

# The genus *Acontista* (Mantodea, Acontistidae) in North and Central America: new records for Mexico, Honduras, and Panama using a citizen-science platform

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**Abstract.** New records of mantises of the genus *Acontista* Saussure & Zehntner, 1894 (Mantodea, Acontistidae) are made for North and Central America via the examination of material deposited in scientific collections as well as using the citizen-science platform iNaturalist: *Acontista cordillerae* Saussure, 1869 is newly recorded from the Mexican states of Campeche, Chiapas, Colima, Hidalgo, Nayarit, Puebla, Quintana Roo, Sinaloa, and Yucatan, and it is also recorded for the first time from Honduras. *Acontista fraterna* Saussure & Zehntner, 1894 is recorded for the first time from Panama. The color patterns of both species are discussed.

**Key words.** *Acontista cordillerae*, *Acontista fraterna*, mantis, mantises, Mesoamerica, praying mantises

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## Introduction

Acontistidae is a family of Neotropical mantises comprised of seven genera, including the genus *Acontista* Saussure & Zehntner, 1894 which currently has 12 species: *A. amazonica* (Beier, 1929), *A. amoenula* Gerstaecker, 1889, *A. aurantiaca* Burmeister, 1838, *A. cayennensis* Saussure & Zehntner, 1894, *A. concinna* (Perty, 1832), *A. cordillerae* Saussure, 1869, *A. eximia* (Pascoe, 1882), *A. festae* Giglio-Tos, 1915, *A. fraterna* Saussure & Zehntner, 1894, *A. gracilis* Chopard, 1912, *A. minima* Giglio-Tos, 1915, and *A. multicolor* Saussure, 1870 (Schwarz et al. 2020; Ferraz and Souza-Dias 2025). Most species are found exclusively in South America, but at least *A. fraterna* occurs in Costa Rica, as well as in Ecuador; *A. multicolor* is found in the island of Trinidad, as well as in Venezuela; and *A. cordillerae*, the most widely distributed species, is found in Mexico (states of Guerrero, Jalisco, Morelos, Oaxaca, San Luis Potosi, Tabasco and Veracruz), Belize, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama, and the USA, as well as in Colombia and Ecuador (de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020; Anderson 2021).

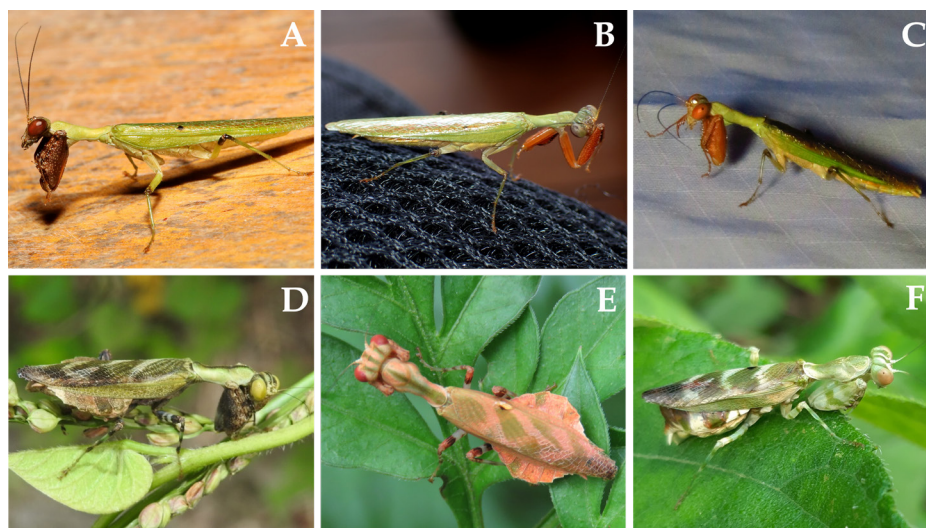
Given the high degree of chromatic variants found in *A. cordillerae* (Figures 1, 2), taxonomists have misinterpreted color variations as representing interspecific variations and, thus, the number of species has been overestimated. In the latest treatment of the genus, Rivera and Svenson (2020) mentioned six synonymies for *A. cordillerae* (see below). On the other hand, *A. fraterna* is very recognizable, especially the male, and until now, only one chromatic variant is known (Figure 3).

Here, we provide new records of *A. cordillerae* and *A. fraterna* from North and Central America based on our examination of specimens deposited in scientific collections and photographic records in the citizen-science platform iNaturalist. The color patterns and overall differences between the two species are discussed, and the genitalia of four specimens identified as *A. cordillerae* are illustrated.



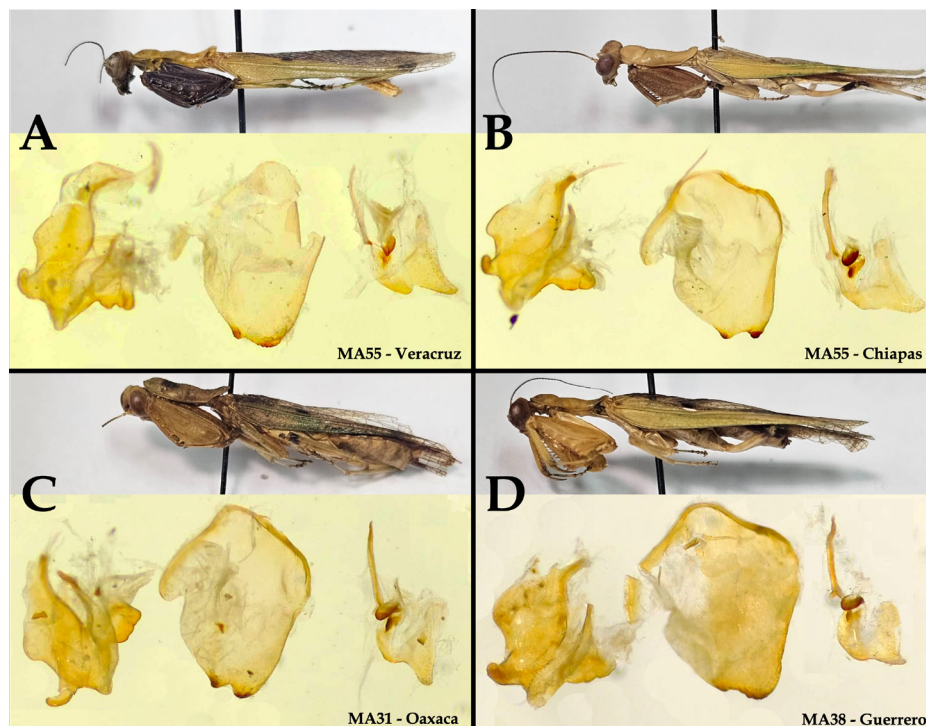
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**Figure 1.** Variation in coloration in *Acontista cordillerae* across its range. **A.** Male from Costa Rica, photo by Frank DiStefano. **B.** Male from Costa Rica, photo by Karen Yukich. **C.** Male from Costa Rica, photo by Craig Biegler. **D.** Female from Honduras, photo by Delmer Jonathan Hernández. **E.** Female from Honduras, photo by Oliver Komar. **F.** Female from Mexico (Oaxaca), photo by Jorge Eduardo Torres Suárez (imix-akbal).

**Figure 2.** Male *Acontista cordillerae* from Mexico, specimens from different color morphs and their respective genitalia. **A.** Dark morph from Veracruz (east). **B.** Reddish morph from Chiapas (south). **C.** Greenish morph from Oaxaca (west). **D.** Greenish morph from Guerrero (west).



## Methods

**Revision of collection specimens.** The Colección Nacional de Insectos of the Instituto de Biología of the Universidad Nacional Autónoma de México (CNIN-UNAM) was visited by the first and third authors in July 2023. There, all the mantises were sorted by family, genus and, when possible, to the level of species; the Colección Entomológica of the Estación de Biología Tropical “Los Tuxtlas” (CE-EBTLT), also of the UNAM, was consulted as well. Four specimens of *A. cordillerae* from the CNIN-UNAM collection, representing different color morphs and localities, were selected, rehydrated, and dissected under a Leica EZ4-W stereomicroscope. The genitalia were cleared in warm KOH and photographed using the stereomicroscope’s built-in camera. No specimens of *A. fraterna* were available for dissection.

**Records of iNaturalist.** Records in this citizen-science platform were reviewed manually by first searching for the family Acontistidae and then for unidentified Mantodea in general; the searches were limited to Mexico, Belize, Guatemala, El Salvador, Honduras, Costa Rica, and Panama. Records with obscured locality data, those that included nymphs or oothecae, repeated records, and those that were unidentifiable were excluded from our study. A database was created containing 68 records. The complete link (<https://www.inaturalist.org/observations/>) for each iNaturalist observation is abbreviated with the symbol #.



**Figure 3.** *Acontista fraterna* from Costa Rica. **A.** Male, photo by Benjamin Gorfer. **B.** Female, photo by Paul Foster.

For both sets of data, the determination to the level of species was corroborated by comparing the specimens or photographs to the keys, descriptions, and figures present in the works of Saussure and Zehntner (1893–1899), Hebard (1919, 1924, 1932), Rehn (1935), and Rivera and Svenson (2020). The taxonomic arrangement follows that proposed by Rivera and Svenson (2020). The map showing the records of the two species (Figure 4) was made using SimpleMappr (Shorthouse 2010).

## Results

Thirty-five specimens of Acontistidae were found at the CNIN-UNAM, all adults belonging to the genus *Acontista*. Most (34) originated from Mexico and their data is disclosed in the material examined section of *A. cordillerae*; the single male from Peru was left unidentified. An adult pair was present at the CE-EBTLT, giving a total of 36 physical specimens examined. Sixty-eight records from the iNaturalist were compiled, 51 belonged to *A. cordillerae* and 17 to *A. fraterna*.

Order Mantodea Burmeister, 1838

Family Acontistidae Giglio-Tos, 1915

Genus *Acontista* Saussure & Zehntner, 1894

### *Acontista cordillerae* Saussure, 1869

= *Acontiothespis cordillerae vitrea* (Saussure & Zehntner, 1894)

= *Acontista inquinata* Saussure & Zehntner, 1894

= *Acontista mexicana* Saussure & Zehntner, 1894

= *Acontista mexicana* var. *inquinata* Saussure & Zehntner, 1894

= *Acontista mexicana* var. *quadrimaculata* Saussure & Zehntner, 1894

= *Acontista vitrea* Saussure & Zehntner, 1894

= *Acontista championi* Kirby, 1904

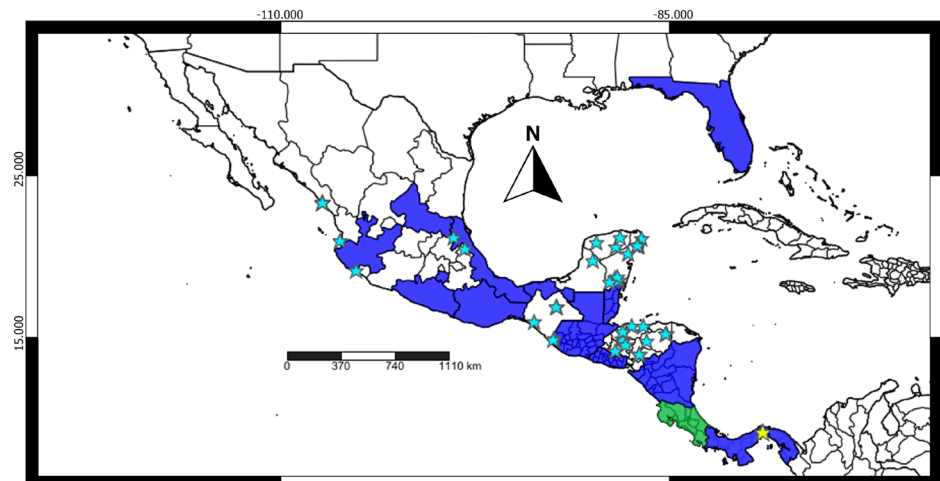
= *Acontiothespis iriodes* Hebard, 1919

Figures 1, 2, 4

**Material examined** (all dry-preserved). MEXICO — **CHIAPAS** • Reserva El Ocote, Ocozacoautla de Espinosa; 09.III.1993; E. Barrera leg.; 1 ♂, IBUNAM:CNIN:MA:54 • Reserva Montes Azules, Chajul, Ocosingo; F. Arias leg.; 05.V.1986; 1 ♂, IBUNAM:CNIN:MA:55 • Agua Azul, Chilón y Tumbalá; 22.VI.1979; H. Brailovsky leg.; 1 ♀, IBUNAM:CNIN:MA:40 • Rancho La Esperanza, Villa Corzo; 28.XI.1949; A. Villalobos leg.; 1 ♀, IBUNAM:CNIN:MA:41 — **GUERRERO** • El Ocotito, Km 5 Zoyaltepec, 17°17'09"N 99°33'50"W; 10.XI.2005; L. Cervantes leg.; 1 ♀, IBUNAM:CNIN:MA:25 • Acapulco de Juárez; 11.X.1942; C. Bolívar



**Figure 4.** Map of Mexico, Central America, and southern USA showing the distribution of *Acontista cordillerae* (navy blue for American and Mexican states as well as Central American countries where the species had been recorded; new records as sky blue stars), *A. fraterna* (new record as a yellow star), and both species (country in green).



leg.; 2 ♀, IBUNAM:CNIN:MA:26-27 • Acapulco de Juárez; 11.X.1942; C. Bolívar and D. Peinez legs.; 4 ♂ IBUNAM:CNIN:MA:35-37, 56 • Cacahuamilpa, Pilcaya; 04.X.1942; C- Bolívar and D. Peinez legs.; 1 ♂, IBUNAM:CNIN:MA:38 • Tierra Colorada; 06.VII.1992; A. Ibarra leg.; 1 ♀, IBUNAM:CNIN:MA:1331 • Acahuizotla, Chilpancingo de los Bravo; 23.IV.1988; M. García leg.; 1 ♂, IBUNAM:CNIN:MA:1422 • Acapulco de Juárez; 11.X.1942; C. Bolívar leg.; 2 ♀, IBUNAM:CNIN:MA:44, 47 — **HIDALGO** • Km 27 Atlepecco–Calnali; 13.V.1999; H. Brailovsky leg.; 1 ♀, IBUNAM:CNIN:MA:46 — **JALISCO** • La Huerta, Río San Nicolás, Chamela, H. Brailovsky leg.; 15.XI.1978; 1 ♀, IBUNAM:CNIN:MA:23 • Estación de Biología Chamela, La Huerta; 22.VIII.1981; 1 ♀, IBUNAM:CNIN:MA:29 • Estación de Biología Chamela, Camino Sur, La Huerta, 19°29'49.80"N 105°2'27.80"O; A. Zaldívar and P. Benites legs.; 30.VII–15.VIII.2022; 1 juv., IBUNAM:CNIN:MA:1342 — **OAXACA** • San Pedro Pochutla; 03.VI.1987; F. Arias leg.; 1 ♀, IBUNAM:CNIN:MA:22 • Portillo del Rayo, Candelaria Loxicha; 29.V.1985; E. Mariño leg.; 1 ♂, IBUNAM:CNIN:MA:30 • Metales, Sierra de Juárez; 15.IX.1982; 1 ♂, IBUNAM:CNIN:MA:31 • Carr. Valle Nacional Km 59; 1.IX.1982; E. Mariño leg.; 1 ♂, IBUNAM:CNIN:MA:32 • Tuxtepec, 16.IX.1967; 1 ♀, IBUNAM:CNIN:MA:1410 — **PUEBLA** • El Agengibra; 19.IV.1952; B. Hernández leg.; 1 ♀, IBUNAM:CNIN:MA:42 • Est. de Bomb.; 11.X.1953; C. Bolívar leg.; 1 ♀, IBUNAM:CNIN:MA:43 • Barranca de Patla, Zimapán; 1.X.2003. A. Ibarra leg.; 1 ♀, IBUNAM:CNIN:MA:48 — **QUINTANA ROO** • Ejido La Pantera; 08.IX.1975; E. Mariño leg.; 1 ♀, IBUNAM:CNIN:MA:45 • Chetumal, Km 146, Othón P. Blanco; 17.III.1982; A. Ibarra leg.; 1 ♀, IBUNAM:CNIN:MA:49 • Playa Aventuras, Tulum; 03.VII.1981; E. Pech leg.; 1 ♂, IBUNAM:CNIN:MA:51 — **VERACRUZ** • Estación de Biología Tropical "Los Tuxtlas" (EBTLT), 480m alt.; 29.VIII.1985; P. Sinaca leg.; 1 ♀, CE-EBTLT 38 • EBTLT, 165 m alt; 26.X.2013; F. Acevedo and J. Ortega legs. (mercurial light trap); 1 ♂, AcCo001 • Tlapayocan; 13.IX.1988; E. Mariño leg.; 1 ♀, IBUNAM:CNIN:MA:24 • Volcán San Martín, San Andrés Tuxtla; 01.VIII.1989; S. Rodríguez leg.; 1 ♀, IBUNAM:CNIN:MA:28 • Sierra de Santa Martha, Los Tuxtlas, Soteapan; 18.VII.1982; H. Pérez leg.; 1 ♂, IBUNAM:CNIN:33 • El Potrero, Río Seco, Santiago Tuxtla; 10.XI.2000; H. Brailovsky leg.; 1 ♂, IBUNAM:CNIN:MA:34 • El Encanto, Minatitlán; C. Bolívar and D. Peinez legs.; 02.VIII.1953; 1 ♀, IBUNAM:CNIN:MA:39 • Estación de Biología Los Tuxtlas, San Andrés Tuxtla; 24-29.I.1986; G. Ortega leg.; 1 ♂, IBUNAM:CNIN:MA:52 • Estación de Biología Los Tuxtlas, San Andrés Tuxtla; 24.VII.1989; H. Rojas and J. L. Colín legs.; 1 ♂, IBUNAM:CNIN:MA:1326 — **YUCATAN** • 20.8788 N, -89.7599 O; 16.IX.1994; E. Barrera leg.; 1 ♂, IBUNAM:CNIN:MA:53.

**iNaturalist records** (only records of new localities included). **HONDURAS** — **EL PARAÍSO** • El Zamorano, Francisco Morazán, 14.0074, -87.0078; 13.VII.2024; ericvandenbergh obs.; 1 ♂, #229941084 • Dulce Nombre de Culmí, Olancho, 15.2565, -85.3155; 10.IV.2024; ericvandenbergh obs.; 1 ♂, #207964336 • San Antonio de Oriente, Francisco Morazán, 13.9876, -86.9789; 1.IV.2024; ericvandenbergh obs.; 1 ♀, #205215462 • Santa Cruz de Yojoa, Cortés, 14.8713, -87.9048; 9.III.2024; ericvandenbergh obs.; 1 ♂, #203477370 • Tela, 15.7347, -87.4557; 24.X.2023; delmer obs.; 1 ♀, #188841440 • Zamorano, San Antonio de Oriente, Francisco Morazán, 13.9970, -86.9902; 12.IX.2023; gabyselles\_3104 obs.; 1 ♂, #187333831 • Santa Cruz de Yojoa, 14.9484, -88.0474; 8.IX.2023; ericvandenbergh obs.; 1 ♂, #187207167 • Zamorano, San Antonio de Oriente, Francisco Morazán, 13.9966, -86.9904; 12.IX.2023; delia25690 obs.; 1 ♂, #183926448 • Dulce de Nombre de Culmí, 15.2602, -85.3857; 21.IV.2023; ericvandenbergh obs.; 1 ♂, #161334818 • Villanueva, 15.3384, -87.9914; 21.I.2023; josuegg obs.; 1 ♂, #147168123 • Dulce de Nombre de Culmí, 15.2602, -85.3857; 20.IX.2022; ericvandenbergh obs.; 1 ♂, #150647026 • Siguatepeque, 14.5816, -87.8354; 5.VIII.2022; nayelbirch obs.; 1 ♀, #129612820 • Vil-

lanueva, 15.3932, -88.0059; 2.VIII.2022; josuegg obs.; 1 ♀, #129245455 • Parque Nacional Congolón, Coyocutena y Piedra Parada; 14.2087, -88.4681; 12.IV.2022; karenlopezm obs.; 1 ♀, #111579232 • Silca, 14.8117, -86.5416; 24.XII.2021; delmer obs.; 1 ♂, #103967680 • La Ceiba, 15.7289, -86.7428; 26.I.2014; kkrockytop obs.; 1 ♂, #64435869.

MEXICO — **CAMPECHE** • Hopelchén, Hopelchén, 19.7472, -89.8424; 31.VIII.2013; escalante-pasos obs.; 1 ♀, #1276779 — **CHIAPAS** • Silvano Gatica, Tuxtla Chico, 14.9598, -92.2060; 31.XII.2023; agu-irrebey obs.; 1 ♀, #196331809 • Ocosingo, 16.9095, -92.0437; 22.V.2023; juan\_miguel13 obs.; 1 ♀, #163232548 • Ocosingo, 16.9158, -92.1001; 16.IV.2021; emilirov obs.; 1 ♀, #74154598 • Villa Corzo, 16.0019, -93.4455; 22.X.2017; matteocassella obs.; 1 ♀, #41092327 • Tapachula, 14.8984, -92.2757; 13.V.2012; andreafigueroa obs.; 1 ♀, #3837505 — **COLIMA** • Manzanillo; 19.1403, -104.3648; 17.VII.2022; albertoalcala obs.; 1 ♀, #126750996 — **HIDALGO** • Huejutla de Reyes, 21.1602, -98.3861; 25.VII.2017; eduardo\_axel obs.; 1 ♀, #20481869 — **NAYARIT** • Lo de Marcos, 20.9629, -105.3538; 12.XI.2004; mothmaniac obs.; 1 ♂, #4922202 — **PUEBLA** • Villa Lázaro Cárdenas, Venustiano Carranza, 20.468, -97.6942; 25.VIII.2023; geovany397 obs.; 1 ♂, #180322653 — **QUINTANA ROO** • Playa del Carmen, 20.6871, -87.0741; 17.VIII.2024; malunavarro obs.; 1 ♀, #236332684 • Aeropuerto Internacional de Tulum, Felipe Carrillo Puerto, 20.1751, -87.6763; 1.IV.2024; marielmol obs.; 1 ♀, #204980126 • Chetumal, 18.5134, -88.3446; 7.II.2024; imix-akbal obs.; 1 ♀, #198696105 • El Colegio de la Frontera Sur, 18.5443, -88.2629; 2.III.2023; cesarraziel obs.; 1 ♀, #154456228 • Playa del Carmen, 20.6821, -87.0602; 15.XI.2022; malunavarro obs.; 1 ♀, #144262186 • Solidaridad, 20.6534, -87.1378; 17.IX.2022; naturalista\_joseph obs.; 1 ♀, #135468547 • Bacalar, 18.6882, -88.4862; 3.XII.2021; arth2r obs.; 1 ♀, #102451541 • El Colegio de la Frontera Sur, 18.5440, -88.2641; 27.VII.2020; cesarraziel obs.; 1 ♀, #58614871 • Bacalar, 18.741, -88.3378; 3.VII.2018; cesarraziel obs.; 1 ♀, #34547631 • Solidaridad, 20.6514, -87.0832; 11.X.2019; robertorojo obs.; 1 ♀, #34231561 • Aldredo V. Bonfil, Benito Juárez, 21.1024, -86.8560; 13.VIII.2018; tatianavelasco obs.; 1 ♀, #15407279 • Playa del Carmen, 20.6701, -87.0400; 25.XI.2011; fam\_marin\_flores obs.; 1 ♀, #14186719 • Kohunlich, 18.4306, -88.8125; 28.I.2017; gerardovab obs.; 1 ♀, #5019306 • Solidaridad, 20.6752, -87.1110; 7.IX.2022; naturalista\_joseph obs.; 1 ♂, #134115707 — **SINALOA** • Mazatlán, 23.299, -106.443; 13.VII.2022; francisco3\_obs.; 1 ♀, #126102673 • Mazatlán, 23.299, -106.443; 25.XI.2021; francisco3\_obs.; 1 ♀, #101912253 • Mazatlán, 23.2999, -106.4393; 17.XI.2020; pacof obs.; 1 ♀, #96421287 • Mazatlán, 23.3018, -106.4388; 12.XI.2020; pacof obs.; 1 ♀, #96412872 • Mazatlán, 23.2992, -106.4417; 2.XII.2020; d\_b obs.; 1 ♀, #66445435 • Mazatlán, 23.3015, -106.4387; 1.XII.2020; lyrae obs.; 1 ♀, #66421846 • Mazatlán, 23.2994, -106.442; 27.XI.2020; d\_b obs.; 1 ♀, #66398391 • Mazatlán, 23.299, -106.443; 20.XI.2020; francisco3\_obs.; 1 ♀, #65355583 — **YUCATAN** • Kaua, 20.5907, -88.4415; 8.V.2021; fam\_marin\_flores obs.; 1 ♀, #85822538 • Xmatkuil, 20.8615, -89.6245; 21.XI.2012; martin-riestra obs.; 1 ♀, #66001487 • Tizimin, 21.1575, -88.1692; 9.X.2023; edgar\_alessandro obs.; 1 ♂, #186853189.

**Literature records.** Belize (Garikipati and Bond 2021). Colombia (Hebard 1919: *Acontiothespis iriodes*; Terra 1995: *Acontista irioides* and *Acontista vitrea*; Rivera and Svenson 2020). Costa Rica (Saussure and Zehntner 1893–1899: *Acontista vitrea*; Terra 1995: *Acontista cordillerae* and *Acontista vitrea*; Rivera and Svenson 2020). Ecuador (Hebard 1924: *Acontiothespis cordillerae vitrea*; Rivera and Svenson 2020). El Salvador (Rivera and Svenson 2020 – *Acontiothespis cordillerae cordillerae*). French Guyana (Terra 1995; Rivera and Svenson 2020). Guatemala (Saussure and Zehntner 1893–1899: *Acontista mexicana* var. *inquinata* and *Acontista mexicana* var. *quadrinaculata*; Kirby 1904: *Acontista championi*; Terra 1995: *Acontista championi*; Rivera and Svenson 2020). Mexico (Saussure 1869; Kirby 1904: *Acontista inquinata* for Mexico, and *Acontista mexicana* and *Acontista vitrea* for “Mexico to Panama”; Terra 1995: *Acontista cordillerae*, *Acontista inquinata*, *Acontista mexicana* and *Acontista vitrea*; Rivera and Svenson 2020); Guerrero (Saussure and Zehntner 1893–1899: *Acontista mexicana* and *Acontista mexicana* var. *inquinata*; de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020); Jalisco (Ortega and Márquez 1987: *Acontiothespis cordillerae*; de Luna and Hernández-Baltazar 2020); Morelos (Varela-Hernández et al. 2022); Oaxaca (de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020; Cano-Santana 2024: *Acontista vitrea*); San Luis Potosí (Rivera and Svenson 2020); Tabasco (de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020); Veracruz (Saussure and Zehntner 1893–1899: *Acontista mexicana*, *Acontista mexicana* var. *inquinata*, *Acontista cordillerae* and *Acontista vitrea*; Kirby 1904; Hebard 1932: *Acontiothespis cordillerae*; de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020). Nicaragua (Saussure and Zehntner 1893–1899: *Acontista mexicana*; Terra 1995: *Acontista mexicana*; Rivera and Svenson 2020). Panama (Saussure and Zehntner 1893–1899: *Acontista mexicana* and *Acontista vitrea*; Terra 1995: *Acontista mexicana* and *Acontista vitrea*; Rivera and Svenson 2020). USA (Florida) (Anderson 2021).

**Identification.** Male *A. cordillerae* are extremely variable (Figure 1A–C, 2): the costal area of their teg-

minas is most often green, while the rest is either hyaline or reddish brown and subhyaline, often accompanied by a dark spot near the costal area in the first third; a dark spot on the anal area can be present. The hindwings have a greenish-, yellowish- or reddish-brown costal area and the anal area can be completely hyaline, have a dark spot, or have a dark inner margin which can extend to half of the wing. The coloration of the pronotum, head and forelegs are variable, and while they can share color (most often green or greenish brown), some have darker forelegs and some have darker heads. The mid and hindlegs are of similar color, can be green and banded, uniform green, or mostly green with darker pigment near the junction of the femur and tibia, most noticeable in the hindlegs. All these characters contrast with the coloration of *A. fraterna* (see below). The coloration of both female *A. cordillerae* and *A. fraterna* is very similar: The tegmina are green with white bands and are often adorned with a dark dot near the costal area in the first third; the apex is hyaline. The hindwings are tricolor, the apex and exterior margin are hyaline, the posterior margin up to half the wing is dark, and the first two-thirds of the costal area down to about half the wing is reddish or yellowish brown. The head, pronotum and legs are green with white markings; *A. cordillerae* has a form with dark markings instead of white. The overall tone is very variable in *A. cordillerae* (Figure 1D–F). Female *A. cordillerae* have a shorter and wider pronotum (Figure 1D–F).

**Notes.** The holotype of *A. cordillerae* is from Mexico, not French Guyana, as stated by Garikipati and Bond (2021). The type material of *A. cordillerae* and its synonymies were examined and illustrated in the work of Rivera and Svenson (2020). Given the morphological differences observed in the genitalia across several color morphs and localities (Figure 2), it remains unclear whether *A. cordillerae* represents a polymorphic species or a cryptic species complex. Molecular analyses, together with a thorough re-examination of the type specimens—including genital dissections—are required to test and confirm this hypothesis.

#### ***Acontista fraterna* Saussure & Zehntner, 1894**

= *Acontistella fraterna* (Saussure & Zehntner, 1894)

= *Acontiothespis ecuadorica* Hebard, 1924

= *Acontistella violacea* Beier, 1931

Figures 3, 4

**iNaturalist records** (all Central American records included). COSTA RICA — **ALAJUELA** • Arenal Volcano National Park; 10.4382, –84.7171; 3.IV.2024; dexternienhaus obs.; 1 ♀, #209910085 • La Fortuna; 10.4678, –84.6426; 10.VIII.2022; simonele obs.; 1 ♀, #130321493 • Upala; 10.7157, –85.0102; 1.III.2021; skgarcia obs. 1 ♂, #70449290 — **CARTAGO** • Cartago; 9.8322, –83.5637; 11.IX.2020; capeolly obs.; 1 ♀, #59224227 • Cartago; 9.8450, –83.8947; 5.IV.2022; alonso24 obs.; 1 ♀, #110503493 • Cartago; 9.7841, –83.7516; benjaminorfer obs.; 1 ♂, #152126648 • Turrialba; 9.8325, –83.5633; 4.VI.2023; reptipods obs.; 1 ♂, #171280153 • Cartago; 9.7835, –83.7524; 11.II.2022; marcodehaas obs.; 1 ♂, #117771248 • Turrialba; 9.8214, –83.5391; 5.VI.2023; reptipods obs.; 1 ♂, #165751648 • El Copal; 9.7834, –83.7523; 11.II.2022; johannagu; 1 ♂, #110183115 • El Copal; 9.7839, –83.7517; 12.II.2022; tamarita obs.; 1 ♂, #108185765 • El Copal; 9.7839, –83.7517; 11.II.2022; gurucumi obs.; 1 ♂, #111503407 — **HEREDIA** • Sarapiquí; 10.3625, –84.1031; 6.III.2019; pffoster obs.; 1 ♀, #22251260 • Sarapiquí; 10.3631, –84.1033; 25.VIII.2018; janbaars obs.; 1 ♀, #16997927 • La Selva Biological Station; 10.4233, –84.0220; 1.VII.2022; samjengland obs.; 1 ♂, #124332999. **SAN JOSÉ** • Pérez Zeledón; 9.3012, –83.7801; 19.X.2023; kuesu obs.; 1 ♀, #190728523.

**PANAMA** — **PANAMA** • Los Altos de Cerro Azul; 9.2254, –79.4196; 6.VIII.2023; umbrellabird obs.; 1 ♀, #200409850.

**Literature records.** Costa Rica (Saussure and Zehntner 1893–1899; Kirby 1904; Beier 1931: *Acontistella violacea*; Rehn 1935: *Acontistella fraterna*; Terra 1995; Rivera and Svenson 2020). Ecuador (Hebard 1924: *Acontiothespis ecuadorica*; Rivera and Svenson 2020).

**Identification.** Male *A. fraterna* have a very distinctive color pattern (Figure 3A): the tegmina are purple dark, with a reddish brown or pinkish costal area and a transversal hyaline band near the apex. The hindwings are dark and concolorous and have a costal area which is opaque while the rest is subhyaline. The pronotum and head are green. The forelegs are reddish or yellowish brown and have darker stripes, while the mid and hindlegs are green with brown stripes. The coloration of both female *A. cordillerae* and *A. fraterna* is very similar: The tegmina are green with white bands and are often adorned with a dark dot near the costal area in the first third; the apex is hyaline. The hindwings are tricolor, the apex and exterior margin are hyaline, the posterior margin up to half the wing is dark, and the first two-thirds of the costal area down to about half the wing is reddish or yellowish brown. The head, pronotum and legs are green with white markings. The overall tone in *A. fraterna* is bright

and vivid. Female *A. fraterna* have a longer and much narrower pronotum, with the metazona elongate (Figure 3B).

**Notes.** The type material of *A. fraterna* and its synonymies were examined and illustrated in the work of Rivera and Svenson (2020).

## Discussion

*Acontista cordillerae* had been previously recorded from the USA, Mexico, Belize, Guatemala, El Salvador, Nicaragua, Costa Rica, Panama, Colombia, and Ecuador (Saussure and Zehntner 1893–1899; Kirby 1904; Hebard 1919, 1924; Terra 1995; de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020; Anderson 2021; Garikipati and Bond 2021). In Mexico, it had been recorded from the states of Guerrero, Jalisco, Morelos, Oaxaca, San Luis Potosí, Tabasco, and Veracruz (Saussure 1869; Saussure and Zehntner 1893–1899; Kirby 1904; Hebard 1932; Ortega and Márquez 1987; Terra 1995; de Luna and Hernández-Baltazar 2020; Rivera and Svenson 2020; Varela-Hernández et al. 2022; Cano-Santana 2024). With the new records provided here, the presence of *A. cordillerae* is confirmed from the Mexican states of Campeche, Chiapas, Colima, Hidalgo, Nayarit, Puebla, Quintana Roo, Sinaloa, and Yucatán. It is also newly reported from Honduras (Figure 4). These new distribution records help close gaps in the species' known range. Records of this species in Florida (USA) are isolated, and it is unknown whether the species is native to the state or if its presence there is due to individuals hitchhiking on imported ornamental plants (Anderson 2021).

*Acontista fraterna* had been recorded from Costa Rica (Saussure and Zehntner 1893–1899; Kirby 1904; Beier 1931; Rehn 1935; Terra 1995; Rivera and Svenson 2020) and Ecuador (Hebard 1924; Rivera and Svenson 2020), and we documented this species from Panama for the first time (Figure 4). As with the previous species, the Panamanian record of *A. fraterna* is unsurprising but bridges a gap in its known distribution. *Acontista fraterna* had been previously reported from Mexico by Hernández-Baltazar and Gómez (2017); however, that record lacked physical evidence, which is why it was omitted in a later checklist (de Luna and Hernández-Baltazar 2020).

As a first step toward a comprehensive regional revision of the genus, the type specimens of both *A. fraterna* and *A. cordillerae*—including those belonging to taxa currently treated as synonyms—should be re-examined. This should involve detailed genital dissections and, where preservation permits, molecular analyses. Alternatively, fresh topotypic material could be collected for dissection and study instead. It would also be valuable to compare all morphs of *A. cordillerae*, as there appear to be little to no differences in the male genitalia among them (Rivera and Svenson 2020; Figure 2). Such variation could reflect intraspecific differences between morphs or populations rather than species-level divergence. A comparison of female genitalia is also warranted, as was done recently with other South American *Acontista* (Ferraz and Souza-Dias 2025).

As a sidenote, Rivera and Svenson (2020) mentioned that the pattern on the hindwings is different between the females of *A. cordillerae* and *A. fraterna*, but this was a trait that was not noticed when comparing the figures in their publication.

iNaturalist is one of the most valuable platforms used for the study and recognition of biodiversity. It was used in this study to complement the identification via photographs and establish the distribution of *A. cordillerae* and *A. fraterna* in North and Central American countries, as has been done for other Mantodea groups (Román de la Fuente 2023). While this citizen-science platform does not replace scientific collections, its use can help ascertain species' distributions.

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## Additional information

### Conflict of interest

The authors declare that no competing interest exist.

### Ethical statement

No ethical statement is reported.

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### Author contributions

Conceptualization: MdL, EHB. Data curation: MdL, ICM. Formal analysis: MdL, EHB. Funding acquisition: MdL, GCR, IAHD. Investigation: MdL, EHB. Methodology: MdL. Project administration: MdL, GCR. Software: MdL. Resources: MdL, EHB, ICM. Supervision: GCR, IAHD. Validation: MdL, EHB, ICM, GCR, IAHD. Writing – original draft: MdL. Writing – review & editing: MdL, EHB, ICM, GCR, IAHD.


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### Data availability

All data that support the findings reported in this study are available in the main text.

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