

S-NA-Pittsburgh

MUS. COMP. ZOO.  
LIBRARY

NOV 23 1977

ISSN 0097-4463

HARVARD  
UNIVERSITY

# ANNALS of CARNEGIE MUSEUM

CARNEGIE MUSEUM OF NATURAL HISTORY

4400 FORBES AVENUE • PITTSBURGH, PENNSYLVANIA 15213

VOLUME 46

NOVEMBER 4, 1977

ARTICLE 16

## BUTTERFLIES OF THE CARNEGIE MUSEUM BAHAMAS EXPEDITION, 1976

HARRY K. CLENCH

Associate Curator of Insects

### ABSTRACT

The expedition spent about 5 weeks (26 February–4 April) in the Bahamas. A list is given of all the collecting stations on the 19 islands on which butterflies were taken. In all, 1003 specimens were captured, representing 54 species. All of these are listed, together with the localities at which they were taken. Three species and 2 subspecies are newly recorded for the Bahamas: *Eurema elathea*, *Anaea verticordia*, *Wallengrenia druryi*, *Anartia jatrophae saturata*, *Heliconius charitonius churchi*.

### INTRODUCTION

In the early spring of 1976, Carnegie Museum of Natural History mounted an expedition to the Bahama Islands. The expedition visited a total of 22 islands from Abaco in the north to Inagua in the south. For the purpose, a 56-foot, twin-diesel Carolina Fisherman, the "Co-Respondent," was chartered out of Fort Lauderdale, Florida, for six weeks.

The primary objective of the expedition was to look for and learn as much as possible about the winter habitat of Kirtland's Warbler (*Dendroica kirtlandii*), a small, rare bird that nests in Michigan and winters in the Bahamas.

A boat the size of the "Co-Respondent" was needed to visit small, uninhabited islands, a particular objective (since they have remained virtually unsearched for the bird). Such a boat, however, has a capacity well above the two ornithologists needed to look for Kirtland's Warbler.

Submitted for publication June 1, 1977



Accordingly, a botanist, a herpetologist, and a lepidopterist were added to the scientific party. The captain, a pilot, and a first mate comprised the crew. The personnel were:

*Dr. Mary H. Clench*, Associate Curator of Birds, Carnegie Museum of Natural History; expedition leader. Ornithology.

*Christopher Fichtel*, Carnegie Museum of Natural History, ornithological assistant. Unfortunately, Mr. Fichtel was forced by ill health to leave the expedition after a few days.

*Dr. William T. Gillis*, Hope College, Holland, Michigan. Botany. This was Dr. Gillis's 33rd trip to the Bahamas.

*Harry K. Clench*, Associate Curator of Insects, Carnegie Museum of Natural History. Lepidoptera.

*Arthur V. Bianculli*, Curatorial Assistant, Section of Amphibians and Reptiles, Carnegie Museum of Natural History. Herpetology.

*Anthony Austin*, Fort Lauderdale, Florida. Captain.

*Arlington Bastian*, Victoria Point, Mangrove Cay, Andros Island, Bahamas. Pilot.

*Lisa Dubois*, Fort Lauderdale, Florida. First Mate.

#### ACKNOWLEDGMENTS

Funding for the trip was provided by: the M. Graham Netting Research Fund (Carnegie Museum of Natural History); W. L. and M. T. Mellon Fund (Carnegie Museum of Natural History); World Wildlife Fund; Morton Salt Company; Audubon Society of Western Pennsylvania; William J. Clench.

*Mr. C. E. M. Smith*, Director of Agriculture, Ministry of Agriculture, Fisheries, and Local Government, and other Bahamian officials extended all courtesies to the Expedition in matters of permits and formal and informal hospitality.

*Miss Rose Blanchard*, Director, Forfar Field Station of the International Field Studies Program, at Stafford Creek, North Andros. In addition to extending her hospitality at the station, Miss Blanchard also took us on two field trips to places of particular interest: Twin Lakes Farm and Red Bays.

*Mr. David Campbell*, Director, The Bahamas National Trust, Nassau. Mr. Campbell assisted us in ways too numerous to list. He also took us to several places of unusual interest on New Providence.

*Dr. Gillis*, of the Expedition personnel, kindly made available to me, at all times in the field, his extensive knowledge of Bahamian botany. All plants referred to in this report were identified by him.

#### RESUMÉ

In all, 1003 specimens of butterflies were collected on this trip, representing 54 species. In addition, 75 specimens of moths, mostly day-flying species, and a few non-lepidopterous insects, were taken. Collections were made on 19 different islands over a total of 146 field hours.



In all, 204 island records are listed here (an island record being the capture or, rarely, the definite sighting of a particular species on a particular island). A little over 100 (50%) of these are new, among which are the first published records of any butterflies for the islands of Great Exuma, Little Inagua, West Plana Cay, and Powells Cay (Abaco cays). Three species, *Eurema elathea*, *Anaea verticordia*, and *Wallengrenia druryi*, and two subspecies, *Anartia jatrophae saturata* and *Heliconius charitonius churchi*, are added to the Bahamas fauna.

The species found on the largest number of different islands was *Strymon columella* (16 islands), and on the next largest number was *Agraulis vanillae* (14 islands). Fifteen species were found on only one island each.

Rum Cay produced the largest number of species (23) of any island visited. The next largest number (20 species) was obtained on Eleuthera.

#### ITINERARY

The expedition began officially on the morning of 23 February at Fort Lauderdale, Florida. Unfortunately, on the preceding night a "norther" moved in and the seas were too rough for us to leave port. This continued for three days, whereupon we decided that some of us—Mary, Chris, and I—would fly to North Andros to begin field work, and that the rest of the Expedition would follow in the boat as soon as the weather allowed. We chartered a plane that took us to San Andros airport, where we took a taxi down to Stafford Creek and the Forfar Field Station. Miss Blanchard met us there, gave us lunch and helped us to settle in. Later in the day Dr. Gillis arrived by plane (a prior commitment had made it impossible for him to join the Expedition at its start in Florida). For the next two days we collected on North Andros, Miss Blanchard serving as guide and placing the station's pick-up truck at our disposal.

On 28 February the "Co-Respondent" was able to put to sea. She crossed, docking at Fresh Creek, where we rejoined the rest of the Expedition.

The itinerary from there is given below, along with a chronological list of my field stations. In this list the islands are given in the order visited (in the species accounts below, they are given in north-south order).

#### NORTH ANDROS ISLAND

26 Feb., Sta. 276. Stafford Creek (Forfar Field Station): pine forest and pine/scrub ecotone. Roadsides. 1.2 hours.

27 Feb., Sta. 277. 11 km W Stafford Creek: second growth, cut-over pine forest. 0.5 hour.

278. 13 km WSW Stafford Creek, "Stalactite" Blue Hole: dense scrub around blue hole, in pine forest area, 0.5 hour.



279. Twin Lakes Farm, ca. 21 km W Coakley Town. Meadow and open forest in a once farmed area. 2.3 hours.

28 Feb., Sta. 280. 11 km W Stafford Creek (same locality at Sta. 277). 1.0 hour.

281. 9.5 km E Red Bays. Grassy area at roadside, in pine forest. 0.4 hour.

282. Red Bays (14 km W Nicolls Town). Mostly taken in the selectively cut tall scrub in the settlement itself. 1.0 hour.

Totals: 6.9 hours; 24 specimens; 11 species taken.

#### SOUTH ANDROS ISLAND

29 Feb., Sta. 283. Yeho Pineyard, ca. 24 km SW Driggs Hill. Virgin pine forest (area of lower, sparse trees near shore). 2.6 hours.

Totals: 2.6 hours; 1 specimen; 1 species taken.

#### GREEN CAY (ca. 24 km E of South Andros)

1 Mar., Sta. 284. Western end of island in sparse, low (0.6-1.0 m) scrub. 2.3 hours.

2 Mar., Sta. 285. Complete circumambulation of island (which is only about 1.6 km in diameter), near or on coast. 4.8 hours.

286. Western end of island. 2.0 hours.

3 Mar., Sta. 287. Western end of island. 1.2 hours.

Totals: 10.2 hours; 45 specimens; 8 species taken.

#### LITTLE FARMERS CAY (Exuma Cays)

4 Mar., Sta. 288. Over much of the island, including the settlement: around abandoned houses, in open grassland and dense scrub. 5.5 hours.

Totals: 5.5 hours; 27 specimens; 7 species taken, the following being new records for the island:

*Electrostrymon angelia*

*Urbanus proteus*

*Strymon columella*

*Wallengrenia misera*

*Strymon martialis*

#### GREAT GUANA CAY (Exuma Cays)

4 Mar., Sta. 289. Southern end of island, dense scrub on sandy soil at foot of rocky scarp slope. 1.3 hours.

Totals: 1.3 hours; 2 specimens; 2 species taken, both new for the island:

*Strymon columella*

*Hemiargus thomasi*

#### GREAT EXUMA ISLAND

6 Mar., Sta. 290. George Town; southern end of town and adjacent areas: dense scrub 2-3 m tall (acacias dominant), and some old fields. 3.7 hours.

291. Same areas. 2.3 hours.

Totals: 6 hours; 95 specimens; 18 species taken, all new records for the island:

*Phoebis sennae*

*Leptotes cassius*

*Phoebis agarithe*

*Hemiargus thomasi*

*Eurema elathea*

*Hemiargus ammon*

*Eurema chamberlaini*

*Burca braco*

*Agraulis vanillae*

*Burca concolor*

*Euptoieta hegesia*

*Ephyriades brunnea*

*Anartia jatrophae*

*Hylephila phyleus*

*Strymon acis*

*Wallengrenia misera*

*Strymon columella*

*Panoquina panoquinoides*



## RUM CAY

7 Mar., Sta. 292. Port Nelson: shrubs and roadsides in town, north on road to public well, ca. 2 km NW town; arid dense scrub (ca. 1.5 m high) to mesic dense scrub (ca. 2.2 m high). 3.7 hours.

8 Mar., Sta. 293. 2 km NW Port Nelson; mesic dense scrub and farm fields in vicinity of public well. 1.4 hours.

294. Same as Sta. 292. 7.3 hours.

9 Mar., Sta. 295. Same as Sta. 292; also eastward from town in dense mangrove scrub and open salt flats. 6.6 hours.

Totals: 19 hours; 194 specimens; 23 species taken, the following being new island records:

<i>Kricogonia lyside</i>	<i>Electrostrymon angelia</i>
<i>Eurema messalina</i>	<i>Hemiargus thomasi</i>
<i>Eurema chamberlaini</i>	<i>Hemiargus ammon</i>
<i>Agraulis vanillae</i>	<i>Epargyreus zestos</i>
<i>Euptoieta hegesia</i>	<i>Urbanus proteus</i>
<i>Precis evarete</i> frm. <i>genoveva</i>	<i>Ephyriades brunnea</i>
<i>Anaea echemus</i>	<i>Hylephila phyleus</i>
<i>Chlorostrymon maesites</i>	<i>Wallengrenia misera</i>
<i>Strymon martialis</i>	<i>Euphyes cornelius</i>

## GREAT INAGUA ISLAND

11 Mar., Sta. 296. Vic. Mathew Town: harbor (dense scrub), past salina through arid dense scrub (ca. 1.5-1.8 m) to Horse Pond (grassy, moist). 4.0 hours.

12 Mar., Sta. 297. Vic. Mathew Town: dense scrub along road to airport. 1.8 hours.

298. Same as Sta. 296. 4.8 hours.

Totals: 10.5 hours; 136 specimens; 16 species taken, the following being new records for the island:

<i>Ascia monuste</i>	<i>Eurema lisa</i>
<i>Phoebis sennae</i>	<i>Anartia jatrophae</i>
<i>Kricogonia lyside</i>	<i>Strymon columella</i>
<i>Eurema nicippe</i>	<i>Hylephila phyleus</i>
<i>Eurema elathea</i>	<i>Panoquina panoquinoides</i>

## LITTLE INAGUA ISLAND

13 Mar., Sta. 299. Western side of island, ca. 1-3 km N of SW Point: open sparse scrub along beach and denser scrub inland. 5.0 hours.

14 Mar., Sta. 300. Vic. NW Point: coastal scrub; around salina inland; sparse, arid, interior scrub with numerous cacti and agave. 5.0 hours.

301. Same as preceding. 2.8 hours.

15 Mar., Sta. 302. En route to and from Royal Palm sink hole; began on west shore about 3 km S of NW Point, proceeded generally east along trail cut by D. Buden about 8 km (6 km airline) to the sink hole; through arid, low (ca. 1.5 m) scrub; almost no food flowers; butterflies almost nil. 8.0 hours. (Saw one *Phoebis sennae* at sink hole.)



Totals [N.B.: Sta. 299-301 only]: 12.8 hours; 158 specimens; 13 species taken, all new island records:

<i>Ascia monuste</i>	<i>Strymon columella</i>
[ <i>Phoebis sennae</i> —sight only]	<i>Hemiargus thomasi</i>
[ <i>Phoebis agarithe</i> —sight only]	<i>Brephidium exilis</i>
<i>Kricogonia lyside</i>	<i>Ephyriades brunnea</i>
<i>Eurema chamberlaini</i>	<i>Hylephila phyleus</i>
<i>Agraulis vanillae</i>	<i>Wallengrenia druryi</i>
<i>Chlorostyemon maesites</i>	<i>Panoquina panoquinoides</i>
<i>Strymon martialis</i>	

#### WEST PLANA CAY

16 Mar., Sta. 303. Western end of island; sparse, low coastal scrub; heath; edge of interior dense scrub; salt flat. 3.8 hours.

Totals: 3.8 hours; 15 specimens; 7 species taken, all new island records:

<i>Agraulis vanillae</i>	<i>Strymon acis</i>
<i>Euptoieta hegesia</i>	<i>Strymon columella</i>
<i>Anaea verticordia</i>	<i>Hylephila phyleus</i>
<i>Strymon martialis</i>	

#### ACKLINS ISLAND

17 Mar., Sta. 304. Atwood Harbour: small island forming its eastern side; rocky arid scrub; salina. 5.0 hours.

Totals: 5.0 hours; 8 specimens; 4 species taken, all new island records:

<i>Agraulis vanillae</i>	<i>Hemiargus thomasi</i>
<i>Strymon columella</i>	<i>Brephidium exilis</i>

#### CROOKED ISLAND

18 Mar., Sta. 305. Vic. Majors Cay. Rainy; no collecting.

306. Ca. 3 km E Browns: salt flat and peripheral mangrove; no collecting (rainy, cloudy). Kirtland's Warbler, locality of earlier sighting. 2 butterfly species seen: *Agraulis vanillae*; *Brephidium exilis*.

19 Mar., Sta. 307. 3 km E Majors Cay. Divers habitats, including low sparse coastal scrub; taller, denser scrub; grassy salinas in a mangrove area: along road from bay into Majors Cay settlement. 6.0 hours.

20 Mar., Sta. 308. 5 km E Majors Cay. Divers habitats, including meadows; semi-arid scrub; sump holes with taller scrub (one of them a palmar). 4.8 hours.

Totals: 10.8 hours; 68 specimens; 14 species taken, of which the following are new island records:

<i>Danaus plexippus</i>	<i>Urbanus proteus</i>
<i>Marpesia eleuthea</i>	<i>Ephyriades brunnea</i>
<i>Anaea verticordia</i>	<i>Hylephila phyleus</i>
<i>Electrostyemon angelia</i>	<i>Euphyes cornelius</i>
<i>Phocides pigmalion</i>	<i>Panoquina panoquinoides</i>

#### LONG ISLAND

21 Mar., Sta. 309. Clarence Town and vic. salina, including shaded mangrove grassland along lee edge; shaded low forest mostly of *Coccoloba*; dense scrub. 3.6 hours.

22 Mar., Sta. 310. Clarence Town: vacant lots in town; dense scrub along roads and paths. 3.6 hours.



Totals: 7.2 hours; 58 specimens; 17 species taken, of which the following are new island records:

*Kricogonia lyside*  
*Eurema elathea*  
*Danaus plexippus*

*Phyciodes frisia*  
*Urbanus proteus*

#### CONCEPTION ISLAND

23 Mar., Sta. 311. Vic. NW Point: open, low scrub; heath (with much *Opuntia*); Black Mangrove forest. 3.3 hours.

24 Mar., Sta. 312. Same area as preceding. 1.0 hours.

25 Mar., Sta. 313. Same area as preceding. 6.2 hours.

Totals: 10.5 hours; 33 specimens; 1 species seen, 8 species taken, of which the following are new records for the island:

*Eurema messalina*  
*Agraulis vanillae*  
 [Precis evarete fr. m. genoveva—sight]  
*Electrostrymon angelia*

*Leptotes cassius*  
*Hemiargus thomasi*  
*Panoquina panoquinoides*

#### CAT ISLAND

26 Mar. No butterfly collecting.

#### LITTLE SAN SALVADOR ISLAND

26 Mar., Sta. 314. West Bay. Chiefly open scrub along shore. 2.4 hours.

27 Mar., Sta. 315. Same as preceding. Mostly interior open scrub on sandy soil, the scrub ca. 1.8-2.0 m. 6.3 hours.

Totals: 8.8 hours; 32 specimens; 1 species seen, 10 species taken, all new island records:

*Agraulis vanillae*  
*Apodemia carteri*  
 [Chlorostyrymon maesites—sight only]  
*Strymon martialis*  
*Strymon acis*  
*Strymon columella*

*Electrostrymon angelia*  
*Leptotes cassius*  
*Hemiargus thomasi*  
*Burca concolor*  
*Panoquina panoquinoides*

#### ELEUTHERA ISLAND

28 Mar., Sta. 316. Powell Point. Grounds and near vicinity of the Cape Eleuthera Yacht Club. Mowed fields; dense scrub (ca. 2.5-3.0 m). 4.0 hours.

317. Same as preceding. 2.0 hours.

Totals: 6.0 hours; 65 specimens; 20 species taken, the following being new island records:

*Nathalis iole*  
*Eurema dina*  
*Eurema chamberlaini*  
*Strymon martialis*

*Electrostrymon angelia*  
*Polygonus leo*  
*Hylephila phyleus*  
*Euphyes cornelius*

#### MAN OF WAR CAY (Abaco Cays)

29 Mar. No collecting.

#### POWELLS CAY (Abaco Cays)

30 Mar., Sta. 318. Dense scrub (ca. 2.5-3.0 m), open below canopy; sparse, open scrub; casuarina forest. 4.2 hours.



Totals: 4.2 hours; 11 specimens; 1 species seen, 6 species taken, all new island records:

<i>Battus polydamas</i>	[ <i>Agraulis vanillae</i> —sight]
<i>Phoebis agarithe</i>	<i>Electrostrymon angelia</i>
<i>Heliconius charitonius</i>	<i>Urbanus proteus</i>
<i>Dryas iulia</i>	

#### GREAT ABACO ISLAND

31 Mar., Sta. 319. Treasure Cay. Casuarina forest; low scrub (area highly disturbed). 0.9 hour.

320. Marsh Harbour. Old fields; dense scrub. 3.0 hours.

Totals: 3.9 hours; 20 specimens; 11 species taken. The following are new island records:

<i>Papilio andraemon</i>	<i>Polygonus leo</i>
<i>Euptoieta claudia</i>	<i>Ephyriades brunnea</i>
<i>Leptotes cassius</i>	<i>Euphyes cornelius</i>

#### NEW PROVIDENCE ISLAND

2 Apr., Sta. 321. Nassau, eastern end of town; vacant grassy lot in town. 1.1 hour.

3 Apr., Sta. 322. Lake Cunningham, near NE corner of lake; mesic low forest (ca. 5.0 m high). 2.0 hours.

Totals: 3.1 hours; 11 specimens; 7 species taken.

#### CAT CAY (Bimini Ids.)

4 Apr. No collecting.

### LIST OF BUTTERFLIES

Following is a complete enumeration of all the butterflies I took on the expedition, together with their localities and the number of individuals of each. The islands under each species are listed in an approximately north-south sequence. An asterisk (\*) preceding a species or subspecies name indicates that the taxon is here newly recorded for the Bahama Islands. An asterisk preceding an island name indicates a new island record.

#### PAPILIONIDAE

*Battus polydamas lucayus* Rothschild & Jordan, 1906.

\*Abaco cays: Powells Cay, 30.iii (Sta. 318), 1 ♂.

Others were seen at the same locality and also on Man of War Cay to the south-east.

[*Battus devilliers* Godart, 1824].

N. Andros: 11 km W Stafford Creek, 27.ii (Sta. 277), one only seen.

No specimens were taken. A single individual was seen in an area of cut-over pine forest.

*Papilio andraemon bonhotei* Sharpe, 1900.

\*Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1 ♂.



## PIERIDAE

*Ascia monuste eubotea* Latreille, 1819.

Green Cay: 2.iii (Sta. 285), 5 ♂ 7 ♀; 3.iii (Sta. 287), 1 ♂.

Long: Clarence Town, 22.iii (Sta. 310), 1 ♂.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 2 ♂; vic. NW Point, 14.iii (Sta. 300, 301), 5 ♂ 3 ♀.

\*Great Inagua: vic. Mathew Town, 12.iii (Sta. 298), 1 ♂.

I found this species mostly in or near open areas with herbaceous vegetation, near the shore or along the borders of salinas. *Cakile lanceolata* (Cruciferae) grows in such places and, for example, was common on Green Cay. Although I saw no overt association between *monuste* and this plant, it may nonetheless be a larval food-plant, at least in the Bahamas.

*Phoebis sennae sennae* Linnaeus, 1758.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♀.

\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 1 ♂.

Individuals were seen also on Great Abaco (Marsh Harbour), Rum Cay, Crooked, and Little Inagua.

*Phoebis agarithe antillia* Brown, 1929.

Abaco cays: Powells Cay, 30.iii (Sta. 318), 1 ♂.

Green Cay: 2.iii (Sta. 285), 1 ♀; 3.iii (Sta. 287), 3 ♂ 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♀.

Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♀; same, 8.iii (Sta. 294), 1 ♂ 1 ♀; same, 9.iii (Sta. 295), 1 ♂ 1 ♀.

This species was seen, but not taken, on Great Abaco (Marsh Harbour), Eleuthera (Powell Point), Little San Salvador, Exuma cays (Little Farmers Cay), Crooked (near Majors Cay), and Little Inagua. Like the preceding species, *agarithe* is far more often seen than captured. Individuals range far and fly rapidly, often at some height.

*Kricogonia lyside* Godart, 1819.

Green Cay: 2.iii (Sta. 285), 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♂ 1 ♀; same, 8.iii (Sta. 294), 1 ♂ 2 ♀; same, 9.iii (Sta. 295), 2 ♂ 3 ♀.

\*Long: Clarence Town, 21.iii (Sta. 309), 1 ♂ 1 ♀.

\*Little Inagua: vic. NW Point, 14.iii (Sta. 300, 301), 2 ♂ 5 ♀.

\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 2 ♂; same, 12.iii (Sta. 297), 1 ♂.

The species was seen also on Conception.

*Nathalis iole* Boisduval, 1836.

\*Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 7 ♂ 3 ♀.

This little sulphur was extremely common in a mowed field on the grounds of the Cape Eleuthera Yacht Club.

*Eurema (Abaeis) nicippe* Cramer, 1779.

\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 1 ♂; same, 12.iii (Sta. 298), 3 ♀.

*Eurema nicippe* apparently occurs throughout the Bahamas, but it is erratic in its appearance and generally uncommon to rare.

\**Eurema (Eurema) elathea* Cramer, 1777.

Great Exuma: George Town, 6.iii (Sta. 290, 291), 4 ♂.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♂; same, 22.iii (Sta. 310), 1 ♂ 1 ♀.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 8 ♂ 5 ♀; same, 12.iii (Sta. 297, 298), 2 ♀ 1 ♂.



Occurs in open, usually disturbed, areas, sometimes with frequently mowed, low grass. It may be seen also in open, low scrub.

*Eurema (Pyrisitia) messalina blakei* Maynard, 1891.

North Andros: 11 km W Stafford Creek, 28.ii (Sta. 280), 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316), 1 ♂ 2 ♀.

\*Conception: vic. NW Point, 25.iii (Sta. 313), 1 ♂.

\*Rum Cay: vic. Port Nelson, 8.iii (Sta. 294), 1 ♂ 2 ♀; same, 9.iii (Sta. 295), 2 ♂ 1 ♀.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♂; same, 22.iii (Sta. 310), 1 ♂.

In addition, several individuals were seen, but not taken, on Great Abaco (Marsh Harbour).

*Eurema (Pyrisitia) lisa euterpe* Ménétriés, 1832.

\*Great Inagua: Mathew Town, 11.iii (Sta. 296), 1 ♂; same, 12.iii (Sta. 297, 298), 5 ♂ 1 ♀.

The specimens were all taken in grassy places along the streets of Mathew Town.

*Eurema (Pyrisitia) dina helios* Bates, 1934.

\*Eleuthera: Powell Point, 28.iii (Sta. 316), 2 ♂ 1 ♀.

*Eurema (Pyrisitia) chamberlaini* Butler, 1898.

\*Eleuthera: Powell Point, 28.iii (Sta. 316), 1 ♂.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 2 ♂ 1 ♀; same, 8.iii (Sta. 294), 6 ♂; same, 9.iii (Sta. 295), 14 ♂ 3 ♀; 2 km NW Port Nelson, 8.iii (Sta. 293), 2 ♂.

Long: Clarence Town, 22.iii (Sta. 310), 2 ♂.

Crooked: 5 km E Majors Cay, 20.iii (Sta. 308), 3 ♂.

\*Little Inagua: vic. NW Point, 14.iii (Sta. 300, 301), 2 ♂.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 4 ♂ 3 ♀; same, 12.iii (Sta. 297, 298), 4 ♂ 3 ♀.

Several subspecies are represented in the above material, but these must await future study.

*Eurema (Pyrisitia) laeae* Herrich-Schäffer, 1862.

North Andros: Red Bays, 28.ii (Sta. 282), 1 ♂ 1 ♀; 11 km W Stafford Creek, 27.ii (Sta. 277), 3 ♀.

The Red Bays specimens were taken in the scrub in the settlement itself, with no nearby pines at all; the others (Sta. 277) were found in cut-over pine forest.

## DANAIDAE

*Danaus (Danaus) plexippus* Linnaeus, 1758.

\*Long: Clarence Town, 22.iii (Sta. 310), 1 ♂.

\*Crooked: 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♂.

Others were seen at Clarence Town, and Mary saw two on Eleuthera, one near Rock Sound and the other near Tarpum Bay.

## SATYRIDAE

*Calisto herophile apollinis* Bates, 1934.

Long: Clarence Town, 21.iii (Sta. 309), 5 ♂ 2 ♀.

The specimens, nearly all somewhat flown, were found in a shady low forest, mostly of *Coccoloba uvifera*, where they flew low (within about 0.5 m of the ground), in shade or dappled sunlight, occasionally landing on the dead leaves that covered the ground. None was seen elsewhere around Clarence Town, nor on any other island.



[*Calisto sibylla* Bates, 1934].

South Andros: Yeho Pineyard, ca. 24 km SW Driggs Hill, 29.ii (Sta. 283), 1 only seen.

No specimens were taken. This rare species, which I had found here in 1974, was a particular object of the visit to this place. Unfortunately, only a single individual was seen, and that but briefly, and I was unable to capture it.

## HELICONIIDAE

\**Heliconius charitonius churchi* Comstock & Brown, 1950.

Abaco cays: Powells Cay, 30.iii (Sta. 318), 4 ♂ 1 ♀.

Powells Cay consists of two large parts connected by a narrow isthmus. At the northern end of this isthmus is an elongated central area of dense scrub, about 4 meters high, bordered on the west by open, low scrub, and on the east by casuarinas. Within this dense scrub, in dappled sunlight, flew both *H. charitonius* and *Dryas iulia*. Their habits were similar and both were rather common, but collecting them was difficult.

*Dryas iulia carteri* Riley, 1926.

\*Abaco cays: Powells Cay, 30.iii (Sta. 318), 2 ♂ 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 1 ♂ 3 ♀.

A shade-loving species (see *H. charitonius* above), *iulia* also flies at the edges of scrub along roadsides. This species was seen, but not taken, on North Andros (Stafford Creek) and on Great Abaco (Marsh Harbour).

*Agraulis vanillae insularis* Maynard, 1889.

Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 2 ♂ 2 ♀.

New Providence: Nassau, 2.iv (Sta. 321), 1 ♂ 2 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316), 3 ♂ 1 ♀.

\*Little San Salvador: vic. West Bay, 26.iii (Sta. 314), 1 ♂; same, 27.iii (Sta. 315), 1 ♂.

Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 1 ♂ 2 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 1 ♂ 1 ♀.

\*Conception: NW Point, 23.iii (Sta. 311), 1 ♂; same, 25.iii (Sta. 313), 1 ♂.

\*Rum Cay: vic. Port Nelson, 8.iii (Sta. 293, 294), 1 ♂ 1 ♀; same, 9.iii (Sta. 295), 1 ♂.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♂.

Crooked: 3 km E Browns, 18.iii (Sta. 306), 1 only seen; 3 km E Majors Cay, 19.iii (Sta. 307), 1 ♀.

\*Acklins: Atwood Harbour, 17.iii (Sta. 304), 1 ♂ 1 ♀.

\*West Plana Cay: western end, 16.iii (Sta. 303), 2 ♂.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 4 ♂ 1 ♀; vic. NW Point, 14.iii (Sta. 300), 3 ♂ 2 ♀.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 1 ♂ 1 ♀; same, 12.iii (Sta. 298), 1 ♂.

One of the commonest and most universally distributed butterflies in the Bahamas, *vanillae* favors open, sunny areas where it flies low and usually rather slowly. It is quite unwary and easily taken. The species was seen, but not captured, on Powells Cay in the Abaco cays. Wherever we went I tried to take at least one individual of every species seen, but the number of specimens taken of common species like this one does not reflect their abundance at all.

One of the Marsh Harbour (Great Abaco) females is strikingly aberrant: all the black markings of the fore wings are enlarged and confluent, so that only a little fulvous remains. The under surfaces are normal.



## NYMPHALIDAE

*Euptoieta claudia claudia* Cramer, 1776.

\*Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1.

North Andros: 9.5 km E Red Bays, 28.ii (Sta. 281), 2.

The Abaco specimen was one of several seen in exactly the same place, a small patch of low weeds and grass near the power generating plant on the eastern side of town, where I had taken it almost a year earlier (31.v and 1.vi.1975). The North Andros specimens were taken in an open grassy area along the roadside on our way to Red Bays. In both localities *claudia* was found in the company of *E. hegesia*.

*Euptoieta hegesia hegesia* Cramer, 1779.

Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1.

North Andros: 11 km W Stafford Creek, 27.ii (Sta. 277), 1; 9.5 km E Red Bays, 28.ii (Sta. 281), 1.

Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 5.

\*Great Exuma: George Town, 6.iii (Sta. 290), 2.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1; same, 8.iii (Sta. 294), 2; 2.5 km NW Port Nelson, 8.iii (Sta. 293), 1.

Long: Clarence Town, 22.iii (Sta. 310), 1.

\*West Plana Cay: western end, 16.iii (Sta. 303), 1.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 2; same, 12.iii (Sta. 297, 298), 2.

A common species of open areas, *hegesia* is often associated with *Agraulis vanillae*. Like that species, it flies low and is usually easily taken. Should an individual be pursued and missed, however, it becomes exceedingly wary and difficult to approach.

*Phyciodes (Eresia) frisia frisia* Poey, 1832.

New Providence: Nassau, 2.iv (Sta. 321), 1 ♀.

\*Long: Clarence Town, 21.iii (Sta. 309), 1 ♂ 1 ♀.

In both localities *frisia* was uncommon, in open, grassy, disturbed areas. Evidently it is rather local.

*Anartia jatrophae* Johannson, 1763.

Two subspecies are found in the Bahamas and both were taken on the Expedition. In all areas where I have seen this species in any numbers in the Bahamas, I have found it in low, usually marshy (fresh-water) areas, closely associated with a low plant, *Lippia nodiflora* (Verbenaceae), that commonly grows in dense stands in such circumstances. In places of this kind *jatrophae* may be quite abundant. Single individuals, however, often stray rather widely and may be found in almost any open area.

(a) *guantanamo* Munroe, 1942.

Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 4.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 11, including a pair taken in copula, 15:28 EST.

\*(b) *saturata* Staudinger, 1884.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 1; same, 12.iii (Sta. 298), 2.

The Inagua specimens were all taken in the moist, grassy, open area east of town known as Horse Pond.

*Precis coenia* Hübner, 1822.

North Andros: 11 km W Stafford Creek, 27.ii (Sta. 277), 2 ♂; Twin Lakes Farm, 21 km W Coakley Town, 27.ii (Sta. 279), 1 ♂.

Station 277 was in a cut-over pine forest; Station 279 was in an abandoned farming area, with second-growth pine forest in the distance.

*Precis evarete zonalis* Felder & Felder, 1867.

(a) form *zonalis*



North Andros: Twin Lakes Farm, 21 km W Coakley Town, 27.ii (Sta. 279), 2 ♂.  
(b) form *genoveva* Cramer, 1780.

\*Conception: NW Point, 23.iii (Sta. 311) and 25.iii (Sta. 313): sight only, many individuals.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♂ 1 ♀; same, 8.iii (Sta. 294), 2 ♂; same, 9.iii (Sta. 295), 2 ♂.

Form *genoveva* was fairly common on Conception, but it was exceedingly wary and occurred almost exclusively in places on the windward shore, where the strong trade winds blew unrelentingly. Individuals were flying into the wind over the rocky slopes down to within a meter or so of the breaking waves, from time to time allowing the wind to carry them back and away. On Rum Cay they were found mostly in Port Nelson itself, visiting flowers but still wary and difficult to approach.

*Marpesia eleuthea bahamensis* Munroe, 1971.

New Providence: northeastern end of Lake Cunningham, 3.iv (Sta. 322), 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316), 2 ♂ 1 ♀.

\*Crooked: 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♀.

The single New Providence specimen was found in a small cave in dim light near the entrance. This species may at times be overlooked because of its resemblance on the wing to the common *Agraulis vanillae*.

*Lucinia sida albomaculata* Rindge, 1955.

Eleuthera: Powell Point, 28.iii (Sta. 317), 1 ♀.

Rum Cay: vic. Port Nelson, 8.iii (Sta. 293, 294), 2 ♂; same, 9.iii (Sta. 295), 3 ♂ 1 ♀.

The Eleuthera specimen was one of several seen flying persistently about a single tree at the edge of a golf course. Rum Cay specimens were mostly from about 2.5 km NW of Port Nelson, near a public well. They, too, seemed to be quite localized.

*Anaea echemus bahamae* Witt, 1972.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 2 ♀; same, 8.iii (Sta. 294), 3 ♂ 3 ♀; same, 9.iii (Sta. 295), 8 ♂ 3 ♀; 2.5 km NW Port Nelson, 8.iii (Sta. 293), 5 ♂ 2 ♀.

A few were taken in town (Sta. 292); the rest were all from a farm near the public well about 2.5 km NW of town. There they were rather strongly localized, apparently attracted to certain low flowers or flying about and perching on the branches of some low shrubs. Curiously, they would appear and disappear more or less *en masse* and quite abruptly: at one moment a survey of the area would reveal none flying at all; the next moment three or four could be seen on the wing at once. This went on throughout the whole time I was there. Occasional individuals were seen elsewhere, particularly in rich, dense scrub one to three kilometers west of the public well. They appeared abruptly from the scrub on one side of the road, crossed the road quickly, and disappeared into the scrub on the other side.

\**Anaea verticordia* Hübner, 1824.

Crooked: 5 km E Majors Cay, 20.iii (Sta. 308), 2 ♂.

West Plana Cay: 16.iii (Sta. 303), 1 ♂.

Both specimens from Crooked were taken (and another seen) in a rather arid-appearing area of low, sparse scrub, at the edges of clumps of denser, taller scrub (sump holes). The repeated return of one individual to a particular site suggests territorialism.

## RIODINIDAE

*Apodemia carteri* Holland, 1902.

\*Little San Salvador: West Bay, 27.iii (Sta. 315), 1 ♀.

A single individual of this rare species was seen at about 07:30 (EST), before most butterflies were flying. I noticed it just as it settled onto the underside of a leaf



of a shrub, about 1.2 m above the ground. Despite several hours of subsequent search, no others were seen. The area was only about a hundred meters inland from the beach, but back of the barrier ridge and in an area of sandy soil and rather sparse, open scrub averaging about 1.8-2.0 m high, with much open, sandy ground between the shrubs. In addition to the small-leaved shrub on which this specimen was found, both fan and Sargent palms were common, as was *Coccoloba uvifera*.

## LYCAENIDAE

*Eumaeus atala florida* Röber, 1926.

Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1 ♀.

North Andros: 11 km W Stafford Creek, 28.ii (Sta. 280), 3 ♀.

The Abaco specimen was the only one seen there, flying across an open field of sparse, low brown grass on the eastern outskirts of town: completely out of its normal habitat. The nearest pine forest was over a kilometer to the west. The North Andros locality was a second-growth, cut-over pine forest, along a logging road. *Zamia pumila* (Cycadaceae) was not uncommon here and on a leaf of one plant a cluster of 6 closely spaced *atala* eggs (all vacated) was found.

*Chlorostyrmon maesites maesites* Herrich-Schäffer, 1864.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 2 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 2 ♀; vic. NW Point, 14.iii (Sta. 300, 301), 7 ♂ 1 ♀.

This species was seen, but not taken, on Little San Salvador. The presence of *maesites* on Little Inagua was a surprise: not only have all other records been from islands well to the north, this island appears to have a considerably more arid range of habitats than other islands where I have found *maesites*. Nevertheless, it was common here, particularly on the flowers of the shrub *Zizyphus taylori* (Britton) M. C. Johnson.

*Strymon martialis* Herrich-Schäffer, 1864.

North Andros: 11 km W Stafford Creek, 28.ii (Sta. 280), 1 ♂.

Green Cay: 1.iii (Sta. 284), 1 ♂; same, 2.iii (Sta. 285, 286), 2 ♂ 1 ♀.

\*Eleuthera: Powell Point, 28.iii (Sta. 317), 1 ♂.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 1 ♀.

\*Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 2 ♀.

Conception: NW Point, 25.iii (Sta. 313), 1 ♀.

\*Rum Cay: vic. Port Nelson, 8.iii (Sta. 294), 1 ♀; same, 9.iii (Sta. 295), 1 ♀.

\*West Plana Cay: 16.iii (Sta. 303), 1 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 2 ♂ 3 ♀; vic. NW Point, 14.iii (Sta. 300, 301), 8 ♂ 14 ♀.

This species is widespread through the Bahamas, but it is uncommon almost everywhere and usually taken only as single specimens. Little Inagua was a striking exception, and the only place where I have found *martialis* common in the Bahamas.

*Strymon acis armouri* Clench, 1943.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 1 ♂ 4 ♀; same, 27.iii (Sta. 315), 2 ♂ 2 ♀.

\*Great Exuma: vic. George Town, 6.iii (Sta. 290, 291), 4 ♂ 5 ♀.

\*West Plana Cay: 16.iii (Sta. 303), 2 ♀.

In contrast to *martialis*, this species is quite local, but usually not uncommon where found. It often occurs with *S. columella*, feeding at the same flowers, usually in rather open scrub areas. I have found it always in the vicinity of *Croton linearis*, and sometimes visiting its flowers. This may well be a regional larval foodplant.

*Strymon columella cybira* Hewitson, 1874.

Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1 ♀.



New Providence: Nassau, 2.iv (Sta. 321), 1 ♂ 1 ♀.

Green Cay: 1.iii (Sta. 284), 1 ♀; 2.iii (Sta. 285, 286), 1 ♂ 5 ♀; 3.iii (Sta. 287), 1 ♂ 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 2 ♂ 3 ♀.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 3 ♂; same, 27.iii (Sta. 315), 1 ♂ 1 ♀.

\*Exuma cays: Great Guana Cay, south end, 4.iii (Sta. 289), 1 ♀.—Little Farmers Cay, 4.iii (Sta. 288), 2 ♂ 5 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 12 ♂ 3 ♀.

Conception: NW Point, 23.iii (Sta. 311), 7 ♀; same, 24.iii (Sta. 312), 1 ♀; same, 25.iii (Sta. 313), 7 ♂ 1 ♀.

Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♀; same, 8.iii (Sta. 294), 1 ♀; same, 9.iii (Sta. 295), 1 ♀.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♀; same, 22.iii (Sta. 310), 2 ♂ 1 ♀.

Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 3 ♂ 2 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♀.

\*Acklins: Atwood Harbour, 17.iii (Sta. 304), 1 ♀.

\*West Plana Cay: 16.iii (Sta. 303), 4 ♂ 3 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 4 ♂ 3 ♀; vic. NW Point, 14.iii (Sta. 300, 301), 2 ♂ 2 ♀.

\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 9 ♂ 8 ♀; same, 12.iii (Sta. 297, 298), 9 ♂ 7 ♀.

Along with *Agraulis vanillae*, *Euptoietia hegesia*, and *Leptotes cassius*, this is one of the commonest and most widely distributed of Bahamian butterflies. Among the islands visited on this expedition, the only ones on which *columella* was *not* found were North Andros, South Andros, and Powells Cay (Abaco cays). *S. columella* feeds at a number of kinds of flowers, including those of Bay Cedar (*Suriana maritima*). That species has been suggested as a possible larval foodplant but, from my observations, this seems unlikely. A more persistent association in the Bahamas, perhaps indicating a larval foodplant, is with *Waltheria* (Sterculiaceae). A species as widely distributed as this, however, must surely have many different larval foodplants.

On two occasions I took a pair of this species *in copula*: on Eleuthera (Sta. 317), at 15:47 EST; and on Great Inagua (Sta. 298) at Horse Pond, at 15:27.

*Electrostrymon angelia dowi* Clench, 1941.

\*Abaco cays: Powells Cay, 30.iii (Sta. 318), 1 ♀.

Green Cay: 1.iii (Sta. 284), 5 ♂ 3 ♀; 2.iii (Sta. 285, 286), 2 ♀; 3.iii (Sta. 287), 1 ♂.

\*Eleuthera: Powell Point, 28.iii (Sta. 316), 1 ♀.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 1 ♀.

\*Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 2 ♂ 6 ♀.

\*Conception: NW Point, 25.iii (Sta. 313), 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 10 ♂ 22 ♀; same, 8.iii (Sta. 294), 1 ♀; same, 9.iii (Sta. 295), 4 ♂ 2 ♀; 2 km NW Port Nelson, 8.iii (Sta. 293), 1 ♂.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 2 ♂ 2 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♀.

Adults of this species feed on, or frequent, the flowers of a wide variety of plants. On other visits to the Bahamas I have found *angelia* on flowers of *Terminalia catappa* (Great Abaco, North Andros) and *Petitia domingensis* (Grand Bahama). On the present trip I found it on the leaves of *Manilkara bahamensis* (Green Cay) and on flowers of Poisonwood (*Metopium toxiferum*) on Crooked. On Rum Cay they were extremely common in the town of Port Nelson, feeding at the pink flowers of an unidentified shrub. On any one island, or in any one area, individuals of *angelia* seem to occur mostly on a single kind of plant. The common denominator



of all the different kinds, aside from the suitability of the flowers, seems to be height, for the *angelia* perch at the heights above roughly 1.5 m or so, and often as high as 4.0 m. The larval foodplant remains unknown.

*Leptotes cassius theonus* Lucas, 1857.

\*Great Abaco: Treasure Cay, 31.iii (Sta. 319), 1 ♂; Marsh Harbour, 31.iii (Sta. 320), 1 ♂ 4 ♀.

New Providence: Nassau, 2.iv (Sta. 321), 1 ♂.

Green Cay: 1.iii (Sta. 284), 1 ♀; 3.iii (Sta. 287), 1 ♂.

Eleuthera: Powell Point, 28.iii (Sta. 316), 2 ♂.

\*Little San Salvador: West Bay, 27.iii (Sta. 315), 1 ♂.

Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 3 ♂ 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 5 ♂ 2 ♀.

\*Conception: NW Point, 23.iii (Sta. 311), 1 ♂; same, 25.iii (Sta. 313), 7 ♂.

Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 5 ♂; same, 8.iii (Sta. 294), 2 ♂ 1 ♀; same, 9.iii (Sta. 295), 2 ♂ 1 ♀; 2 km NW Port Nelson, 8.iii (Sta. 293), 1 ♀.

Great Inagua: vic. Mathew Town, 12.iii (Sta. 297), 1 ♂.

*Hemiargus (Hemiargus) ceraunus ceraunus* Fabricius, 1793.

New Providence: Nassau, 2.iv (Sta. 321), 2 ♂.

Long: Clarence Town, 22.iii (Sta. 310), 3 ♂ 1 ♀.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 4 ♂ 4 ♀; same, 12.iii (Sta. 297, 298), 2 ♂ 3 ♀.

*Hemiargus (Cyclargus) thomasi* Clench, 1941.

(a) *thomasi* Clench, 1941.

\*Little San Salvador: West Bay, 27.iii (Sta. 315), 1 ♂.

\*Exuma cays: Great Guana Cay, south end, 4.iii (Sta. 289), 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♀.

\*Conception: NW Point, 24.iii (Sta. 312), 1 ♂; same, 25.iii (Sta. 313), 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 4 ♂ 2 ♀; same, 8.iii (Sta. 294), 1 ♂; same, 9.iii (Sta. 295), 3 ♂ 5 ♀.

(b) *bahamensis* Clench, 1943.

Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 3 ♂ 18 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 5 ♀.

\*Acklins: Atwood Harbour, 17.iii (Sta. 304), 1 ♂ 1 ♀.

(c) subspecies.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 16 ♂ 5 ♀; NW Point, 14.iii (Sta. 300, 301), 10 ♂ 11 ♀.

Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 2 ♂ 4 ♀; same, 12.iii (Sta. 297, 298), 5 ♂ 4 ♀.

*Hemiargus (Cyclargus) ammon ammon* Lucas, 1857.

\*Great Exuma: George Town, 6.iii (Sta. 291), 3 ♂.

\*Rum Cay: vic. Port Nelson, 8.iii (Sta. 294), 2 ♀; same, 9.iii (Sta. 295), 1 ♂ 1 ♀.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♂; same, 22.iii (Sta. 310), 1 ♂ 1 ♀.

On Rum Cay, where both species of *Cyclargus* were taken, *ammon* was found in drier, more open areas, while *thomasi* occurred in areas where the scrub was somewhat denser. Neither was seen in the most mesic scrub. Both were found along the road that leads north from town, sometimes within a few meters of one another.

*Brephidium exilis isophthalma* Herrich-Schäffer, 1862.

Green Cay: 2.iii (Sta. 285), 2 ♂ 1 ♀.

Rum Cay: vic. Port Nelson, 8.iii (Sta. 294), 2 ♀.

\*Acklins: Atwood Harbour, 17.iii (Sta. 304), 3 ♂.

\*Little Inagua: vic. NW Point, 14.iii (Sta. 300), 3 ♂ 3 ♀.



Always found in open *Salicornia* flats or salinas in which *Batis* was growing, *exilis* was nowhere common on this trip, although I have found it quite common at other times. In addition to the above localities, a few individuals were seen on Crooked, about 3 km E of Browns, 18.iii (Sta. 306). I searched for it in vain in the salina near Mathew Town on Great Inagua, in the same places where I had found it common in late November and early December 1973.

## HESPERIIDAE

*Phocides pigmalion* ssp. near *batabanoides* Holland, 1902.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 1 ♀.

No other individuals were seen, here or anywhere else on the trip. This one was found flying and perching under cloudy, windy conditions, in an area of low, open scrub near the shore, an open sandy beach with no mangrove. A few hundred meters away, however, was an area of Red Mangrove. In my experience this is an exceedingly uncommon butterfly in the Bahamas.

*Epargyreus zestos* Geyer, 1832.

Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 5 ♂ 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♂ 1 ♀; same, 9.iii (Sta. 295), 1 ♂.

*Polygonus leo savigny* Latreille, 1822.

\*Great Abaco: Treasure Cay, 31.iii (Sta. 319), 1.

\*Eleuthera: Powell Point, 28.iii (Sta. 316), 3.

*P. leo* appears to be an uncommon species in the Bahamas, generally found singly if at all. It occurs in, or at the borders of, rather dense, rich scrub, where it visits flowers along the roadside.

*Urbanus proteus domingo* Scudder, 1872.

Abaco cays: Powells Cay, 30.iii (Sta. 318), 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316), 2 ♂.

\*Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 1 ♀.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 1 ♀; same, 9.iii (Sta. 295), 1 ♂.

\*Long: Clarence Town, 22.iii (Sta. 310), 2 ♂.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 1 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♂.

On both Crooked and Long, *proteus* was seen several times to return repeatedly to a particular perch site, or to its close vicinity, suggesting that it may be a territorial species.

*Urbanus dorantes santiago* Lucas, 1857.

North Andros: Stafford Creek, Forfar Field Station, 26.ii (Sta. 276), 1 ♀; Red Bays, 28.ii (Sta. 282), 1 ♂.

*Burca braco castigata* Rindge, 1955.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♂.

*Burca concolor atrata* Rindge, 1955.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 1 ♂ 1 ♀; same, 27.iii (Sta. 315), 3 ♂ 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 11 ♂ 2 ♀.

Long: Clarence Town, 21.iii (Sta. 309), 3 ♂ 4 ♀; same, 22.iii (Sta. 310), 3 ♂ 3 ♀.

*B. concolor* tends to be rather local, but is usually rather common where found, flying low (normally within 0.1-0.3 m of the ground) in and near more or less dense scrub. It often occurs in rather arid areas.

*Ephyriades brunnea brunnea* Herrich-Schäffer, 1864.

\*Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1 ♀.



South Andros: Yeho Pineyard, ca. 24 km SW Driggs Hill, 29.ii (Sta. 283), 1 ♂.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 1 ♂ 1 ♀.

\*Rum Cay: vic. Port Nelson, 9.iii (Sta. 295), 3 ♂.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 3 ♂ 2 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 2 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 3 ♂ 1 ♀; NW Point, 14.iii (Sta. 300, 301), 10 ♂ 5 ♀; en route to and from Royal Palm sink hole, 15.iii (Sta. 302), 2 ♂.

On Little Inagua, in the arid scrub of the interior, this was almost the only butterfly seen, and it occurred infrequently.

*Hylephila phyleus phyleus* Drury, 1773.

New Providence: Nassau, 2.iv (Sta. 321), 1 ♂.

\*Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 4 ♂.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♂.

\*Rum Cay: vic. Port Nelson, 7.iii (Sta. 292), 2 ♂; same, 8.iii (Sta. 294), 4 ♂; same, 9.iii (Sta. 295), 2 ♂ 2 ♀.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 1 ♀; 5 km E Majors Cay, 20.iii (Sta. 308), 3 ♂ 1 ♀.

\*West Plana Cay: 16.iii (Sta. 303), 1 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 1 ♀; NW Point, 14.iii (Sta. 301), 2 ♀.

\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 2 ♂ 3 ♀.

*Wallengrenia misera* Lucas, 1857.

Great Abaco: Treasure Cay, 31.iii (Sta. 319), 1 ♂; Marsh Harbour, 31.iii (Sta. 320), 1 ♀.

North Andros: "Stalactite" Blue Hole, ca. 13 km WSW Stafford Creek, 27.ii (Sta. 278), 1 ♀; Twin Lakes Farm, ca. 21 km W Coakley Town, 27.ii (Sta. 279), 1 ♀.

Eleuthera: Powell Point, 28.iii (Sta. 316), 1 ♀.

\*Exuma cays: Little Farmers Cay, 4.iii (Sta. 288), 1 ♂ 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290, 291), 9 ♂ 11 ♀.

\*Rum Cay: vic. Port Nelson, 8.iii (Sta. 294), 1 ♂.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♀; same, 22.iii (Sta. 310), 4 ♂.

\**Wallengrenia druryi* Latreille, 1824.

Little Inagua: NW Point, 14.iii (Sta. 300, 301), 4 ♂ 1 ♀.

*Euphyes cornelius* Latreille, 1824.

(a) *agra* Evans, 1955.

\*Great Abaco: Marsh Harbour, 31.iii (Sta. 320), 1 ♀.

\*Eleuthera: Powell Point, 28.iii (Sta. 316, 317), 1 ♂ 1 ♀.

\*Rum Cay: vic. Port Nelson, 9.iii (Sta. 295), 1 ♂.

(b) *cornelius* Latreille, 1824.

North Andros: 9.5 km E Red Bays, 28.ii (Sta. 281), 1 ♂.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 3 ♂; 5 km E Majors Cay, 20.iii (Sta. 308), 1 ♂.

*Panoquina panoquinoides panoquinoides* Skinner, 1891.

\*Little San Salvador: West Bay, 26.iii (Sta. 314), 2 ♂; same, 27.iii (Sta. 315), 2 ♂ 1 ♀.

\*Great Exuma: George Town, 6.iii (Sta. 290), 1 ♂.

\*Conception: vic. NW Point, 23.iii (Sta. 311), 1 ♂ 1 ♀.

Long: Clarence Town, 21.iii (Sta. 309), 1 ♂ 4 ♀.

\*Crooked: 3 km E Majors Cay, 19.iii (Sta. 307), 2 ♂ 2 ♀.

\*Little Inagua: nr SW Point, 13.iii (Sta. 299), 2 ♀; vic. NW Point, 14.iii (Sta. 300), 2 ♀.



\*Great Inagua: vic. Mathew Town, 11.iii (Sta. 296), 1 ♂ 11 ♀.

*P. panoquinoides* is a small, inconspicuous skipper that is easily and often overlooked. In its specialized habitat, however, it can be rather common. It is found in salinas and salt flats where the halophilous grass, *Sporobolus virginicus* (almost certainly the usual larval foodplant), grows. Most often it flies down in, and perches on, the grass itself, but on Crooked Island I found a number of them feeding on the yellow flowers of the halophilous composite, *Borrchia arborescens*, which was growing near a *Sporobolus*-covered flat.





Clench, Harry K. 1977. "Butterflies of the Carnegie Museum Bahamas Expedition, 1976." *Annals of the Carnegie Museum* 46, 265–283.  
<https://doi.org/10.5962/p.330532>.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/238343>

**DOI:** <https://doi.org/10.5962/p.330532>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/330532>

#### **Holding Institution**

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

#### **Sponsored by**

Harvard University, Museum of Comparative Zoology, Ernst Mayr Library

#### **Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Carnegie Museum of Natural History

License: <http://creativecommons.org/licenses/by-nc-sa/4.0/>

Rights: <http://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.