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Central American Tetrigidae Rambur, 1838 (Orthoptera): a preliminary catalogue

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Couverture / *Cover* :
A living specimen of the new species of the genus *Metrodora* Bolívar, 1887. Photo: Chloe and Trevor Van Loon.

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Central American Tetrigidae Rambur, 1838 (Orthoptera): a preliminary catalogue

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ABSTRACT
Tetrigidae Rambur, 1838 of Central America are severely understudied. Most of the historical data are restricted to the original descriptions of the species and scant records reported by the early tetrigidologists. This study examines the literature alongside the data made available through the efforts of citizen scientists. This allowed to compose a preliminary checklist of Central American Tetrigidae, which now numbers 32 species, and pair it with a key to the species. Northern countries of Central America remain nearly unexplored, which, together with certain taxonomic uncertainties within the known species, means that this checklist is merely the first step in researching this charismatic family of insects in the region.

KEY WORDS
Checklist, citizen science, iNaturalist, Neotropics.

RÉSUMÉ
Tetrigidae Rambur, 1838 (Orthoptera) d'Amérique centrale : un catalogue préliminaire.
Les Tetrigidae Rambur, 1838 d'Amérique centrale sont très peu étudiés. La plupart des données historiques se limitent aux descriptions originales des espèces et aux rares observations des premiers tétrigidologistes. Cette étude examine la littérature ainsi que les données rendues disponibles grâce aux efforts des citoyens participatifs. Une liste annotée préliminaire des Tetrigides d'Amérique, comportant désormais 32 espèces, a ainsi pu être établie et associée à une clé d'identification des espèces. Les pays du nord de l'Amérique centrale restent quasiment inexplorés, ce qui, avec quelques incertitudes taxonomiques au sein des espèces connues, signifie que cette liste n'est qu'une première étape dans la recherche de cette famille d'insectes charismatiques dans la région.

MOTS CLÉS
Liste annotée, science participative, iNaturalist, région néotropicale.

INTRODUCTION

The family Tetrigidae Rambur, 1838 is a cosmopolitan taxon with more than 2000 described species (Cigliano *et al.* 2022). As new species are continuously described, the still-problematic taxonomy of the family is becoming increasingly cumbersome but is being recognized and amended (Pavón-Gozalo *et al.* 2012; Tumbrinck 2014). The region of Central America encompasses El Salvador, Belize, Honduras, Guatemala, Nicaragua, Costa Rica, and Panama and is one of the important global biodiversity hotspots (Myers *et al.* 2000; Corrales *et al.* 2015). The region remains relatively poorly researched, but innovative projects that involve students in practical research and supply them with the necessary knowledge and equipment have recently been implemented (Orozco *et al.* 2013). There is no doubt that a great number of new species, both for the region and for science, are going to be found in Central America, as even the current paper proves.

Most of the species present in Central America were described and defined early in the history of tetrigidology (Bolívar 1887; Morse 1900; Hancock 1907a; Bruner 1910). The cited works dealing with description and classification of Tetrigidae are comprehensive and deserving of great praise, but the value of their often vague and unclear descriptions without visual backing has not survived unscathed through the last century. In other words, there is a distinct lack of clear diagnostic characters for delimitation of species in the literature, which, coupled with the absence of comprehensive research in the region, made Central America an obvious target for a preliminary study. Accordingly, the aim of this paper is to provide Central America with two important "firsts" – a catalogue and a key to the species, both based on a review of the literature and all the available records of preserved specimens and those found in nature. The benefits and limitations of this approach are recognized and discussed.

MATERIAL AND METHODS

An examination of literature pertaining to taxa that have historically been known to occur in Central America was conducted. Biological databases, namely iNaturalist and BOLD Systems, were examined to gather recent records of species in Central America. The photographs of living specimens were compared to the original descriptions and to the photographs of type specimens available on the Orthoptera Species File (Cigliano *et al.* 2022). For species that have not been photographed in nature, only the type material was examined. Taxonomy and information on the current locations of type specimens is according to Cigliano *et al.* (2022). Morphological terminology follows Tumbrinck (2014).

For every taxon, the following information is provided: 1) a short synopsis of the literature regarding it; 2) the type material and the relevant data describing it; 3) the additional material that was examined; 4) composition and distribution (by region) at the genus level; 5) distribution (by country) at the species level, based on the cited literature, specimen records, and data from online depositories provided as Additional data; and 6) notes (if applicable) that represent comments on taxonomy or literature.

The key to the species was created by comparing all the available material for each taxon and determining the characters that allow the taxa to be reliably separated. The strength of the definitions of the taxa are, where necessary, discussed under the appropriate headings in the Results and in the Discussion.

Abbreviations

Institutions

ANSP	Academy of Natural Sciences, Philadelphia;
BMNH	Natural History Museum, London;
BYUC	Brigham Young University Collection, Provo, Utah:
MHNG	Muséum d'Histoire naturelle de la Ville de Genève;
MNHN	Muséum national d'Histoire naturelle, Paris;
NMW	Naturhistorisches Museum, Wien;
OUM	Oxford University Museum of Natural History, Oxford;
SMTD	Staatliches Museum für Tierkunde, Dresden;
UMMZ	University of Michigan, Museum of Zoology, Ann Arbor;
USNM	National Museum of Natural History, Washington D.C.;
ZMUH	Zoologisches Institut und Zoologisches Museum, Universität Hamburg.

Personnal collection

Coll. JT	personal collection of Josef Tumbrinck, Wassenberg.

A CHECKLIST OF CENTRAL AMERICAN TETRIGIDAE AND THEIR DISTRIBUTION

Remark

A tabular checklist marking the presence of species by country is provided in Table 1 and the species distributions are given in Figures 1 and 2.

Family Tetrigidae Rambur, 1838
Subfamily Lophotettiginae Hancock, 1909

Genus *Lophotettix* Hancock, 1909

Lophotettix Hancock, 1909: 388 (original description of the genus); 1914: 328 (nomenclatural acts). — Günther 1938: 306 (catalogued). — Yin *et al.* 1996: 880 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 452 (catalogued). — Silva *et al.* 2019: 348 (review of the genus). — Kasalo *et al.* 2022: 225 (revision of the genus).

Type species. — *Lophotettix unicristatus* Hancock, 1909, by original designation.

Composition and distribution. — Five species, of which three are currently known only from South America, and two from Central America.

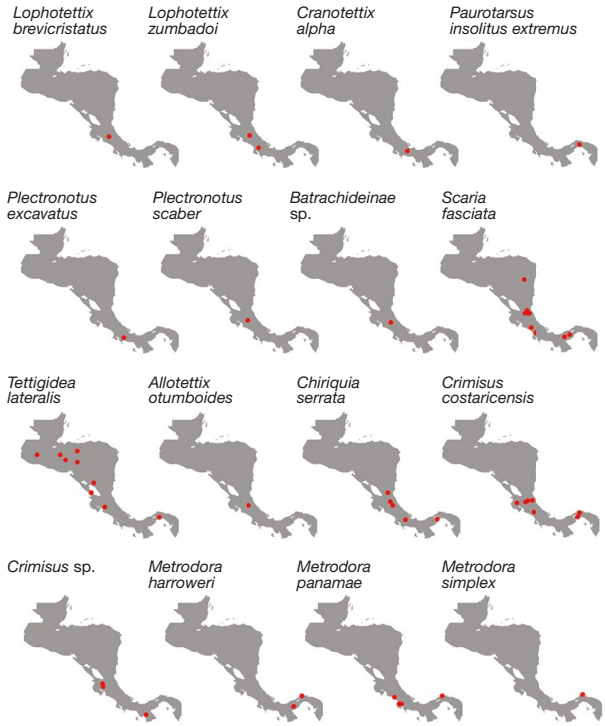

Fig. 1. — Distribution maps of *Lophotettix brevicristatus* Hancock, 1909, *Lophotettix zumbadoi* Barranco, 2010, *Cranotettix alpha* Grant Jr., 1955, *Paurotarsus insolitus extremus* Grant, 1955, *Plectronotus excavatus* Grant Jr., 1955, *Plectronotus scaber* Morse, 1900, Batrachideinae gen. et sp., *Scaria fasciata* Hancock, 1907, *Tettigidea lateralis* (Say, 1824), *Allotettix otumboides* Günther, 1939, *Chiriquia serrata* Morse, 1900, *Crimisus costaricensis* Günther, 1939, *Crimisus* sp., *Metrodora harroweri* (Hebard, 1924), *Metrodora panamae* (Hebard, 1924), and *Metrodora simplex* (Hebard, 1924). The maps are based on the maps by OpenStreetMap contributors, available under the Open Database Licence, cartography licensed under the CC BY-SA licence.

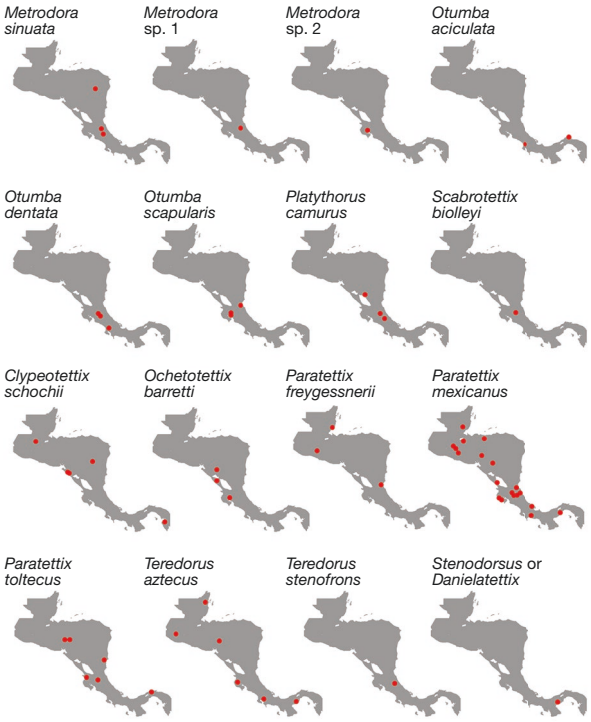

Fig. 2. — Distribution maps of *Metrodora sinuata* (Morse, 1900), *Metrodora* sp. 1, *Metrodora* sp. 2, *Otumba aciculata* Hebard, 1924, *Otumba dentata* Hancock, 1907, *Otumba scapularis* Morse, 1900, *Platythorus camurus* Morse, 1900, *Scabrotettix biolleyi* Bolívar, 1909, *Clypeotettix schochii* (Bolívar, 1887), *Ochetotettix barretti* (Hancock, 1899), *Paratettix freygessnerii* Bolívar, 1887, *Paratettix mexicanus* (Saussure, 1861), *Paratettix toltecus* (Saussure, 1861), *Teredorus aztecus* (Saussure, 1861), *Teredorus stenofrons* Hancock, 1907, and the undetermined genus resembling *Stenodorsus* Hancock, 1906 or *Danielatettix* Cadena-Castañeda, Dávila Gonzalez, Vasquéz Rodríguez & Trujillo Rodríguez, 2021. The maps are based on the maps by OpenStreetMap contributors, available under the Open Database Licence, cartography licensed under the CC BY-SA licence.

Lophotettix (*Lophotettix*) *brevicristatus* Hancock, 1909 (Fig. 3)

Lophotettix brevicristatus Hancock, 1909: 388 (original description of the species, holotype designated). — Günther 1938: 306 (catalogued). — Steinmann 1969: 383 (catalogued). — Barranco 2010: 26 (original description of the species). — Silva *et al.* 2019: 350 (reviewed along with the rest of the genus). — Kasalo *et al.* 2022: 225 (current taxonomy established).

Type material examined. — **Brazil** • 1 ♀ holotype; 1908; OUM 686.

Additional data. — See Appendix 1.

Distribution. — Costa Rica. See Figure 1.

Lophotettix (*Lophotettix*) *zumbadoi* Barranco, 2010 (Fig. 4)

Lophotettix zumbadoi Barranco, 2010: 22 (original description of the species). — Silva *et al.* 2019: 356 (reviewed along with the rest of the genus). — Kasalo *et al.* 2022: 225 (current taxonomy established).

Type material examined. — **Costa Rica** • 1 ♀ holotype; Alajuela, San Ramón, Reserva Biológica Alberto Manuel Brenes; 23.IX.2006; P. Barranco leg.

Additional material examined. — **Costa Rica** • 1 ♀; Guapilies; 22.VIII.1966.; Coll. JT.

Additional data. — See Appendix 1.

Distribution. — Costa Rica. See Figure 1.

Subfamily Batrachideinae Bolívar, 1887

Genus *Cranotettix* Grant, 1955

Cranotettix Grant, 1955a: 62 (original description of the genus, *C. alpha* designated as the type species). — Yin *et al.* 1996: 861 (catalogued). — Otte 1997: 97 (catalogued). — Storozhenko 2019: 105 (catalogued). — Silva *et al.* 2021: 16 (catalogued).

Type species. — *Cranotettix alpha* Grant, 1955, by monotypy and original designation.

Composition and distribution. — Monospecific genus, containing only *C. alpha*, which is known to occur in Panama.

TABLE 1. — A tabular checklist of species' occurrence by country. The checklist is based on literature and new records.

Subfamily / Species	Guatemala	Belize	El Salvador	Honduras	Nicaragua	Costa Rica	Panama
Lophotettiginae							
Lophotettix (*L.*) *brevicristatus* Hancock, 1909	–	–	–	–	–	+	–
Lophotettix (*L.*) *zumbadoi* Barranco, 2010	–	–	–	–	–	+	–
Batrachideinae							
Cranotettix alpha Grant Jr., 1955	–	–	–	–	–	–	+
Paurotarsus insolitus extremus Grant Jr., 1955	–	–	–	–	–	–	+
Plectronotus excavatus Grant Jr., 1955	–	–	–	–	+	–	+
Plectronotus scaber Morse, 1900	–	–	–	–	–	+	–
Batrachideinae gen. et sp.	–	–	–	–	–	+	–
Scaria fasciata Hancock, 1907	–	–	–	–	+	+	+
Tettigidea lateralis (Say, 1824)	+	–	–	+	+	+	+
Metrodorinae							
Allotettix otumboides Günther, 1939	–	–	–	–	–	+	–
Chiriquia serrata Morse, 1900	–	–	–	–	+	+	+
Crimisus costaricensis Günther, 1939	–	–	–	–	–	+	+
Crimisus sp.	–	–	–	–	–	+	+
Metrodora harroweri (Hebard, 1924)	–	–	–	–	–	–	+
Metrodora panamae (Hebard, 1924)	–	–	–	–	+	+	+
Metrodora simplex (Hebard, 1924)	–	–	–	–	+	+	+
Metrodora sinuata (Morse, 1900)	–	–	–	–	+	+	–
Metrodora sp. 1	–	–	–	–	–	+	–
Metrodora sp. 2	–	–	–	–	–	+	–
Otumba aciculata Hebard, 1924	–	–	–	–	–	+	+
Otumba dentata Hancock, 1907	–	–	–	–	–	+	–
Otumba scapularis Morse, 1900	–	–	–	–	+	+	–
Platythorus camurus Morse, 1900	–	–	–	–	+	+	–
Scabrotettix biolleyi Bolívar, 1909	–	–	–	–	–	+	–
Tetriginae							
Clypeotettix schochii (Bolívar, 1887)	+	–	–	–	+	–	+
Paratettix freygessnerii Bolívar, 1887	–	+	+	–	+	–	–
Paratettix mexicanus (Saussure, 1861)	+	+	+	+	+	+	+
Paratettix toltecus (Saussure, 1861)	–	–	–	+	+	+	+
Ochetotettix barretti (Hancock, 1899)	–	–	–	–	+	+	–
Teredorus aztecus (Saussure, 1861)	+	+	–	+	+	+	+
Teredorus stenofrons Hancock, 1907	–	–	–	–	–	+	–
Stenodorsus Hancock, 1906 or *Danielatettix* Cadena-Castañeda, Dávila Gonzalez, Vasquéz Rodríguez & Trujillo Rodríguez, 2021	–	–	–	–	–	–	+

Cranotettix alpha Grant, 1955

Cranotettix alpha Grant, 1955a: 62 (original description, holotype designated, a drawing of key diagnostic characters provided in fig. 2). — Otte 1978: 37 (catalogued). — Silva *et al.* 2021: 16 (catalogued).

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♀ holotype; Chiriqul Volcano; 6000-7000 ft. a.s.l.; 8-30.VII.1937; D. W. Bishop leg.; ANSP.

DISTRIBUTION. — Panamá. See Figure 1.

REMARK

No living specimens have been photographed in Central America since the description.

Genus *Paurotarsus* Hancock, 1900

Paurotarsus Hancock, 1900a: 42 (original description of the genus with a single species, *Paurotarsus amazonus* Hancock, 1900, drawings of the type species in a figure on page 43); 1907a: 70 (reproduction of the original description). — Kirby 1910: 60 (catalogued). — Grant 1955b: 7 (key to the species and subspecies). — Otte 1978: 40 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 461 (catalogued). — Storozhenko 2019: 105 (catalogued). — Silva *et al.* 2021: 16 (catalogued).

TYPE SPECIES. — *Tettix ruficornis* Walker, 1871, of which *P. amazonus* is a junior synonym, type species fixed by original monotypy.

COMPOSITION AND DISTRIBUTION. — Two species with multiple subspecies, distributed in South America. One subspecies from Central America known only from the literature.

Paurotarsus insolitus Rehn, 1916 subspecies *Paurotarsus insolitus extremus* Grant, 1955 (Fig. 5)

Paurotarsus insolitus extremus Grant, 1955b: 9 (original description of the subspecies, holotype and allotype designated). — Cadena-Castañeda & Cardona Granda 2015: 461 (catalogued). — Silva *et al.* 2021: 16 (catalogued).

Fig. 3. — A living specimen of *Lophotettix* (*Lophotettix) brevicristatus* Hancock, 1909. Photo: Paul Bertner.

Fig. 4. — A living specimen of *Lophotettix* (*Lophotettix*) *zumbadoi* Barranco, 2010. Photo: Paul Bertner.

TYPE MATERIAL EXAMINED. — **Colombia** • 1 ♀ holotype; Magdalena, Aracataca; 13.VIII.1920; M. Hebard leg.; ANSP. **Panamá** • 1 ♂ allotype; Canal Zone, Paraiso; 18.I.1991; E. A. Schwarz leg.; USNM.

DISTRIBUTION. — Panamá. See Figure 1.

REMARKS

No living specimens have been photographed in Central America since the description.

No records beside the allotype exist for Central America but the genus *Paurotarsus* is in general scarcely represented in databases of photographs.

Genus *Plectronotus* Morse, 1900

Plectronotus Morse, 1900: 6 (original description of the genus, *P. scaber* designated as the type species). — Hancock 1902: 161 (reproduction of the original description); 1907a: 69 (reproduction of the original description). — Kirby 1910: 59 (catalogued). — Bruner 1910: 139 (the genus (then only containing *P. scaber*) is likely to occur in South America but has not yet been found). — Grant 1955a: 58 (new diagnosis of the genus, description of a new species (*P. excavatus*), key to the species, distribution map covering little more than type localities). — Otte 1997: 4 (catalogued). — Storozhenko 2019: 105 (catalogued). — Silva *et al.* 2021: 20 (catalogued).

TYPE SPECIES. — *Plectronotus scaber* Morse, 1900, by original monotypy.

COMPOSITION AND DISTRIBUTION. — Two species, both of which have only been known to occur in Central America: *P. excavatus* (Panama) and *P. scaber* (Costa Rica).

Plectronotus excavatus Grant, 1955

Plectronotus excavatus Grant, 1955a: 60 (original description, holotype, allotype, 14 paratypes, scapular area of the pronotum designated as an important characteristic and shown in fig. 1B, p. 59, photographs of the species in pl. 1, figs 2, 4). — Maes 1989: 51 (a note on distribution: Nicaragua, Panama, Colombia). — Silva *et al.* 2021: 20 (catalogued).

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♀ holotype, 1 ♂ allotype; Chiriquí, Boquete; 26.III.1923; F. M. Gaige leg.; UMMZ.

DISTRIBUTION. — Panamá. See Figure 1.

REMARKS

No living specimens have been photographed in Central America since the description.

Maes (1989) reports that *P. excavatus* is present in South America (Colombia) as well as in Central America.

Plectronotus scaber Morse, 1900
(Fig. 6)

Plectronotus scaber Morse, 1900: 6 (original description of the species, two syntypes, a drawing of the pronotum in a fig., page 14, photographs of the species in pl. 1, figs 1, 3). — Hancock 1902: 161 (reproduction of the original description). — Kirby 1910: 59 (catalogued). — Bruner 1910: 139 (the genus [then only containing *P. scaber*] is likely to occur in South America but has not yet been found). — Grant 1955a: 58 (updated diagnosis, scapular area of the pronotum designated as an important character and shown in Fig. 1A, page 59). — Mariño-Pérez *et al.* 2016: 28 (a living specimen pictured in pl. 1, fig. H). — Silva *et al.* 2021: 20 (catalogued).

TYPE MATERIAL EXAMINED. — **Costa Rica** • 1 ♀ syntype, 1 ♂ syntype; Cachi; Rogers leg.; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♀; env. de Cartago; 1800 m a.s.l; 1910; G. Picado leg.; MNHN-EO-CAELIF10731.

ADDITIONAL DATA. — A photograph in Mariño-Pérez *et al.* (2016).

DISTRIBUTION. — Costa Rica. See Figure 1.

REMARK

Type material consists of two syntypes, male and female (ANSP). There are no available photographs of the syntypes. We examined the drawings of the pronotum drawn by Morse (1900).

TETRIGIDAE gen. et sp.
(Fig. 7)

MATERIAL EXAMINED. — **Costa Rica** • 1 ♀; Cartago, Genesis II Eco Lodge; Piotr Naskrecki leg. • 1 ♀, 1 ♂; Heredia, Sarapiqui; Lupoli Roland leg.

DISTRIBUTION. — Costa Rica. See Figure 1.

REMARK

Three specimens representing an undescribed genus morphologically similar to the Central American genera *Cranotettix* and *Plectronotus*, and the South American genus *Halmatettix* Hancock, 1909 have been observed. It differs from *Cranotettix* by having a shorter frontomedial projection which is situated closer to the vertex. It differs from *Plectronotus* by having a smooth median carina and the frontomedial projection situated closer to the vertex. It differs from *Halmatettix* by having a shorter frontomedial projection and significantly different lateral lobes.

Genus *Scaria* Bolívar, 1887

Scaria Bolivar, 1887: 301 (original description of the genus, *S. lineata* and *S. hamata* (originally *Acrydium hamatum* (De Geer, 1773)), no type species designation). — Giglio-Tos 1898: 35 (description of *S. maculata*). — Hancock 1902: 162 (description of the genus in English). — Kirby 1910: 60 (catalogued). — Bruner 1910: 140 (key to the species). — Günther 1940: 472 (catalogued). — Yin *et al.* 1996: 907 (catalogued). — Otte 1997: 6 (catalogued). — Buzzetti & Devriese 2007: 45 (catalogued). — Buzzetti & Carotti 2008: 42 (catalogued). — Cardona Granda 2012: 114 (a photo guide). — Cadena-Castañeda & Cardona Granda 2015: 456 (a key to the species). — Storozhenko 2019: 105 (catalogued). — Cadena-Castañeda *et al.* 2019: 13 (review of the genus, key to the species). — Silva *et al.* 2021: 36 (key to the genera of the family Batrachideinae). — Kasalo *et al.* 2021: 175 (catalogued).

TYPE SPECIES. — *Acrydium hamatum* De Geer, 1773, designated by Kirby (1910).

COMPOSITION AND DISTRIBUTION. — 12 species, 11 of which occur in South America, and only one (*S. fasciata* Hancock, 1907) that occurs in Central America.

Fig. 5. — A living specimen of *Paurotarsus insolitus* Rehn, 1916. Photo: Sidnei Dantas.

Fig. 6. — A preserved specimen of *Plectronotus scaber* Morse, 1900, deposited at MNHN, MNHN-EO-CAELIF10731. Photo: Christophe Hervé.

FIG. 7. — Living specimens of the new genus and species belonging to the subfamily Batrachideinae Bolívar, 1887. Photos: Lupoli Roland, Piotr Naskrecki.

Scaria fasciata Hancock, 1907
(Fig. 8)

Scaria fasciata Hancock, 1907b: 244 (original description of the species, no holotype designated, notes of a large collection of specimens); 1913: 55 (catalogued). — Hebard 1923: 177 (the species occurs in Nicaragua and Panama, lectotype designation); 1924: 91 (notes on the distribution of the species). — Otte 1978: 41 (catalogued). — Buzzetti & Devriese 2007: 50 (catalogued). — Buzzetti & Carotti 2008: 42 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 457 (catalogued, a key to the species). — Naskrecki 2017: 25 (a living specimen pictured in a figure on page 25). — Cadena-Castañeda *et al.* 2019: 27 (redescription). — Kasalo *et al.* 2021: 176 (catalogued).

TYPE MATERIAL EXAMINED. — **Ecuador** • 1 ♀ lectotype; Cachabi; Rosenberg leg.; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Nicaragua** • 1 ♀; Zelaya, Sulum; 1-31.I.1996; Maes J. M. & J. Hernandez leg.; Coll. JT • 1 ♂; Zelaya, Rio Las Latas; 2.VI.1997; Maes, J. M. & J. Hernandez leg.; Coll. JT.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Nicaragua, Costa Rica, Panamá. See Figure 1.

REMARK
Type material consists of one female lectotype (ANSP), designated by Hebard (1923).

Genus *Tettigidea* Scudder, 1862

Tettigidea Scudder, 1862: 476 (original description of the genus with two species: *T. lateralis* and *T. polymorpha*, no type species designated); 1897: 24 (*Tettigidea* assigned to Batrachideae, the genus noted to be present in North, Central, and South America). — Rehn 1904: 669 (*T. lateralis* designated as the type species). — Rehn & Grant 1958: 16 (the genus is widely distributed in North, Central, and South America). — Yin *et al.* 1996: 923 (catalogued). — Otte 1997: 7 (catalogued). — Silva *et al.* 2021: 36 (overview of the genus with numerous nomenclatural acts, key to the species).

TYPE SPECIES. — *Acrydium laterale* Say, 1824, designated by Rehn (1904).

COMPOSITION AND DISTRIBUTION. — According to the currently accepted taxonomy (Cigliano *et al.* 2022), 20 species, some with subspecies. Numerous *nomina dubia*. Distributed in North, Central, and South America.

REMARK
The genus includes numerous species with rich history and scant records. A proper and comprehensive revision of the genus based on a large sample is needed in order to ascertain the amount of morphological variability inherent to the genus.

Tettigidea chichimeca Saussure, 1861

Tettigidea chichimeca Saussure, 1861: 400.

REMARK
Considered by Silva *et al.* (2021) to be *nomen dubium*. See remarks under the genus section.

Tettigidea guatemalteca Bolívar, 1887

Tettigidea guatemalteca Bolívar, 1887: 298.

REMARK
Considered by Silva *et al.* (2021) to be *nomen dubium*. See notes under the genus section.

FIG. 8. — A living specimen of *Scaria* Bolívar, 1887. Photo: Marco de Haas.

Tettigidea lateralis (Say, 1824) (Fig. 9)

Acrydium laterale Say, 1824: plate V (original description of the species, no holotype designated).

Tettigidea lateralis – Scudder 1862: 477 (transferred to the present genus). — Rehn 1904: 669 (*T. lateralis* designated as the type species of the genus). — Yin *et al.* 1996: 923 (catalogued). — Otte 1997: 7 (catalogued). — Silva *et al.* 2021: 47 (overview of the genus with numerous nomenclatural acts, key to the species).

Tetrix polymorpha Burmeister, 1838: 397.

Tetrix parvipennis Harris, 1841: 152.

Tettigidea nicaraguae Bruner, 1895: 62.

Tettigidea parvipennis pennata Morse, 1895: 109.

Tettigidea jalapa Hancock, 1900b: 25.

Tettigidea lateralis var. *medialis* Hancock, 1902: 140.

Tettigidea nicaraguae brevis Hancock, 1904: 158.

Tettigidea annulipes Bruner, 1910: 127.

TYPE MATERIAL EXAMINED. — **Brazil** • 1 ♀ holotype; Mato Grosso, Chapada dos Guimarães; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♂; 1920; Paul Serre leg.; MNHN-EO-CAELIF10728 • 1 ♀; 1920; Paul Serre leg.; MNHN-EO-CAELIF10729 • 1 ♀; 1920; Paul Serre leg.; MNHN-EO-CAELIF10730.
Guatemala • 1 ♀; Zacapa, Rte de l'Atlantique km126, S. Lorenzo; 1700 m a.s.l.; 28.XI.1986., 30.XI.1986; C.Amedegnato & S. Poulain leg.; MNHN-EO-CAELIF10765 • 1 ♂; Zacapa, Rte de l'Atlantique km126, S. Lorenzo; 1700 m a.s.l.; 28.XI.1986., 30.XI.1986; C.Amedegnato & S. Poulain leg.; MNHN-EO-CAELIF10766 • 1 ♂; Zacapa, Rte de l'Atlantique km126, S. Lorenzo; 1700 m a.s.l.; 28.XI.1986., 30.XI.1986; C.Amedegnato & S. Poulain leg.; MNHN-EO-CAELIF10767.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Guatemala, Honduras, Nicaragua, Costa Rica, Panamá. See Figure 1.

REMARK

Although only the nominal subspecies has been reported from Central America, we do not identify our records to the level of subspecies because the genus should be reexamined with clear descriptions of variability.

FIG. 9. — A living specimen of *Tettigidea lateralis* (Say, 1824). Photo: Rebecca McCluskey.

Subfamily METRODORINAE Bolívar, 1887

Genus *Allotettix* Hancock, 1899

Allotettix Hancock, 1899: 276 (original description of the genus); 1902: 126 (updated description of the genus); 1907a: 48 (reproduction of the updated generic description). — Kirby 1910: 28 (catalogued). — Günther 1939: 255 (a review of the genus). — Yin *et al.* 1996: 849 (catalogued). — Otte 1997: 34 (catalogued). — Buzzetti & Devriese 2007: 46 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 474 (catalogued).

TYPE SPECIES. — *Allotettix prolongatus* Hancock, 1899, by original designation.

COMPOSITION AND DISTRIBUTION. — Eight species of which only one, *A. otumboides* Günther, 1939 is known to occur in Central America.

Allotettix otumboides Günther, 1939
(Fig. 10)

Allotettix otumboides Günther, 1939: 259 (original description of the species, 3 syntypes and 3 paratypes designated). — Weidner & Wagner 1968: 128 (2 syntypes deposited at ZMUH). — Dey & Husemann 2018: 27 (2 paratypes deposited at ZMUH).

TYPE MATERIAL EXAMINED. — **Peru** • 1 ♀ syntype; Callanga; O. Staudinger leg.; SMTD • 1 ♂ syntype; Callanga; O. Staudinger leg.; ZMUH.
Bolivia • 1 ♂ paratype, 1 ♀ paratype; La Paz, Coroico; O. Staudinger leg.; NMW.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♀; Env. de Cartago; 1800 m a.s.l.; 1910; G. Picado leg.; MNHN-EO-CAELIF10742 • 1 ♂; Env. de Cartago; 1800 m a.s.l.; 1910; G. Picado leg.; MNHN-EO-CAELIF10743.

DISTRIBUTION. — Costa Rica. See Figure 1.

REMARK
No living specimens have been found in Central America.

Genus *Chiriquia* Morse, 1900

Chiriquia Morse, 1900: 5 (original description of the genus with a description of a single species, *C. serrata* within it). — Hancock 1902: 49 (a reproduction of the original description); 1907a: 39 (a reproduction of the original description). — Kirby 1910: 23 (catalogued). — Bruner 1910: 98 (catalogued). — Hebard 1924: 155 (catalogued). — Günther 1939: 226 (a review of the genus). — Liebermann 1955: 331 (catalogued). — Yin *et al.* 1996: 856 (catalogued). — Otte 1997: 41 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 477 (catalogued).

TYPE SPECIES. — *Chiriquia serrata* Morse, 1900, by original monotypy.

COMPOSITION AND DISTRIBUTION. — Four species of which only one, *C. serrata* is known to occur in Central America.

Chiriquia serrata Morse, 1900
(Figs 11; 12; 13)

Chiriquia serrata Morse, 1900: 7 (original description of the species with a drawing of the pronotum and a frontal view of the head on page 7, no holotype designated, two syntypes). — Hancock 1902: 49 (reproduction of the original description); 1907a: 39 (the species occurs in Costa Rica, Nicaragua, and Panama). — Kirby 1910: 23 (catalogued). — Bruner 1910: 99 (catalogued). — Hebard 1933: 126 (catalogued). — Günther 1939: 226 (catalogued). — Maes

FIG. 10. — A preserved specimen of *Allotettix otumboides* Günther, 1939, MNHN-EO-CAELIF10742. Photo: Christophe Hervé.

FIG. 11. — A living specimen of *Chiriquia serrata* Morse, 1900. Photo: Karl Kroeker.

1989: 50 (catalogued); 1998: 114 (catalogued). — Mariño-Pérez *et al.* 2016: 28 (a specimen pictured in pl. 1, fig. F page 26 misidentified as *C. serrata*, see notes).

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♂ syntype; Chiriqui Volcano; 2500-4000 ft. a.s.l.; BMNH NHMUK 010924473.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 2 specimens; Sarapiqui, La Virgen; 1920; Paul Serre leg.; MNHN-EO-CAELIF10734 • 1 specimen; Sarapiqui, La Virgen; 1920; Paul Serre leg.; MNHN-EO-CAELIF10735 • 2 nymphs; Sarapiqui, La Virgen; 1920; Paul Serre leg.; MNHN-EO-CAELIF10736 • 1 specimen; Sarapiqui, La Virgen; 1920; Paul Serre leg.; MNHN-EO-CAELIF10737 • 1 ♂; 1920; Paul Serre leg.; MNHN-EO-CAELIF10733 • 1 ♂; 1920; Paul Serre leg.; MNHN-EO-CAELIF10764 • 1 ♀; Heredia, Puerto Viejo, La Selva Biological Station; Piotr Naskrecki leg. • 1 ♀; Farm Hamburg am Reventazon; 1.X.1926; Nevermann, F. leg.; ZMUH.

ADDITIONAL DATA. — See Appendix 1.

Fig. 12. — A living specimen of *Chiriquia serrata* Morse, 1900. Photo: Javier A. Canteros.

Fig. 13. — A living specimen of *Chiriquia serrata* Morse, 1900. Photo: Piotr Naskrecki.

DISTRIBUTION. — Nicaragua, Costa Rica, Panamá. See Figure 1.

REMARK
The specimen identified by Mariño-Pérez *et al.* (2016) does not belong to the genus *Chiriquia*, but possibly to *Paratettix*.

Genus *Crimisus* Bolívar, 1887

Crimisus Bolivar, 1887: 246 (original description of the genus, no type species designation). — Hancock 1907a: 40 (reproduction of the original description, translated into English). — Kirby 1910: 24 (*C. patruus* designated as the type species). — Günther 1939: 238 (detailed diagnosis). — Yin *et al.* 1996: 861 (catalogued). — Otte 1997: 43 (catalogued).

TYPE SPECIES. — *Crimisus patruus* Bolívar, 1887, designated by Kirby (1910).

COMPOSITION AND DISTRIBUTION. — 12 species of which 11 inhabit South America. Only *C. costaricensis* Günther, 1939 is known to occur in Central America. A potentially new undescribed species has been observed.

Crimisus costaricensis Günther, 1939
(Figs 14; 15)

Crimisus costaricensis Günther, 1939: 243 (original description of the species, holotype designated, pictured in figs 174 and 175, page 244).

TYPE MATERIAL EXAMINED. — **Costa Rica** • 1 ♀ holotype; San Isidro, near San José; 1-31.VII.1930; Reimoser leg.; NMW.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♀, 1 ♂; San Jose, Cascajal de Coronado, Bajo La Rosa; 3.V.1995; Baumann & Houseman leg.; Coll. JT.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Costa Rica, Panamá. See Figure 1.

REMARK
Two distinct forms of this species have been observed – one with slender anterior and middle femora and one in which they are more robust. It is quite possible that sexual dimorphism is the cause but this cannot be confirmed as most of the photographs do not allow us to determine the sex of the animals.

Crimisus sp.
(Fig. 16)

REMARK
An undescribed species of the genus *Crimisus* or perhaps *Cotys* Bolívar, 1887 has been observed. It differs from *C. costaricensis* by a sharp antegenicular tooth, a slight hump formed by the median carina of the pronotum in prozona, the first hind tarsal segment slightly longer than the third, and by the median carina reaching the anterior margin of the pronotum. *Cotys* is a genus that is very similar to *Crimisus* and both genera are in need of revision.

FIG. 14. — A living specimen of *Crimisus costaricensis* Günther, 1939. Photo: Jason Straka.

DISTRIBUTION. — Costa Rica, Panamá. See Figure 1.

Genus *Metrodora* Bolívar, 1887

Metrodora Bolivar, 1887: 247 (original description of the genus, no type species designation). — Hancock 1907a: 41 (reproduction of the original description, translated into English). — Kirby 1910: 24 (*M. rana* designated as the type species). — Bruner 1910: 109 (catalogued). — Günther 1939: 292 (key to the species). — Yin *et al.* 1996: 884 (catalogued). — Otte 1997: 50 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 474 (catalogued).

TYPE SPECIES. — *Metrodora rana* Bolívar, 1887, designated by Kirby (1910).

COMPOSITION AND DISTRIBUTION. — 13 described species. Nine are known to occur in South America and four in Central America. At least two undescribed species reported here.

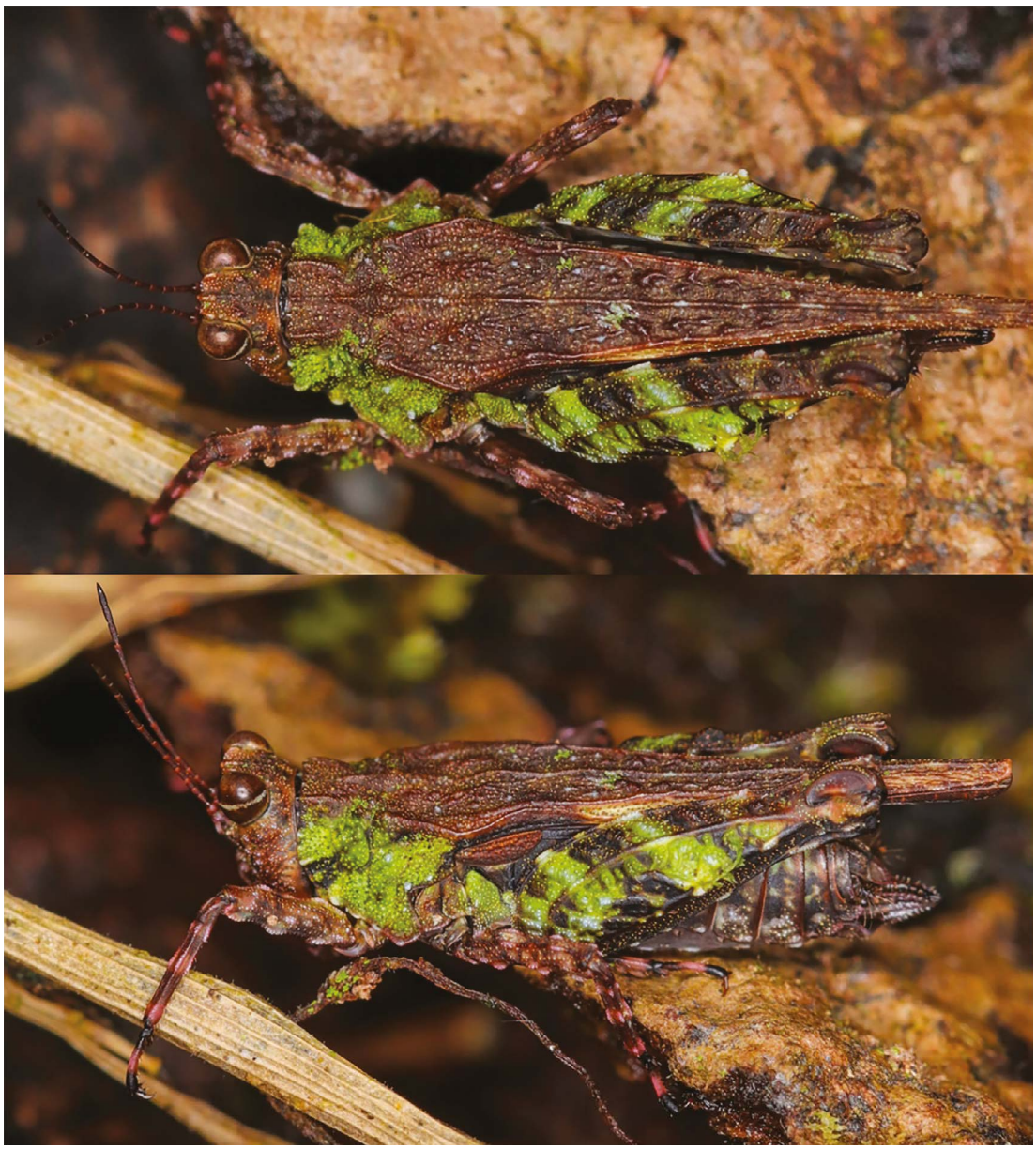

Fig. 15. — A living specimen of *Crimisus costaricensis* Günther, 1939 exhibiting cryptic coloration together with sparse epizootic algal covering. Photo: Marco de Haas.

Metrodora harroweri (Hebard, 1924)
(Fig. 17)

Platytettix harroweri Hebard, 1924: 81 (original species description, type designated, considered holotype – see notes, drawing of the pronotum and the head in pl. 6, figs 3, 4, and 5, p. 157); 1933: 126 (allotype designated). — Otte 1997: 48 (catalogued).

Metrodora harroweri – Günther 1939: 297 (catalogued).

Type material examined. — **Panamá** • 1 ♀ holotype; Gatún; 17.VII.1916; ANSP.

Additional data. — See Appendix 1.

Distribution. — Panamá. See Figure 1.

Remark
Hebard (1924) in his description of the species clearly designated a single type, which is to be considered the holotype fixed by original designation according to Article 73.1.1. of the ICZN (1999).

Metrodora panamae (Hebard, 1924)
(Fig. 18)

Platytettix panamae Hebard, 1924: 83 (original species description, type designated, considered holotype – see notes, drawing of the pronotum and the head in pl. 6, figs 6, 7, page 157).

Metrodora panamae – Günther 1939: 295 (catalogued). — Maes 1989: 50 (misspelled as "*Metrodora panamaea*", distributed in Nicaragua, Costa Rica, and Panama); 1998: 114 (catalogued).

Fig. 16. — A living specimen of the new species of *Crimisus* Bolívar, 1887 or *Cotys* Bolívar, 1887. Photo: Andrés Matos.

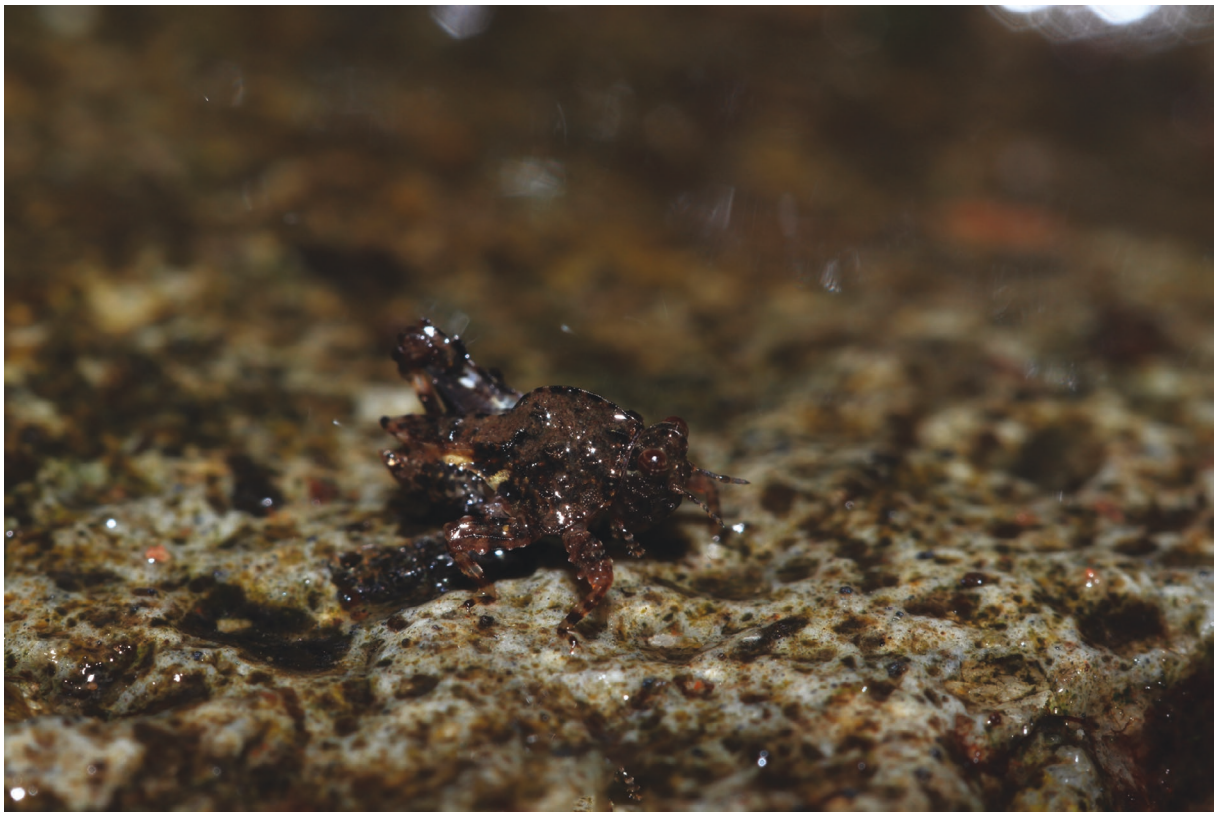

Fig. 17. — A living specimen of *Metrodora harroweri* (Hebard, 1924). This specimen has also been recorded on video: https://www.youtube.com/shorts/75Bb78XXsZk. Photo: Andrés Matos.

FIG. 18. — A living specimen of *Metrodora panamae* (Hebard, 1924). Photo: Laurent Hesemans.

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♀ holotype; Porto Bello; 19.II.1911; USNM.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Costa Rica, Panamá. See Figure 1.

REMARK

Hebard (1924) in his description of the species clearly designated a single type, which is to be considered the holotype fixed by original designation according to Article 73.1.1. of the ICZN (1999).

Metrodora simplex (Hebard, 1924)

Tylotettix simplex Hebard, 1924: 79 (original species description, type designated, considered holotype – see notes, drawing of the pronotum and the head in pl. 6, figs 1, 2, page 157).

Metrodora simplex – Günther 1939: 298 (catalogued). — Maes 1989: 50 (distributed in Guatemala, Honduras, and Nicaragua). — Barranco 2010: 26 (catalogued).

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♂ holotype; Porto Bello; 18.VIII.1916; ANSP.

REMARKS

No living specimens of this species have been found in Central America.

Hebard (1924) in his description of the species clearly designated a single type, which is to be considered the holotype fixed by original designation according to Article 73.1.1. of the ICZN (1999).

Metrodora sinuata (Morse, 1900)
(Figs 19; 20)

Tylotettix sinuata Morse, 1900: 6 (original description of the species, holotype designated, a drawing of the pronotum and a part of the head in a figure, page 6).

Tylotettix sinuatus – Hancock 1902: 47 (reproduction of the original description); 1907a: 21 (reproduction of the original description). — Kirby 1910: 12 (catalogued).

Metrodora sinuata – Günther1939: 297 (catalogued). — Maes 1989: 50 (catalogued).

TYPE MATERIAL EXAMINED. — **Nicaragua** • 1 ♂ holotype; ANSP.

ADDITIONAL MATERIAL. — **Costa Rica** • 1 ♀; Heredia, Puerto Viejo, La Selva Biological Station; Piotr Naskrecki leg.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Nicaragua, Costa Rica. See Figure 2.

Metrodora sp. 1
(Fig. 21)

DISTRIBUTION. — Costa Rica. See Figure 2.

REMARK

An undescribed species of *Metrodora* resembling *M. colombiae* Günther, 1939 and *M. pygmaea* (Roberts, 1937) has been observed. It is recognizable by a vertex three times wider than an eye, by lightly protruding lateral lobes, and by a median carina that is not significantly elevated. It differs from *M. colombiae* by differently shaped vertex and lateral lobes. It differs from *M. pygmaea* by having more strongly protruding lateral lobes and less protruding medial carina of the vertex.

Metrodora sp. 2
(Fig. 22)

DISTRIBUTION. — Costa Rica. See Figure 2.

REMARK

An undescribed species of *Metrodora* resembling *M. colombiae* and *M. acuta* Günther, 1939 has been observed. It is recognizable by an exceptionally protruding fastigium, considerably more than in the mentioned species, with a compressed medial carina of the vertex protruding even further.

Genus *Otumba* Morse, 1900

Otumba Morse, 1900: 7 (original description of the genus with a description of a single species within it). — Hancock 1902: 50 (Metrodorinae, related to *Metrodora*); 1907a: 43 (updated description of the genus with a key to the species). — Kirby 1910: 26 (catalogued). — Günther 1939: 233 (detailed diagnosis of the genus). — Yin *et al.* 1996: 891 (catalogued). — Otte 1997 (catalogued) — Buzzetti & Devriese 2007: 54 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 479 (catalogued).

Fig. 19. — A living specimen of *Metrodora sinuata* (Morse, 1900). Photo: Elisabeth Glatzhofer.

Fig. 20. — A living specimen of *Metrodora sinuata* (Morse, 1900). Photo: Piotr Naskrecki.

FIG. 21. — A living specimen of the new species of the genus *Metrodora* Bolívar, 1887. Photo: Chloe and Trevor Van Loon.

TYPE SPECIES. — *Otumba scapularis* Morse, 1900, by original monotypy.

COMPOSITION AND DISTRIBUTION. — 12 species. Nine are known to occur in South America and three in Central America.

Otumba aciculata Hebard, 1924
(Figs 23; 24)

Otumba aciculata Hebard, 1924: 84 (original description of the species, holotype designated, drawing of a part of the pronotum and a part of the head in pl. 6, figs 8, 9., page 157).

TYPE MATERIAL EXAMINED. — **Panamá** • 1 ♂ holotype; Porto Bello; 27.II.1911; USNM #9754.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♀; Puntarenas, Casa Tamandua, Finca Bellavista; Piotr Naskrecki leg.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Costa Rica, Panamá. See Figure 2.

REMARK

Drawings of the holotype from Hebard (1924) were examined in the absence of photographs of the specimen.

FIG. 22. — A living specimen of the new species of the genus *Metrodora* Bolívar, 1887. Photo: Chloe and Trevor Van Loon.

Otumba dentata Hancock, 1907
(Fig. 25)

Otumba dentata Hancock, 1907a: 44 (original description of the species, no holotype designated). — Bruner 1910: 111 (catalogued). — Hebard 1924: 84 (lectotype designation). — Günther 1939: 235 (detailed diagnosis of the species). — Otte 1978: 40 (catalogued). — Barranco 2010: 26 (catalogued).

TYPE MATERIAL EXAMINED. — **Costa Rica** • 1 ♂ lectotype; Juan Viñas; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♂, 1 ♀; Heredia, 11 km ESE La Virgen; 12.IV.2003; Clark, S. M. leg.; BYUC.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Costa Rica. See Figure 2.

Otumba scapularis Morse, 1900
(Fig. 26)

Otumba scapularis Morse, 1900: 7 (original description of the species, holotype designated, drawings of the pronotum and the hind femur in a figure, page 8). — Hancock 1902: 50 (reproduction of the original description). — Kirby 1910: 26 (catalogued). — Bruner 1910: 111 (a note that the species should occur in Costa Rica and Panama as well). — Günther 1939: 16 (detailed diagnosis of the species). — Otte 1978: 40 (catalogued). — Maes 1989: 50 (catalogued). — Barranco 2010: 26 (catalogued).

TYPE MATERIAL EXAMINED. — **Nicaragua** • 1 ♀ holotype; San Juan del Norte; ANSP.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Nicaragua, Costa Rica. See Figure 2.

Genus *Platythorus* Morse, 1900

Platythorus Morse, 1900: 8 (original description of the genus with a description of its only species, *P. camurus*). — Hancock 1902: 51 (reproduction of the original description); 1907a: 36 (reproduction of the original description). — Kirby 1910: 21 (catalogued). — Günther 1939: 261 (detailed diagnosis of the genus and its only species). — Yin *et al.* 1996: 901 (catalogued). — Otte 1997: 56 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 472 (placed into the tribe Amorphopini Günther, 1939). — Cadena-Castañeda *et al.* 2020: 46 (reverted tribal assignment, now unassigned).

TYPE SPECIES. — *Platythorus camurus* Morse, 1900, by original monotypy.

COMPOSITION AND DISTRIBUTION. — A monospecific genus, restricted to Central America

Platythorus camurus Morse, 1900
(Fig. 27)

Platythorus camurus Morse, 1900: 8 (original description of the species, holotype designated, a drawing of the pronotum in a figure, page 8). — Hancock 1902: 52 (reproduction of the original description); 1907a: 36 (reproduction of the original description). — Kirby 1910: 21 (catalogued). — Bruner 1910: 96 (noted to occur in Nicaragua and Costa Rica, frequently observed on tree trunks among lichens and mosses). — Günther 1939: 261 (detailed diagnosis of the species). — Maes 1989: 50 (catalogued).

FIG. 23. — A living specimen of *Otumba aciculata* Hebard, 1924. Photo: Gerrit Öhm.

TYPE MATERIAL EXAMINED. — **Nicaragua** • 1 ♀ holotype; Chontales; Janson leg.; BMNH NHMUK 010924475.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Nicaragua, Costa Rica. See Figure 2.

Genus *Scabrotettix* Hancock, 1907

Scabrotettix Hancock, 1907a: 46 (original description of the genus with new combinations and descriptions of several new species, a key to the species). — Bolivar 1909: 401 (description of *Scabrotettix biolleyi*, misspelled as "*Scabritettix*"). — Kirby 1910: 27 (*S. acutilobus* designated as the type species). — Günther 1939: 251 (detailed diagnosis of the genus). — Paris 1993: 233 (catalogued). — Yin *et al.* 1996: 907 (catalogued). — Otte 1997: 62 (catalogued). — Buzzetti & Devriese 2007: 49 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 479 (catalogued).

TYPE SPECIES. — *Scabrotettix acutilobus* Hancock, 1907, designated by Kirby (1910).

COMPOSITION AND DISTRIBUTION. — Five species, two subspecies. Only *S. biolleyi* Bolívar, 1909 is known to occur in Central America.

Scabrotettix biolleyi Bolívar, 1909

Scabrotettix biolleyi Bolivar, 1909: 401 (original description of the species, holotype fixed by monotypy, see notes). — Paris 1993:

FIG. 24. — A living specimen of *Otumba aciculata* Hebard, 1924. Photo: Piotr Naskrecki.

233 (mention of the type label marking it as a syntype). — Hollier 2016: 24 (reproduction of the type label and a comment on the type's condition).

TYPE MATERIAL EXAMINED. — **Costa Rica** • 1 ♀ holotype; Sarapiqui, Cariblanco; P. Biolley leg.; MHNG.

DISTRIBUTION. — Costa Rica. See Figure 2.

REMARKS

No living specimens have been photographed in Central America since the description.

The label of the type states that it is a syntype, but Bolivar (1909) in his original description never states the size of his type series or whether he had one at all. Measurements are exact and represent only the female sex. Additionally, only one syntype is known, even if there were multiple. According to Article 73.1.2. of ICZN (1999), the type can be considered the holotype.

Subfamily TETRIGINAE Rambur, 1838

Genus *Clypeotettix* Hancock, 1902

Clypeotettix Hancock, 1902: 36 (original description of the genus with one species, *C. schochii* [spelled "schocki"], a new combination of *Paratettix schochii* (Bolívar, 1887)); 1907a: 54 (reproduction of the original description translated into English, a note on possible subspecies). — Rehn 1904: 667 (catalogued). — Kirby 1910: 31 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 462 (resurrected the genus with its single species).

Paratettix – Rehn & Grant 1957b: 248 (synonymised the genus with *Paratettix* Bolívar, 1887, key to the species); 1961: 78 (noted as a synonym of *Paratettix* Bolívar, 1887).

TYPE SPECIES. — *Paratettix schochii* Bolívar, 1887, by monotypy.

COMPOSITION AND DISTRIBUTION. — Monospecific genus present in Central America and in the southern part of North America.

Fig. 25. — A living specimen of *Otumba dentata* Hancock, 1907. Photo: Gerrit Öhm.

Clypeotettix schochii (Bolívar, 1887) (Fig. 28)

Paratettix schochii Bolivar, 1887: 274 (original description of the species, multiple syntypes). — Bruner 1895: 62 (catalogued). — Morse 1900: 12 (catalogued). — Rehn 1903: 8 (catalogued). — Rehn & Grant 1957b: 248 (lectotype designated); 1961: 92 (catalogued). — Maes 1989: 50 (catalogued). — Paris 1993: 249 (catalogued). — Cadena-Castañeda & Monzón-Sierra 2014: 402 (catalogued).

Clypeotettix schochii – Hancock 1902: 124 (transferred to the newly described genus, drawings of the species in lateral view in pl. 7, fig. 1 and the head in pl. 9, figs 10 and 11, a note on possible subspecies). — Rehn 1907: 69 (catalogued). — Kirby 1910: 31 (catalogued). — Bruner 1910: 118 (catalogued). — Hebard 1932: 228 (catalogued)

Type material examined. — **Guatemala** • 1 ♀ lectotype; NMW.

Additional material examined. — **Costa Rica** • 1 ♀; 1927; Paul Serre leg.; MNHN-EO-CAELIF10732.
Guatemala • 1 ♀; 19.N.1855; Angrand leg.; MNHN-EO-CAELIF10738 • 1 ♀; 19.N.1855; Angrand leg.; MNHN-EO-CAELIF10739.
Panama • 1 ♀; Darien; 1899; F. Geai leg.; MNHN-EO-CAELIF10763.

Additional data. — See Appendix 1.

Distribution. — Guatemala, Nicaragua. See Figure 2.

Fig. 26. — A living specimen of *Otumba* Morse, 1900. Photo: Lena Struwe.

Genus *Ochetotettix* Morse, 1900

Ochetotettix Morse, 1900: 9 (original description of the genus with two species, *O. volans* and *O. barretti*, no type species designation). — Hancock 1902: 106 (catalogued); 1907a: 61 (reproduction of the original description). — Rehn 1905: 801 (*O. barretti* designated as the type species). — Kirby 1910: 1910 (catalogued). — Rehn & Grant 1957a: 957 (re-examined, a diagnosis provided). — Yin *et al.* 1996: 890 (catalogued). — Otte 1997: 110 (catalogued). — Cadena-Castañeda & Cardona Granda 2015: 462 (catalogued).

Type species. — *Ochetotettix barretti* (Hancock, 1899), designated by Rehn 1905.

Composition and distribution. — A monospecific genus, distributed in Central America and in Mexico.

Ochetotettix barretti (Hancock, 1899) (Fig. 29)

Neotettix barretti Hancock, 1899: 277 (original description of the species, holotype fixed by monotypy).

Ochetotettix barretti – Morse 1900: 9 (new combination of *Neotettix barretti*). — Hancock 1902: 107 (catalogued); 1907a: 61 (catalogued). — Rehn 1905: 801 (catalogued). — Kirby 1910: 51

FIG. 27. — A living specimen of *Platythorus camurus* Morse, 1900. Photo: Kimberlie Sasan.

(catalogued). — Rehn & Grant 1957a: 957 (catalogued). — Hebard 1924: 90 (*O. volans* synonymized with *O. barretti*); 1932: 228 (catalogued). — Otte 1978: 40 (catalogued).

TYPE MATERIAL EXAMINED. — **Mexico** • 1 ♂ holotype; Tizapan; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♀; San Jose, Parque de Diversiones, Hospital de Ninos; 18.II.1992; Johnsen, R. L. & Ochoa, R. leg.; Coll. JT.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Nicaragua, Costa Rica. See Figure 2.

Genus *Paratettix* Bolívar, 1887

Paratettix Bolivar, 1887: 195 (original description of the genus). — Hancock 1902: 108 (reproduction of the original description translated into English). — Rehn 1904: 658 (designated the type species).

TYPE SPECIES. — *Acrydium meridionalis* (Rambur, 1838), designated by Rehn (1904).

COMPOSITION AND DISTRIBUTION. — Distributed on all continents except Antarctica, currently numbering 62 species of which only three occur in Central America: *P. mexicanus* (Saussure, 1861), *P. toltecus* (Saussure, 1861), and *P. freygessnerii* Bolívar, 1887.

REMARK

The body of literature concerning this genus and its species is enormous. The data examined and presented concerns only Central America and the identity of the species.

Paratettix freygessnerii Bolívar, 1887 (Fig. 30)

Paratettix frey-gessnerii [sic] Bolívar, 1887: 276 (original description of the species [incorrectly spelled], no holotype designated).

Paratettix freygessnerii Hollier 2016: 25 (2 male and 2 female syntypes exist).

Merotettix pristinus Morse, 1899: 199.

TYPE MATERIAL EXAMINED. — **Cuba** • 1 ♀ syntype, 1 ♂ syntype; Al Hoctampure; MHNG.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Belize, El Salvador, Nicaragua. See Figure 2.

Paratettix mexicanus (Saussure, 1861) (Fig. 31)

Tettix mexicana Saussure, 1861: 400 (original description of the species, no holotype designated).

Paratettix mexicanus – Bolívar 1887: 276 (transferred to the genus *Paratetttix*). — Rehn & Grant 1957b: 250 (lectotype designated).

Paratettix toltecus form *extensus* Morse, 1899: 198.

Paratettix mexicanus variety *abortus* Hancock, 1902: 110.

Fig. 28. — A living specimen of *Clypeotettix schochii* (Bolívar, 1887) Photo: Juan Cruzado Cortés.

Fig. 29. — A living specimen of *Ochetotettix barretti* (Hancock, 1899). Photo: Janine Massey.

Fig. 30. — A living specimen of *Paratettix freygessnerii* Bolívar, 1887. Photo: Karl Kroeker.

FIG. 31. — A living specimen of *Paratettix mexicanus* (Saussure, 1861). Photo: Karl Kroeker.

FIG. 32. — A living specimen of *Paratettix toltecus* (Saussure, 1861). Photo: Andrés Matos.

Paratettix toltecus form *arizonus* Hancock, 1902: 110.

Paratettix morsei Hancock, 1902: 110.

Paratettix robustus Hancock, 1902: 110.

Paratettix toltecus variety *sonorensis* Hancock, 1902: 110.

Paratettix tuberculatus Hancock, 1902: 110.

TYPE MATERIAL EXAMINED. — **Mexico** • 1 ♀ lectotype; Tamaulipas, Tampico; MHNG.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — The entirety of Central America. See Figure 2.

REMARK
Ample synonyms illustrate the morphological variability of the species. In this case, some of the variability overlaps with some characters typically associated with the subfamily Metrodorinae, namely horizontally protruding lateral lobes and robust femora which are typical of the genus *Crimisus* and the tribe Amorphopini.

Paratettix toltecus (Saussure, 1861)
(Fig. 32)

Tettix tolteca Saussure, 1861: 401 (original description of the species, no holotype designated).

Batrachidea tolteca – Thomas 1873: 244 (name used without authorship or official description, *P. toltecus* noted as a synonym). — Maes 1989: 50 (recorded in Nicaragua).

Paratettix toltecus – Bolívar 1887: 276 (transferred to the genus *Paratetttix*). — Rehn & Grant 1957b: 311 (lectotype designated). — Barranco 2010: 21 (recorded in Costa Rica).

Paratettix borellii Giglio-Tos, 1897: 28.

Tettix convexus Morse, 1900: 10.

Paratettix durus Morse, 1900: 13.

Tettix sinuatus Morse, 1900: 11.

Tettix tectus Morse, 1900: 10.

Apotettix eurycephalus Hancock, 1902: 100.

Paratettix saevus Kirby, 1910: 35.

TYPE MATERIAL EXAMINED. — **Mexico** • 1 ♂ lectotype; Tamaulipas, Tampico; MHNG.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Honduras, Nicaragua, Costa Rica, Panamá. See Figure 2.

REMARK
Ample synonyms illustrate the morphological variability of this species. The species of this genus are difficult to separate.

Genus *Teredorus* Hancock, 1907

Teredorus Hancock, 1907a: 52 (original description of the genus with a single species, *T. stenofrons*); 1915: 109 (description of several Asian species). — Bruner 1910: 118 (catalogued). — Otte 1978: 123 (catalogued). — Devriese & Husemann 2023: 337 (notes on the genus, *Paratettix aztecus* transferred to *Teredorus*).

FIG. 33. — A living specimen of *Paratettix aztecus* (Saussure, 1861). Photo: Andrés Matos

TYPE SPECIES. — *Teredorus stenofrons* Hancock, 1907, by original monotypy.

COMPOSITION AND DISTRIBUTION. — Only two species, *T. aztecus* and *T. stenofrons* in the Americas. See notes.

REMARK
The literature covered under the genus section pertains only to the Americas. It is clear that the Asian species do not belong to this genus. This issue is well-known (Storozhenko & Dawwrueng 2015; Devriese & Husemann 2023) and is not furher discussed in this paper.

Teredorus aztecus (Saussure, 1861)
(Fig. 33)

Tettix aztecus Saussure, 1861: 400 (original description of the species, no holotype designated, multiple syntypes).

Paratettix aztecus – Bolívar 1888: 146 (transferred to the genus *Paratetttix*). — Rehn & Grant 1957b: 293 (lectotype designated).

Teredorus aztecus – Devriese & Husemann 2023: 338 (*Paratettix aztecus* transferred to *Teredorus*).

Paratettix fallax Bolívar, 1887: 272.

Paratettix hesperus Morse, 1899: 198.

Telmatettix aridus Hancock, 1902: 133.

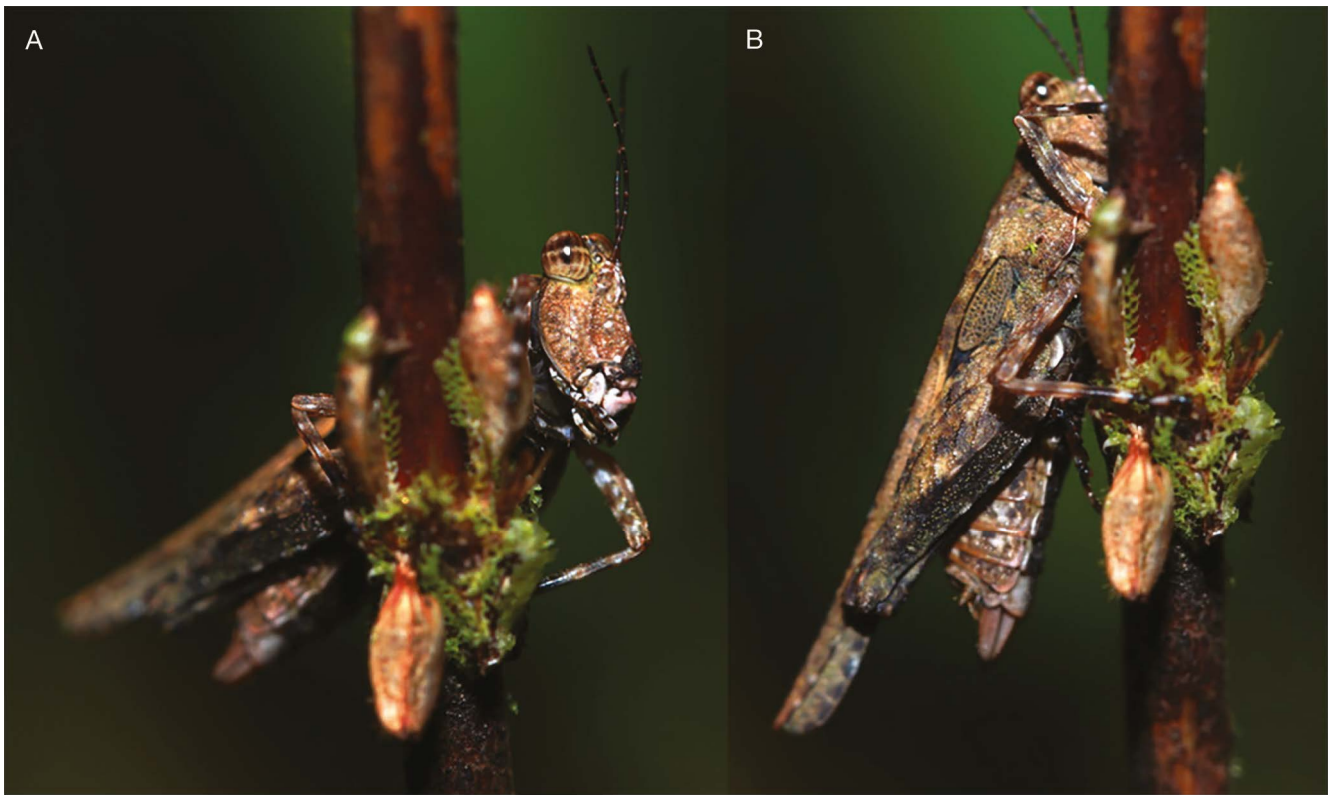

FIG. 34. — **A**, **B**, a living specimen of the undetermined genus resembling *Danielatettix* Cadena-Castañeda, Dávila Gonzalez, Vasquéz Rodríguez & Trujillo Rodríguez, 2021 or *Stenodorsus* Hancock, 1906. Photo: Andrés Matos.

Telmatettix minutus Hancock, 1902: 134.

Telmatettix minutus form *rugosus* Hancock, 1902: 135.

Telmatettix hesperus variety *parviverticis* Hancock, 1902: 130.

TYPE MATERIAL EXAMINED. — **Mexico** • 1 ♀ lectotype; Nuevo León, Cordillera Oriental, Potrero; Sumichrast, leg.; MHNG.

ADDITIONAL MATERIAL EXAMINED. — Type series of *Paratettix fallax*: Guatemala • 1 ♀ lectotype; NMW. • 2 ♀ paralectotypes; NMW.

ADDITIONAL DATA. — See Appendix 1.

DISTRIBUTION. — Belize, Guatemala, Honduras, Nicaragua, Costa Rica, Panamá. See Figure 2.

Teredorus stenofrons Hancock, 1907

Teredorus stenofrons Hancock, 1907a: 53 (original description of the species). — Bruner 1910: 118 (catalogued). — Günther 1939: 173 (detailed diagnosis of the species, noted that it could be related to *Allotettix americanus* instead of to *Systolederus*). — Otte 1978: 41 (catalogued). — Lei *et al.* 2014: 36 (included in a key to the species).

TYPE MATERIAL EXAMINED. — **Peru** • 1 ♀ holotype; Pachitea; ANSP.

ADDITIONAL MATERIAL EXAMINED. — **Costa Rica** • 1 ♂; Heredia, Estación Biológica La Selva; 21.III.2005; Clark, S. M. leg.; Coll. JT.

DISTRIBUTION. — Costa Rica. See Figure 2.

REMARK

No living specimens have been photographed in Central America since the description.

Genus resembling *Stenodorsus* Hancock, 1906 or *Danielatettix* Cadena-Castañeda, Dávila Gonzalez, Vasquéz Rodríguez & Trujillo Rodríguez, 2021 (Fig. 34)

MATERIAL EXAMINED. — **Panamá** • 1 ♀; Coclé, Penonomé, Río Indio Arriba; Andrés Matos leg.

DISTRIBUTION. — Panamá. See Figure 2.

REMARK

A specimen clearly belonging to a genus hitherto unreported from Central America has been observed. Due to an unfavorable angle from which the photograph was taken, it is impossible to precisely identify the species, but its wing length and vertex width resemble that of *Stenodorsus* and *Danielatettix*. It differs from *Stenodorsus* by a more pronounced bifurcation of the frontal costa which is placed lower than in *Stenodorsus*. It differs from *Danielatettix* by the length of the posterior tarsal claw. Thus, this specimen could represent an undescribed species or genus but there is no appropriate material from which to draw firm conclusions.

Key to the currently recognized species of Central American Tetrigidae

1. Median carina of pronotum forming a well-developed crest, antennae not filiform (composed of trapezoidally flattened antennal segments) ..... subfamily Lophotettiginae, genus *Lophotettix* Hancock, 1909, subgenus *Lophotettix* Hancock, 1909 (2)
— Median carina of pronotum without a crest or with a moderately-developed crest, filiform antennae 3

2. Crest semicircular, ending with a slight slope of the posterior margin. One small but sharp undulation on the anterior margin ..... *Lophotettix* (*Lophotettix*) *brevicristatus* Hancock, 1909
— Crest semioval or resembling a backward-facing fin. The posterior margin of the crest slightly concave or perpendicular to the pronotum ..... *Lophotettix* (*Lophotettix*) *zumbadoi* Barranco, 2010

3. Anterior and middle femora with a dorsal furrow, frontomedial projection in the form of a spine, lateral lobes of the pronotum straight alongside the body, wings of varying lengths ..... subfamily Atrachideinae (4)
— Anterior and middle femora without a dorsal furrow, frontomedial projection absent, lateral lobes of pronotum usually produced away from the body, wings usually as long as the pronotum ... subfamiliy Metrodorinae (6)
— Anterior and middle femora without a dorsal furrow, lateral lobes of pronotum usually straight alongside the body, wings usually surpassing the apex of the pronotum ..... subfamily Tetriginae (16)

4. Blunt frontomedial projection, apex of tegmina with a vertical stripe or elongated spot, sides of the body black, top of the pronotum of varying shades of black and brown ..... *Tettigidea lateralis* (Say, 1824)
— Blunt frontomedial projection, tegmina not maculated, vertex higher than the top margin of the eyes, brown-grey coloration ..... *Paurotarsus insolitus* Rehn, 1916
— Short and sharp frontomedial projection, brightly colored body with a thick dark lateral stripe, black tegmina with a bright spot at the apex ..... *Scaria fasciata* Hancock, 1907
— Frontomedial projection strongly produced over the head, median carina raised, brownish coloration 5

5. Median carina and dorsal margin of the frontomedial projection smooth, frontomedial projection reaching past the level of the eyes, tegmina invisible ..... *Cranotettix alpha* Grant Jr., 1955
— Median carina and dorsal margin of the frontomedial projection vertically undulate, tegmina invisible ..... *Plectronotus excavatus* Grant Jr., 1955
— Median carina and dorsal margin of the frontomedial projection vertically undulate, tegmina visible ..... *Plectronotus scaber* Morse, 1900

6. Median carina anteriorly forming multiple well-expressed crests, one moderately high crest and several smaller ones behind it ..... *Chiriquia serrata* Morse, 1900
— Median carina without a crest or with a singular crest 7

7. Wings and tegmina absent 8
— Wings and tegmina present 12

8. Prozonal carinae parallel, median carina slightly to strongly elevated, medial carina of the vertex strongly protruding past the level of the eyes ..... genus *Metrodora* Bolívar, 1887 (9)
— Prozonal carinae moderately diverging towards the head, wings and tegmina absent, median carina not prominent, fastigium not surpassing the level of the eyes ..... *Platythorus camurus* Morse, 1900

9. Median carina forming a crest 10
— Median carina without a crest, bearing slight elevations 11

10. Median carina forming a large crest in the anterior part, lateral lobes blunt and moderately produced ..... *Metrodora harroweri* (Hebard, 1924)
— Median carina forming a slight crest, lateral lobes sharp and strongly produced ..... *Metrodora panamae* (Hebard, 1924)

11. Median carina slightly elevated in the anterior part, the anterior margin of the pronotum at approximately the same level as the median carina, lateral lobes moderately produced, anterior and middle femora smooth ..... *Metrodora simplex* (Hebard, 1924)
— Median carina slightly elevated throughout its length, slightly sinuate, the anterior margin of the pronotum below the level of the median carina, lateral lobes slightly produced, anterior and middle femora tuberculate ..... *Metrodora sinuata* (Morse, 1900)

12. Prozonal carinae parallel or slightly diverging towards the head, vertex as wide as an eye or narrower, vertex narrowing anteriorly 13
— Prozonal carinae slightly diverging towards the head, vertex slightly wider than an eye, vertex not narrowing anteriorly 15

13. Medial and lateral carinae of the vertex elevated in the anterior third of the vertex, top margin of the antennal grooves above the bottom margin of the eyes, lateral lobes of the pronotum mostly straight alongside the body ..... *Allotettix otumboides* Günther, 1939
— Medial and lateral carinae of the vertex elevated in the anterior quarter of the vertex, antennal grooves below the bottom margin of the eyes, lateral lobes of the pronotum produced away from the body ..... *Otumba* Morse, 1900 (14)

14. Lateral lobes sharp, strongly protruding, with a smaller projection on the posterior margin, anterior margin of the vertex narrower than the width of an eye, vivid coloration ..... *Otumba aciculata* Hebard, 1924
— Lateral lobes sharp, strongly protruding, with a strong projection on the posterior margin, anterior margin of the vertex equally wide as an eye, vivid coloration ..... *Otumba dentata* Hancock, 1907
— Lateral lobes blunt and slightly protruding, anterior margin of the vertex equally wide as an eye, plain brown coloration ..... *Otumba scapularis* Morse, 1900

15. Pronotum surface with slight elevations, top margin of antennal grooves above the bottom margin of the eyes, pronotum on the same level throughout its length ..... *Crimisus costaricensis* Günther, 1939
— Pronotum surface without elevations, top margin of antennal grooves at the level of the bottom margin of the eyes, pronotum raising towards the apex which is above the level of the head ..... *Scabrotettix biolleyi* Bolívar, 1909

16. Vertex more than two times wider than an eye, fastigium strongly protruding past the level of the eyes ..... *Ochetotettix barretti* (Hancock, 1899)
— Vertex two times as wide as an eye or narrower, fastigium protruding slightly past the level of the eyes or not protruding 17

17. Vertex less wide than an eye ..... *Teredorus* Hancock, 1907 (18)
— Vertex as wide as an eye or a little wider 19

18. Anterior femora stout, dorsal margin of anterior femora semi-elliptical, ventral margin of middle femora with a slight tubercle in the middle ..... *Teredorus aztecus* (Saussure, 1861)
— Anterior femora elegant, dorsal margin of anterior femora straight, ventral margin of middle femora straight ..... *Teredorus stenofrons* Hancock, 1907

19. Tectiform pronotum, clypeate middle femora with a strong tubercle on their ventral margin ..... *Clypeotettix schochii* (Bolívar, 1887)
— Mostly flat pronotum, slender middle femora with flat ventral margin or with a tubercle ..... *Paratettix* Bolívar, 1887 (20)

20. Vertex as wide as an eye or a little wider, fastigium barely surpassing the level of the eyes, first tarsal segment of the hind femora barely longer than the third, middle femora robust with at least one prominent tubercle on the ventral margin ..... *Paratettix mexicanus* (Saussure, 1861)
— Vertex nearly 2 times wider than an eye, fastigium not surpassing the level of the eyes, first tarsal segment of the hind leg longer than the third, middle femora slender ..... *Paratettix toltecus* (Saussure, 1861)
— Vertex a little wider than an eye, fastigium at the level of the eyes, first tarsal segment of the hind leg around 1.5 times as long as the third, middle femora slender ..... *Paratettix freygessnerii* Bolívar, 1887

DISCUSSION

This study was conducted on a relatively small dataset – around 100 preserved specimens and less than 300 photographs of Central American Tetrigidae. There is an inherent limitation of examining photographs in the fact that the specimens cannot be examined from all angles. By careful examination of plentiful material, a sense of variability can be built and important diagnostic characters can be determined. In a small dataset, some species are not represented in a number that would allow such examination, which leaves room for future updates of the presented knowledge.

The most common species, such as *Scaria fasciata* and *Paratettix mexicanus* are well represented in the records and their variability is well understood, which in the case of *P. mexicanus* complicates our understanding at the level of subfamilies. On the other hand, some species are known only from literature. The fact that some known species are absent from the observed dataset while several new species and at least one new genus have been recorded signifies an utter lack of research in Central America. Additionally, there is only a small number of records from the northern countries of the region, Guatemala, Belize, and El Salvador, which leaves a lot of space for future research.

The most apparent problem we encountered was the definition of the subfamily Metrodorinae and its separation from the subfamily Tetriginae. The subfamily Metrodorinae has historically been defined mostly by horizontally protruding lateral lobes and by the first and the third tarsal segments of the hind leg being nearly equal in length (Bolívar 1887; Hancock

1907a; Bruner 1910). The latter character varies considerably. For example, *Platythorus camurus* has a considerably shorter third tarsal segment than the first, and there is a marked difference between the species within the genera *Crimisus* and *Paratettix*. The latter, just among the species present in Central America, includes a species with a very short third tarsal segment (*Paratettix freygessnerii*), and a species with the third tarsal segment being nearly equal to the first (*Paratettix mexicanus*). This character is thus useful for differentiating species, but is too inconsistent to define subfamilies, which has been noted by Devriese & Husemann (2023) as well. On the other hand, most Metrodorinae have more or less horizontally protruding lateral lobes, although there is a phenotype of *P. mexicanus* (Tetriginae) with that characteristic. The problem deepens when we consider that Metrodorinae are confirmed to be polyphyletic (Pavón-Gozalo *et al.* 2012), making the lateral lobes a practical character for classification but only if we value practicality over natural groups.

Another problem we encountered was the relationship between the genera *Paratettix* and *Crimisus*. The previously mentioned diagnostic characters for Metrodorinae—the length of the tarsal segments and the protruding lateral lobes suggest that *P. mexicanus* could belong to the genus *Crimisus*, which is additionally bolstered by the fact that the mentioned species has robust middle femora, a character typical for *Crimisus*. Thanks to the examination of the genus *Paratettix* by Rehn & Grant (1957b), where they discuss the extraordinary variability of the genus, the coloration of the constituent species, and their potential evolutionary history, we find no reason to doubt the placement of *P. mexicanus* at the moment. This situation illustrates how thin the line between the currently defined subfamilies is and how much a comprehensive review is needed. Multiple unambiguous characters need to be found in order to resolve the taxonomy at the level of subfamilies.

The genus *Tettigidea* was recently reviewed by Silva *et al.* (2021) who reduced the number of species included in the genus by the means of synonyms and *nomina dubia*. The key to more well-defined species allowed us to identify our specimens as *Tettigidea lateralis* but a further identification, to the level of one of the two subspecies, could not be confidently made. The drawings of the subspecies *Tettigidea lateralis lateralis* (Say, 1824) and *T. lateralis cazieri* Rehn & Grant, 1958 produced by Rehn & Grant (1961) imply a more obvious distinction than we have observed in the available specimens. Their morphology in some cases strongly resembles the appearance of *T. lateralis cazieri*, a subspecies that is known only from much further north. Considering the fact that the subspecies are very similar, we decided to keep our report at the level of species. Additionally, it should be noted that the genus was revised using only a limited number of preserved specimens, which could easily prove insufficient for determining the true borders between the more similar species. More species could be present in Central America but they might be difficult to recognize, considering the mentioned limitations.

There is a specimen from Costa Rica on the OSF that is identified as *Otumba quadrata* Hancock, 1907 (Cigliano *et al.* 2022), but this species is not included in the checklist. There are several problems regarding *O. quadrata* that need to be addressed before its presence can be confirmed in the region. Firstly, the female specimen in question differs from the female syntypes by: 1) its vertex being lower than the top margin of the eyes in frontal view; 2) its rounded vertex progressively narrowing anteriorly in dorsal view (straight and rectangular in the syntypes); 3) its medial carina of the vertex being shorter than in the syntypes; and 4) its prozonal carinae slightly converging dorsally (straight in the syntypes, apparently placed further apart). Secondly, the male syntype is morphologically very different from females (higher placed antennal grooves, lower vertex in frontal view, shorter and more robust middle femora) and agrees more with the morphology of *C. costaricensis*, but its condition is quite bad and doesn't allow confident identification. *Otumba quadrata* could thus be a very variable species that includes all the specimens currently attributed to it, or the Costa Rican specimen could represent an entirely new species of *Otumba*. Additionally, the male syntype could belong to *Crimisus* or a related genus. A thorough revision of both *Otumba* and *Crimisus* is needed before these doubts can be addressed.

In this paper, we present a preliminary checklist based on characters that currently seem to best separate the species. As has been discussed, there are inherent limitations to our approach which made a thorough survey of all characters impossible. Nevertheless, we created a robust and practically useful starting point for future research, offering a falsifiable reference for Tetrigidae of Central America. There is no question that a more expansive morphological, and possibly molecular, research is needed to bring our knowledge of this area to a functional level. To bring a modicum of order to a region lacking in research is a worthwhile undertaking. Many problems and uncertainties remain, but by identifying them we have hopefully set them on a course towards resolution.

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Author's contribution
Niko Kasalo and Josip Skejo contributed equally to the article.

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APPENDIX

APPENDIX 1. — The examined material from online depositories. Each record is identified at the levels of subfamilies, tribes and species, and the data on the collector, locality, date, and the location of the record is provided.

No.	Species	Locality	Observed	Photographed by	Link
Lophotettiginae					
1	*Lophotettix* (*L.*) *brevicristatus*	Costa Rica, Estacion San Gerardo	27.IV.2015	DH Janzen, W Hallwachs	BOLD ID: GMADJ016-16
2	*Lophotettix* (*L.*) *zumbadoi*	Costa Rica, Puntarenas, Linda Vista	18.III.2022	Randall Jiménez	www.inaturalist.org/observations/109379701
3	*Lophotettix* (*L.*) *zumbadoi*	Costa Rica, Provinz Cartago	11.II.2022	bettyglatzhofer	www.inaturalist.org/observations/110027949
Batrachideinae					
4	*Scaria fasciata*	Costa Rica, Heredia, Sarapiquí	8.II.2022	bettyglatzhofer	www.inaturalist.org/observations/109331886
5	*Scaria fasciata*	Costa Rica, Heredia, Sarapiquí	6.II.2022	bettyglatzhofer	www.inaturalist.org/observations/109182551
6	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	6.II.2022	Marco de Haas	www.inaturalist.org/observations/108956341
7	*Scaria fasciata*	Nicaragua, Rio Waspuk, Sulum	15.I.1996	jmmaes	www.inaturalist.org/observations/108918562
8	*Scaria fasciata*	Nicaragua, Bonanza, Rio Las Latas	2.VI.1997	jmmaes	www.inaturalist.org/observations/108918390
9	*Scaria fasciata*	Nicaragua, Bartola	18.VI.2007	jmmaes	www.inaturalist.org/observations/108916469
10	*Scaria fasciata*	Nicaragua, Bartola	18.VI.2007	jmmaes	www.inaturalist.org/observations/108916432
11	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	6.II.2022	Marco de Haas	www.inaturalist.org/observations/108912850
12	*Scaria fasciata*	Costa Rica, Puntarenas, Golfito	27.II.2022	Rich Hoyer	www.inaturalist.org/observations/108217693
13	*Scaria fasciata*	Costa Rica, La Selva	6.II.2022	Daniel Linzbauer	www.inaturalist.org/observations/106442875
14	*Scaria fasciata*	Costa Rica, La Selva	6.II.2022	Daniel Linzbauer	www.inaturalist.org/observations/106442865
15	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	29.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105507919
16	*Scaria fasciata*	Costa Rica, Heredia	27.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105315917
17	*Scaria fasciata*	Panamá, Palmarazo	15.I.2022	Andrés Matos	www.inaturalist.org/observations/105237281
18	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	26.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105232148
19	*Scaria fasciata*	Panama, Anton Valley	25.XII.2021	Kai Squires	www.inaturalist.org/observations/103663769
20	*Scaria fasciata*	Costa Rica, Provincia de Alajuela	27.XI.2021	jmass	www.inaturalist.org/observations/102082871
21	*Scaria fasciata*	Panama, Anton Valley	24.VIII.2021	Jeff Chapman	www.inaturalist.org/observations/92424860
22	*Scaria fasciata*	Costa Rica, San Ramón, Alajuela	25.VII.2021	Gaell Mainguy	www.inaturalist.org/observations/91193920
23	*Scaria fasciata*	Costa Rica, Provinz Puntarenas	22.III.2019	Gerrit Öhm	www.inaturalist.org/observations/74669830
24	*Scaria fasciata*	Costa Rica, Danta Corcovado Lodge	13.I.2021	luanatura	www.inaturalist.org/observations/68065127
25	*Scaria fasciata*	Costa Rica, Provinz Puntarenas	9.I.2021	Yolanfa Rodriguez	www.inaturalist.org/observations/67821547
26	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	24.XII.2015	Karl Kroeker	www.inaturalist.org/observations/67748862
27	*Scaria fasciata*	Costa Rica, Provinz Puntarenas, Golfito	7.I.2021	Leiner Garcia Morales	www.inaturalist.org/observations/67748490
28	*Scaria fasciata*	Panama, Anton Valley	29.I.2019	Thorsten Usée	www.inaturalist.org/observations/62884577
29	*Scaria fasciata*	Costa Rica, Guapiles, Limón Province	18.II.2020	Karen Yukich	www.inaturalist.org/observations/38871442
30	*Scaria fasciata*	Costa Rica, San Carlos, Alajuela Province	21.II.2017	sylviwanzi	www.inaturalist.org/observations/37911871
31	*Scaria fasciata*	Costa Rica, Sarapiqui, Heredia Province	6.II.2018	gernotkunz	www.inaturalist.org/observations/36639659
32	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	5.II.2018	gernotkunz	www.inaturalist.org/observations/36614546
33	*Scaria fasciata*	Costa Rica, Heredia Province, La Selva Biological Station	23.XII.2015	Karl Kroeker	www.inaturalist.org/observations/36598177
34	*Scaria fasciata*	Costa Rica, Sarapiqui, Heredia Province	7.II.2018	gernotkunz	www.inaturalist.org/observations/36420214
35	*Scaria fasciata*	Costa Rica, Sarapiqui, Heredia Province	8.IV.2019	Steven Daniel	www.inaturalist.org/observations/23684594
36	*Scaria fasciata*	Panama, Anton Valley	19.II.2019	benjesup	www.inaturalist.org/observations/21302300

Appendix 1. — Continuation.

No.	Species	Locality	Observed	Photographed by	Link
37	*Scaria fasciata*	Costa Rica, Provinz Puntarenas	1.III.2015	carnifex	www.inaturalist.org/observations/20952601
38	*Scaria fasciata*	Costa Rica, Heredia, Barrio Flaminia	11.III.2018	Lena Struwe	www.inaturalist.org/observations/10302182
39	*Scaria fasciata*	Costa Rica, Heredia	17.III.2015	Eva Hedström	www.inaturalist.org/observations/10156467
40	*Scaria fasciata*	Costa Rica, Heredia	11.I.2015	Jason J. Dombroskie	www.inaturalist.org/observations/7802054
41	*Scaria fasciata*	Panama, Anton Valley	20.XI.2015	Peter Hollinger	www.inaturalist.org/observations/5928795
42	*Scaria fasciata*	Costa Rica, La Selva	18.VII.2015	Annika Lindqvist	www.inaturalist.org/observations/1823265
43	Gen. et sp. nov.	Costa Rica, Sarapiquí, Heredia	18.IV.2002	Lupoli Roland	www.inaturalist.org/observations/68213301
44	*Tettigidea lateralis*	Nicaragua, Ometepe	15.III.1994	jmmaes	www.inaturalist.org/observations/109345162
45	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho	15.VIII.1989	jmmaes	www.inaturalist.org/observations/109345067
46	*Tettigidea lateralis*	Nicaragua, Fuente Pura	5.XI.1994	jmmaes	www.inaturalist.org/observations/109343758
47	*Tettigidea lateralis*	Nicaragua, Leon, Los Zarzales	23.XII.1988	jmmaes	www.inaturalist.org/observations/109342119
48	*Tettigidea lateralis*	Nicaragua, Selva Negra	15.V.2012	jmmaes	www.inaturalist.org/observations/108920549
49	*Tettigidea lateralis*	Nicaragua, Jinotega, Santa Enriqueta	1.IV.2003	jmmaes	www.inaturalist.org/observations/108918032
50	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho	15.VIII.1998	jmmaes	www.inaturalist.org/observations/108915430
51	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho	30.VIII.1998	jmmaes	www.inaturalist.org/observations/108915330
52	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho, San Joaquin	15.V.1999	jmmaes	www.inaturalist.org/observations/108915230
53	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho, San Joaquin	30.VII.1998	jmmaes	www.inaturalist.org/observations/108915163
54	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho, San Joaquin	2.VI.1998	jmmaes	www.inaturalist.org/observations/108915025
55	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho, San Joaquin	30.V.1998	jmmaes	www.inaturalist.org/observations/108915194
56	*Tettigidea lateralis*	Nicaragua, Volcan Mombacho, Santa Ana	2.VI.1998	jmmaes	www.inaturalist.org/observations/108914624
57	*Tettigidea lateralis*	Honduras, La Unión	11.VII.2021	Josue Ramos Galdamez	www.inaturalist.org/observations/86825774
58	*Tettigidea lateralis*	Guatemala, Guatemala City	7.VI.2020	Carlos Fortuny Rodríguez	www.inaturalist.org/observations/48802737
59	*Tettigidea lateralis*	Costa Rica, Puntarenas	15.XII.2021	Mathew Zappa	www.inaturalist.org/observations/103393764
60	*Tettigidea lateralis*	Panama, Anton Valley	28.XI.2021	Keysi	www.inaturalist.org/observations/102223971
61	*Tettigidea lateralis*	Honduras, Danlí	13.IX.2021	Claudia Mejia de Mendoza	www.inaturalist.org/observations/94809211
Metrodorinae					
62	*Chiriquia serrata*	Costa Rica, Sarapiqui, Heredia Province	25.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105209248
63	*Chiriquia serrata*	Nicaragua, Río San Juan, San Carlos	1.IV.2016	Javier A. Canteros	www.inaturalist.org/observations/44324015
64	*Chiriquia serrata*	Panama, Anton Valley	25.XII.2021	Kai Squires	www.inaturalist.org/observations/103666237
65	*Chiriquia serrata*	Costa Rica, Sarapiqui, Heredia Province	6.II.2022	johannagu	www.inaturalist.org/observations/110301612
66	*Chiriquia serrata*	Costa Rica, Heredia, Barrio Flaminia	24.XII.2015	Karl Kroeker	www.inaturalist.org/observations/67722612
67	*Crimisus costaricensis*	Costa Rica, Sarapiqui, Heredia Province	18.IV.2013	J Straka	www.inaturalist.org/observations/19723534
68	*Crimisus costaricensis*	Panama, Gamboa	13.VI.2020	Hubert Szczygieł	www.inaturalist.org/observations/50091031
69	*Crimisus costaricensis*	Costa rica, Heredia, La Selva	6.II.2022	Daniel Linzbauer	www.inaturalist.org/observations/107642557
70	*Crimisus costaricensis*	Panama, Anton Valley	25.XII.2021	Barry Cottam	www.inaturalist.org/observations/104709569
71	*Crimisus costaricensis*	Costa Rica, Monteverde, Puntarenas Province	31.XII.2020	Tom Kirschey	www.inaturalist.org/observations/67382525
72	*Crimisus costaricensis*	Panama, Panamá Oeste	30.X.2021	sianisarini1331	www.inaturalist.org/observations/99851029
73	*Crimisus costaricensis*	Costa Rica, Monteverde, Puntarenas Province	31.XII.2020	Tom Kirschey	www.inaturalist.org/observations/67382432
74	*Crimisus costaricensis*	Panama, Panamá Oeste	11.IX.2021	Hubert Szczygieł	www.inaturalist.org/observations/60484542
75	*Crimisus* sp.	Panama, Herrera, Las Minas	16.X.2021	Andrés Matos	www.inaturalist.org/observations/98558066
76	*Crimisus* sp.	Costa Rica, Puntarenas	2.I.2022	Chloe and Trevor Van Loon	www.inaturalist.org/observations/106118024
77	*Crimisus* sp.	Costa Rica, Guanacaste	30.I.2020	djhiker	www.inaturalist.org/observations/44903350
78	*Metrodora harroweri*	Panama, Panamá Oeste, San Carlos	3.X.2021	Andrés Matos	www.inaturalist.org/observations/97153183
79	*Metrodora panamae*	Costa Rica, Puntarenas	18.II.2022	Sebastian Ploner	www.inaturalist.org/observations/109138953
80	*Metrodora panamae*	Costa Rica, Puntarenas, Osa	24.V.2020	Laurent Hesemans	www.inaturalist.org/observations/48071095
81	*Metrodora panamae*	Costa Rica, Puntarenas	23.VII.2021	golfodulceretreat	www.inaturalist.org/observations/92962831

Appendix 1. — Continuation.

No.	Species	Locality	Observed	Photographed by	Link
82	*Metrodora panamae*	Costa Rica, Drake Bay	14.V.2020	Gianfranco Gomez	www.inaturalist.org/observations/72848917
83	*Metrodora panamae*	Costa Rica, Puntarenas	24.III.2019	Gerrit Öhm	www.inaturalist.org/observations/75406245
84	*Metrodora panamae*	Costa Rica, Puntarenas	10.V.2020	Laurent Hesemans	www.inaturalist.org/observations/45975152
85	*Metrodora sinuata*	Nicaragua, Rio Waspuk, Sulum	15.I.1996	jmmaes	www.inaturalist.org/observations/108918525
86	*Metrodora sinuata*	Costa Rica, Cartago	11.II.2022	bettyglatzhofer	www.inaturalist.org/observations/109869049
87	*Metrodora sinuata*	Costa Rica, Limon, Pococi	25.IV.2021	aquiros	www.inaturalist.org/observations/75830771
88	*Metrodora* sp. 1	Costa Rica, Heredia	27.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105316675
89	*Metrodora* sp. 2	Costa Rica, Monteverde, Puntarenas Province	31.XII.2021	Chloe and Trevor Van Loon	www.inaturalist.org/observations/105847550
90	*Otumba aciculata*	Costa Rica, Puntarenas	22.III.2019	Gerrit Öhm	www.inaturalist.org/observations/74669488
91	*Otumba dentata*	Costa Rica, Puntarenas	22.III.2019	Gerrit Öhm	www.inaturalist.org/observations/48552702
92	*Otumba dentata*	Costa Rica, Cartago, Paraiso	11.II.2022	johannagu	www.inaturalist.org/observations/110177281
93	*Otumba scapularis*	Costa Rica, Puntarenas	25.I.2022	Jerry Kosanovich	www.inaturalist.org/observations/106613211
94	*Otumba scapularis*	Costa Rica, Puntarenas	10.III.2015	Lena Struwe	www.inaturalist.org/observations/1403492
95	*Platythorus camurus*	Costa Rica, Heredia	8.II.2022	bettyglatzhofer	www.inaturalist.org/observations/109401058
96	*Platythorus camurus*	Costa Rica, Cartago, Turrialba	27.IV.2017	Kimberlie Sasan	www.inaturalist.org/observations/9380318
97	*Platythorus camurus*	Costa Rica, Cartago, Turrialba	26.IV.2017	Kimberlie Sasan	www.inaturalist.org/observations/6116112
98	*Platythorus camurus*	Costa Rica, Sarapiqui, Heredia Province	8.II.2022	Samuel Messner	www.inaturalist.org/observations/112850541
99	*Platythorus camurus* Tetriginae	Costa Rica, Cartago	14.IV.2022	Attila Oláh	www.inaturalist.org/observations/111987616
100	*Clypeotettix schochii*	Nicaragua, Leon, La Paz Centro	16.XI.1988	jmmaes	www.inaturalist.org/observations/109342207
101	*Clypeotettix schochii*	Nicaragua, Leon, Parque Arlen Siu	28.I.1988	jmmaes	www.inaturalist.org/observations/109340996
102	*Clypeotettix schochii*	Nicaragua, Waslala	29.VIII.2021	Danilo Pasos	www.inaturalist.org/observations/99933867
103	*Clypeotettix schochii*	Nicaragua, Waslala	29.VIII.2021	Danilo Pasos	www.inaturalist.org/observations/99933892
104	*Paratettix aztecus*	Costa Rica, Alajuela	24.VII.2021	Felix Fleck	www.inaturalist.org/observations/89564773
105	*Paratettix freygessnerii*	Nicaragua, Bartola	18.VI.2007	jmmaes	www.inaturalist.org/observations/108916355
106	*Paratettix freygessnerii*	Nicaragua, Bartola	18.VI.2007	jmmaes	www.inaturalist.org/observations/108916314
107	*Paratettix freygessnerii*	Belize, Toledo District	10.III.2017	Karl Kroeker	www.inaturalist.org/observations/69594051
108	*Paratettix freygessnerii*	El Salvador, Santa Ana, Metapan	8.XII.2020	Silvia Figueroa	www.inaturalist.org/observations/66453342
109	*Paratettix mexicanus*	Nicaragua, Lago de Apanas	15.VII.1989	jmmaes	www.inaturalist.org/observations/109344322
110	*Paratettix mexicanus*	Nicaragua, Lago de Apanas	15.VII.1989	jmmaes	www.inaturalist.org/observations/109344296
111	*Paratettix mexicanus*	Panama, Chiriqui, Boquete	28.V.2017	dherd	www.inaturalist.org/observations/9418401
112	*Paratettix mexicanus*	Nicaragua, Fuente Pura	10.IV.1994	jmmaes	www.inaturalist.org/observations/109343811
113	*Paratettix mexicanus*	Panama, Ciudad de Panama	27.XI.2021	Alicia Higuera	www.inaturalist.org/observations/102003254
114	*Paratettix mexicanus*	Honduras, San Antonio de Oriente	7.VII.2019	Oliver Komar	www.inaturalist.org/observations/28698493
115	*Paratettix mexicanus*	Nicaragua, Buenos Aires	24.X.2019	Alvaro Alvarado Montealto	www.inaturalist.org/observations/34854661
116	*Paratettix mexicanus*	Panama, Anton Valley	30.XII.2021	Kai Squires	www.inaturalist.org/observations/104077815
117	*Paratettix mexicanus*	Costa Rica, Provinz Guanacaste	29.XII.2020	Tom Kirschey	www.inaturalist.org/observations/67382860
118	*Paratettix mexicanus*	Panama, Chiriqui	28.X.2021	sabdydegracia	www.inaturalist.org/observations/100361757
119	*Paratettix mexicanus*	El Salvador, Suchitoto, Cantón El Caulote	28.IX.2012	Stephen_WV	www.inaturalist.org/observations/70731229
120	*Paratettix mexicanus*	Honduras, Copan Ruinas	1.II.2014	Karl Kroeker	www.inaturalist.org/observations/65158641
121	*Paratettix mexicanus*	Panama, Pedregal	25.X.2021	James Cabrera	www.inaturalist.org/observations/99510351
122	*Paratettix mexicanus*	Guatemala, Esquipulas, Barrio San Sebastian	23.VIII.2016	Jason Eckberg	www.inaturalist.org/observations/3991982
123	*Paratettix mexicanus*	Costa Rica, Tamarindo, Provincia de Guanacaste	1.XII.2017	Mr-E	www.inaturalist.org/observations/9930328
124	*Paratettix mexicanus*	Nicaragua, Bartola	18.VI.2007	jmmaes	www.inaturalist.org/observations/108916371
125	*Paratettix mexicanus*	Guatemala, El Arenal	6.XI.2021	Challen Willemsen	www.inaturalist.org/observations/106587570
126	*Paratettix mexicanus*	Costa Rica, Puntarenas	1.IV.2022	Chloe and Trevor Van Loon	www.inaturalist.org/observations/106433957
127	*Paratettix mexicanus*	El Salvador, Suchitoto	28.IX.2012	Stephen_WV	www.inaturalist.org/observations/66130823
128	*Paratettix mexicanus*	Belize, Toledo District	3.III.2017	Karl Kroeker	www.inaturalist.org/observations/69412700
129	*Paratettix mexicanus*	Costa Rica, Pará, Heredia, Santo Domingo, San Luis	24.II.2020	tmortal	www.inaturalist.org/observations/39291589
130	*Paratettix mexicanus*	Honduras, La Ceiba	21.I.2014	Karl Kroeker	www.inaturalist.org/observations/64625257
131	*Paratettix toltecus*	Panamá, Portobelo	23.X.2021	Andrés Matos	www.inaturalist.org/observations/99264776
132	*Paratettix toltecus*	Nicaragua	2.VIII.2021	edgarin	www.inaturalist.org/observations/89737989
133	*Paratettix toltecus*	Costa Rica, Drake Bay	2.XI.2019	Gianfranco Gomez	www.inaturalist.org/observations/72243382
134	*Paratettix toltecus*	Costa Rica, Heredia	6.II.2018	gernotkunz	www.inaturalist.org/observations/36639176

Appendix 1. — Continuation.

No.	Species	Locality	Observed	Photographed by	Link
135	*Paratettix toltecus*	Honduras, San Antonio de Oriente	8.X.2021	Carlos Antonio López Manzano	www.inaturalist.org/observations/97813300
136	*Paratettix toltecus*	Costa Rica, Bagaces, Guanacaste Province	10.VIII.2011	Theo Michael Schmitt	www.inaturalist.org/observations/87130855
137	*Teredorus aztecus*	Panamá, Sajalices	12.XII.2021	Andrés Matos	www.inaturalist.org/observations/102975669
138	*Teredorus aztecus*	Costa Rica, Provinz Guanacaste	29.XII.2020	Tom Kirschey	www.inaturalist.org/observations/67382951
139	*Teredorus aztecus*	Belize, Cayo	8.IX.2014	msilver2	www.inaturalist.org/observations/36161621
140	*Teredorus aztecus*	Costa Rica, Puntarenas	20.II.2017	sylviwanzi	www.inaturalist.org/observations/37912336
141	*Ochetotettix barretti*	Nicaragua, Lago de Apanas	15.VII.1989	jmmaes	www.inaturalist.org/observations/109344272
142	*Ochetotettix barretti*	Nicaragua, Volcan Mombacho, San Joaquin	30.VI.1998	jmmaes	www.inaturalist.org/observations/108914977
143	*Ochetotettix barretti*	Nicaragua, Volcan Mombacho, Santa Ana	21.VI.1998	jmmaes	www.inaturalist.org/observations/108914574
144	*Ochetotettix barretti*	Nicaragua, Volcan Mombacho, Santa Ana	2.VI.1998	jmmaes	www.inaturalist.org/observations/108914543
145	*Ochetotettix barretti*	Costa Rica, Provincia de Alajuela	8.XII.2021	jmass	www.inaturalist.org/observations/102748643
146	*Stenodorsus/Danielatettix*	Panamá, Río Indio Arriba	15.VIII.2021	Andrés Matos	www.inaturalist.org/observations/91488758