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. The Ephemeroptera of Central America Part 3: Belize

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ABSTRACT

The Ephemeroptera fauna of Belize is inventoried based on the study of recent collections and includes nine families, 32 genera and 65 species. Forty-one species are reported from Belize for the first time, including a previously unknown species (*Asioplax goldeni* n. sp.), which is described herein. The majority of species in Belize have ranges that extend throughout Central America, with some of the species known from the western and southwestern United States as well. Only the northern District of Corozal along with the Orange Walk District remain poorly known with respect to the Belize mayfly fauna.

Key Words: biodiversity, new species, taxonomy

INTRODUCTION

As part of a continuing effort to better understand the diversity and distribution of Ephemeroptera (mayflies) throughout Central America, this paper treats both newly reported and previously known species of mayflies from Belize. It continues a Central American faunal series, which include treatments of Guatemala (McCafferty et al. 2004) and Nicaragua (Meyer et al. 2008).

Located on the eastern shore of the Caribbean Sea, Belize is bordered to the north by Mexico, and the west and south by Guatemala. Although small in size with a total land area just under 23,000 km^2 and only a moderate maximum elevation, Belize is topographically and environmentally diverse. It has a sub-tropical climate, heterogeneous geology, and terrestrial ecosystems ranging from savannah to forest and swamp that characterize the northern lowlands, coastal plains and Maya Mountains (Bridgewater 2012). Dominating the landscape in the southern half of the country, the Maya Mountains are the source of many of Belize's 16 main watersheds (Figure 1), where in addition to lotic systems, a diversity of lentic environments including permanent and seasonal wetlands, marshes, lagoons and lakes are found (Boles et al. 2008). Reflecting Belize's environmental heterogeneity, 46 aquatic ecosystems have been characterized, generally increasing in diversity from north to south (Esselman et al. 2005).

Because of climate change, deforestation practices, hydroelectricity generation, commercial agriculture, and freshwater draw-down, there is a critical need for inventories and taxonomic understanding of the aquatic fauna including mayflies. With respect to mayflies, not only are such studies necessary for biogeographical analysis (McCafferty 1998) and for determining the conservation status of various species, but they also facilitate the use of mayfly diversity along with that of other benthic macroinvertebrates for the assessment and management of the freshwater resources of Belize (Carrie and Kay 2014).

Previous to this study, seven families, 16 genera, and 24 species of mayflies had been

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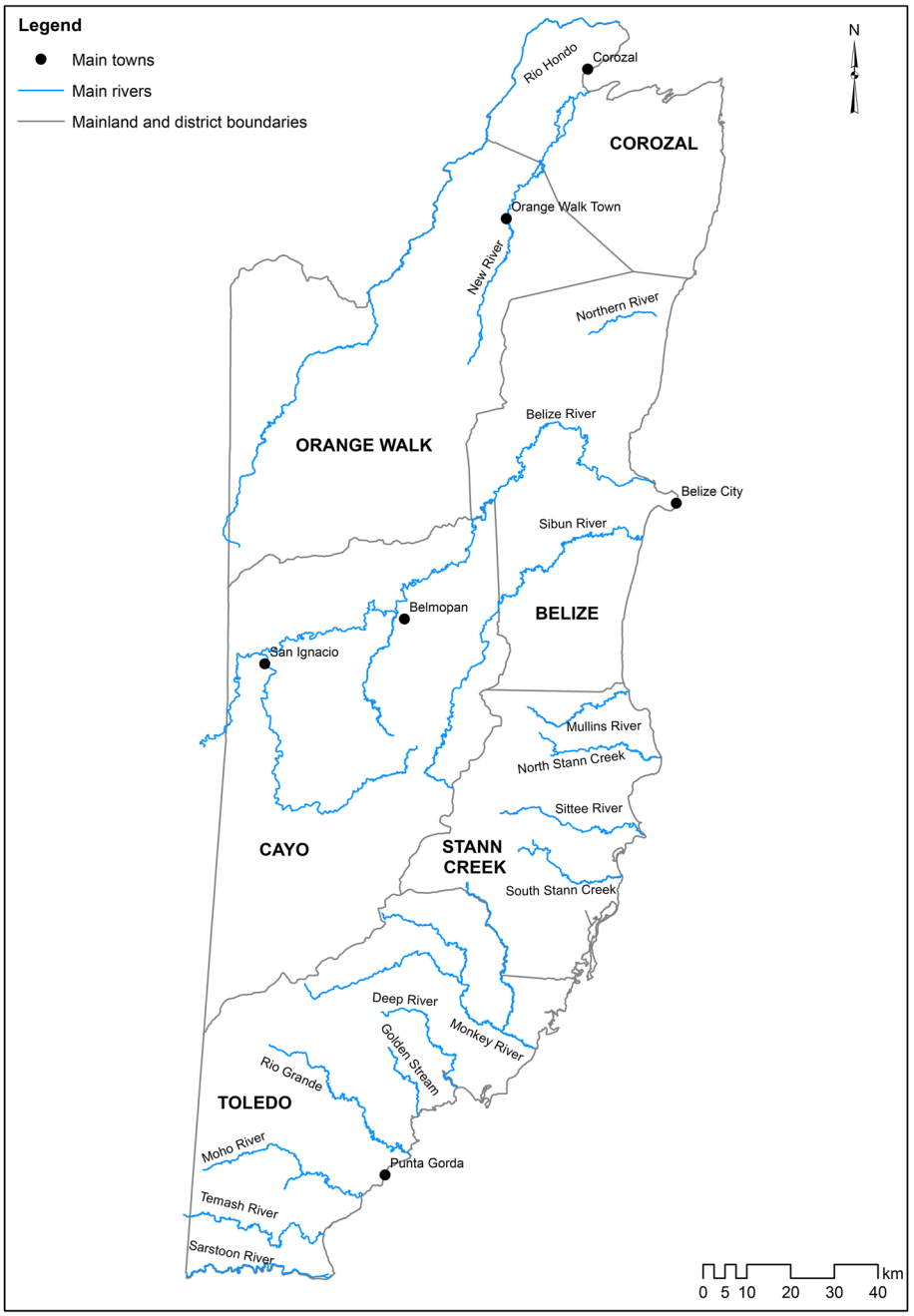

Figure 1. Political districts of Belize with major river drainages identified.

reported from Belize. The first report of a mayfly from Belize was that of *Maccaffertium mexicanum mexicanum* (Ulmer) by McCafferty (1984). McCafferty (1985) added records of *Baetodes tritus* Cohen and Allen, *Fallceon quilleri* (Dodds), *Thraulodes packeri* Traver and Edmunds, and *T. zonalis* Traver and Edmunds. McCafferty and Lugo-Ortiz (1996) reported *Farrodes texanus* Davis from Belize, and Lugo-Ortiz and McCafferty (1994a) described *Americabaetis pleturus* (Lugo-Ortiz and McCafferty) (originally as *Acerpenna*) from Belize, Mexico, and some other Central American countries. Lugo-Ortiz and McCafferty (1995a) discovered *Vacupernius packeri* in Belize, and Lugo-Ortiz and McCafferty (1996a) reported another six species, including *Baetodes fuscipes* Cohen and Allen, *Camelobaetidius kondratieffi* Lugo-Ortiz and McCafferty, *Campsurus cuspidatus* Eaton, *Epeorus packeri* Allen and Cohen, *Euthyplocia hecuba* (Hagen), and *Isonychia sicca* (Walsh). Lugo-Ortiz and McCafferty (1996b) described *Traverella promifrons* Lugo-Ortiz and McCafferty based on material from Belize. Wiersema and Baumgardner (2000) added another six species, including *Callibaetis floridanus* Banks, *C. punctilusus* McCafferty and Provonsha, *Camelobaetidius arriaga* (Traver and Edmunds), *Fallceon sageae* McCafferty ([as *F. longifolium* (Kluge)], *Paracloeodes minutus* (Daggy), and *Ableptemetes dicinctus* (Allen and Brusca). Baumgardner and McCafferty (2000) reported *Leptohyphes apache* Allen (as *L. zalope* Traver, in part) and *L. zalope* from Belize, and most recently, Sun and McCafferty (2008) described *Latineosus cayo* Sun and McCafferty from Belize. At the present, the latter species remains known only in Belize, along with one new species (*Asioplax goldeni* n. sp.) described below.

MATERIALS AND METHODS

In the inventory presented below, taxa are arranged alphabetically, and all new data are based on larval samples unless specifically noted parenthetically preceding the date of collection in the data set as (A) for male adults collected or (L) for larvae collected. Districts within Belize are given in upper case in the data sets, and are also depicted in Figure 1. Collectors are identified by the following initials: DEB (David E. Baumgardner); WDS (William D. Shepard); RHC (Rachael H. Carrie). Global positioning measures are given in longitude/latitude coordinates as degrees, minutes, seconds, when available. Materials are deposited in collections indicated by acronyms bracketed at the end of the data sets as follows: PERC (Purdue Entomological Research Collection, West Lafayette, Indiana); and TAMU (Entomological Collection at Texas A & M University, College Station). Specimens in the TAMU collection that were collected by RHC are considered on permanent, long-term loan to TAMU from the Environmental Research Institute at the University of Belize.

RESULTS

The number of species known from Belize is increased from 24 to 65 species, including one new species described later in the paper. (Table 1). In addition, 14 genera are newly documented from Belize: Family Baetidae: *Apobaetis* Day, *Baetis* Leach, *Cloeodes* Traver, *Guajirolus* Flowers; Family Caenidae: *Caenis* Stephens; Family Leptohyphidae: *Asioplax* Wiersema and McCafferty, *Haplohyphes* Allen, *Tricorythodes* Ulmer; Family Leptophlebiidae: *Choroterpes* Eaton, *Hagenulopsis* Eaton, *Hydrosmilodon* Flowers and Dominguez, *Neochoroterpes* Allen, *Terpides* Demoulin, and *Ulmeritoides* Traver. Of the 41 newly documented species from Belize, 13 are from the family Baetidae, two are from the family Caenidae, ten from the family Leptohyphidae, and 14 from the family Leptophlebiidae, and one each from the families Oligoneuriidae and Polymitarcyidae. Two species, *Latineosus cayo* Sun and McCafferty and *Asioplax goldeni* n. sp., are currently known only in Belize.

Table 1. Checklist of all known species of mayflies (Ephemeroptera) from Belize (65 total species). Species preceded by an asterisk are new records for Belize.

FAMILY BAETIDAE (23 spp., 35%)
Americabaetis pleturus (Lugo-Ortiz and McCafferty)
**Apobaetis etowah* (Traver)
**Baetis magnus* McCafferty and Waltz
**Baetodes adustus* Cohen and Allen
**Baetodes caritus* Cohen and Allen
**Baetodes deficiens* Cohen and Allen
Baetodes fuscipes Cohen and Allen
**Baetodes longus* Mayo
**Baetodes noventus* Cohen and Allen
Baetodes tritus Cohen and Allen
**Baetodes velmae* Cohen and Allen
Callibaetis floridanus Banks
Callibaetis punctilusus McCafferty and Provonsha
**Callibaetisi montanus* Eaton
Camelobaetidius arriaga (Traver and Edmunds)
**Camelobaetidius kickapoo* McCafferty
Camelobaetidius kondratieffi Lugo-Ortiz and McCafferty
**Camelobaetidius warreni* (Traver and Edmunds)
**Cloeodes excogitatus* Waltz and McCafferty
Fallceon quilleri (Dodds)
Fallceon sageae McCafferty
**Guajirolus ektrapeloglossa* Flowers
Paracloeodes minutus (Daggy)

FAMILY CAENIDAE (3 spp., 5%)
**Caenis bajaensis* Allen and Murvosh
**Caenis latipennis* Banks
Latineosus cayo Sun and McCafferty

FAMILY EUTHYPLOCIIDAE (1 sp., 2%)
Euthyplocia hecuba (Hagen)

FAMILY HEPTAGENIIDAE (2 spp., 3%)
Epeorus packeri Allen and Cohen
Maccaffertium mexicanum mexicanum (Ulmer)

FAMILY ISONYCHIIDAE (1 sp., 2%)
Isonychia sicca (Walsh)

FAMILY LEPTOHYPHIDAE (14 spp., 22%)
Ableptemetes dicinctus (Allen and Brusca)
**Ableptemetes melanobranchus* (Allen and Brusca)
**Asioplax curiosa* (Lugo-Ortiz and McCafferty)
**Asioplax numinuh* Wiersema, McCafferty and Baumgardner
**Asioplax goldeni* Baumgardner, McCafferty and Carrie
**Haplohyphes mithras* (Traver)
Leptohyphes apache Allen
**Leptohyphes ferruginus* Allen and Brusca
**Leptohyphes lestes* Allen and Brusca
Leptohyphes zalope Traver
**Tricorythodes explicates* (Eaton)
**Tricorythodes notatus* Allen and Brusca
**Tricorythodes sordidus* Allen
Vacupernius packeri (Allen)

FAMILY LEPTOPHLEBIIDAE (18 spp., 25%)
**Choroterpes inornata* Eaton
**Farrodes flavipennis* Domínguez, Molineri and Peters
Farrodes texanus Davis
**Hagenulopsis ingens* Lugo-Ortiz and McCafferty
**Hydrosmilodon primanus* (Eaton)
**Neochoroterpes oklahoma* (Traver)
**Neochoroterpes orientalis* Henry
**Terpides jessiae* Peterson and Harrison
**Thraulodes centralis* Traver
**Thraulodes lepidus* (Eaton)
**Thraulodes mexicanus* (Eaton)
**Thraulodes pacaya* McCafferty, Baumgardner and Guenther
Thraulodes packeri Traver and Edmunds
**Thraulodes tenulineus* Lugo-Ortiz and McCafferty
Thraulodes zonalis Traver and Edmunds
**Traverella albertana* (McDunnough)
Traverella promifrons Lugo-Ortiz and McCafferty
**Ulmeritoides acosa* Avila and Flowers

FAMILY OLIGONEURIIDAE (1 sp., 2%)
**Lachlania talea* Allen and Cohen

FAMILY POLYMITARCYIDAE (2 spp., 3%)
Campsurus cuspidatus Eaton
**Campsurus decoloratus* (Hagen)

Family Baetidae

Ten genera and 23 species of baetid mayflies are now known from Belize, representing 35% of all known species of mayflies in the country. Baetidae is the most diverse family of mayflies in Belize. Thirteen of the species are newly reported from Belize. Members of this family are common and widely distributed throughout the country.

Americabaetis pleturus (Lugo-Ortiz and McCafferty)

Previous data.–This species was first documented in Belize by Lugo-Ortiz and McCafferty (1994a) from Cayo District.

New data.–BELIZE DISTRICT: Mangrove Creek 2 mi NW Mull R Villa14.i.1995, 5L, WDS [TAMU]; Soldier Creek, 3 mi. W Gales Point, 14.i.1995, 11L, WDS [TAMU]; CAYO DISTRICT: Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24", elev. 60m), 13.iii.2005, 2L, DEB [TAMU]; Little Vaqueros Cr. at Chiquibul Road, ca. 20 Km N. Douglas de Silva (N17°02'54"; W88°56'55", elev. 500 m), 14.iii.2005, 1L, DEB [TAMU]; unnamed stream, 19.6 mi. SW Belmopan, 7.i.1996, 2L, WDS [TAMU]; STANN CREEK DISTRICT: unnamed cr. on road leading to Cockscomb Reserve, ca. 3 km. W. Maya Center (N16°47'59"; W88°24'09"), 18.iii.2005, 3L, DEB [TAMU]; North Stann Creek at Hummingbird Hwy., ca. 3 Km SE Middlesex (N17°00'39"; W88°28'33", elev. 100 m), 18.iii.2005, 2L, DEB [TAMU]; Cabbage Haul Creek, Maya Center, 8.i.1996, 3L, WDS [TAMU]; North Stann Creek, 2 mi NE Middlesex, 11.i.1996, 18L WDS [TAMU]; TOLEDO DISTRICT: Río Grande at Southern Hwy. in Big Fall (town), (N16°15'23"; W88°53'12"), 17.iii.2005, 12L, DEB [TAMU]; Crique Trosa, 2.5 mi. E. San Antonio, 11.i.1995, 1L, WDS [TAMU]; Rio Grande, Big Fall, 10.i.1995, 4L, WDS [TAMU]; Mullins River, Mullins River Village, 14.i.1995, 7L, WDS [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 2L, RHC [TAMU].

Remarks.–This is a widely distributed small minnow mayfly in Central America known from numerous records throughout Mexico (Lugo-Ortiz and McCafferty 1994a; Lugo-Ortiz and McCafferty 1996a), El Salvador (McCafferty, 2011a), Guatemala (McCafferty et al. 2004), Honduras (Lugo-Ortiz and McCafferty 1994a), Nicaragua (Lugo-Ortiz and McCafferty 1994a [original description]; McCafferty et al. 2004), Costa Rica (Lugo-Ortiz and McCafferty 1994a), and Panama (Lugo-Ortiz and McCafferty 1996a).

**Apobaetis etowah* (Traver)

New data.–TOLEDO DISTRICT: San Miguel Branch ca 1.1 Km SSE San Miguel Village (N16°16'59"; W88°55'44"), 13.iv.2012, 1L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Villag (N16°15'09"; W88°55'12"), 2.v.2012, 1L, RHC [TAMU].

Remarks.–Meyer and McCafferty (2003) clarified the taxonomic status of this species, placing *Apobaetis indeprensus* as a synonym of *A. etowah*, and establishing its widespread distribution in North America. This minute, small minnow mayfly has a widespread distribution throughout much of North America (Meyer and McCafferty 2003; Meyer and McCafferty 2007; Meyer and McCafferty 2008; McCafferty and Meyer 2008) and Mexico (McCafferty 2011a).

**Baetis magnus* McCafferty and Waltz

New data.–TOLEDO DISTRICT: Sapote Creek, ca. 6.1 Km NW of Red Bank Village (N16°38'02"; W88°37'01"), 08.xii.2010, 1L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 30.xi.2010, 1L, RHC [TAMU].

Remarks.–This is a widespread species known from throughout much of western North America (McCafferty et al. 1997), Guatemala (McCafferty et al. 2004), Costa Rica (Lugo-Ortiz and McCafferty 1993), and Panama (Lugo-Ortiz and McCafferty 1996a).

**Baetodes adustus* Cohen and Allen

New data.–CAYO DISTRICT: Little Vaqueros Cr. at Chiquibul Road, ca. 20 Km N. Douglas de Silva (N17°02'54"; W88°56'55", elev. 500 m), 14.iii.2005, 1L, DEB [TAMU]. TOLEDO DISTRICT: Río Grande at Southern Hwy. in Big Fall (town), (N16°15'23"; W88°53'12"), 17.iii.2005, 12L, DEB [TAMU]; Mafredi Cr. Trib. 7 mi. S. Mafredi, 9.i.1996, 2L, WDS [TAMU].

Remarks.–This species was originally described from Vera Cruz, Mexico, by Cohen and Allen (1972) based upon larvae. It is also known from Guatemala (McCafferty et al. 2004) and Panama (Cohen and Allen 1978).

**Baetodes caritus* Cohen and Allen

New data.–CAYO DISTRICT: Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 5L, DEB [TAMU]; Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"), 13.iii.2005, 3L, DEB [TAMU]; ORANGE WALK DISTRICT: Rio Bravo, Cedar Crossing, 11.i.1996, 11L, WDS [TAMU].

Remarks.–*Baetodes caritus* is common and widely distributed in Central America. It was described from larvae by Cohen and Allen (1972) from the countries of Mexico, Guatemala, El Salvador, and Honduras. It was later documented in Costa Rica (McCafferty 1985), Panama (Flowers 1992) and Nicaragua (Meyer et al. 2008). McCafferty et al. (2004) listed additional records of this species in Guatemala. McCafferty (2011b) published additional records of the species in Mexico.

**Baetodes deficiens* Cohen and Allen

New data.–CAYO DISTRICT: Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"; elev. 60m); 13.iii.2005, 1L, DEB [TAMU]. TOLEDO DISTRICT: Aguacata Creek 4 mi SW Blue Cr Villa, 09.i.1996, 4L, WDS [TAMU]; Sapote Creek ca. 4.7 Km NW Red Bank Village (N16°37'52"; W88°36'16",), 08.xii.2010, 1L, RHC [TAMU]; Trio R. ca. 7.8 Km NW Trio Village (N16°34'49"; W88°40'46"), 3L, 17.iv.2012, RHC [TAMU].

Remarks.–Although this is the first record of this species from Belize, it has a widespread distribution in Central America and was previously known from Mexico (Cohen and Allen 1972 [original description]; Mayo 1972 [as *B. bellus*]; Lugo-Ortiz and McCafferty 1995b; McCafferty 2011), Honduras (Cohen and Allen 1972 [original description]), Costa Rica (Lugo-Ortiz and McCafferty 1995b), and Panama (Flowers 1987). The species' northernmost record is from New Mexico (McCafferty et al. 1997).

Baetodes fuscipes Cohen and Allen

Previous data.–The species was first reported in Belize based upon a record from Cayo District (Lugo-Ortiz and McCafferty 1996a), the only known record of the species in Belize.

New data.–TOLEDO DISTRICT: Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 3L, RHC [TAMU].

Remarks.–*Baetodes fuscipes* was described by Cohen and Allen (1972) from larvae collected in Vera Cruz, Mexico, and Honduras. Mayo (1973) listed additional records from Mexico (as *B. furvus*), as did Allen and Murvosh (1987) and McCafferty (2011b). The species was first reported from Guatemala by Lugo-Ortiz and McCafferty (1995b).

**Baetodes longus* Mayo

New data.–TOLEDO DISTRICT: Bladen Branch ca. 3.4 Km W Trio Village (N16°30'55"; W88°40'10"), 08.iii.2012, 2L, RHC [TAMU].

Remarks.–This species is also known from throughout Mexico (Mayo 1973, Randolph and McCafferty 2001), Guatemala (McCafferty et al 2004) and Nicaragua (Meyer et al 2008).

**Baetodes noventus* Cohen and Allen

New data.–TOLEDO DISTRICT: Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 3L, RHC [TAMU]; Rio Grande, Big Fall, 10.i.1995, 6L, WDS [TAMU]; Aguacata Creek 4 mi SW Blue Cr Villa, 9.i.1996, 4L, WDS [TAMU].

Remarks.–*Baetodes noventus* is also known from Guatemala (McCafferty et al 2004), Honduras (Cohen and Allen 1972, 1978), El Salvador (Cohen and Allen 1972), and Costa Rica (Lugo-Ortiz and McCafferty 1995b).

Baetodes tritus Cohen and Allen

Previous data.–This species was first documented in Belize by McCafferty (1985), based upon larvae from a single location apparently in Cayo District.

New data.–CAYO DISTRICT: Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"; elev. 60m), 13.iii.2005, 1L, DEB [TAMU]; Río Frio at Río Frio Caves ca. 1 mi. E. Douglas da Silva (N16°58'44"; W89°00'24"; elev. 450m), 14.iii. 2005, 2L, DEB [TAMU]; Mopan River, Bullet Tree Falls, 5.i.1996, 2l, WDS [TAMU]. TOLEDO DISTRICT: Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 2L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 2L, RHC [TAMU]; Richardson Creek ca. 13.1 Km NNW Medina Bank Village (N16°33'25"; W88°46'11",), 14.xii.2010, 1L, RHC [TAMU].

Remarks.–This is another widespread species of *Baetodes* in Central America. It was originally described by Cohen and Allen (1972) based upon numerous larvae from Mexico, Guatemala, and Honduras. *Baetodes tritus* has also been recorded from Panama (Cohen and Allen 1978; Flowers 1987), Costa Rica (Lugo-Ortiz and McCafferty 1995b), Guatemala (McCafferty et al. 2004), and Nicaragua (Meyer et al. 2008).

**Baetodes velmae* Cohen and Allen

New data.–CAYO DISTRICT: Teakettle Village, 22.i.1993, 2L, WDS [TAMU]; ORANGE WALK DISTRICT: Rio Bravo, Cedar Crossing, 11.i.1996, 3L, WDS [TAMU].

Remarks.–This species was previously known from Mexico (Randolph and McCafferty 2001), Panama (Cohen and Allen 1978; Flowers 1992) and Costa Rica (Flowers 1992).

Callibaetis floridanus Banks

Previous data.–*Callibaetis floridanus* was first reported from Belize by Wiersema and Baumgardner (2000), based upon an adult female from Cayo District.

New data.–None.

Remarks.–This is a widely distributed species of mayflies, known from throughout much of North America (Lugo-Ortiz and McCafferty 1996b), Mexico (Lugo-Ortiz and McCafferty 1994b; Lugo-Ortiz and McCafferty 1996a), Guatemala (McCafferty et al. 2004), El Salvador and Honduras (Lugo-Ortiz and McCafferty 1996a), and Costa Rica (Lugo-Ortiz and McCafferty 1996b).

Callibaetis montanus Eaton

New data.–ORANGE WALK DISTRICT: Roadside pool, 1.4 mi E. Tres Leguas, 2.i.1996, WDS [TAMU].

Remarks.–This species is known from the southwestern United States (Lugo-Ortiz and McCafferty 1996c), Mexico (McCafferty and Provonsha 1993), Guatemala (McCafferty et al. 2004), and Nicaragua (Meyer et al. 2008).

Callibaetis punctilusus McCafferty and Provonsha

Previous data.–This species was first reported from Belize by Wiersema and Baumgardner (2000), based upon an adult female from Cayo District.

New data. None.

Remarks.–This species was originally

described from Texas by McCafferty and Provonsha (1993) as a subspecies of *C. montanus* Eaton, and later elevated to species status by Lugo-Ortiz and McCafferty (1994b) based on additional material from southern Mexico. Currently, this species is known only from Mexico, Belize and the US state of Texas.

Camelobaetidius arriaga (Traver and Edmunds)

Previous data.–*Camelobaetidius arriaga* was first reported in Belize by Wiersema and Baumgardner (2000) based upon an adult male from Cayo District.

New data.–None.

Remarks.–This species was described from Chiapas State, Mexico, by Traver and Edmunds (1968). It was recently recorded in Vera Cruz, Mexico, and Guatemala (McCafferty 2011b). Lugo-Ortiz and McCafferty (1995c) discussed its status as a valid species.

**Camelobaetidius kickapoo* McCafferty

New data.–CAYO DISTRICT: unnamed stream, 19.6 mi. SW Belmopan, 7.i.1996, 2L, WDS [TAMU]; Macal River, 9.3 mi S Augustine, 6.i.1996, 5L, WDS [TAMU]; ORANGE WALK DISTRICT: Rio Bravo, Cedar Crossing, 11.i.1996, 11L, WDS [TAMU]; STANN CREEK DISTRICT: Dry Creek, 5.9 Km SE Over-the-top camp, 11.i.1996, 6L, WDS [TAMU];

Mullins River, Mullins River Village, 14.i.1995, 9L, WDS [TAMU]; Mullins River , Mullins River Village, 11.i.1996, 5L, WDS [TAMU]; TOLEDO DISTRICT: Blue Creek, Blue Creek Village, 9.i.1996, 1L, WDS [TAMU]; Golden Stream, Hellgate, 11.i.1995, 2L, WDS [TAMU]; Mafredi Cr. Trib. 7 mi. S. Mafredi, 10.i.1996, 1L, WDS [TAMU]; Golden Stream, Hellgate, 11.i.1995, 2L, WDS [TAMU]; Mafredi Cr. Trib. 7 mi. S. Mafredi, 9.i.1996, 2L, WDS [TAMU]; Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 22L, RHC [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 4L, RHC [TAMU]; San Miguel Branch ca. 1.25 Km NE San Miguel Village (N16°18'08"; W88°55'43"), 10.iv.2012, 4L, RHC [TAMU]; Rio Grande, Big Fall, 10.i.1995, 14L, WDS [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 3L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Village (N16°15'09"; W88°55'12"), 2.v.2012, 4L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 46L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 3L, RHC [TAMU];

Remarks.–*Camelobaetidius kickapoo* was previously known from scattered locations in the southwestern United States (McCafferty and Randolph 2000) and Mexico (Randolph and McCafferty 2001).

Camelobaetidius kondratieffi Lugo-Ortiz and McCafferty

Previous data.–Previously reported in Belize from Cayo District (Lugo-Ortiz and McCafferty 1996a).

New data.–CAYO DISTRICT: Rio on Creek, 6 Km N. Augustine, 5.i.1996, 1L, WDS [TAMU]; unnamed stream, 19.6 mi. SW Belmopan, 7.i.1996, 3L, WDS [TAMU]; Macal River, 9.3 mi S Augustine, 6.i.1996, 1L, WDS [TAMU]; STANN CREEK DISTRICT: Dry Creek, 5.9Km SE Over-the-top camp, 11.i.1996, 2L, WDS [TAMU]; Mullins River, Mullins River Village, 14.i.1995, 1L, WDS [TAMU]; Mullins River , Mullins River Village, 11.i.1996, 5L, WDS [TAMU]; TOLEDO DISTRICT: Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 1L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'1"; W88°58'30"), 07.v.2012, 34L, RHC [TAMU]; Swasey R. ca. 3 Km NW Red Bank Village (N16°37'58"; W88°35'09"), 05.iv.2012, 1L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 1L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 4L, RHC [TAMU]; Rio Grande, Big

Fall, 10.i.1995, 1L, WDS [TAMU]; Aguacate Creek 4 mi SW Blue Cr Villa, 9.1.1996, 36L, WDS [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 14L, RHC [TAMU]; Richardson Creek ca. 13.1 Km NNW Medina Bank Village (N16°33'25"; W88°46'11"), 14.xii.2010, 1l, RHC [TAMU]; Swasey R. ca. 3.1 Km NW Red Bank Village (N16°37'35"; W88°35'23"), 16.v.2012, 1L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 34L, RHC [TAMU].

Remarks.–This species was originally described from Guatemala by Lugo-Ortiz and McCafferty (1995c). Additional records of the species in Guatemala were documented by McCafferty et al. (2004). It is also known from Costa Rica (Wiersema and McCafferty 2000), where it occurs commonly throughout much of the country (D.E. Baumgardner, unpublished data).

**Camelobaetidius warreni* (Traver and Edmunds)

New data.–CAYO DISTRICT: Macal R. at Black Rock (town), Black Rock Lodge, ca. 10 mi. S. San Ignacio (N17°02'43"; W89°03'31"; elev. 100 m), 13-14.iii.2005, 2L, DEB [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 1L, DEB [TAMU]; Caves Branch R. at Hummingbird Hwy. ca. 16 Km SE Belmopan, (N17°08'53"; W88°42'35", elev. 85m), 16.iii.2005, 4L, DEB [TAMU]; Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"; elev. 60m); 13.iii.2005, 1L, DEB [TAMU]. STANN CREEK DISTRICT: unnamed cr. on road leading to Cockscomb Reserve, ca. 3 km. W. Maya Center (N16°47'59"; W88°24'09"), 18.iii.2005, 3L, DEB [TAMU]; unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 160m), 18.iii.2005, 1L, DEB [TAMU]; TOLEDO DISTRICT: Warrier Cr. at Southern Hwy., ca. 25 km NE Big Fall (N16°26'46"; W88°44'37", elev. 20m), 17.iii.2005, 5L [TAMU]; Río Grande at Southern Hwy. in Big Fall (N16°15'23"; W88°53'12", elev. 40m), 17.iii.2005, 17L, DEB [TAMU].

Remarks.–Although this species is widespread throughout North and Central America (McCafferty et al. 2012), it had not been previously reported in Belize. *Camelobaetidius warreni* is know from throughout Mexico (Lugo-Ortiz and McCafferty 1995c; McCafferty 2011b), Guatemala (McCafferty et al. 2004), Honduras (Lugo-Ortiz and McCafferty 1995c), Nicaragua (Meyer et al. 2008), Costa Rica (Lugo-Ortiz and McCafferty 1995c), and Panama (McCafferty, 2011b).

**Cloeodes excogitatus* Waltz and McCafferty

New data.–Sabun R, Glenwood Farm, 30-VI-1974, 3L [PERC]; CAYO DISTRICT: Mopan River, Bullet Tree Falls, 5.i.1996, 2L, WDS [TAMU]; STANN CREEK DISTRICT: Mullins River, Mullins River Village, 14.i.1995, 3L, WDS [TAMU]; Mullins River, Mullins River Village, 11.i.1996, 5L, WDS [TAMU]; North Stann Creek, 2 mi NE Middlesex, 11.i.1996, 1L, WDS; TOLEDO DISTRICT: Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 1L, RHC [TAMU]; Crique Negra 2.1 mi. N Big Fall, 10.i.1996, 2L, WDS [TAMU]; Mafredi Cr. Trib. 7 mi. S. Mafredi, 9.i.1996, 2L, WDS [TAMU]; San Miguel Branch ca. 1.25 Km NE San Miguel Village (N16°18'08"; W88°55'43"), 10.iv.2012, 6L, RHC [TAMU]; San Miguel Branch immediately upstream San Miguel Village (N16°17'33"; W88°55'50"), 10.v.2012, 3L, RHC [TAMU]; Golden Stream/ Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22'17"; W88°48'02"), 21.iii.2012, 1L, RHC [TAMU]; Jacinto Creek at Southern Highway ca. 10.7 Km NW Punta Gorda Town (N16°09'21"; W88°53'07"), 23.iii.2012, 3L, RHC [TAMU]; Rio Grande, Big Fall, 10.i.1995, 1L, WDS [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 1L, RHC [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 1L, RHC [TAMU]; Golden Stream at Golden

Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 1L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 5L, RHC [TAMU].

Remarks.–This is the first record of this species in Belize, adding to its previous regional records in Guatemala (McCafferty et al., 2004) and Mexico (Wiersema and Baumgardner 2000). It is also known from the western and southwestern United States (Waltz and McCafferty 1987; Waltz et al. 1998; Baumgardner and Wiersema 1999; Randolph and McCafferty 2000, 2001; McCafferty et al., 2012).

Although the collection label from "Sabun R, Glenwood Farm" is vague as to where in Belize the specimens were collected, it was probably in Belize District. The Sibun (sometimes misspelled as Sabun) River runs through Cayo and Belize Districts, with a "Glenwood Farm" located on the Sibun River in Belize District.

Fallceon quilleri (Dodds)

Previous data.–This species was originally reported from Belize (Belize District) by McCafferty (1985), and subsequently from Cayo District by Wiersema and Baumgardner (2000).

New data.–CAYO DISTRICT: Macal River, 9.3 mi S Augustine, 6.i.1996, 4L, WDS [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 3L, DEB [TAMU]; STANN CREEK DISTRICT: unnamed cr. on road leading to Cockscomb Reserve, ca. 3 km. W. Maya Center (N16°47'59"; W88°24'09"), 18.iii.2005, 4L, DEB [TAMU]; TOLEDO DISTRICT: Mafredi Cr Trib 7 mi S Mafredi, 09.i.1996, 1L, WDS [TAMU]; Blue Creek, Blue Creek Village, 09.i.1996, 1L, WDS [TAMU]; Rio Grande, Big Fall, 10.i.1995, 9L, WDS [TAMU].

Remarks.–This ubiquitous species is known from throughout the western and central United States (McCafferty et al. 1993, 1997, 2001, 2003) and Canada (McCafferty and Randolph 1998), throughout Mexico (Randolph and McCafferty 2000, 2001), and is also known from Guatemala (McCafferty et al. 2004), Honduras and Costa Rica (Lugo-Ortiz et al. 1994).

Fallceon sageae McCafferty

Previous data.–This species was previously reported as *Fallceon longifolius* (Kluge) from Cayo District (Wiersema and Baumgardner, 2000).

New data.–None.

Remarks.–*Fallceon sageae* is also known from South-Central Mexico (Lugo-Ortiz et al., 1994; McCafferty 2008) and Nicaragua (Meyer et al. 2008). Records of *F. longifolius* from Belize (Wiersema and Baumgardner 2000) and Mexico (Lugo-Oritz et al. 1994) were in error and are referable to *F. sageae* (Meyer et al. 2008). The true *F. longifolius* is known only from Cuba (González-Lazo and Salles 2007, McCafferty 2008).

**Guajirolus ektrapeloglossa* Flowers

New data.–TOLEDO DISTRICT: Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 3L, RHC [TAMU].

Remarks.–*Guajirolus nanus* was described by Lugo-Ortiz and McCafferty (1995d) based upon larvae from Costa Rica, and later synonymized with *G. ektrapeloglossa* (Kluge, 2019).

Guajirolus ektrapeloglossa is also known Nicaragua (Meyer et al 2008) and Guatemala (McCafferty et al 2004), where it was listed as *G. nanus*, and Panama (Flowers 1985). It has also been documented in Peru (Kluge, 2019), one of only two species of mayflies known from Belize that have ranges that extend into South America.

Paracloeodes minutus (Daggy)

Previous data.–This species was previously reported in Belize from Cayo District (Wiersema and Baumgardner 2000).

New data.–None.

Remarks.–In Central America, *P. minutus*

is also known from Nicaragua (Meyer et al. 2008), Costa Rica and Honduras (McCafferty and Lugo-Ortiz 1996), and throughout much of North America (McCafferty and Meyer 2007).

Family Caenidae

Two genera and three species of caenids are documented in Belize, two species for the first time. *Latineosus cayo* was described from Belize and is currently known only from the country.

**Caenis bajaensis* Allen and Murvosh

New data.–ORANGE WALK: Rio Bravo, Cedar Crossing, 1.i.1996, 1L, WDS [TAMU]; TOLEDO DISTRICT: Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 1L, RHC [TAMU]; Swasey R. ca. 4 Km NW Red Bank Village (N16°38'46"; W88°35'04"), 15.v.2012, 1L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 1L, RHC [TAMU]; San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 2L, RHC [TAMU]; Deep R. ca. 3.5 Km NNW Medina Bank Village (N16°27'45"; W88°45'55"), 28.v.2012, 4L, RHC [TAMU]; Deep R. at Medina Bank Village (N16°26'35"; W88°44'38"), 27.v.2012, 5L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 2L, RHC [TAMU].

Remarks.–Although this is the first published record of *Caenis bajaensis* from Belize, the species is known from throughout the southwestern United States and western Mexico (Provonsha 1990), Nicaragua (Meyer et al 2008), and Costa Rica (Lugo-Ortiz and McCafferty 1996a).

**Caenis latipennis* Banks

New data.–ORANGE WALK DISTRICT: unnamed stream, Rio Bravo Preserve, 2.3 mi. N Head Quarters, 2.i.1996, 1L, WDS [TAMU]; TOLEDO DISTRICT: San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 1L, RHC [TAMU]; Jacinto Creek at Southern Highway ca. 10.7 Km NW Punta Gorda Town (N16°09'21"; W88°53'07"), 23.iii.2012, 6L, RHC [TAMU]; Golden Stream at Hellgate ca. 1.9 Km SE Golden Stream Village (N16° 20' 50"; W88° 47' 22",), 13.iv.2010, 1L, RHC [TAMU]; Golden Stream ca. 2.4 Km SE Golden Stream Village (N16°20' 35; W88° 47'15"), 27.iv.2012, 1L, RHC [TAMU]; Deep R. at Medina Bank Village (N16°26'35"; W88°44'38"), 27.v.2012, 1L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 2L, RHC [TAMU].

Remarks.–*Caenis latipennis* is one of the most widely distributed species of *Caenis* in North American, known from Canada and much of the United States (Provonsha 1990), and Mexico (Lugo-Ortiz and McCafferty 1996a). Although newly documented here from Belize, its occurrence in the country was to be expected.

Latineosus cayo Sun and McCafferty

Previous data.–This species was previously reported from Belize, where it was described from specimens collected in Cayo District (Sun and McCafferty 2008).

New data. TOLEDO DISTRICT: Deep R. ca. 3.5 Km NNW Medina Bank Village (N16°27'45"; W88°45'55"), 28.v.2012, 1L, RHC [TAMU]; Boden Creek at Belize Lodge and Excursions ca. 7 Km S Golden Stream Village (N16°17'56"; W88°48'30"), 23.iv.2010, 1L, RHC [TAMU]; Golden Stream/Indian Creek ca. 0.6 Km N Golden Stream Village (N16°22'04"; W88°48'0"), 03.xi.2010, 2L, RHC [TAMU]; Golden Stream/Indian Creek ca. 0.6 Km N Golden Stream Village (N16°22'04"; W88°48'0"), 1L, 27.iv.2010, RHC [TAMU].

Remarks.–*Latineosus cayo* is currently known only in Belize.

Family Euthyplociidae

Of the three species from the family Euthyplociidae known from Central America,

only one occurs in Belize.

Euthyplocia hecuba (Hagen)

Previous data.–First reported from Belize by Lugo-Ortiz and McCafferty (1996a) based upon a larva from Cayo District.

New data.–TOLEDO DISTRICT: Rio Grande, Big Fall, 10.i.1996, WDS, 1L [TAMU]; Aguacate Creek 4 mi SW Blue Cr Villa, 9.i.1996, WDS, 1L [TAMU]; Golden Stream, Hellgate, 10.i.1996, WDS, 4L [TAMU]; San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 6L, RHC [TAMU]; San Miguel Branch immediately upstream San Miguel Village (N16°17'33"; W88°55'50"), 10.v.2012, 3L, RHC [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 1L, RHC [TAMU]; Golden Stream at Belize Indigenous Training Institute ca. 3.4 Km SE Golden Stream Village (N16°20' 07; W88° 46'56"), 07.v.2010, 1L, RHC [TAMU]; Swasey R. ca. 7.1 Km NNW Red Bank Village (N16° 40' 08"; W88°36' 06"), 04.iv.2012, 1L, RHC [TAMU]; Deep R. at Medina Bank Village (N16°26'35"; W88°44'38"), 27.v.2012, 2L, RHC [TAMU]; Columbia Branch ca. 3.1 Km NW San Pedro Columbia Village (N16°16'46"; W88°58'45") , 25.xi.2010, 1L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 8L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 3L, RHC [TAMU].

Remarks. This species is widespread throughout Central America, known from Mexico (Hagen 1861; Ulmer 1942), Guatemala (McCafferty et al. 2004), Costa Rica (Ulmer 1942), Panama (Lugo-Ortiz and McCafferty 1996a), and most recently Honduras (McCafferty 2011b). *Euthyplocia hecuba* also known from throughout much of South America (Ulmer 1920).

Family Heptageniidae

Although diverse and widely distributed in North America, only four species of Heptageniidae are known in Central America. Only two species are known from Belize, both previously documented in the country.

Epeorus packeri Allen and Cohen

Previous data.–Epeorus packeri was first reported in Belize by Lugo-Ortiz and McCafferty (1996a) from Cayo District.

New data.–CAYO DISTRICT: Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 2L, DEB [TAMU]; Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24", elev. 60m), 13.iii.2005, 1L, DEB [TAMU]; TOLEDO DISTRICT: Sapote Creek ca. 4.7 Km NW Red Bank Village (N16°37'52"; W88°36'17"), 8.xii.2010, 1L, RHC [TAMU]; Richardson Creek ca. 13.1 Km NNW Medina Bank Village (N16°33'25"; W88°46'11"), 14.xii.2010, 4L, RHC [TAMU]; Richardson Creek ca. 12.8 Km NNW Medina Bank Village (N16°33'15"; W88°46'07"), 13.xii.2010, 2L, RHC [TAMU].

Remarks. *Epeorus packeri* was described by Allen and Cohen (1977) based upon specimens from Honduras and Panama, the only other countries from which the species is known

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Maccaffertium mexicanum mexicanum (Ulmer)

Previous data.–This species was first reported in Belize by McCafferty (1984).

New data. BELIZE DISTRICT: Mahogany Creek 5 mi. WNW Gales Point, 14.i.1995, 1L, WDS [TAMU]; TOLEDO DISTRICT: Río Grande at Southern Hwy. in Big Fall (town), (N16°15'23"; W88°53'12", elev. 45m), 17.iii.2005, 7L, DEB [TAMU]; Rio Grande, Big Fall, 10.i.1995, 1L, WDS [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 1L, RHC [TAMU]; Golden Stream at Hellgate ca. 1.9 Km SE Golden Stream Village (N16° 20' 50"; W88° 47' 22"), 13.iv.2010, 1L, RHC [TAMU]; Golden Stream ca. 2.4 Km SE Golden Stream Village (N16°20' 35; W88°

47’15”), 27.iv.2012, 7L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Village (N16°15’09”, W88°55’12”), 26.iv.2010, 1L, RHC [TAMU].

Remarks.–This species is also known from Tabasco, Mexico (Ulmer 1920), Guatemala (Allen and Cohen 1977; McCafferty et al. 2004), Nicaragua (Meyer et al. 2008), Costa Rica (McCafferty 1984), Panama (Flowers and Peters 1981), and throughout the eastern United States (Bednarik and McCafferty 1979). Larvae can be found in a variety of running water habitats.

Family Isonychiidae

Only a single species of Isonychiidae is known in Belize, and was previously documented in the country before this study.

Isonychia sicca (Walsh)

Previous data.–*Isonychia sicca* was first reported in Belize by Lugo-Ortiz and McCafferty (1996a), based upon specimens from Cayo District.

New data.–CAYO DISTRICT: Roaring Creek ca. 5 mi. S. Teakettle (N17°10’21”; W88°50’24”; elev. 60m); 13.iii.2005, 1L, DEB [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06’35”; W88°39’34”), 16.iii.2005, 8L, DEB [TAMU].

Remarks.–*Isonychia sicca* is well known north of Mexico (Kondratieff and Voshel 1984; McCafferty et al. 2012), and throughout Mexico (Allen and Cohen 1977; Kondratieff and Voshell 1984; Lugo-Ortiz and McCafferty 1996a). The species is also known from Guatemala (McCafferty et al. 2004), Honduras (Allen and Cohen 1977), and Costa Rica (Kondratieff and Voshell 1984).

Family Leptohyphidae

The family Leptohyphidae is the third most diverse family of mayflies in Belize, just behind Leptophlebiidae, with 22% of the known mayfly species in the country. Fourteen species of Leptohyphidae are recorded in Belize, ten of them newly reported from the country, including one new species. The genera *Asioplax*, *Haplohyphes*, and *Tricorythodes* are newly reported from Belize.

Ableptemetes dicinctus (Allen and Brusca)

Previous data.–First recorded in Belize by Wiersema and Baumgardner (2000) from Stann Creek District.

New data.–CAYO DISTRICT: Mopan River, Bullet Tree Falls, 13.i.1996, 2L, WDS [TAMU]; TOLEDO DISTRICT: Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40’33”; W88°36’32”), 02.iv.2012, 4L, RHC [TAMU]; Swasey R. ca. 3.1 Km NW Red Bank Village (N16°37’35”; W88°35’23”), 16.v.2012, 1L, RHC [TAMU].

Remarks.–*Ableptemetes dicinctus* is also known from Guerrero, Mexico (Allen and Brusca 1973) and Guatemala (McCafferty et al. 2004). This species is infrequently reported in the literature possibly due to its small size and habitat of burrowing into snag materials in the stream (D.E. Baumgardner, personal observation).

**Ableptemetes melanobranchus* (Allen and Brusca)

New data.–CAYO DISTRICT: Roaring Creek, 19.i.1993, 2L, WDS [TAMU]; TOLEDO DISTRICT: Swasey R. ca. 3.1 Km NW Red Bank Village (N16°37’35”; W88°35’23”), 16.v.2012, 1L, RHC [TAMU].

Remarks.–*Ableptemetes melanobranchus* was previously known only from Guatemala (McCafferty et al. 2004).

**Asioplax curiosa* (Lugo-Ortiz and McCafferty)

New data.–BELIZE DISTRICT: Mangrove Creek, 2 mi. NW Mull R Villa, 14.i.1995, 1L, WDS [TAMU]; STANN CREEK DISTRICT: Cabbage Haul Creek, Maya Center, 8.i.1996,

1L, WDS [TAMU].

Remarks.–This species was previously known only from Costa Rica (Lugo-Ortiz and McCafferty 1995a; Wiersema and McCafferty 2005). A reference to its presence in Panama (Wiersema and McCafferty 2005) was in error.

Asioplax goldeni n. sp.
Baumgardner, McCafferty and Carrie
urn:lsid:zoobank.org:act:B6EC1F3B-EC08-4ED4-805C-F388AADC5F19

Mature Larva: Body length 3 mm; caudal filaments 2.0–3.0 mm. Body robust, dorsoventrally flattened; general color pale brown with extensive black maculations.

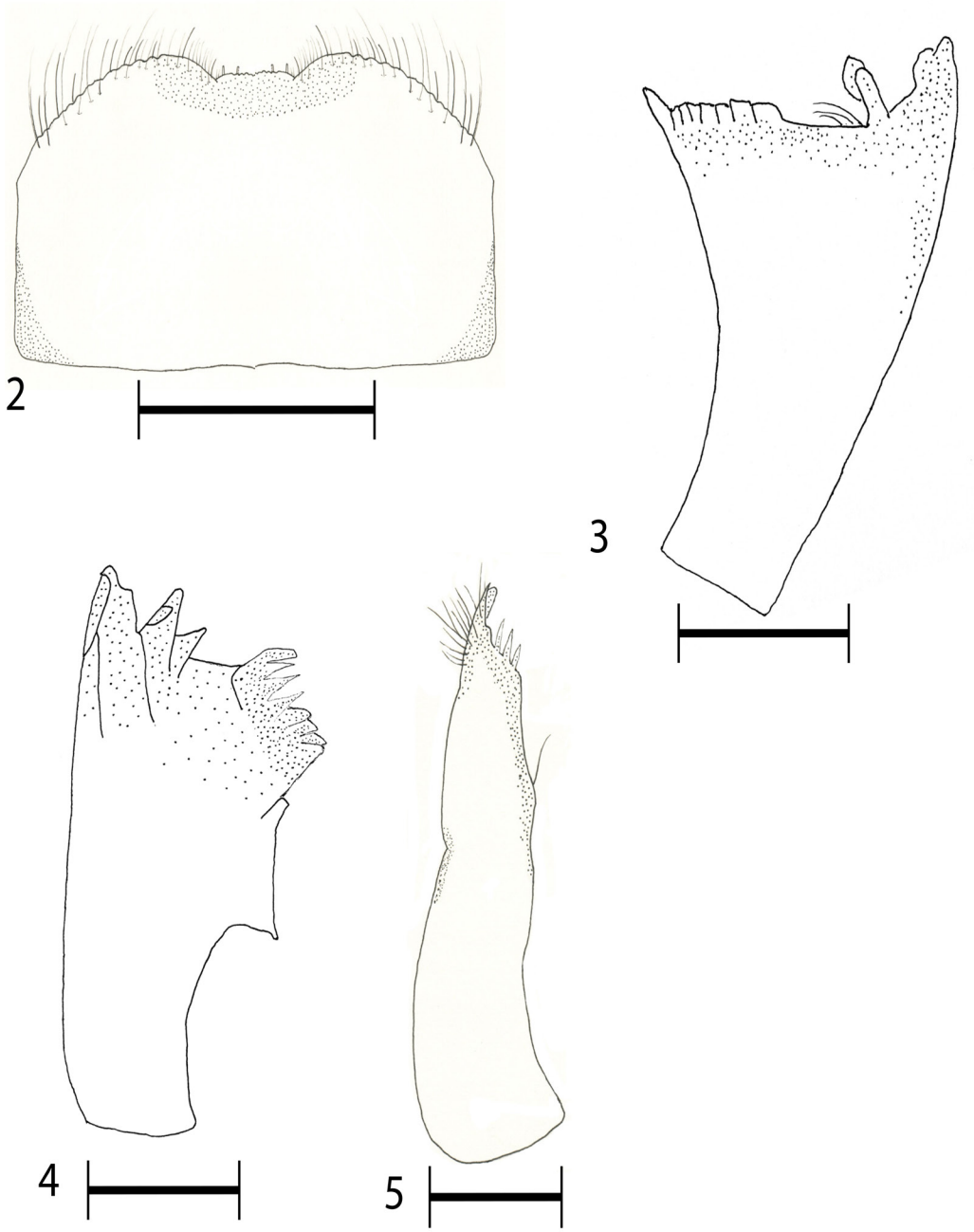
Head: Pale brown with variable black maculations; genal projections and tubercles absent; compound eyes small and widely separated; three ocelli present; antennae pale, approximately two times length of head capsule.

Mouthparts: Labrum (Figure 2): dorsally with filiform setae along lateral and anterior margins; few, scattered acuminate setae recessed from dorsal and ventral anterior margins. Labium: postmentum moderately developed, with regularly-spaced filiform setae along lateral margins; prementum ventrally with numerous filiform setae; labial palp three-segmented with numerous filiform setae; glossae and paraglossae subequal, fused except distally; glossae slightly recessed, rounded, and with robust setae; paraglossae with numerous filiform setae. Right mandible (Figure 3): outer and inner incisors two lobed; prostheca arising near base of inner incisor, composed of three elongate setae; molar region as in figure 3; scattered filiform setae on dorsal surface. Left mandible (Figure 4): outer incisor three lobed, mostly fused; inner incisor two lobed, mostly fused; molar region as in figure 4; mandible with scattered filiform setae on dorsal surface. Maxilla (Figure 5): maxillary palp absent; three subapical setae on inner apical margin; galea-lacinia with two canines, two apical teeth, and a cluster of filiform setae on outer apical surface; filiform and acuminate setae along base of outer margin.

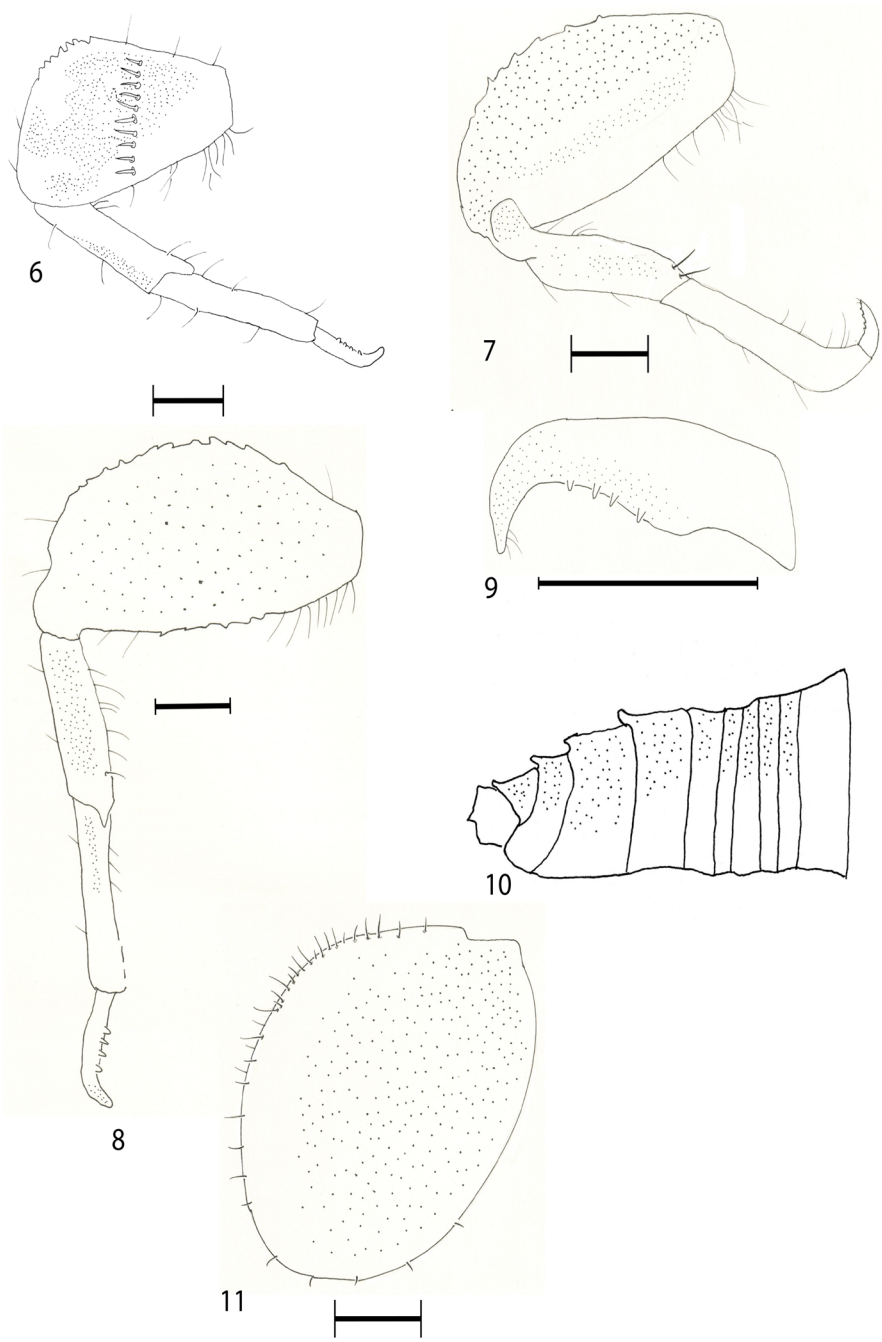
Thorax: Pale brown, with extensive black maculations; lateral margins nearly parallel, fringed with fine, simple setae. Proleg (Figure 6): Femur: dorsal surface with a transverse row of short, stout setae; anterior and posterior margins with scattered filiform setae; posterior margin with irregular, serrated appearance along medial margin. Tibia and tarsus: margins with scattered filiform setae; tarsal claw with a single row of four denticles, similar in shape and size with equal spacing. Mesoleg (Figure 7): Femur: dorsal surface bare with extensive black maculation; anterior margin smooth, posterior margin with irregular, serrated appearance; small clump of filiform setae present at anterior, proximal margin. Tibia: a few, scattered filiform setae present along anterior and posterior margins. Tarsus: scattered filiform setae present along anterior and posterior margins. Metaleg (Figure 8): Femur: dorsal surface bare; anterior and posterior margins with serrated appearance, more pronounced on posterior margin; small clump of filiform setae present at anterior, proximal margin. Tibia: a few, scattered filiform setae present along anterior and posterior margins. Tarsus: four to six filiform setae along distal inner margin; few, scattered filiform setae along posterior margin. Claw (Figure 9): with four denticles of approximately equal sizes.

Abdomen: Reddish brown extensive black maculations; abdominal terga 6-9 with distinct tubercules (Figure 10); filiform setae present along lateral margins of terga I-X; posterolateral margins of abdominal segments 7-9 expanded, reaching approximately posterior margin of next segment. Operculate gill (Fig. 11): subovate, pale gray with extensive black maculations over most of dorsal surface; acuminate setae present along inner and apical margins; gill formula 2/3/3/3/2. Cerci with whorls of acuminate setae at each annulation.

HOLOTYPE — Mature Female Larva— BELIZE: Toledo District: Golden Stream at Hellgate ca. 1.9 Km SE Golden Stream Village (N16° 20’ 50”; W88° 47’ 22”), 22.iii.2012, RH Carrie, 1 slide (#DB12.viii.201801), deposited in the Texas A&M University Insect Museum, College Station, Texas.



Figures 2-5. *Asioplax goldeni* n. sp. Scale Bar = 100µg. 2. labrum, dorsal view 3. right mandible 4. left mandible, 5.maxilla.



Figures 6-11. *Asioplax goldeni* n. sp. Scale Bar = 100µg. 6. larval foreleg, 7. larval meesoleg, 8. larval metaleg, 9. larval metaleg claw 10. larval lateral view of abdomen 11. larval operculate gill

PARATYPE — Same data as holotype, 1 mature male larva.

Etymology — Named after the Golden Stream from which the type material was collected.

Discussion: *Asioplax goldeni* is distinct among known species of *Asioplax* due to the presence of abdominal tubercles on segments 6-9, an absent maxillary palp, and foreforma with a dorsal row of short, stout setae. The only two other species of *Asioplax* known with a dorsal row of short, stout setae are *A. zunigae* and *A. dolani*. The new species can be distinguished from these two species based upon the absence of a maxillary palp, which is present and two-segmented in both *A. zunigae* and *A. dolani*. All other known species of *Asioplax* have dorsal row of long fine setae, which differentiate them from *A. goldeni*. In addition, *A. goldeni* is also only one of three known species of *Asioplax* with abdominal tubercles, the other two being *A. nicholsae* and *A. santarita*. Both of these species are known only from South America and also have a different number of abdominal tubercles than *A. goldeni*.

There is some disagreement concerning the status of *Asioplax,* with most researchers in North America recognizing it as a genus, while South American researchers consider it a synonym of *Tricorythodes.* Molineri (2002) conducted a cladistic analysis of the South American species of *Tricorythodes* and some of the related genera. His analysis only examined 17 taxa and 29 morphological characters. He concluded that *Asioplax* should be considered a synonym of *Tricorythodes*. Dias et al. (2019) also conducted a phylogenetic study of the genus *Tricorythodes* and some assumed related genera, including *Asioplax*, using both morphological and molecular characters to test the monophyly of *Tricorythodes* and other proposed genera. The species chosen for the study were almost all from South America, with very few from Central or North America. Not all species included in their analysis were based on both morphological and molecular characters, although some species were analyzed with both character sets. Among their various findings in their research, *Asioplax* was found to show conflicting results based on morphology and molecular data. Due to the lack of North and Central American species included in the study, conflicting results involving *Asioplax*, and continuing new species of *Asioplax* being discovered, we choose to maintain *Asioplax* as a valid genus for now until further research can clarify the situation.

Distribution and Biology: The Golden Stream arises in the Maya Mountains and Columbia River Forest Reserve at elevations between 300 and 400 m a.s.l. It drains a small (ca. 200 km^2) limestone influenced catchment, parts of which are contained within a patchwork of protected areas. At the type locality (Fig. 11), which is flanked on the left bank by the Golden Stream Corridor Preserve, the channel is a 3rd order lowland bedrock-dominated stream of moderate width (mean 17.9 m) and depth (mean 51.9 cm) characterized by glides and cascades. The upstream catchment consists of selectively-logged old growth and young broad-leaf tropical forest, a citrus plantation, and two rural settlements. The highway connecting northern and southern Belize crosses the main channel and smaller tributaries approximately 2.7 km upstream of the type locality. The type series was collected at approximately 10 m a.s.l. from partially shaded, fast flowing (1.04 ms−1) erosional habitats. At the time of collection, water conductivity was moderate (520 μs/cm), pH slightly basic (7.8), turbidity low (1.12 NTU), and temperature warm (25.6°C).

**Asioplax numinuh* Wiersema, McCafferty and Baumgardner

New data.–STANN CREEK DISTRICT: Silk Grass Creek, 2.7 mi N Silk Grass Villa, 8.i.1996, 3L, WDS [TAMU]; TOLEDO DISTRICT: Golden Stream/Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22’17”; W88°48’02”), 21.iii.2012, 1L, RHC [TAMU]; Golden Stream/ Indian Creek ca. 0.6 Km N Golden Stream Village (N16°22’04”; W88°48’0”), 03.xi.2010, 1L, RHC [TAMU].

Remarks.–This species was previously

Figure 12. Golden stream, type locality of *Asioplax goldeni.*

known from a few scattered localities in Texas and Mexico (Wiersema and McCafferty 2005).

**Haplohyphes mithras* (Traver)

New data.–TOLEDO DISTRICT: Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 1L, RHC [TAMU].

Remarks.–This record represents the northern most record of the genus *Haplohyphes*. Although the record of *H. mithras* in Belize is based upon a larva, and only the adult stage of *H. mithras* is known, the mature larva has abdominal coloration extremely similar to that described by Traver (1958) for the adult. This larva likely represents the undescribed larva of the species. *Haplohyphes mithras* is also known from Costa Rica (Traver, 1958) and Nicaragua (Meyer et al., 2008).

Leptohyphes apache Allen

Previous data.–Previously recorded in Cayo District of Belize (as *L. zalope*) by Baumgardner and McCafferty (2000). Some other records of *L. zalope* in Belize (Baumgardner and McCafferty 2000) are probably attributable to *L. apache*.

New data.–CAYO DISTRICT: Roaring Creek, riffle, 20-VI-1974, V. Resh; STANN CREEK DISTRICT: 5.9Km SE Over-the-top-camp, 11.i.1996, WDS, 3L [TAMU]; unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 170m), 18.iii.2005, 4L, [TAMU]; TOLEDO DISTRICT: Swasey R. ca. 3 Km NW Red Bank Village (N16°37'58"; W88°35'09"), 05.iv.2012, 5L, RHC

[TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 19L, RHC [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 4L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 10L, RHC [TAMU]; Swasey R. upstream of Swasey Stopper, ca. 8.1Km NW Red Bank Village (N16°40'33", W88°36'32"), 02.iv.2012, 7L, RHC [TAMU]; Bladen Branch ca. 3.4 Km W Trio Village (W88°40'10", N16°30'55"), 08.iii.2012, 3L, RHC [TAMU].

Remarks.–*Leptohyphes apache* is known from throughout the southwestern United States, and in Central America it is known from Mexico, Belize, El Salvador, Honduras, Guatemala, and Nicaragua (Baumgardner and McCafferty 2010). *Leptohyphes apache* was considered a synonym of *L. zalope* by Baumgardner and McCafferty (2000), but was re-validated by Baumgardner and McCafferty (2010). As such, some records attributable to *L. zalope* are those of *L. apache*.

**Leptohyphes ferruginus* Allen and Brusca

New data.–CAYO DISTRICT: unnamed stream, 19.6 mi SE Belmopan, 7.i.1996, 1L, WDS [TAMU]. TOLEDO DISTRICT: San Miguel Branch ca 1.1 Km SSE San Miguel Village (N16°16'59"; W88°55'44"), 13.iv.2012, 1L, RHC [TAMU]; Crique Trosa, 2.5 mi E San Antonio, 11.i.1995, 2L, WDS [TAMU].

Remarks.–*Leptohyphes ferruginus* is known from scattered localities in the southwestern United States, Mexico, Guatemala, Honduras, and Costa Rica (Baumgardner and McCafferty, 2010).

**Leptohyphes lestes* Allen and Brusca

New data.–CAYO DISTRICT: Macal R. at Black Rock (town), Black Rock Lodge, ca. 10 mi. S. San Ignacio (N17°02'43"; W89°03'31"; elev. 100 m), 13-14.iii.2005, 1 reared adult, DEB [TAMU]; Macal River, 7.i.1996, 3L, WDS [TAMU]; Sibun River, 20 mi SE Belmopan, 20.i.1993, 7L, WDS [TAMU]; E Br Belize River, Cristo Ray, 23.i.1993, 9L, WDS [TAMU]; unnamed stream, 19.6 mi SE Belmopan, 7.i.1996, 4L, WDS [TAMU]. ORANGE WALK: Rio Bravo, Cedar Crossing, 1.i.1996, 1L, WDS [TAMU]. TOLEDO DISTRICT: Mafredi Cr Trib., 7 mi. S. Mafredi, 9.i.1996, 1L, WDS [TAMU]; Blue Creek, Blue Creek Village, 9.i.1996, 2L, WDS [TAMU]; Rio Grande, Big Fall, 10.i.1995, 1L, WDS [TAMU]; San Miguel Branch ca. 1.25 Km NE San Miguel Village (N16°18'08"; W88°55'43"), 10.iv.2012, 1L, RHC; [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 7L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 3L, RHC [TAMU]; Golden Stream/ Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22'17"; W88°48'02"), 21.iii.2012, 1L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 10L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 9L, RHC [TAMU]; Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 4L, RHC [TAMU].

Remarks.–This species was previously known from the southwestern United States and southern Mexico, and Honduras (Baumgardner and McCafferty, 2010).

Leptohyphes zalope Traver

Previous data.–Baumgardner and McCafferty (2000) reported this species from throughout Stann Creek and Cayo Districts.

New data. ORANGE WALK: Rio Bravo, Cedar Crossing, 1.i.1996, 1L, WDS [TAMU]; STANN CREEK DISTRICT: North Stann Creek, 2 mi SE Middlesex, 22.i.1993, 5L, WDS [TAMU]; TOLEDO DISTRICT: Rio Grande, Big Fall, 10.i.1995, 10L, WDS [TAMU]; Columbia Branch ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 3L, RHC [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 3L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank

Village (N16°37'07"; W88°35'35"), 17.v.2012, 22L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 3L, RHC [TAMU]; Swasey R., upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 2L, RHC [TAMU]; Swasey R. ca. 3.1 Km NW Red Bank Village (N16°37'35"; W88°35'23"), 16.v.2012, 1L, RHC [TAMU]; Golden Stream at Hellgate ca. 1.9 Km SE Golden Stream Village (N16° 20' 50"; W88° 47' 22"), 22.iii.2012, 2L, RHC [TAMU].

Remarks.–This is the most common and widely distributed species of *Leptohyphes* in Central America, known from Belize, Costa Rica, Guatemala, Honduras, and El Salvador (Baumgardner and McCafferty 2000). It is also known from the southwestern United States (Baumgardner and McCafferty 2000; McCafferty et al. 2012)

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***Tricorythodes explicatus* (Eaton)**

New data.–BELIZE DISTRICT: English Creek, 13 mi. SW Hattiesville, 24.i.1993, 1L, WDS [TAMU].

Remarks. This species is also known from Mexico, Guatemala, and Honduras and is widely distributed throughout central and western North America (Baumgardner 2009).

***Tricorythodes notatus* Allen and Brusca**

New data.–ORANGE WALK DISTRICT: Rio Bravo, Cedar Crossing , 1.i.1996, 1L, WDS. TOLEDO DISTRICT: Moho River, 4 mi. S. Blue Creek Villa, 09.i.1996, 1L, WDS; Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 5L, RHC [TAMU].

Remarks.–This species was described by Allen and Brusca (1973) based upon larvae from the southern Mexican states of Morelos and Oaxaca. Although the type series is badly faded and does not match the color characteristics as given in the original description, the specimens from Belize match very well with the written description of this species.

***Tricorythodes sordidus* Allen**

New data.–CAYO DISTRICT: Macal River, 7.i.1996, 3L, WDS [TAMU]; ORANGE WALK DISTRICT: Rio Bravo Preserve, 1.i.1996, WDS, Black Light, 3♂, 5♀ [TAMU]. STANN CREEK DISTRICT: North Stann Creek, 2 mi SE Middlesex, 11.i.1996, 12L, WDS [TAMU]; North Stann Creek, 2 mi SE Middlesex, 22.i.1993, 3L, WDS [TAMU]; unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 170m), 18.iii.2005, 6L, [TAMU]; North Stann Creek at Hummingbird Hwy., ca. 3 Km SE Middlesex (N17°00'39"; W88°28'33", elev. 100 m), 18.iii.2005, 12L, DEB [TAMU]; North Stann Creek, 2 mi. SE Middlesex, 11.i..1996, WDS, 2L [TAMU]. TOLEDO DISTRICT: Joshua Cr 1 mi. SW Hellgate, 10.i.1995, 12L, WDS [TAMU]; Golden Stream/ Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22'17"; W88°48'02"), 21.iii.2012, 3L, RHC [TAMU]; Deep R. ca. 3.5 Km NNW Medina Bank Village (N16°27'45"; W88°45'55"), 28.v.2012, 1L, RHC [TAMU]; Crique Trosa, 2.5 mi E San Antonio, 11.i.1995, 2L, WDS [TAMU].

Remarks.–This species is reported here for the first time from Belize. It is widespread in Central America, known from Mexico and Costa Rica (Baumgardner and Ávila 2006), Guatemala (McCafferty et al. 2004), and Nicaragua (Meyer et al. 2008).

***Vacupernius packeri* (Allen)**

Previous data.–This species was first recorded in Belize by Lugo-Ortiz and McCafferty (1995a), based upon specimens from Roaring Creek, which is a town near the capital Belmopan in Cayo District.

New data–CAYO DISTRICT: E Br Belize River, Cristo Ray, 23.i.1993, 2L, WDS [TAMU]; unnamed stream, 19.6 mi SE Belmopan, 7.i.1996, 1L, WDS [TAMU]. ORANGE WALK: Rio Bravo, Cedar Crossing, 11.i.1996, 2L, WDS [TAMU]. STANN CREEK DISTRICT: North Stann Creek at Hummingbird Hwy., ca. 3 Km SE Middlesex (N17°00'39"; W88°28'33", elev. 100 m), 18.iii.2005, 5L, DEB [TAMU]; North Stann

Creek, 2 mi. SE Middlesex, 11.i..1996, WDS, 1L [TAMU]; unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 170m), 18.iii.2005, 1L, [TAMU]; TOLEDO DISTRICT: unnamed cr. at Southern Hwy., 11 Km S. Medina Bank (N16°21'15"; W88°47'56", elev. 50m), 17.iii.2005, 14L, DEB [TAMU]; Joshua Cr 1 mi. SW Hellgate, 10.i.1995, 5L, WDS [TAMU]; Crique Negra, 2.1 mi. N Big Fall, 10.i.1996, 1L, WDS [TAMU]; Rio Grande, Big Fall, 10.i.1995, 1L, WDS [TAMU]; San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 2L, RHC [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 2L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 1L, RHC [TAMU]; Jacinto Creek at Southern Highway ca. 10.7 Km NW Punta Gorda Town (N16°09'21"; W88°53'07"), 23.iii.2012, 2L, RHC [TAMU]; Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 1L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 3L, RHC [TAMU]; Golden Stream ca. 2.4 Km SE Golden Stream Village (N16°20' 35; W88° 47'15"), 27.iv.2012, 4L, RHC [TAMU]; Golden Stream/Indian Creek ca. 5.1 Km NW Golden Stream Village (N16°23'39"; W88°50'0"), 25.iv.2012, 2L, RHC [TAMU]; Deep R. at Medina Bank Village (N16°26'35"; W88°44'38") , 27.v.2012, 3L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 3L, RHC [TAMU].

Remarks.–*Vacupernius packeri* is a widespread species known from the Southwestern United States and Mexico (Allen 1978; Allen and Murvosh 1987; Lugo-Ortiz and McCafferty 1996a; Baumgardner 2003), Guatemala (McCafferty et al. 2004), Honduras (Allen 1967, 1978), Nicaragua (Meyer et al. 2008), and Costa Rica (Flowers and Pringle 1995).

Family Leptophlebiidae

Nine genera and 18 species from the family Leptophlebiidae are now known in Belize. Six genera and 14 species are newly reported for Belize. The 18 species account for 28% of all known species of mayflies in Belize. Like the family Baetidae, members of this family are also common and widely distributed throughout the country.

Although only five species of *Thraulodes* are reported from Belize, it is expected that others will eventually be identified once more larvae can be associated with their respective adult stages. *Thraulodes* was the most abundant and commonly encountered genus of mayflies in Belize (DE Baumgardner, personal observation). Numerous larval specimens within the TAMU collection are clearly *Thraulodes*, but they cannot be determined to species at this time due to the lack of larval and adult associations.

***Choroterpes inornata* Eaton**

New data.–CAYO DISTRICT: Macal R. at Black Rock (town), Black Rock Lodge, ca. 10 mi. S. San Ignacio (N17°02'43", W89°03'31", elev. 100m), 13,14.iii.2005, 1L, DEB [TAMU]; Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"; elev. 125m), 13.iii.2005, 6L, DEB [TAMU]; TOLEDO DISTRICT: San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 1L, RHC [TAMU]; Bladen Branch upstream BFREE, ca. 8.7 Km NW Trio Village (N16°33'19"; W88°42'41"), 2.iii.2012, 1L, RHC [TAMU].

Remarks.–*Choroterpes inornata* was described by Eaton (1892) based upon adults from northern Sonora, Mexico and Arizona. Kilgore and Allen (1973) associated and described the larvae and provided additional records of the species from Arizona and New Mexico in the United States. These larvae represent the first report of the genus *Choroterpes* from Belize. Other species of *Choroterpes* are expected to be discovered in Belize. For example, *Choroterpes nervosa* Eaton is known from neighboring Guatemala (Eaton, 1892). Additional studies, in particular association of adult and larval stages, will be

required in order to resolve a more complete list of *Choroterpes* known from Belize.

**Farrodes flavipennis* Domínguez, Molineri and Peters

New data.–Sabun R, Glenwood Farm, 30-VI-1974, 2 male adults [PERC]; Rio Rovacion, Mt. Pine, 20-VI-1974, 3 male adults [PERC].

Remarks.–Although this species is newly documented in Belize, it also is known from Mexico (McCafferty 2011b), Nicaragua (Meyer et al. 2008) and Honduras (Domínguez et al. 1996).

Although it is unclear where "Rio Rovacion" is located, the locality tag identified it as occurring in Mt. Pine, also known as Mountain Pine Ridge Reserve, located in Cayo District. The Mountain Pine Ridge Reserve is a well-known location, and one often visited by tourists. The other locality, Sabun R, Glenwood Farm, is located in Belize District (see "Remarks" under *Cloeodes excogitatus* for more details).

Farrodes texanus Davis

Previous data.–First reported in Belize (Belize District) by McCafferty and Lugo-Ortiz (1996).

New data – None.

Remarks.–*Farrodes texanus* was originally described from southern Texas by Davis (1987). The species was later documented in northern Mexico (Lugo-Ortiz and McCafferty 1996a), and Guatemala (McCafferty et al. 2004).

**Hagenulopsis ingens* Lugo-Ortiz and McCafferty

New data.–CAYO DISTRICT: Macal River, 9.3 mi. S. Augustine, 6.i.1996, 1L, WDS [TAMU]; TOLEDO DISTRICT: Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 6L, RHC [TAMU]; Trib to Rio Grande, 1.3 mi. NE Sil Cr Villa, 10.i.1995, 1L, WDS [TAMU]; Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 1L, RHC [TAMU]; Sapote Creek ca. 6.1 Km NNW of Red Bank Village (N16°38'02"; W88°37'01"), 08.xii.2010, 1L, RHC [TAMU].

Remarks.–This species was described by Lugo-Ortiz and McCafferty (1996b) based upon larvae from Costa Rica, and later documented in Nicaragua by Meyer et al (2008). It is newly recorded from Belize.

**Hydrosmilodon primanus* (Eaton)

New data.–CAYO DISTRICT: Río On at Chiquibal Rd., 4.2 km N Douglas de Silva (16, 59', 19"N; 88, 53', 30"W), 14.iii.2005, 4L, DEB, [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 1L, DEB [TAMU]. STANN CREEK DISTRICT: unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 170m), 18.iii.2005, 5L, [TAMU]; TOLEDO DISTRICT: Swasey R. ca. 4 Km NW Red Bank Village (N16°38'46"; W88°35'04"), 15.v.2012, 1L, RHC [TAMU]; Swasey R. ca. 7.1 Km NNW Red Bank Village (N16° 40' 08"; W88°36'06"), 04.iv.2012, 2L, RHC [TAMU].

Remarks.–*Hydrosmilodon primanus* was previously known from Honduras, Costa Rica, Panama (Flowers and Dominguez 1992) and Colombia (Salinas et al., 2012). Its presence in Belize represents a significant new northward record of the species.

**Neochoroterpes oklahoma* (Traver)

New data.–TOLEDO DISTRICT: Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 1L, RHC [TAMU].

Remarks.–This species is known from numerous locations in Texas, and a few records in Oklahoma, Colorado, and New Mexico, and throughout northern Mexico (Henry 1993). Its presence in Belize extends its known range south.

**Neochoroterpes orientalis* Henry

New data.–CAYO DISTRICT: Rio

Provacion, Mt. Pine, 20-VI-1974, 1L [PERC].

Remarks.–*Neochoroterpes orientalis* was previously known only from the Mexican states of Queretaro and Puebla in south-central Mexico (Henry 1993). The report herein, thus also represents the first record of the species for Central America.

**Terpides jessiae* Peterson and Harrison

New data.–BELIZE DISTRICT: Sabun-Gracy, 19-VI-1974, 1L (PERC) - "Gracy" is evidently Gracie Rock in Belize District and is near the Sibun (not "Sabun") River; STANN CREEK DISTRICT: North Stann Creek, 2 mi NE Middlesex, 11.i.1996, 2L, WDS [TAMU]; Dry Creek, 5.9 Km SE Over-the-top camp, 11.i.1996, 1L, WDS [TAMU]; TOLEDO DISTRICT: Columbia Branch, at San Pedro Columbia ((N16°16'09"; W88°57'02")), 9.v.2010, 1L, RHC [TAMU].

Remarks.–This species was originally described based upon specimens from St. Vincent, West Indies (Peters and Harrison 1974). It is also known from Costa Rica (McCafferty 1985) and Nicaragua (Meyer et al. 2008).

**Thraulodes centralis* Traver

New data.–CAYO DISTRICT: Caves Branch R. at Hummingbird Hwy. ca. 16 Km SE Belmopan, (N17°08'53"; W88°42'35", elev. 85m), 16.iii.2005, 3L, DEB [TAMU]; STANN CREEK DISTRICT: Mullins River, Mullins River Village, 11.i.1996, 3L, WDS [TAMU]; Silk Grass Creek, 2.7 mi N. Silk G Villa, 8.i.1996, 2L, WDS [TAMU]; TOLEDO DISTRICT: San Miguel Branch ca. 1.25 Km NE San Miguel Village (N16°18'08"; W88°55'43"), 10.iv.2012, 4L, RHC; [TAMU]; Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 1L, RHC [TAMU]; Golden Stream, Hellgatte, 11.i.1995, 1L, WDS [TAMU]; Swasey R. ca. 3 Km NW Red Bank Village (N16°37'58"; W88°35'09"), 05.iv.2012, 12L, RHC [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 1L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 2L, RHC [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 2L, RHC [TAMU]; Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 1L, RHC [TAMU]; Swasey R. ca. 3.1 Km NW Red Bank Village (N16°37'35"; W88°35'23"), 16.v.2012, 1L, RHC [TAMU]; Deep R. at Medina Bank Village (N16°26'35"; W88°44'38"), 27.v.2012, 2L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 2L, RHC [TAMU].

Remarks.–This species was previously known only from Costa Rica (Traver 1946). Although the species is currently known only from the imago stage, the larvae have been associated to the adults through rearing and will be described at a later date.

**Thraulodes lepidus* (Eaton)

New data.–CAYO DISTRICT: Belmopan at Belmopan Airstrip, 11.i.1996, 2♂, J.C. Abbott [TAMU].

Remarks.–*Thraulodes lepidus* was described by Eaton (1884) based upon imagos collected in Panama. The species has rarely been reported in the literature. Kluge (2020) discussed the taxonomic status of the species and described the larval stage based upon proximity of specimens to the type locality of *T. lepidus* and also based upon similar coloration between the larvae and adults.

**Thraulodes mexicanus* (Eaton)

New data.–CAYO DISTRICT: Belmopan at Belmopan Airstrip, 11.i.1996, 3♂, J.C. Abbott [TAMU].

Remarks.–*Thraulodes mexicanus* was described from one male and one female from an unknown locality in Mexico (Allen and Brusca, 1978; Traver and Edmunds, 1967). Demoulin (1963) listed the species as occurring in Panama but without specific locality data.

**Thraulodes pacaya*
McCafferty, Baumgardner and Guenther

New data.–CAYO DISTRICT: Roaring Cr, 20-VI-1974, 1L [PERC]; Mopan River, Bullet Tree Falls, 5.i.1996, 2L, WDS [TAMU]; Caves Branch R. at Hummingbird Hwy. ca. 16 Km SE Belmopan, (N17°08'53"; W88°42'35", elev. 85m), 16.iii.2005, 3L, DEB [TAMU]; Macal River, 9.3 mi S Augustine, 6.i.1996, 1L, WDS [TAMU]; Belize R. at Blackman Eddie (town) ca. 5 mi. E. San Ignacio (N17°13'49"; W88°55'23", elev. 200 ft), 13.iii.2005, 6L, DEB [TAMU]; TOLEDO DISTRICT: Aguacate Creek 4 mi SW Blue Cr Villa, 9.i.1996, 4L, WDS [TAMU]; Rio Grande at Southern Hwy. in Big Fall (town) (N16°15'23"; W88°53'12", elev. 135 ft), 17.iii.2008, 34L, DEB [TAMU]; San Miguel Branch ca. 1.25 Km NE San Miguel Village (N16°18'08"; W88°55'43"), 10.iv.2012, 1L, RHC; [TAMU]; San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 2L, RHC; [TAMU]; Columbia Branch ca. 2.6 Km NW San Pedro Columbia Village (N16°16'41"; W88°58'30"), 07.v.2012, 17L, RHC [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 6L, RHC [TAMU]; Golden Stream/ Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22'17"; W88°48'02"), 21.iii.2012, 3L, RHC [TAMU]; Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 5L, RHC [TAMU]; Golden Stream, Hellgatte, 11.i.1995, 1L, WDS [TAMU]; Jacinto Creek at Southern Highway ca. 10.7 Km NW Punta Gorda Town (N16°09'21"; W88°53'07"), 23.iii.2012, 2L, RHC [TAMU]; Swasey R. ca. 3.3 Km W Red Bank Village (N16°37'07"; W88°35'35"), 17.v.2012, 1L, RHC [TAMU]; Rio Grande, Big Fall, 10.i.1995, 14L, WDS [TAMU]; Swasey R. ca. 7.6 Km NW Red Bank Village (N16°40'18"; W88°36'22"), 03.iv.2012, 1L, RHC [TAMU]; Warrier Cr. at Southern Hwy., ca. 25 km NE Big Fall (N16°26'46"; W88°44'37", elev. 20m), 17.iii.2005, 12L, DEB [TAMU]; Golden Stream ca. 2.4 Km SE Golden Stream Village (N16°20' 35; W88° 47'15"), 27.iv.2012, 12L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Village (N16°15'09", W88°55'12"), 26.iv.2010, 5L, RHC [TAMU].

Remarks.–*Thraulodes pacaya* is widely distributed in Central America, and it is also known from Mexico, Honduras, Panama (Allen and Brusca 1978), Guatemala (McCafferty et al. 1994), and Nicaragua (Meyer et al. 2008).

Thraulodes packeri
Traver and Edmunds

Previous data.–*Thraulodes packeri* was previously reported in Belize from the districts of Belize and Cayo (McCafferty 1985).

New data.–CAYO DISTRICT: Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 3L, DEB [TAMU]; STANN CREEK DISTRICT: Mullins River, Mullins River Village, 14.i.1995, 1L, WDS [TAMU]; TOLEDO DISTRICT, Swasey R. upstream of Swasey Stopper, ca. 8.1 Km NW Red Bank Village (N16°40'33"; W88°36'32"), 02.iv.2012, 1L, RHC [TAMU].

Remarks.–This species is also known from southern Mexico (Allen and Brusca 1978),

Guatemala (McCafferty et al. 2004), Honduras (Allen and Brusca 1978), Nicaragua (Meyer et al. 2008) and Costa Rica (Lugo-Ortiz and McCafferty 1996a). McCafferty (1985) reported this species from Belize based upon specimens collected by V. Resh. One location was the Rio Sibun (not "Sabun" as originally published) in Belize District, the other from the Rio Provacion in Cayo District.

**Thraulodes tenulineus*
Lugo-Ortiz and McCafferty

New data.–CAYO DISTRICT: Macal R. at Black Rock (town), Black Rock Lodge, ca. 10 mi. S. San Ignacio (N17°02'43"; W89°03'31"; elev. 100 m), 13-14.iii.2005, 3L, DEB [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 18L, DEB [TAMU]; TOLEDO DISTRICT: Mafredi Cr. Trib. 7 mi. S. Mafredi, 9.i.1996, 6L, WDS [TAMU]; Golden Stream

at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 4L, RHC [TAMU].

Remarks.–This species is widely distributed in Mexico (Lugo-Ortiz and McCafferty 1996b; Randolph and McCafferty 2000) and also known from Honduras (Allen and Brusca 1978) where it was listed as *Thraulodes sp. D*.

Thraulodes zonalis Traver and Edmunds

Previous data.–*Thraulodes zonalis* was first reported from the Rio On in Cayo District (McCafferty 1985).

New data.–BELIZE DISTRICT: Soldier Creek, 3 mi W Gales Point, 14.i.1995, 3L, WDS [TAMU]; CAYO DISTRICT: Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21", W88°50'24"; elev 60 m); 13.iii.2005, 3L, DEB [TAMU]; Little Vaqueros Cr. at Chiquibul Road, ca. 20 Km N. Douglas de Silva (N17°02'54"; W88°56'55", elev. 500 m), 14.iii.2005, 1L, DEB [TAMU]; Rio On at Chiquibal rd., 4.2 km N Douglas de Silva (N16°59'19"; W88°53'30", elev. 455m), 14.iii.2005, 1L, DEB, [TAMU]; Privacion Ck. at Chiquibul Rd., 14.3 Km N Douglas de Silva (N17°02'05", W88°56'"; elev 500 m), 14.iii.2005, 3L, DEB [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 7L, DEB [TAMU]; STANN CREEK DISTRICT: unnamed cr. on road leading to Cockscomb Reserve, ca. 3 km. W. Maya Center (N16°47'59", W88°24'09"; elev 35 m), 18.iii.2005, 3L, DEB [TAMU]; Dry Creek, 5.9 Km SE Over-the-top camp, 11.i.1996, 4L, WDS [TAMU]; unnamed cr. at Hummingbird Hwy., ca. 8 Km NW Middlesex (N17°03'22"; W88°34'52", elev. 160m), 18.iii.2005, 12L, DEB [TAMU]; TOLEDO DISTRICT: Rio Grande, Big Fall, 10.i.1995, 1L, WDS [TAMU]; Mafredi Cr. Trib. 7 mi. S. Mafredi, 9.i.1996, 4L, WDS [TAMU].

Remarks.–This species was originally described by Traver and Edmunds (1967) based upon specimens from Panama. Allen and Brusca (1978) reported additional specimens from Panama and Costa Rica. The species has also been reported from southern Mexico (Lugo-Ortiz and McCafferty 1994b), Nicaragua (Meyer et al. 2008), and Guatemala (McCafferty 2011b).

**Traverella albertana* (McDunnough)

New data.–CAYO DISTRICT: Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 1L, DEB [TAMU];

Remarks.–This species is widely distributed throughout western North America (Allen 1973), and is also known from Nicaragua (Meter et al 2008).

Traverella promifrons Lugo-Ortiz and McCafferty

Previous data.–Lugo-Ortiz and McCafferty (1996b) described this species based upon specimens from Cayo District.

New data.–CAYO DISTRICT: Rio Frio at Rio Frio Caves ca. 1 mi. E. Douglas de Silva (N16°58'44"; W89°00'24", elev. 450 m), 14.iii.2005, 1L, DEB [TAMU]; Sibun R. at Hummingbird Hwy. in Sibun, ca. 29 Km SE Belmopan (N17°06'35"; W88°39'34"), 16.iii.2005, 29L, DEB [TAMU]; Macal R. at Black Rock (town), Black Rock Lodge, ca. 10 mi. S. San Ignacio (N17°02'43"; W89°03'31"; elev. 100 m), 13-14.iii.2005, 38L, 1 adult male, DEB [TAMU]; Caves Branch R. at Hummingbird Hwy. ca. 16 Km SE Belmopan, (N17°08'53"; W88°42'35", elev. 85m), 16.iii.2005, 55L, 3 adult males, females (reared), DEB [TAMU]; Roaring Creek ca. 5 mi. S. Teakettle (N17°10'21"; W88°50'24"; elev. 60m); 13.iii.2005, 1L, DEB [TAMU]; river at Blackman Eddie (town), ca. 5 mi. E. San Ignacio (N17°13'49"; W88°55'23", elev. 65m), 13.iii.2005, 40L, DEB [TAMU]; Rio On at Chiquibal rd., 4.2 km N Douglas de Silva (N16°59'19"; W88°53'30", elev. 455m), 14.iii.2005, 1L, DEB, [TAMU]; Mopan River, Bullet Tree Falls, 13.i.1996, 35L, WDS [TAMU]; Mopan River, Bullet Tree Falls, 5.i.1996, 55L, WDS [TAMU]; Macal R., 9.3 mi. S. Augustine, 6.i.1996, 8L, WDS [TAMU]; unnamed stream, 19.6 mi. SE Balmopan, 7,i.1996, 1L, WDS

[TAMU]; ORANGE WALK DISTRICT: Rio Bravo, Cedar Crossing, 1.i.1996, 6L, WDS [TAMU]; TOLEDO DISTRICT: Río Grande at Southern Hwy. in Big Fall (N16°15'23"; W88°53'12", elev. 45m), 17. iii.2005, 3L, DEB [TAMU]; Warrier Cr. at Southern Hwy., ca. 25 km NE Big Fall (N16°26'46"; W88°44'37", elev. 20m), 17.iii.2005, 55L, DEB [TAMU]; Rio Grande, Big Fall, 10.i.1995, 6L, WDS [TAMU]; Golden Stream, Hellgate, 10.i.1996, 1L, WDS [TAMU]; Golden Stream, Hellgate, 11.i.1995, 2L, WDS [TAMU]; Mafredi Cr. Trib., 7 mi S Mafredi, 9.i.1996, 30L, WDS [TAMU]; Trib to Rio Grande, 1.3 mi NE Sil Cr Villa, 10.i.1995, 3L, WDS [TAMU]; Aguacate Creek 4 mi SW Blue Cr Vill, 9.i.1996, 3L, WDS [TAMU]; Joshua Creek 1 mi SW Hellgate, 10.i.1995, 4L, WDS [TAMU]; Golden Stream/Indian Creek ca. 1.2 Km N Golden Stream Village (N16°22'17"; W88°48'02"), 21.iii.2012, 2L, RHC [TAMU]; Golden Stream at Golden Stream Village (N16°21'42"; W88°47'55"), 01.iii.2012, 7L, RHC [TAMU]; San Miguel Branch ca.1 Km SE San Miguel Village (N16°17'12"; W88°55'34"), 11.iv.2012, 1L, RHC [TAMU]; Trio R ca.7.8 Km NW Trio Village (N16°34'45"; W88°40'46"), 17.iv.2012, 10L, RHC [TAMU]; Columbia Branch at San Pedro Columbia Village (N16°16'09"; W88°57'02"), 09.v.2012, 5L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Village (N16°15'09", W88°55'12"), 2.v.2012, 4L, RHC [TAMU]; Golden Stream at Belize Indigenous Training Institute ca. 3.4 Km SE Golden Stream Village (N16°20' 07; W88° 46'56"), 07.v.2010, 1L, RHC [TAMU]; Golden Stream/Indian Creek, ca. 6.2 Km NW Golden Stream Village (N16°24'07"; W88°50'25"), 25.iv.2012, 5L, RHC [TAMU]; Columbia Branch, ca. 3.9 Km SE San Pedro Columbia Village (N16°15'09", W88°55'12"), 26.iv.2010, 6L, RHC [TAMU]; Richardson Creek ca. 12.8 Km NNW Medina Bank Village (N16°33'15"; W88°46'07") 13.xii.2010, 1L, RHC [TAMU]; Columbia Branch, ca. 1.9 Km NWW San Pedro Columbia Village (N16°16'33"; W88°58'07"), 08.v.2012, 6L, RHC [TAMU].

Remarks. This species is also known from Mexico and Honduras (Allen 1973), Guatemala (McCafferty et al. 2004), Nicaragua (Meyer et al. 2008), and Costa Rica (Lugo-Ortiz and McCafferty 1996b). It is widespread throughout lotic ecosystems in Belize.

**Ulmeritoides acosa* Ávila and Flowers

New data.–TOLEDO DISTRICT: San Miguel Branch immediately upstream San Miguel Village (N16°17'33"; W88°55'50"), 10.v.2012, 1L, RHC [TAMU]; Golden Stream at Hellgate ca. 1.9 Km SE Golden Stream Village (N16° 20' 50"; W88° 47' 22"), 13.iv.2010, 2L, RHC [TAMU].

Remarks.–This species was previously known only from Costa Rica (Ávila and Flowers 2005). Its presence in Belize represents a significant northward extension of the species. In Costa Rica, Ávila and Flowers (2005), report the species lives in pools in seasonally dry rivers. In Belize, the specimens were collected from depositional microhabitats in permanently flowing river sections from sites located below 60 m a.s.l. that drained mixed forested and agricultural landscapes. At the time of collection from the San Miguel Branch, site water conductivity was 333 *μ*s/cm, pH 7.7, turbidity 2.3 NTU, and water temperature 24.3°C. In the Golden Stream, specimens were collected from coarse particulate organic matter overlaying sand deposits in a pool at a depth of 40cm. At the time of collection, site water conductivity was 552 *μ*s/cm, pH 7.7, turbidity 2.2 NTU, and water temperature 26.8°C.

Family Oligoneuriidae

This is the first report of the family Oligoneuriidae in Belize. Members of this family are infrequently reported in the literature.

**Lachlania talea* Allen and Cohen

New data.–TOLEDO DISTRICT: Sapote Creek ca. 4.7 Km NW Red Bank Village (N16°37'52"; W88°36'17"), 08.xii.2010, 1L, RHC [TAMU].

Remarks.–This species was described by

Allen and Cohen (1977) based upon larvae and an adult female from Honduras. It was documented in Nicaragua by Meyer et al. (2008). There also remains the possibility that this individual could be the larval stage of *Lachlania lucida* Eaton described from Guatemala (Eaton 1883), or *Lachlania fusca* (Navas 1924), described from southern Mexico, both known only from the adult stage.

Family Polymitarcyidae

Two species of *Campsurus* are reported from Belize, one of them newly reported in Belize.

Campsurus cuspidatus Eaton

Previous data.–*Campsurus cuspidatus* was first documented in Belize from Belize District by Lugo-Ortiz and McCafferty (1996a).

New data.–CAYO DISTRICT: Macal River, 9.3 mi. S. Augustine, 6.i.1996, 1♂, WDS [TAMU].

Remarks. This is a widespread species in Central America, known from throughout Mexico (McCafferty 1985), Guatemala (McCafferty et al. 2004), and Nicaragua (Meyer et al. 2008).

**Campsurus decoloratus* (Hagen)

New data.–BRITISH HONDURAS: Roaring Creek, 29.vi.1974, 4♂ [TAMU].

Remarks. The label associated with these specimens is listed as “British Honduras”, which, at the time the specimens were collected, was a self-governing English colony. The specific location of “Roaring Creek” is a town near the capital Belmopan in Cayo District. This species is also known from Nicaragua (McCafferty 2011b), the northeastern Mexican state of Tamaulipas and Texas (McCafferty 1975).

DISCUSSION

This study represents the first comprehensive survey of mayflies within the country of Belize. However, there are parts of the country which have been poorly sampled and need additional study. In particular, there are no records of mayflies from the district of Corozal and only a few records from Orange Walk. There are abundant lotic ecosystems in both of these districts, and more mayflies are expected to be present in these districts.

Outside of Belize, most Belizean mayflies have ranges that extend west into Mexico, south throughout much of Central Americas and north into the southwestern United States. Only three species of mayfly known from Belize are known to extend into South America, *Guajirolus ektrapeloglossa, Euthyplocia hecuba* and *Hydrosmilodon primanus*.

Two species are currently known only from Belize, *Asioplax goldeni* and *Latineosus cayo*. The extremely small size of the larvae may explain, at least in part, why they are currently known from Belize. Additional, detailed sampling from Central America may eventually reveal their presence in other countries.

The mayfly fauna of Belize is relatively diverse, with 65 species known from throughout the country. The larger country of Nicaragua only has 56 known species of mayflies, while Guatemala has a known fauna of 66 species of mayflies. More species of mayflies may eventually be found in Belize as the northern districts of Corozal and Orange Walk are better documented.

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