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## The Odonata of the Bahama Islands, the West Indies

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Through the courtesy of Dr. Mont A. Cazier of the American Museum of Natural History, I have had the privilege of studying a collection of 439 specimens of Odonata from the Bahama Islands. The number of species represented in this collection is not large, and no species new to science has been recognized, but relatively few records are found in the literature for these islands. Much collecting has been done in the Greater Antilles, and they were included in the range covered by the recent "Manual of the Dragonflies (Anisoptera) of North America" by James G. Needham and myself. Elsie B. Klots (1932) presented an excellent contribution on the Odonata of Puerto Rico, including records from the other Antilles, but no similar work has been done for the Bahamas. Klots had begun a preliminary investigation of the Bimini material but was unable to pursue the study, so that the entire lot was sent to me.

A large number of specimens reported in the present paper were taken between December 31, 1952, and May 13, 1953, by the following members of the Van Voast-American Museum of Natural History Expedition to the Bahama Islands: G. B. Rabb, Ellis B. Hayden, Jr., and L. Giovannoli. The expedition took them to many of the islands from Grand Bahama Island and the Abaco Cays in the north to Great Inagua Island and the Turks Islands in the south. In June, 1950, Mont A. Cazier and Frederick H. Rindge collected numerous specimens,

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especially on the Bimini Island group. Additional specimens from the Bimini Island group bear labels from May to August, 1951, and were taken by M. Cazier, W. Gertsch, C. Vaurie, and P. Vaurie. Collecting in the Bimini Islands was described in two papers, one by Cazier and Lacey (1952) and one by Patricia Vaurie (1952), both giving recognition to the Lerner Marine Laboratory for facilities provided. Cazier has added to our knowledge of the Bimini Islands by including brief geographical descriptions in his paper (1951).

From the present collections, 21 species are reported. In addition, one specimen of an aeshnine, *Epiaeschna heros* (Fabricius), was included with the Bimini specimens when they came to me but lacked data. It was probably taken on Bimini, but, in the absence of definite information, it seems best to assign it simply to the Bahama Islands.

In the literature, four additional species have been reported. Philip P. Calvert (1909, pp. 221, 222) listed two other aeshnines, *Anax longipes* Hagen from Eleuthera Island and *Coryphaeschna ingens* (Rambur) from Great Harbour Cay in the Berry Islands. Calvert (1901-1908) also listed *Pachydiplax longipennis* (Burmeister) from the Bahamas and *Triacanthagyna trifida* (Rambur) from Nassau on New Providence Island. Both were collected by Moore and Bullock on the University of Pennsylvania expedition of 1890. These two papers give added records for some of the species reported from the present collections.

This makes a total of 26 species known to occur in the Bahama Islands. As the amount of standing fresh water on the Bahamas is not great, the number of suitable breeding areas for Odonata is limited, and the list of species is expected to be small. Additional collecting will undoubtedly contribute more species, but the number will probably not be large. Of the total number, four species belong to the suborder Zygoptera, or damselflies, while the remainder are of the suborder Anisoptera, which contains more strongly flying species. In the Zygoptera, two families and four genera are represented. Of the 22 species of Anisoptera, all but five (*Anax junius*, *A. longipes*, *Coryphaeschna ingens*, *Epiaeschna heros*, and *Triacanthagyna trifida*, of the family Aeshnidae) belong to the family Libellulidae and are scattered among 10 genera.

A study of the present Bahama list reveals that three species (*Lestes spumarius*, *Erythrodiplax justiniana*, and *Micrathyria didyma*) are also found in the Antilles but not in the United States, although *Micrathyria didyma* is reported from Baja California and Tamaulipas in Mexico. Three species (*Epiaeschna heros*, *Pachydiplax longipennis*, and *Erythrodiplax berenice*) are shared with the United States and

Mexico but have not been reported from the Antilles. In the Antilles does occur the near relative of *Erythrodiplax berenice* (*E. naeva*). *Erythrodiplax naeva*, as pointed out below, may be only a subspecies of *E. berenice*. The remaining species are found in all three areas, being represented from the mainland at least by collections from Florida.

Some of the specimens of *Erythrodiplax* proved difficult to identify with certainty. Because Donald J. Borror had published a monograph of this genus (1942), I sent the questionable individuals to him and wish to thank him for studying and reporting to me on these specimens.

SUBORDER ZYGOPTERA

FAMILY LESTIDAE

GENUS *LESTES*

*Lestes spumarius* Hagen

GENERAL DISTRIBUTION: Antilles: Cuba, Jamaica, Puerto Rico.

NEW RECORDS FOR THE BAHAMA ISLANDS: South Bimini Island, one male, June 16, 1950 (M. Cazier, F. Rindge); Stanyard Cay, Exuma Island, one male, January 14, 1953 (F. Rindge); Deadman's Cay, Long Island, at light, one male, March 11, 1953 (E. Hayden); Eleuthera Island, two males, March 28 and April 1, 1953 (E. Hayden and L. Giovannoli); Andros Island, one male, April 28, 1953 (E. Hayden); Abaco Cays, two males, one female, May 9, 1953 (E. Hayden).

FAMILY AGRIONIDAE

GENUS *ANOMALAGRION*

*Anomalagrion hastatum* (Say)

GENERAL DISTRIBUTION: Canada: southern Ontario. United States: Gulf states from Florida to Texas, north to southern Maine and North Dakota. Mexico. Bahama Islands: New Providence Island. Antilles: Cuba, Haiti. Central America to Venezuela and the Galapagos Islands.

NEW RECORDS FOR THE BAHAMA ISLANDS: Stanyard Cay, Exuma Island, one female, January 13, 1953 (E. Hayden); near pond 15 miles north of Matthew Town, Great Inagua Island, one male, January 28, 1953 (E. Hayden and L. Giovannoli); "Horse Pond," 1 mile east of Matthew Town, Great Inagua Island, three males, four females, January 31, 1953 (E. Hayden and L. Giovannoli); Deadman's Cay, Long Island, one male, March 11, 1953 (E. Hayden); San Salvador Island, one female, March 18, 1953 (G. Rabb and L. Giovannoli); Cat Island, one male, one female, March 22, 1953 (E. Hayden and L. Giovannoli); Eleuthera Island, 10 males, six females, March 28 and April 2, 1953 (E. Hayden and L. Giovannoli); Andros Island, one female, one male,

April 22 and 27, 1953 (E. Hayden and L. Giovannoli); Berry Islands, one female, April 30, 1953 (E. Hayden); Abaco Cays, one female, May 10, 1953 (E. Hayden and G. Rabb); Grand Bahama Island, two males, one at light, May 12, 1953 (E. Hayden and G. Rabb), two females, May 13, 1953 (L. Giovannoli); South Bimini Island, two females, May 21, 1951 (M. Cazier and W. Gertsch), two females, August 17 and 20, 1951 (C. and P. Vaurie), one female, June, 1951 (M. Cazier, and C. and P. Vaurie).

GENUS *ARGIALLAGMA*

*Argiallagma minutum* (Selys)

GENERAL DISTRIBUTION: United States: Florida. Mexico. Antilles: Cuba, Jamaica. Also Guatemala and south to Surinam.

NEW RECORDS FOR THE BAHAMA ISLANDS: Eleuthera Island, one female, April 2, 1953 (E. Hayden and L. Giovannoli); San Salvador Island, one male, March 18, 1953 (G. Rabb and L. Giovannoli).

GENUS *ISCHNURA*

*Ischnura ramburi* (Selys)

Most, but not all, of the male specimens from the Bahamas have the dorsum of abdominal segment 9 in part blue. From the same islands, based on this character, there are typical *ramburi* with the dorsum of segment 9 entirely black, and also the subspecies *credula* Hagen. The distribution that follows applies to the species as a whole.

GENERAL DISTRIBUTION: United States: Rhode Island to Florida and Texas, California. Mexico. Bahama Islands: Crooked Island. Antilles: Cuba, Haiti, Jamaica, Puerto Rico. Also south to Chile.

NEW RECORDS FOR THE BAHAMA ISLANDS: Stanyard Cay, Exuma Island, one female, January 13, 1953 (E. Hayden), and at light, one male (E. Hayden and L. Giovannoli); North Matthew Town, Great Inagua Island, one male, January 28, 1953 (E. Hayden and L. Giovannoli); "Horse Pond," 1 mile east of Matthew Town, Great Inagua Island, one female, January 31, 1953 (E. Hayden and L. Giovannoli); South Caicos Island, eight males, five females, February 9, 1953 (E. Hayden and G. Rabb), and one male, February 11, 1953 (E. Hayden); Turks and Caicos Islands, one male, February 28, 1953 (E. Hayden and L. Giovannoli); Crooked Island, one male, March 6, 1953 (E. Hayden); Rum Cay, one female, March 15, 1953 (E. Hayden); San Salvador Island, one male, two females, March 18, 1953 (G. Rabb and L. Giovannoli); Cat Island, seven males, four females, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); Eleuthera Island, eight males, 14 females,

March 28, April 1, 2, 1953 (E. Hayden and L. Giovannoli); New Providence Island, one male, April 6, 1953 (E. Hayden and G. Rabb); Andros Island, one male, April 26, 1953 (E. Hayden), and one male, one female, April 27, 1953 (E. Hayden and L. Giovannoli); Abaco Cays, one female, May 9, 1953 (E. Hayden); South Bimini Island, one male, one female, June, 1951 (M. Cazier, C. and P. Vaurie), and one female, July 31, 1951 (C. and P. Vaurie).

SUBORDER ANISOPTERA  
 FAMILY AESHNIDAE  
 GENUS *ANAX*  
*Anax junius* (Drury)

GENERAL DISTRIBUTION: Canada: British Columbia, Manitoba, Nova Scotia, Ontario, Prince Edward Island, Quebec, New Brunswick, Saskatchewan. United States: Recorded from almost every state, including Alaska. Mexico. Antilles: Cuba, Martinique. South to Costa Rica. Also from the Hawaiian Islands and the western coast of Asia.

NEW RECORDS FOR THE BAHAMA ISLANDS: Cat Island, one male, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb).

FAMILY LIBELLULIDAE  
 GENUS *BRACHYMESIA*  
*Brachymesia furcata* (Hagen)

GENERAL DISTRIBUTION: United States: Florida, Missouri, Texas. Mexico. Bahama Islands: New Providence Island. Antilles: Cuba, Haiti, Jamaica. South to Brazil.

NEW RECORDS FOR THE BAHAMA ISLANDS: Grand Bahama Island, one male, May 12, 1953 (E. Hayden and G. Rabb); Andros Island, two females, April 22, 1953 (E. Hayden and L. Giovannoli); South Caicos Island, male and female (in copulation), February 9, 1953 (E. Hayden and G. Rabb); Turks and Caicos Islands, one female, February 28, 1953 (E. Hayden); Rum Cay, one female, March 16, 1953 (E. Hayden and L. Giovannoli); New Providence Island, four males, four females, April 19, 1953 (E. Hayden).

GENUS *CELITHEMIS*  
*Celithemis eponina* (Drury)

GENERAL DISTRIBUTION: Canada: Ontario. United States: New York to Florida and west to Texas. Antilles: Cuba.

NEW RECORDS FOR THE BAHAMA ISLANDS: New Providence Island,

one male, April 19, 1953 (E. Hayden); South Bimini Island, one male, June, 1951 (M. Gazier, C. and P. Vaurie).

GENUS *DYTHEMIS*

*Dythemis rufinervis* (Burmeister)

GENERAL DISTRIBUTION: United States: Florida. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico.

NEW RECORDS FOR THE BAHAMA ISLANDS: Andros Island, one female, April 22, 1953 (E. Hayden and L. Giovannoli).

GENUS *ERYTHEMIS*

*Erythemis simplicicollis* (Say)

GENERAL DISTRIBUTION: Canada: Ontario, Quebec. United States: Eastern states west to Texas. Mexico. Bahama Islands: Eleuthera Island. Antilles: Cuba, Haiti, Jamaica. Also south to British Honduras.

NEW RECORDS FOR THE BAHAMA ISLANDS: Eleuthera Island, one male, one female, April 2, 1953 (E. Hayden and L. Giovannoli); San Salvador Island, one male, five females, March 18, 1953 (G. Rabb and L. Giovannoli).

GENUS *ERYTHRODIPLAX*

*Erythrodiplax berenice* (Drury)

Some of the specimens of *E. berenice* and *E. naeva* proved to be difficult of separation, especially females. Dr. D. J. Borror kindly examined this material and reported on it. In a letter to me he made the following statement, which I quote with his permission: "I rather think, particularly after seeing this Bahama material, that I should have considered *berenice* and *naeva* as subspecies, rather than as distinct species. Apparently the ranges of the two don't overlap, and the material from near the limits of the two ranges is more difficult to separate than material farther apart. The characters I gave in my paper for separating the females of these two forms will not always work for the Bahama material, and I have labeled them on the basis of my determinations of the males from the localities concerned. . . . It would be interesting to run a series of tabulations of measurements and venational characters on the *naeva-berenice* material, particularly to see if there was any significant difference between the material from the Bimini Island group and that from elsewhere in the Bahamas. And I wonder which of the two forms occurs on Grand Bahama Island?"

GENERAL DISTRIBUTION: Canada: Quebec. United States: The Atlan-

tic and Gulf states west to Texas. Mexico: Baja California, Tamaulipas, south to Salina Cruz. Bahama Islands.

NEW RECORDS FOR THE BAHAMA ISLANDS: North Bimini Island, six males, 13 females, June 1-4, 1950 (M. Cazier and F. Rindge), two males, six females, June 2-11, 1950 (M. Cazier, C. and P. Vaurie), two males, two females, May, 1951 (W. Gertsch and M. Cazier), two males, one female, June, 1951 (M. Cazier, C. and P. Vaurie); South Bimini Island, one male, one female, September 28, 1947 (J. A. Oliver), five females, June 10-18, 1950 (M. Cazier, C. and P. Vaurie), two males, 18 females, June 7-20, 1950 (M. Cazier and F. Rindge), four males, six females, May, 1951 (W. Gertsch and M. Cazier), 12 males, 19 females, June, 1951 (M. Cazier, C. and P. Vaurie), one female, August 11, 1951 (C. and P. Vaurie); East Bimini Island, one male, seven females, July, 1951 (C. and P. Vaurie); Easter Key, two males, one female, June, 1951 (M. Cazier, C. and P. Vaurie).

? *Erythrodiplax connata connata* (Burmeister)

(See discussion under the following species.)

*Erythrodiplax justiniana* (Selys)

These specimens were identified by D. J. Borror. Concerning the females here recorded, he wrote the following to me in a letter: "The three females of *Erythrodiplax* sp. belong to the *connata* group, and may be *E. justiniana* (Selys) (though they lack the basal spot in the hind wing), or they may be *E. connata connata* (Burmeister)." He wrote, further, "The three *connata* group females I suspect may be *justiniana* that lack the basal spot in the hind wing, or they may be a race of *E. connata*; if they were *E. connata*, they would be intermediate between *E. c. connata* and *E. c. minuscula*."

GENERAL DISTRIBUTION: Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico.

NEW RECORDS FOR THE BAHAMA ISLANDS: New Providence Island, three males, one female, April 6, 1953 (E. Hayden and G. Rabb), one male, one female, April 8, 1953 (E. Hayden and L. Giovannoli); Andros Island, one female, April 22, 1953 (E. Hayden and L. Giovannoli).

*Erythrodiplax naeva* (Hagen)

GENERAL DISTRIBUTION: United States: Florida. Antilles: Cuba, Jamaica, Puerto Rico. Bahama Islands: Andros Island, New Providence Island, Eleuthera Island, Crooked Island. South to British Honduras and Colombia.

NEW RECORDS FOR THE BAHAMA ISLANDS: South Caicos Island, one male, February 9, 1953 (E. Hayden and G. Rabb); Turks and Caicos Island, at light, one male, February 27, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); Long Island, one female, March 10, 1953 (L. Giovannoli); Dead Man's Cay, Long Island, one male, one female, March 12, 1953 (E. Hayden); Cat Island, one male, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); Andros Island, one male, one female, April 26–27, 1953 (E. Hayden and L. Giovannoli); Great Abaco Island, some at light, six males, eight females, May 6, 1953 (E. Hayden and L. Giovannoli); Abaco Cays, two males, six females, May 10, 1953 (E. Hayden and G. Rabb).

As indicated under *E. berenice*, Borror now thinks that *naeva* should perhaps be considered as a subspecies of *berenice* in the light of the Bahama material.

*Erythrodiplax umbrata* (Linnaeus)

GENERAL DISTRIBUTION: United States: Gulf states from Florida to Texas, also Indiana, Ohio, and Oklahoma. Mexico. Bahama Islands: New Providence Island, Andros Island, Crooked Island, Great Inagua Island. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico. Also south to Argentina.

NEW RECORDS FOR THE BAHAMA ISLANDS: Eleuthera Island, three females, April 1–2, 1953 (E. Hayden and L. Giovannoli); Cat Island, one male, January 24, 1953 (E. Hayden and L. Giovannoli), five males, one female, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb), one female, March 23, 1953 (E. Hayden); Rum Cay, one male, March 16, 1953 (E. Hayden and L. Giovannoli); Great Abaco Island, two females, one at light, May 5–6, 1953 (E. Hayden and L. Giovannoli); Abaco Cays, two males, May 9, 1953 (E. Hayden); Grand Bahama Island, two males, May 12, 1953 (E. Hayden and G. Rabb), one male, May 13, 1953 (L. Giovannoli); "Horse Pond," 1 mile east of Matthew Town, Great Inagua Island, one male, January 31, 1953 (E. Hayden and L. Giovannoli); between Matthew Town and Southwest Point, Great Inagua Island, one female, February 1, 1953 (E. Hayden and G. Rabb); Deadman's Cay, Long Island, one female, March 11, 1953 (E. Hayden); New Providence Island, one male, one female, April 8, 1953 (E. Hayden and L. Giovannoli), three females, April 19, 1953 (E. Hayden); South Bimini Island, one female, June 10, 1950 (M. Cazier and F. Rindge), one male, August 18, 1951 (C. and P. Vaurie); Andros Island, two males, four females (one female at light), April 22, 1953 (E. Hayden and L. Giovannoli), four males, April 26, 1953 (E. Hayden);



South Caicos Island, four males, February 9, 1953 (E. Hayden and G. Rabb); San Salvador Island, two females, March 18, 1953 (G. Rabb and L. Giovannoli), one male, March 19, 1953 (E. Hayden); Warderick Wells Cay, Exuma Islands, one male, January 11, 1953 (E. Hayden and L. Giovannoli); Leaf Cay of Allen Cays, Exuma Islands, one female, January 7, 1953 (G. Rabb).

GENUS *IDIATAPHE*

*Idiataphe cubensis* (Scudder)

GENERAL DISTRIBUTION: United States: Florida. Mexico: Tamaulipas. Bahama Islands: New Providence Island. Antilles: Cuba, Jamaica, Puerto Rico. Also south to Colombia and Peru.

NEW RECORDS FOR THE BAHAMA ISLANDS: Andros Island, one male, April 27, 1953 (E. Hayden and L. Giovannoli); Turks and Caicos Islands, one female, February 28, 1953 (E. Hayden and L. Giovannoli).

GENUS *MICRATHYRIA*

*Micrathyria didyma* (Selys)

GENERAL DISTRIBUTION: Mexico: Baja California, Tamaulipas. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico. Also south to Ecuador.

NEW RECORDS FOR THE BAHAMA ISLANDS: Deadman's Cay, Long Island, one female, March 12, 1953 (E. Hayden).

GENUS *ORTHEMIS*

*Orthemis ferruginea* (Fabricius)

GENERAL DISTRIBUTION: United States: Gulf states from Florida to Texas, Arizona, New Mexico, Oklahoma, Utah. Mexico: Baja California. Bahama Islands: Eleuthera Island, New Providence Island, Andros Island, Cat Island. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico. Also south to Uruguay and Chile.

NEW RECORDS FOR THE BAHAMA ISLANDS: Cat Island, one male, June 23, 1953 (E. Hayden), five males, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); near pond 15 miles north of Matthew Town, Great Inagua Island, one male, January 28, 1953 (E. Hayden and L. Giovannoli); South Caicos Island, one male, February 9, 1953 (E. Hayden and G. Rabb); Crooked Island, five males, one female, March 6, 1953 (E. Hayden); Deadman's Cay, Long Island, two males, March 11-12, 1953 (E. Hayden); Clarence Town, Long Island, four males, March 14, 1953 (E. Hayden and L. Giovannoli); San Salvador Island, four

males, two females, March 18, 1953 (G. Rabb and L. Giovannoli); Eleuthera Island, one male, March 30, 1953, four males, four females, April 1, 1953 (E. Hayden and L. Giovannoli); New Providence Island, one male, April 6, 1953 (E. Hayden and G. Rabb); Andros Island, one male, one female, April 26, 1953 (E. Hayden); Berry Island, one male, April 30, 1953 (E. Hayden); South Bimini Island, one male, May 21, 1951 (M. Cazier and W. Gertsch), one female, July, 1951 (C. and P. Vaurie); Maya Guana Island, one male, March 2, 1953 (E. Hayden and L. Giovannoli).

GENUS *PANTALA*

*Pantala flavescens* (Fabricius)

GENERAL DISTRIBUTION: Widely distributed; found on all continents except Europe.

NEW RECORDS FOR THE BAHAMA ISLANDS: North Bimini Island, one female, December 31, 1952 (E. Hayden); Darby Island, Exuma Islands, one female, January 19, 1953 (E. Hayden and L. Giovannoli); South Bimini Island, one male, June 19, 1950 (M. Cazier, C. and P. Vaurie), four males, one female, August 3-12, 1951 (C. and P. Vaurie).

*Pantala hymenaea* (Say)

GENERAL DISTRIBUTION: Canada: Manitoba, New Brunswick, Ontario. United States: Reported from most states. Mexico: Baja California. Antilles: Cuba. Also south to Chile.

NEW RECORDS FOR THE BAHAMA ISLANDS: South Bimini Island, one female, May, 1951 (M. Cazier and W. Gertsch), two males, July 20 and 21, 1951 (C. and P. Vaurie).

GENUS *TRAMEA*

*Tramea abdominalis* (Rambur)

GENERAL DISTRIBUTION: United States: Florida, Massachusetts, Tennessee. Mexico. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico. Also south to Brazil.

NEW RECORDS FOR THE BAHAMA ISLANDS: Cat Island, one female, January 24, 1953 (E. Hayden and L. Giovannoli), one female, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); South Caicos Island, one male, February 12, 1953 (E. Hayden); San Salvador Island, one male, March 18, 1953 (L. Giovannoli and G. Rabb); Eleuthera Island, one male, March 30, 1953 (E. Hayden and L. Giovannoli); New Providence Island, one female, April 6, 1953 (E. Hayden and G. Rabb).

*Tramea binotata* (Rambur)

GENERAL DISTRIBUTION: United States: Florida. Bahama Islands: Andros Island, New Providence Island. Antilles: Cuba, Dominican Republic, Haiti, Jamaica, Puerto Rico. Also south to Argentina.

NEW RECORDS FOR THE BAHAMA ISLANDS: Warderick Wells Cay, Exuma Islands, one female, January 9, 1953 (E. Hayden); Cat Island, one female, January 23, 1953 (E. Hayden); Turks and Caicos Islands, one male, February 28, 1953 (E. Hayden and L. Giovannoli); Deadman's Cay, Long Island, one male, March 12, 1953 (E. Hayden); San Salvador Island, one male, March 18, 1953 (G. Rabb and L. Giovannoli); New Providence Island, one female, April 6, 1953 (E. Hayden and G. Rabb); one female, April 19, 1953 (E. Hayden).

*Tramea onusta* Hagen

GENERAL DISTRIBUTION: Canada: Ontario. United States: New York, Ohio, Indiana, south to Florida and west to California. Mexico. Bahama Islands: Andros Island. Antilles: Cuba, Puerto Rico. South to Panama.

NEW RECORDS FOR THE BAHAMA ISLANDS: Warderick Wells Cay, Exuma Islands, one female, January 11, 1953 (E. Hayden and L. Giovannoli); Cat Island, three males, four females, January 24, 1953 (E. Hayden and L. Giovannoli), one male, March 21, 1953 (E. Hayden, L. Giovannoli, and G. Rabb); Clarence Town, Long Island, one male, March 14, 1953 (E. Hayden and L. Giovannoli); San Salvador Island, seven males, March 18, 1953 (G. Rabb and L. Giovannoli); Eleuthera Island, one female, one male, March 28 and April 1, 1953 (E. Hayden and L. Giovannoli); Andros Island, one male, April 22, 1953 (L. Giovannoli), one female, April 23, 1953 (G. Rabb), one male, one female, April 26, one male, April 28, 1953 (E. Hayden); South Bimini Island, one male, July 19, 1951 (C. and P. Vaurie); North Bimini Island, one female, July, 1951 (C. and P. Vaurie).

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