, Nuevo León, Oaxaca, Veracruz), Nicaragua, USA (Flint, 1970; Bueno-Soria & Flint, 1978; Holzenthal, 1988a).

*Mejicanotrichia tamaza* (Flint, 1970)  
Mexico (Oaxaca) (Flint, 1970; Bueno-Soria & Flint, 1978; Harris & Holzenthal, 1997). Endemic to Oaxaca.

*Zumatrichia filosa* Mosely, 1937  
Costa Rica, Guatemala, Mexico (Chiapas, Oaxaca, Puebla, Tabasco, Veracruz), Nicaragua (Razo-González et al., 2023).

*Zumatrichia multisetosa* Flint, 1970  
Costa Rica, Guatemala, Honduras, Mexico (Chiapas, Oaxaca, Veracruz) (Razo-González et al., 2023).

#### Tribe Neotrichiini

*Mayatrichia rualda* Mosely, 1937  
Costa Rica, Mexico (Chiapas, Guerrero, Oaxaca), Nicaragua (Razo-González et al., 2023).

*Neotrichia exicoma* (Mosely, 1937)  
Mexico (Chiapas, Oaxaca) (Razo-González et al., 2023). Endemic to Mexico.

*Neotrichia maria* Bueno-Soria & Hamilton, 1986  
Mexico (Oaxaca) (Bueno-Soria & Hamilton, 1986). Endemic to Oaxaca.

*Neotrichia tuxtla* Bueno-Soria, 1999  
Mexico (Oaxaca, Veracruz), Panama (Razo-González, 2018).

*Neotrichia xicana* (Mosely, 1937)  
Mexico (Chiapas, Chihuahua, Guerrero, Oaxaca, Tabasco), Nicaragua, Panama (Razo-González et al., 2023).

*Neotrichia yavesia* Bueno-Soria, 2010  
Mexico (Oaxaca) (Bueno-Soria, 2010b). Endemic to Oaxaca.

#### Tribe Ochrotrichiini

*Metrichia circulatrix* Bueno-Soria, 2002  
Mexico (Oaxaca, Tabasco) (Razo-González et al., 2023). Endemic to Mexico.

*Metrichia crenula* Bueno-Soria, 2002  
Mexico (Morelos, Oaxaca) (Razo-González et al., 2023). Endemic to Mexico.

*Metrichia longitudinalis* Bueno-Soria, 2002  
Mexico (Oaxaca, Tabasco) (new state record). Endemic to Mexico.

*Metrichia yavesia* Bueno-Soria, 2002  
Mexico (Oaxaca) (Bueno-Soria, 2002; Razo-González, 2018). Endemic to Oaxaca.

*Ochrotrichia buenoi* Razo-González, 2018  
Mexico (Oaxaca) (Razo-González, 2018). Endemic to Oaxaca.

*Ochrotrichia catarina* Bueno-Soria & Holzenthal, 2004  
Mexico (Oaxaca) (Bueno-Soria & Holzenthal, 2004). Endemic to Oaxaca.

*Ochrotrichia ildria* Denning & Blickle, 1972  
Mexico (Chihuahua, Oaxaca), USA (Bueno-Soria, 2009).

*Ochrotrichia ixtlahuaca* Bueno-Soria & Holzenthal, 2004  
Mexico (Hidalgo, Oaxaca) (Razo-González, 2018). Endemic to Mexico.

*Ochrotrichia nicaragua* Bueno-Soria, 2009  
Mexico (Oaxaca), Nicaragua (Razo-González, 2018).

*Ochrotrichia pacifica* Fint, 1972  
Costa Rica, Mexico (Chiapas, Oaxaca, Tabasco, Veracruz), Panama (Razo-González et al., 2023).

*Ochrotrichia stylata* Ross, 1938  
Guatemala, Mexico (Chihuahua, Guerrero, Hidalgo, Oaxaca, San Luis Potosí, Veracruz), USA (Razo-González, 2018).

*Ochrotrichia unicornia* Bueno-Soria & Holzenthal, 2004  
Mexico (Oaxaca) (Bueno-Soria & Holzenthal, 2004). Endemic to Oaxaca.

*Ochrotrichia yavesia* Bueno-Soria & Holzenthal, 2004  
Mexico (Oaxaca) (Bueno-Soria & Holzenthal, 2004). Endemic to Oaxaca.

*Ochrotrichia yetla* Bueno-Soria, 2009  
Mexico (Oaxaca) (Bueno-Soria, 2009). Endemic to Oaxaca.

*Ochrotrichia zihuaquia* Bueno-Soria & Santiago-Fragoso, 1997  
Mexico (Guerrero, Oaxaca) (Bueno-Soria, 2009). Endemic to Mexico.

*Rhyacopsyche chichotla* Bueno-Soria & Hamilton, 1986  
Mexico (Oaxaca) (Bueno-Soria & Hamilton, 1986). Endemic to Oaxaca.

*Rhyacopsyche mexicana* (Flint, 1967)  
Costa Rica, Guatemala, Mexico (Oaxaca, Tabasco, Veracruz), Nicaragua (Razo-González et al., 2023).

#### Tribe Orthotrichiini

*Ithytrichia mexicana* Harris & Contreras-Ramos, 1989  
Mexico (Oaxaca, Tamaulipas), USA (Razo-González, 2018).

#### Suborder Integripalpia

##### Infraorder Plenitentoria

Family Lepidostomatidae Ulmer, 1903

Subfamily Lepidostomatinae Ulmer, 1903

*Lepidostoma (Nosopus) aztecum* Flint & Bueno-Soria, 1977

Mexico (Ciudad de México, Estado de México, Morelos, Oaxaca, Veracruz) (Razo-González, 2018). Endemic to Mexico.

*Lepidostoma (Nosopus) catarina* Bueno-Soria, Santiago-Fragoso & Barba-Álvarez, 2001

Mexico (Guerrero, Oaxaca) (Bueno-Soria et al., 2001). Endemic to Mexico.

*Lepidostoma (Nosopus) dafila* Bueno-Soria & Contreras-Ramos, 1986

Mexico (Oaxaca) (Bueno-Soria & Contreras-Ramos, 1986). Endemic to Oaxaca.

*Lepidostoma (Nosopus) frontale* (Banks, 1901)  
Mexico (Estado de México, Hidalgo, Oaxaca, Veracruz)  
(Razo-González, 2018). Endemic to Mexico.

*Lepidostoma (Nosopus) oaxacensis* Bueno-Soria &  
Contreras-Ramos, 1986

Mexico (Oaxaca) (Bueno-Soria & Contreras-Ramos,  
1986). Endemic to Oaxaca.

*Lepidostoma bakeri* Flint, 1975

Guatemala, Mexico (Durango, Chiapas, Oaxaca, Veracruz),  
USA (Razo-González, 2018).

*Lepidostoma ibarraí* Bueno-Soria, Santiago-Fragoso &  
Barba-Álvarez, 2004

Mexico (Oaxaca) (Bueno-Soria et al., 2004). Endemic to  
Oaxaca.

*Lepidostoma zapoteca* Razo-González, 2018

Mexico (Oaxaca) (Razo-González, 2018). Endemic to  
Oaxaca.

Family Limnephilidae Kolenati, 1848

Subfamily Limnephilinae Kolenati, 1848

Tribe Limnephilini Kolenati, 1848

*Limnephilus tulatus* Denning, 1962

Mexico (Chihuahua, Ciudad de México, Durango, Estado  
de México, Oaxaca), USA (Razo-González et al., 2020).

Suborden Integripalpia

Infraorden Brevitentoria

Superfamily Leptocerioidea Leach, 1815

Family Calamoceratidae Ulmer, 1905

*Banyallarga (Histricoverpa) mexicana* Prather, 2004

Mexico (Oaxaca) (Prather, 2004). Endemic to Oaxaca.

*Phylloicus aeneus* (Hagen, 1861)

Belize, Costa Rica, Guatemala, Mexico (Baja California,  
Campeche, Chiapas, Chihuahua, Ciudad de México,  
Durango, Guerrero, Hidalgo, Michoacán, Morelos,  
Nuevo León, Oaxaca, San Luis Potosí, Sonora, Tabasco,  
Tamaulipas, Veracruz), Nicaragua, Panama, USA (Prather,  
2003; Razo-González, 2018).

*Phylloicus nigripennis* (Banks, 1900)

= *Phylloicus latus* (Navás, 1924)

= *Phylloicus sagittosa* (Ross, 1951)

Costa Rica, Guatemala, Honduras, Mexico (Chiapas,  
Estado de México, Guerrero, Morelos, Nayarit, Nuevo  
León, Oaxaca, San Luis Potosí, Tamaulipas, Veracruz),  
Nicaragua, Panama (DGRU, 2023).

*Phylloicus gomezi* Razo-González, 2018

Mexico (Oaxaca) (Razo-González, 2018). Endemic to  
Oaxaca.

Family Leptoceridae Leach, 1815

Subfamily Triplectidinae Ulmer, 1906

Tribe Triplectidini Ulmer, 1906

*Triplectides flintorum* Holzenthal, 1988

Colombia, Costa Rica, Ecuador, Guatemala, Honduras,  
Mexico (Chiapas, Oaxaca, San Luis Potosí, Veracruz),  
Nicaragua, Panama, Peru, Suriname (Holzenthal, 1988b).

Subfamily Leptocerinae Leach, 1815

Tribe Nectopsychini Morse, 1981

*Nectopsyche argentata* Flint, 1991

Colombia, Costa Rica, Mexico (Chiapas, Oaxaca,  
Veracruz), Peru, Venezuela (Holzenthal, 1995).

*Nectopsyche dorsalis* (Banks, 1901)

= *Nectopsyche serrei* (Navás, 1924)

Colombia, Costa Rica, El Salvador, Guatemala, Honduras,  
Mexico (Chiapas, Jalisco, Michoacán, Morelos, Nuevo  
León, San Luis Potosí, Sinaloa, Tabasco, Veracruz),  
Nicaragua, Panama, USA, Venezuela (Razo-González et  
al., 2023).

*Nectopsyche gemmoides* Flint, 1981

= *Nectopsyche cupreosquamosa* Botosuanu, 1993

Brazil, Colombia, Costa Rica, Ecuador, Guatemala,  
Guyana, Mexico (Chiapas, Estado de México, Oaxaca,  
Veracruz), Nicaragua, Panama, Paraguay, Peru, Trinidad,  
Venezuela (Holzenthal, 1995; Razo-González, 2018).

*Nectopsyche gracilis* (Banks, 1901)

= *Nectopsyche exilis* (Banks, 1905)

= *Nectopsyche intervena* (Banks, 1914)

Canada, Costa Rica, El Salvador, Guatemala, Mexico  
(Chihuahua, Durango, Guerrero, Jalisco, Morelos, Oaxaca,  
Veracruz), USA (new state record).

*Nectopsyche ortizi* Holzenthal, 1995

Argentina, Brazil, Costa Rica, Guyana, Mexico (Chiapas,  
Oaxaca), Panama, Paraguay, Peru, Suriname, Venezuela  
(Holzenthal, 1995).

*Nectopsyche pavidata* (Hagen, 1861)

Canada, Costa Rica, Guatemala, Mexico (Chiapas,  
Chihuahua, San Luis Potosí, Veracruz), Nicaragua,  
Panama, USA (Razo-González et al., 2023).

Tribe Triaenodini Morse, 1981

*Triaenodes flintorum* Holzenthal & Andersen, 2004

Mexico (Oaxaca) (Holzenthal & Andersen, 2004).  
Endemic to Oaxaca.

*Triaenodes oaxacensis* Holzenthal & Andersen, 2004

Mexico (Oaxaca) (Holzenthal & Andersen, 2004; Razo-  
González, 2018). Endemic to Oaxaca.

Tribe Oecetini Silfvenius, 1905

*Oecetis marquesi* Bueno-Soria, 1981

Mexico (Chiapas, Nuevo León, Oaxaca, Veracruz) (new  
state record). Endemic to Mexico.

*Oecetis metlacensis* Bueno-Soria, 1981  
Costa Rica, Mexico (Veracruz, Oaxaca) (Razo-González et al., 2023).

*Oecetis mexicana* Blahnik & Holzenthal, 2014  
Belize, Costa Rica, Ecuador, Honduras, Mexico (Chiapas, Oaxaca, San Luis Potosí, Tamaulipas, Veracruz), Nicaragua, Panama, Venezuela (Blahnik & Holzenthal, 2014).

*Oecetis pseudoinconspicua* Bueno-Soria, 1981  
Costa Rica, Mexico (Oaxaca, Veracruz), Panama (Bueno-Soria, 1981).

*Oecetis sylviae* Bueno-Soria, 1981  
Mexico (Oaxaca, Veracruz) (Razo-González et al., 2023).  
Endemic to Mexico.

*Oecetis sordida* Blahnik & Holzenthal, 2014  
= *Oecetis disjuncta* (Banks, 1920)  
Mexico (Chihuahua, Durango, Estado de México, Oaxaca), USA (Blahnik & Holzenthal, 2014; Razo-González, 2018).

*Oecetis verrucula* Blahnik & Holzenthal, 2014  
Costa Rica, El Salvador, Guatemala, Honduras, Mexico (Chiapas, Oaxaca, Sonora, Veracruz) Nicaragua (Blahnik & Holzenthal, 2014).

Family Odontoceridae Wallengren, 1891

Subfamily Odontocerinae Wallengren, 1891

*Marilia baumanni* Bueno-Soria & Rojas-Ascencio, 2004  
Mexico (Chiapas, Oaxaca, Tabasco) (Bueno-Soria & Rojas-Ascencio, 2004). Endemic to Mexico.

*Marilia flexuosa* Ulmer, 1905b  
= *Marilia fusca* (Banks, 1905)

Argentina, Brazil, Canada, Costa Rica, Guatemala, Mexico (Baja California, Baja California Sur, Chiapas, Chihuahua, Durango, Guerrero, Jalisco, Michoacán, Nuevo León, Oaxaca, Puebla, Sonora, Tamaulipas, Veracruz), Nicaragua, Panama, Peru, USA (Bueno-Soria & Rojas-Ascencio, 2004; Razo-González, 2018).

*Marilia nobscia* Milne, 1936  
Guatemala, Mexico (Baja California Sur, Chiapas, Chihuahua, Durango, Estado de México, Guerrero, Oaxaca, Sonora), USA (Bueno-Soria & Rojas-Ascencio, 2004).

*Marilia spangleri* Bueno-Soria & Rojas-Ascencio, 2004  
Guatemala, Mexico (Chiapas, Oaxaca) (Bueno-Soria & Rojas-Ascencio, 2004).

Family Helicopsychidae Ulmer, 1906

*Helicopsyche (Cochliopsyche) vazquezae* Flint, 1986  
Bolivia, Colombia, Costa Rica, Ecuador, Honduras, Mexico (Chiapas, Oaxaca), Venezuela (Holzenthal, 1988a).

*Helicopsyche (Feropsyche) borealis* (Hagen, 1861)  
= *Helicopsyche lustrica* Say, 1821  
= *Helicopsyche arenifera* Lea, 1834

= *Helicopsyche glabra* Hagen, 1864

= *Helicopsyche californica* Banks, 1899

= *Helicopsyche annulicornis* Banks, 1904

Canada, Costa Rica, Guatemala, Mexico (Chiapas, Chihuahua, Coahuila, Durango, Estado de México, Guerrero, Hidalgo, Michoacán, Morelos, Nuevo León, Oaxaca, Puebla, Sonora, Tamaulipas, Veracruz), Nicaragua, Panama, USA (Bueno-Soria, 2010a; Razo-González, 2018).

*Helicopsyche (Feropsyche) dampfi* Ross, 1956  
Costa Rica, Guatemala, Mexico (Chiapas, Guerrero, Oaxaca), Nicaragua (Razo-González et al., 2023).

*Helicopsyche (Feropsyche) mexicana* Banks, 1901  
= *Helicopsyche (Feropsyche) arizonensis* Banks, 1907  
Costa Rica, Mexico (Baja California, Chihuahua, Durango, Estado de México, Guerrero, Michoacán, Morelos, Nuevo León, Oaxaca, Puebla, Sinaloa, Tlaxcala), USA (Bueno-Soria & Flint, 1978).

*Helicopsyche (Feropsyche) piroa* Ross, 1944  
Mexico (Chiapas, Hidalgo, Jalisco, Nuevo León, Oaxaca, Veracruz), Nicaragua, USA (Bueno-Soria, 2010a).

*Helicopsyche (Feropsyche) planata* Ross, 1956  
Mexico (Chiapas, Chihuahua, Durango, Michoacán, Nuevo León, Oaxaca, Veracruz), Nicaragua (Johanson, 2002; Razo-González, 2018).

*Helicopsyche (Feropsyche) selanderi* Ross, 1956  
Costa Rica, Mexico (Michoacán, Oaxaca, Tabasco), Venezuela (DGRU, 2023).

*Helicopsyche (Feropsyche) tuxtliensis* Bueno, 1983  
Guatemala, Mexico (Chiapas, Guerrero, Oaxaca, Veracruz), Panama (Johanson, 2002).

*Helicopsyche (Feropsyche) vergelana* Ross, 1956  
= *Helicopsyche (Feropsyche) margaritensis* Botosaneanu, 1959

Belize, Brazil, Costa Rica, Grenada, Guatemala, Honduras, Mexico (Chiapas, Guerrero, Jalisco, Morelos, Nuevo León, Oaxaca, Tabasco, Veracruz), Nicaragua, Panama, Paraguay, Peru, Suriname, Tobago, Trinidad, Venezuela (Bueno-Soria y Flint, 1978).

*Helicopsyche (Feropsyche) villegasi* Denning & Blickle, 1979

Mexico (Chihuahua, Durango, Estado de México, Oaxaca, Zacatecas) (Razo-González, 2018). Endemic to Mexico.

According to available information on the geographic distribution of the species, 63 of them were identified as restricted to Mexico (10.47% of national richness) and 38 more as endemic to Oaxaca (17.51% the richness of the state). Several species have been recorded from 1 or 2 Mexican states, while others such as *P. aeneus*, *H. borealis* and *C. laguna*, are widely distributed throughout the country and the continent, and have records from the 5 biogeographic provinces present in Oaxaca.

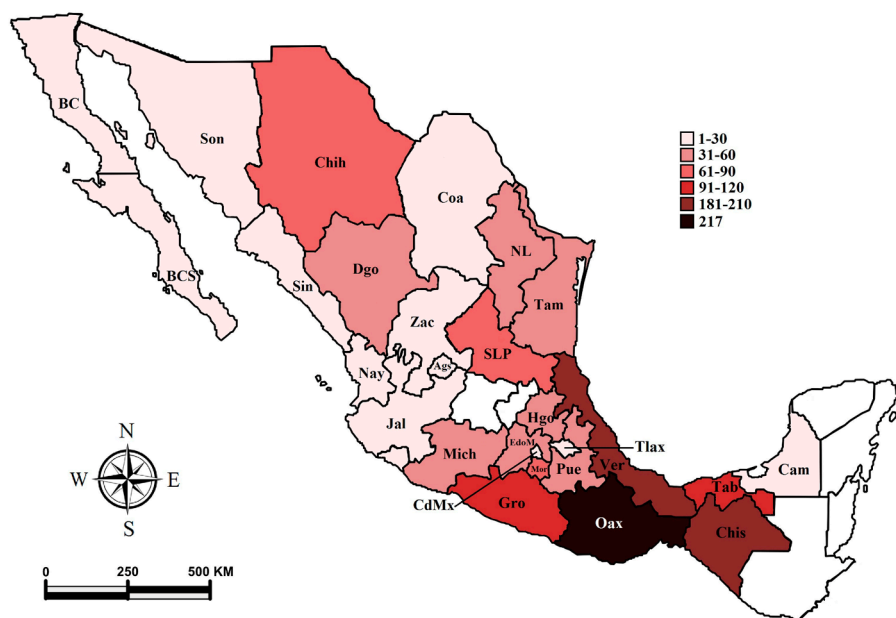


Figure 2. Distribution and species richness of Trichoptera into different Mexican states. Abbreviations were included in Table 3.

## Discussion

According to our study, the caddisfly fauna of the country is currently integrated by 17 families, 60 genera and 602 species, collected in 28 Mexican states. Our findings are based on an exhaustive literature review that included recently published works in which new species were described (Razo-González, 2018; Razo-González et al., 2021), and new distribution records were reported (Bueno-Soria et al., 2022; Razo-González, 2018; Razo-González et al., 2020, 2023). This work constitutes the most complete inventory of the Trichoptera richness from Oaxaca, which is represented by 216 species, including 9 new records for the state and ranks first in species richness with more than a third of the fauna of the country. Likewise, the high richness recorded for Trichoptera is comparable to that of other groups such as Alticinae beetles (Furth, 2013), Psocodea (García-Aldrete, 2014), the Coleoptera Tenebrionidae (Cifuentes-Ruiz & Zaragoza-Caballero, 2014), Dynastinae (Guzmán-Vázquez et al., 2021) and Staphylinidae (Navarrete-Heredia & Newton, 2014), which is evidence of the enormous richness of insects in the state. Both the enormous richness and the high percentage of endemism identified (47.69%) can be explained by the environmental heterogeneity present in Oaxaca, a state with a very complex physiography where more than 70% of the surface is covered by mountainous areas that promote the

presence of a wide variety of environmental conditions. In addition, the overlap of the Nearctic and Neotropical regions gives to Mexican Transition Zone complex characteristics at the geomorphological level as well as a great variety of climates and ecosystems that promote a high richness and the concurrence of species with different biogeographic affinities (Halffter, 2017). In a biogeographical study carried out in the Sierra de Juárez, Oaxaca, it was determined that some species of Trichoptera have distribution ranges associated with the different regions mentioned above and many others are endemic to the same mountain range, whose territory constitutes a biodiversity “hot spot” (García-Aldrete, 2014; Razo-González et al., 2021).

The deficiency of fieldwork in this Mexican state was recognized, as well as in most of the northwestern region of the country, in the Baja California and Yucatán peninsulas (Fig. 2). Although there has been a significant increase in the number of species recorded in this study, the species accumulation curve over time shows that there are still more caddisfly species to be recorded (Fig. 3), and we are still far from reaching the asymptote.

Considering the environmental heterogeneity mentioned above and the need to carry out more fieldwork in Oaxaca, there is a high probability that the caddisfly richness in this state, as with other insect groups, will increase significantly if the region continues to be explored in the near future.

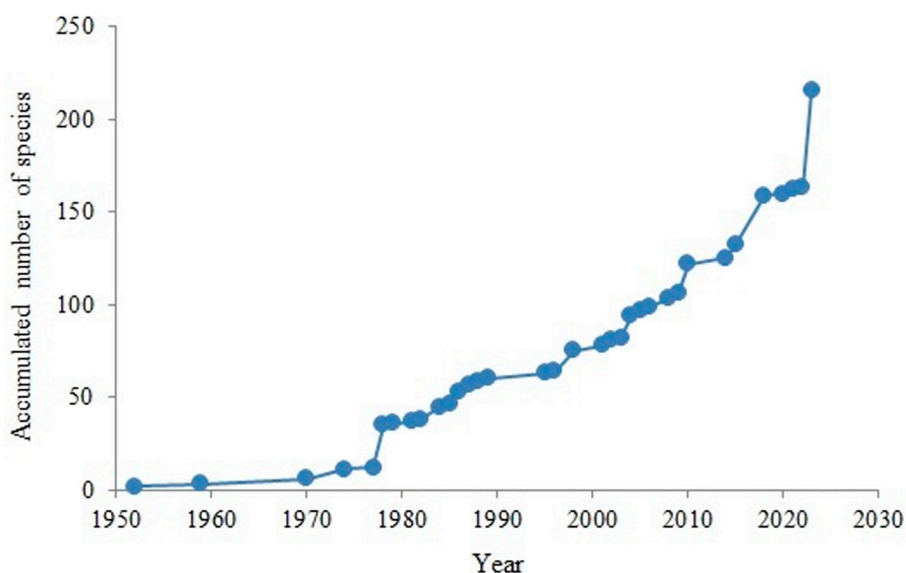


Figure 3. Species accumulation curve of Trichoptera along time in Oaxaca, Mexico.

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