SOUTH FLORIDA RESEARCH CENTER

Report T-588

Butterflies of Everglades National Park

Everglades National Park, South Florida Research Center, P.O. Box 279, Homestead, Florida 33030

BUTTERFLIES OF EVERGLADES NATIONAL PARK

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Barbara Lenczewski

National Park Service
South Florida Research Center
Everglades National Park
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FOREWORD

Everglades National Park is one of the world's greatest nature preserves. That it is not a Serengeti does nothing to lessen its importance to the biologist or its stark beauty to the casual visitor. Except for its birds, little had been done in recent years to make the flora and fauna known--a surprising omission, the more so in light of the early classics of such as Safford or Craighead.

Now one big gap is filled--a checklist, with all the necessary appurtenances, of the butterflies. I have collected, sampled, or studied insects on six continents, mostly in the tropics, and can say outright that the butterfly fauna of Everglades National Park and the surrounding area is unique--nowhere else in the tropical world do we have documented such a remarkable example of rapid faunal turnover, a turnover, moreover, not explicable merely in terms of man and his works.

Ms. Lenczewski has done much for which ecologists and biogeographers will ever be grateful. She has shown us on the one hand that butterflies such as *Vanessa cardui* or *Diaethria clymena* come in as infrequent casuals, never to become established, and on the other that several immigrants eventually do become a permanent part of the local fauna, *Dryas iulia*, for example. Then, too, we get extinctions or at least shrinkages--consider *Eunica tatila*. This expose of a changing biotope is a major accomplishment; the other is the demonstration of the essentially Neotropical nature of the park's butterflies.

By her work in the field, in collections and in libraries, Ms. Lenczewski has brought together in usable format an invaluable tool for all naturalists and field-oriented biologists.

Dennis Leston

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I would like to express my gratitude to Dr. Lee D. Miller for making the collection at the Allyn Museum of Entomology, Sarasota, available and particularly to Mrs. Jacqueline Y. Miller for a great deal of help with the location and identification of park specimens. Also, to Mr. H. A. Denmark and Dr. Frank Mead for making the collection at the Department of Plant Industry, Gainesville available to me. I am indebted to Mr. Terhune S. Dickel of Homestead for allowing me to examine his personal collection and for providing some otherwise unavailable literature, to Mr. Dave Baggett (University of North Florida) and to Dr. C. V. Covell, Jr. (University of Louisville) for use of their personal communications with Dr. Leston. Also to my colleagues at the South Florida Research Center: Mr. O. L. Bass and Mr. William Loftus for their comments in the reading of the manuscript, Dr. Lloyd L. Loope for help with the local flora and Mr. Alan Herdon for his field observations. Special thanks go to Dr. Gary Hendrix, Research Director, for making this work possible and to Dr. Dale Taylor, my supervisor, for providing enthusiastic support. This project was financed as a part of the Fire Ecology Program, South Florida Research Center and typing of the manuscript was kindly done by Ms. Dottie Anderson.

Above all, I wish to express my great appreciation to two friends and co-workers, Dr. David S. Smith (Universities of Oxford and Miami) and Dr. Dennis Leston (University of Florida) for their extensive field notes, ideas, criticism and excellent field companionship. My greatest thanks goes to Dr. Leston with whom I caught my first Florida butterfly, because it was with his advice and encouragement that this study came to be.

TABLE OF CONTENTS

	Page
FOREWORD	i
ACKNOWLEDGEMENTS	ii
INTRODUCTION	1
METHODS	2
COLLECTING LOCALITIES	2
MAP (Figure 1)	4(a)
CHECKLIST OF BUTTERFLIES	5
THE FAUNA	
SATYRIDAE	8
DANAIDAE	10
HELICONIIDAE	13
NYMPHALIDAE	16
RIODINIDAE	35
LYCAENIDAE	36
PAPILIONIDAE	49
PIERIDAE	56
HESPERIIDAE	70
LITERATURE CITED	108

INTRODUCTION

The South Florida butterfly fauna is often considered by lepidopterists to be well-known and thoroughly recorded. In part, we find this to be true. Miami and the Dade County area, the Keys and Everglades National Park have long been favorite spots for winter-vacationing northern enthusiasts. As the only subtropical area on the U.S. mainland with a close West Indian faunal and floral association, collectors in this area have been able to sample many tropical species not found elsewhere in the United States. The Everglades, although unique and beautiful, are neither particularly pleasant nor conducive to field work in the summer months. Many butterfly species are highly seasonal and thus poorly recorded due to coincidence of occurrence with mosquito infested periods or to summer flooding making their habitats inaccessible. In recent years, there also seems to have been a decline in several species previously considered common and the establishment of many others hitherto unknown in the country.

One handicap the newcomer has to face is the lack of up-to-date and comprehensive butterfly literature on this semi-isolated tip of South Florida and a great lack of public collections in local museums, universities or research institutes. Published information is scattered in scientific journals which are difficult to obtain, and while books by Howe (1975), Kimball (1965) and Klots (1951) are all useful, they do little to identify the southern limit for many northern species. This is frequently found to be somewhere in the confines of Dade or Monroe Counties; hence the faunistic importance of the national park. Nor do these authorities document the many changes in faunal composition which have occurred during the past twenty or so years. Several reports by Kimball (1965) of species "common" throughout the state" are puzzling to us today. These reports of common species have also been questioned by Scott (1972) on other grounds.

This work consolidates past records (published or manuscript), data from museum specimens and, above all, the results of recent field work so as to provide a reference for future investigators in the area. Everglades National Park is particularly interesting because it is a large wilderness, with habitats preserved as reasonably as possible despite close proximity to a highly populated and rapidly expanding urban area. The pinelands, hammocks, marshes, and coastal areas of Miami and vicinity continue to be cleared and developed, leaving little if any of the original environment. Documentation of changes in fauna and flora in the contrasting ecosystems is necessary to our understanding of the world man is building and also to our understanding of the changes taking place through natural processes.

As the map indicates, there are still many uncollected and lepidopterologically unexplored areas of the park. Many of the hammocks and mangroves are difficult to reach as are some of the small Keys in Florida Bay. Cape Sable and northeast Florida Bay are of particular interest in this regard as they may offer further records of what currently are regarded as shrinking species such as the Miami blue or the Florida purple-wing. Once common and widespread in the park, Dade and Monroe Counties, these species are now apparently restricted to islands off the mainland.

METHODS

The list is based primarily on the results of two years of regular and intensive field collecting by Dr. Dennis Leston, Dr. David S. Smith and myself. Supplementing this is information from the collections at the South Florida Research Center, the Allyn Museum of Entomology, Sarasota, the Department of Plant Industry, Gainesville and private collections. Other information is from manuscript lists which have been deposited by previous collectors (see references) at the South Florida Research Center library, various records extracted from the literature and from the standard works by Howe (1975), Klots (1951) and Kimball (1965).

If sufficient biological information was not available from park data with respect to monthly phenology or habitat preference, other Dade or Monroe County records were utilized. Foodplant information has been compiled from the references listed with each species unless otherwise stated. Plant names with an asterisk are of species known to occur in the park according to Avery and Loope (1980). Foodplant records from areas other than Florida are identified as such. The distribution patterns of each species have been extracted from Howe (1975) and Riley (1975) where applicable. Chokoloskee has been included since it is an historically well collected area and is completely within the park boundaries.

The first known occurrence of a species within the park is represented either by a published record, an unpublished manuscript report, or information from a specimen seen in a specified collection, whichever has chronological precedence. The order followed for families is that of Klots (1951). Species order and nomenclature are according to Howe (1975) except where there have been more recent revisions. Foodplants are listed with some revision in nomenclature to follow Long and Lakela (1971) and to correspond with the park plant list compiled by Avery and Loope (1980).

COLLECTING LOCALITIES

Craighead (1971), Davis (1943) and George (1972) give detailed descriptions of vegetation and geologic features of South Florida. Their work shows Everglades National Park can be divided into six ecological areas. In simplified form they are:

1. Prairies: wet areas of tall sawgrass or dry areas of low growing *Muhlenbergia* grass, frequently with stands of willow.

2. Pinelands: generally with an herbaceous and shrubby understory.

3. Hammocks: isolated forests of hardwoods with associated bromeliads, vines and a shrubby undergrowth.

4. Mangroves and coastal areas: salt marsh, tidal flats and mangrove or buttonwood forests.

5. Disturbed areas: includes the previously farmed Hole-in-the-Donut, hammock edges, lawns, gardens, roadsides, garbage dumps, weedy patches, etc.

6. Freshwater marshes and swamps: including bald cypress areas, sloughs and ponds.

Habitats at collecting sites are described below and locations are shown on Figure 1.

Bear Lake Road. Mostly disturbed, weedy vegetation alongside the brackish water Buttonwood Canal. It is adjacent to a salt marsh area and has a well-developed hammock at the north side of the canal (2).

Chokoloskee. Mostly disturbed vegetation and residential sites, but some remnants of hammocks and areas of salt marsh (22).

Entrance Station Prairie. Dominant grass is *Muhlenbergia filipes* with some sawgrass and other herbaceous vegetation, scattered willowheads and hammocks. Subject to frequent fires (15).

Flamingo. Lawn area around the Visitor's Center, small mangrove islands close to the coast and some tidal flats and salt marsh areas included around a brackish pond (3).

Gumbo Limbo Hammock. About 2 km southeast of the Shark Valley Tower in Shark Slough. Surrounded by sawgrass with seasonally very high water levels, the hammock contains hackberry trees (18).

Hayes Barn Road. Surrounded by remnants of agricultural land (Hole-in-the-Donut) with weedy vegetation at roadsides and some small areas of sawgrass and pinelands. A large lawn area is present surrounding a freshwater pond (23).

Hole-in-the-Donut. Disturbed vegetation, remnants of past farming, with many introduced weeds not found elsewhere in the park (14).

Long Pine Key. Pineland with herbaceous and shrubby understory. Areas of sawgrass (fingerglades) adjacent to pines and interspersed with many small hammocks. The pinelands are subject to frequent fires (13).

Long Pine Key Road, Old Missile Base, Research Center. Lawn around edges of the road and surrounding the Research Center, with weedy vegetation and patches of *Bidens*. A recently abandoned (1979) Missile Base is at the end of the road and is an extensive area of weedy species similar to those of the Hole-in-the-Donut. There are some freshwater ditch and culvert areas adjacent to the road (12).

Loop Road. Sawgrass prairie, disturbed woody vegetation along canal edges and roadsides with some freshwater marshes, some sites of former human habitations with garden species still persisting (20).

Mrazek Pond. Weedy vegetation near a brackish water pond (6).

Old Ingraham Highway. Sawgrass prairie, areas of bald cypress and willow. Disturbed vegetation, often woody, along the roadside and canal (11).

Palma Vista Hammock. Remnant pineland having gone at least fifteen years without burning and with hardwood species now predominating. Most collecting done at edges near Hole-in-the-Donut (28).

Rowdy Bend. Used as a garbage dump by maintenance crews, this area is rich in Bidens, a weedy species, near buttonwood and salt marsh areas (5).

Royal Palm (Paradise Key). The best collected area of the park, its hammock has attracted visitors for many years. The well-known Gumbo Limbo Trail runs through the hammock with the Anhinga Trail nearby as a part of Taylor Slough with a large freshwater marsh and many willows. In the earlier days of the park history, Royal Palm covered a larger and more varied area. Mangroves, pinelands and prairies may have been included under this locality name (16).

Snake Bight Trail. A shaded trail with weedy vegetation surrounded by buttonwood, a brackish canal on one side, leading to a salt marsh. One of the better spots for some of the more unusual skippers (7).

Tamiami Trail. Canal edges and roadside with Bidens and other weedy flowers which attract species from nearby sawgrass areas (19).

Visitor's Center and Pine Island. A residential and office area with lawns and other disturbed vegetation, surrounded by pineland (17).

West Lake. Mostly a lawn area near fresh water (8).

Localities taken from the literature have been included on Figure 1, but habitat descriptions of these areas are unavailable. Localities include:

Cape Sable (24)
Coot Bay, Nine Mile Pond (4)
Crocodile Point (26)
Lostman's River (27)
Mahogany Hammock (9)
Otter Cave, Shark Valley (21)
Pa-hay-okee (10)
Whiskey Creek (25)
Whitewater Bay (1)

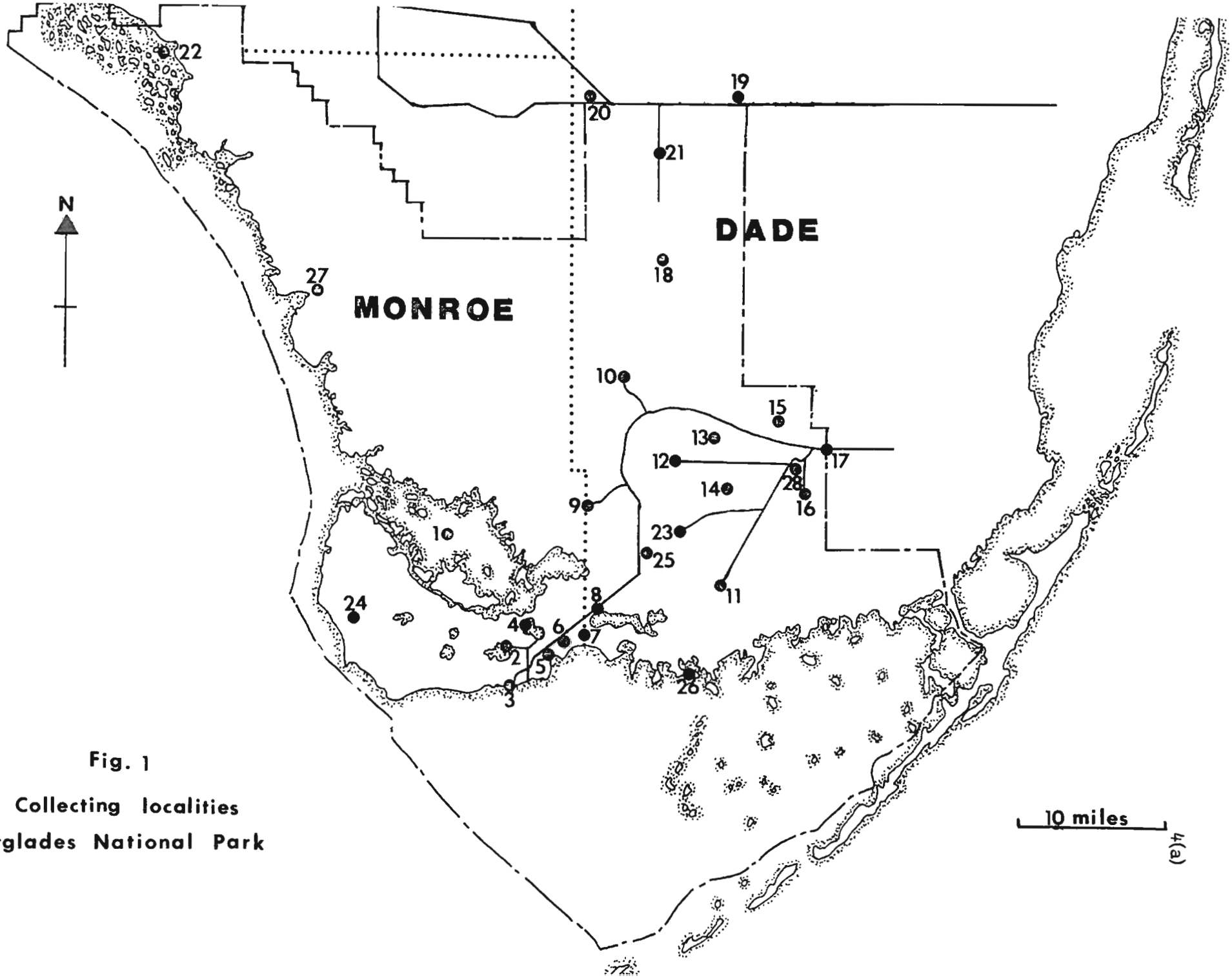

Fig. 1

Collecting localities

Everglades National Park

4(a)

Checklist of Butterflies

I. SATYRIDAE

1.	Hermeuptychia hermes	Carolina satyr
2.	Neonympha areolata	Georgia satyr

II. DANAIDAE

3.	Danaus plexippus	Monarch
4.	Danaus gilippus	Queen
5.	Danaus eresimus	Soldier

III. HELICONIIDAE

6.	Heliconius charitonius	Zebra
7.	Dryas iulia	Julia
8.	Agraulis vanillae	Gulf fritillary

IV. NYMPHALIDAE

9.	Asterocampa celtis	Hackberry butterfly
10.	Anaea floridalis	Florida leaf-wing
11.	Marpesia petreus	Ruddy daggerwing
12.	Eunica monima	Dingy purple-wing
13.	Eunica tatila	Florida purple-wing
14.	Diaethria clymena	
15.	Limenitis archippus	Viceroy
16.	Hypolimnas misippus	The mimic
17.	Junonia coenia	Buckeye
18.	Junonia evarete	Tropical buckeye
19.	Anartia jatrophae	White peacock
20.	Siproeta stelenes	Malachite
21.	Phyciodes frisia	Cuban crescent
22.	Phyciodes phaon	Phaon crescent
23.	Phyciodes tharos	Pearl crescent
24.	Vanessa atalanta	Red admiral
25.	Vanessa cardui	Painted lady
26.	Vanessa virginiensis	American painted lady
27.	Euptoieta claudia	Variegated fritillary

V. RIODINIDAE

28.	Calephelis virginiensis	Little metalmark

VI. LYCAENIDAE

29.	Eumaeus atala	Atala
30.	Calycopis cecrops	Red-banded hairstreak

31.	Fixenia favonius	Southern hairstreak
32.	Panthiades m-album	White-M hairstreak
33.	Strymon melinus	Gray hairstreak
34.	Strymon columella	Columella hairstreak
35.	Strymon acis	Bartram's hairstreak
36.	Strymon martialis	Martial hairstreak
37.	Brephidium pseudofea	Eastern pigmy blue
38.	Leptotes cassius	Cassius blue
39.	Hemiargus thomasi	Miami blue
40.	Hemiargus ceraunus	Ceraunus blue

VII. PAPILIONIDAE

41.	Battus polydamas	Polydamas swallowtail
42.	Papilio polyxenes	Black swallowtail
43.	Papilio cresphontes	Giant swallowtail
44.	Papilio glaucus	Tiger swallowtail
45.	Papilio troilus	Spicebush swallowtail
46.	Papilio palamedes	Palamedes swallowtail
47.	Eurytides marcellus	Zebra swallowtail

VIII. PIERIDAE

48.	Zerene cesonia	Dog face
49.	Phoebis sennae	Cloudless sulphur
50.	Phoebis philea	Orange-barred sulphur
51.	Phoebis agarithe	Large orange sulphur
52.	Eurema lisa	Little sulphur
53.	Eurema nise	Nise sulphur
54.	Eurema nicippe	Sleepy orange
55.	Eurema daira	Barred sulphur
56.	Eurema boisduvaliana	Boisduval's sulphur
57.	Nathalis iole	Dainty sulphur
58.	Pontia protodice	Checkered white
59.	Pieris rapae	European cabbage butterfly
60.	Ascia monuste	Great Southern white
61.	Appias drusilla	Florida white

IX. HESPERIIDAE

62.	Panoquina panoquin	Saltmarsh skipper
63.	Panoquina panoquinoides	Obscure skipper
64.	Panoquina ocola	Ocola skipper
65.	Calpodes ethlius	Brazilian skipper
66.	Oligoria maculata	Twin-spot skipper
67.	Lerodea eufala	Eufala skipper
68.	Amblyscirtes alternata	Least Florida skipper

69.	Atrytonopsis loammi	Loammi skipper
70.	Asbolis capucinus	The monk
71.	Euphyes arpa	Arpa skipper
72.	Euphyes palatka	Palatka skipper
73.	Euphyes berryi	Berry's skipper
74.	Poanes aaroni	Aaron's skipper
75.	Problema byssus	Byssus skipper
76.	Atrytone delaware	Delaware skipper
77.	Atalopedes campestris	The sachem
78.	Wallengrenia otho	Broken dash
79.	Polites baracoa	Baracoa skipper
80.	Polites vibex	Whirlabout
81.	Hylephila phyleus	Fiery skipper
82.	Copaeodes minima	Southern skipperling
83.	Ancyloxypha numitor	Least skipper
84.	Lerema accius	Clouded skipper
85.	Cymaenes tripunctus	Three-spot skipper
86.	Nastra lherminieri	Swarthy skipper
87.	Nastra neamathla	Neamathla skipper
88.	Pyrgus oileus	Tropical checkered skipper
89.	Erynnis juvenalis	Juvenal's dusky wing
90.	Erynnis horatius	Horace's dusky wing
91.	Ephyriades brunnea	Florida dusky wing
92.	Staphylus hayhursti	Southern sooty wing
93.	Urbanus proteus	Long-tailed skipper
94.	Urbanus dorantes	Dorantes skipper
95.	Polygonus leo	Hammock skipper
96.	Polygonus manueli	Manuel's skipper
97.	Epargyreus clarus	Silver-spot skipper
98.	Epargyreus zestos	Zestos skipper
99.	Phocides pigmalion	Mangrove skipper

SATYRIDAE

1. Hermeuptychia hermes (Forster) — Carolina satyr

Howe, 1975:106	Euptychia hermes
Kimball, 1965:38	Euptychia hermes
Klots, 1951:69	Euptychia hermes

First ENP Report: Royal Palm, 6 April 1955 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Weak flying in shaded areas of lawns or grassy edges of hammocks and roadsides. Commonly seen along edges of Palma Vista Hammock adjacent to the Hole-in-the-Donut.

Localities: Dade County: Long Pine Key, Palma Vista Hammock, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Poaceae Axonopus compressus (Texas, Kendall, 1964), *Cynodon dactylon (Bermuda grass, Texas, McGuire and Rickard, 1974), *Stenotaphrum secundatum (St. Augustine grass).

Distribution: Southern Florida and southern Texas to southern New Jersey.

2. Neonympha areolata (Smith) Georgia satyr

Howe, 1975:107	Euptychia areolata
Kimball, 1965:38	Euptychia areolata
Klots, 1951:70	Euptychia areolata

First ENP Report: Royal Palm, 8 July 1954 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Sawgrass prairies, fingerglades and weedy vegetation along pineland roads. Adults are weak flying, taking cover in tall grasses and staying in a small area.

Localities: Dade County: Hays Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, Royal Palm.

Foodplants: Undetermined grasses.

Distribution: Texas and southern Florida, north to central New Jersey.

DANAIDAE

3. Danaus plexippus (Linnaeus) — Monarch

Howe, 1975:76
Kimball, 1965:37
Klots, 1951:77
Riley, 1975:33

First ENP Record: Royal Palm (Safford, 1919).

Status: Regular migrant from the north, passing through Florida with some breeding here but the majority of adults probably moving south to Mexico until their return north in the spring.

Phenology: Reported September-May.

Habitat: Open areas. Adults visiting flowers along roadsides and in disturbed vegetation, especially attracted to Asclepias spp.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Old Ingraham Highway, Pine Island, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Coot Bay, Flamingo.

Foodplants: Apocynaceae Apocynum (dogbane, rarely, Ehrlich and Ehrlich, 1961); Asclepiadaceae *Asclepias spp. (milkweed, major foodplant); *Rutaceae (citrus).

Distribution: Canada to southern U.S. and Mexico. Australia, New Zealand, East Indies, Canary Islands, occasionally western Europe but is not established there.

4. Danaus gilippus (Cramer) Queen

Howe, 1975:77
Kimball, 1965:38
Klots, 1951:78
Riley, 1975:34

First ENP Record: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident.

Phenology: Reported for every month of the year. Particularly abundant in the prairie near Entrance Station in August, 1979, adults visiting Asclepias flowers.

Habitat: Common in prairies where milkweed is found. In general found around disturbed and weedy areas. They are strong fliers as are all the danaids and can cover large areas in their travels.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, prairie near Entrance Station, Research Center, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Asclepiadaceae *Asclepias spp. (major foodplant, milkweed), Vincetoxicum (angle pods, West Indies); Apocynaceae Nerium (oleander).

Distribution: Southern U.S. to Argentina, West Indies.

Comments: This is the dominant danaid mimicked by the viceroy (Limenitis archippus) in our area.

5. Danaus eresimus (Cramer) Soldier

Howe, 1975:77
Kimball, 1965:38
Klots, 1951:79
Riley, 1975:34

First ENP Record: Royal Palm (Klots, 1951).

Status: Resident. Until recently, the status of D. eresimus was uncertain and it was generally considered a rare stray. It now seems as though a resident population has been built up, its numbers having increased greatly since about 1970.

Phenology: Reported for every month but April. Particularly common in August, 1979, on Bear Lake Road.

Habitat: Open areas, roadsides and disturbed vegetation where adults can visit flowers.

Localities: Dade County: Hole-in-the-Donut, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Coot Bay, Flamingo, Rowdy Bend.

Foodplants: *Asclepiadaceae (Texas, McGuire and Rickard, 1974).

Distribution: From Texas south to Brazil, local or rare in the Greater Antilles.

HELICONIIDAE

6. Heliconius charitonius (Linnaeus) Zebra

Howe, 1975:254
Kimball, 1965:39
Klots, 1951:82
Riley, 1975:85

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Wooded areas, inside hammocks or along edges, sometimes seen flying in shaded areas of pinelands or along roadsides and canals.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Loop Road, Long Pine Key, Mahogany Hammock, Otter Cave, Pa-Hay-Okee, Palma Vista, Royal Palm, Snake Bight Trail, Tamiami Trail, West Lake. Monroe County: Bear Lake Road, Flamingo, Mrazek Pond, Rowdy Bend.

Foodplants: Passifloraceae Passiflora spp. (passion flower), *P. suberosa (main foodplant in our area).

Distribution: Southern U.S., northern Mexico, throughout the West Indies, Central America and northwestern South America.

Comments: The Zebra is a distasteful species to predators. Flight is slow and they are not frightened even by a swinging net. It is known that these heliconiids sleep in colonies, returning to the same approximate location nightly (Jones, 1930).

7. Dryas iulia (Fabricius) Julia

Howe, 1975:254	Dryas julia
Kimball, 1965:39	Dryas julia
Klots, 1951:83	Dryas julia
Riley, 1975:86	

First ENP Specimen: Tamiami Trail, 22 July 1978, B. Lenczewski.

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, hammock edges, roadsides along canals.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Snake Bight Trail, Royal Palm, Tamiami Trail. Monroe County: Flamingo, Rowdy Bend.

Foodplant: Passifloraceae *Passiflora spp. (passion flower), especially *P. suberosa, P. lutea (Texas, Rickard, 1968).

Distribution: Southern Florida and southern Texas to Brazil and Bolivia. Throughout the West Indies.

Comments: Julia must have been overlooked in the park before this first record and was surely present prior to 1978. This has been an expanding species in the south Florida area and until its recent westward spread from the coast, was relatively rare.

8. Agraulis vanillae (Linnaeus) Gulf fritillary

Howe, 1975:256
Kimball, 1965:39
Klots, 1951:82
Riley, 1975:88 Dione vanillae

First ENP Record: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident, populations perhaps modified by migrations (Arbogast, 1966).

Phenology: Reported for every month of the year.

Habitat: Common in pinelands but also found feeding at flowers in the open or disturbed areas and around hammock edges.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway, Otter Cave, Pa-hay-okee, Pine Island, prairie near Entrance Station, Royal Palm, Snake Bight Trail, Tamiami Trail, West Lake. Monroe County: Bear Lake Road, Flamingo Mrazek Pond, Rowdy Bend.

Foodplants: Passifloraceae *Passiflora spp. (passion flower), especially P. foetida (Texas, McGuire and Rickard, 1974).

Distribution: Southern U.S. to Argentina. Throughout the West Indies.

NYMPHALIDAE

9. Asterocampa celtis (Boisduval and Le Conte) Hackberry butterfly

Howe, 1975:113
Kimball, 1965:44
Klots, 1951:120

Only ENP Record:	Chokoloskee, about 1912 (Grossbeck, 1917).
Status:	Rare casual from further north.
Phenology:	The only monthly reports are from May and July.
Foodplant:	Ulmaceae *Celtis (hackberry).
Distribution:	Central New England to southern Minnesota south to northern Florida and eastern Texas.
Comments:	The only other south Florida locality seems to be Matheson Hammock, which Kimball (1965) reports and where D. S. Smith captured a specimen on 28 May 1979.

10. Anaea floridalis Johnson and Comstock — Florida leaf-wing

Howe, 1975:117
Kimball, 1965:45 — Anaea aidea
Klots, 1951:118

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month but February. Especially common August through October, 1979, in Long Pine Key.

Habitat: Pinelands.

Localities: Dade County: Long Pine Key.

Foodplants: Euphorbiaceae *Croton linearis (woolly croton).

Distribution: Miami south through the Keys.

Comments: A fast flier, settling on the trunks of trees, where, with its wings folded, it looks very much like a dead leaf. Adults are often found at rain puddles on fire roads in the pinelands.

11. Marpesia petreus (Cramer) Ruddy dagger-wing

Howe, 1975:121
Kimball, 1965:44
Klots, 1951:114
Riley, 1975:61

First ENP Record: Royal Palm, late February/early March, 1944 (Howes, 1948).

Status: Resident.

Phenology: Reported from every month of the year.

Habitat: Usually in and around hammocks, but also found in pinelands and other shaded woody vegetation.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Mahogany Hammock, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: *Anacardiaceae (Texas, McGuire and Rickard, 1974), Anacardium occidentalis (West Indies); Moraceae *Ficus spp., *F. citrifolia (wild banyan tree, on which a larva was found on Loop Road and reared by the author).

Distribution: Central Florida and southeastern Texas to Brazil. In the West Indies on the Lesser Antilles and rarely, Puerto Rico.

12. Eunica monima (Cramer) Dingy purple wing

Howe, 1975:126
Kimball, 1965:43
Klots, 1951:111
Riley, 1975:71

Only ENP Report:	Flamingo, 11-13 April 1957 (Rawson, MS).
Status:	Very rare casual, not reported in recent years.
Phenology:	April-August.
Habitat:	Hardwood hammocks.
Foodplants:	*Rutaceae Zanthoxylum pentamon (prickly ash, Mexico).
Distribution:	Southern Florida (?) and Texas. Strays to Kansas. South to Colombia.
Comments:	There are very few authentic Florida records, but several Miami specimens from the 1930's have been seen at DPI, Gainesville.

13. Eunica tatila (Herrich-Schäffer) Florida purple wing

Howe, 1975:126
Kimball, 1965:43
Klots, 1951:111
Riley, 1975:71

First ENP Record: Royal Palm (Safford, 1919).

Status: Diminishing resident, last reported within the park from Long Pine Key 20 October 1973, T. S. Dickel, specimen at Allyn Museum.

Phenology: Reported for every month except December.

Habitat: Hardwood hammocks.

Localities: Dade County: Long Pine Key, Royal Palm.

Foodplants: Unknown. Pupa found on Gymnanthes lucida (Euphorbiaceae, crabwood, Kimball, in litt.).

Distribution: Southern Florida, the Greater Antilles and Central America.

Comments: Reported as "relatively common" by Kimball in Dade County and as "not uncommon" by Klots, but there seem to be few records. The evidence indicates that it is a shrinking species in the Dade County area and is found in great abundance only on Lignumvitae Key, Monroe County, though present on other Keys.

14. Diaethria clymena (Cramer)

Howe, 1975:128
Kimball, 1965:43
Klots, 1951:279

Only ENP Record:	Royal Palm, 26 February 1944 (Howes, 1948).
Status:	Rare casual. No other authentic U.S. record in recent times.
Foodplants:	Ulmaceae *Trema micrantha, *T. lamarckiana (Brazil).
Distribution:	South America.

15. Limenitis archippus (Cramer) Viceroy

Howe, 1975:132
Kimball, 1965:44
Klots, 1951:114

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, adults commonly around willow or visiting flowers in disturbed areas and roadsides along canals where willow is found.

Localities: Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway, Otter Cave, prairie near Entrance Station, Royal Palm, Tamiami Trail.

Foodplants: Chrysobalanaceae *Chrysobalanus (coco plum); Rosaceae Prunus spp. (cherry and plum; Salicaceae *Salix (willow, major foodplant), Populus (poplar); Fagaceae *Quercus (oak); Malaceae Malus (apple).

Distribution: Southern Canada to Georgia and Mississippi, west to Colorado and Montana.

Comments: In southern Florida, the viceroy mimicks the more common D. gilippus (queen) rather than the monarch as it does in the rest of its range. It is likely that willow is the major foodplant in our area.

16. Hypolimnas misippus (Linnaeus) The mimic

Howe, 1975:136
Kimball, 1965:41
Klots, 1951:278
Riley, 1975:73

Only ENP Record: Bear Lake Road, Monroe County, 10 November 1960 (Kimball, 1965; ENP coll.).

Status: Rare stray. Only a few positive records for Florida between 1880 and today.

Phenology: Reported for April and November.

Foodplants: *Malvaceae (mallows); Convolvulaceae *Ipomoea (morning glory); Portulacaceae *Portulaca (purslane).

Distribution: Old World tropics and subtropics. Rare in Cuba, Jamaica and Florida. More common in Puerto Rico and the Lesser Antilles, south to the Guianas.

Comments: This Old World species may have been introduced to the Antilles during the days of the African slave trade, according to Klots. In Florida, it is certainly only a rare, casual, non-established butterfly.

17. Junonia coenia (Hubner) Buckeye

Howe, 1975:137	Precis coenia
Kimball, 1965:42	Precis evarete
Klots, 1951:108	Precis lavinia
Riley, 1975:74	

First ENP Record: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident, populations most likely augmented by migrants (Walker, 1978).

Phenology: Reported for every month of the year.

Habitat: Adults commonly sitting along fire roads in pinelands but may be found in any open areas including sawgrass prairies and lawns.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, prairie near Entrance Station, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road.

Foodplants: Acanthaceae *Ruellia (Texas, McGuire and Rickard, 1947); Onagraceae *Ludwigia; Plantaginaceae *Plantago (plantain); Scrophulariaceae Antirrhinum (West Indies), *Buchnera floridana, *Gerardia harperi, *Linaria (toadflax), Mimulus, Scrophularia lanceolata (figwort) and others; Verbenaceae *Phyla (Lippia) spp., P. zonalis (Cuba), Verbena prostrata.

Distribution: Southern Canada west to California, Arizona and south through tropical America, Cuba.

Comments: Until recently, this species was lumped together with J. evarete, the tropical buckeye. Although they seem similar in appearance at first, they can be distinguished in the field by their behavior and habitats. Here in south Florida the buckeye is generally found sitting low on the ground, flying a few feet at a time, whereas the tropical buckeye is much more likely to be flying slowly, visiting flowers, lacking the territorial behavior that the buckeye exhibits while keeping its area free of intruders. J. coenia is occasionally found in the same habitat as evarete, which is always coastal. Larvae of the buckeye has been found in the Muhlenbergia prairie near the Entrance Station feeding on Buchnera floridana and Gerardia harperi. The Scrophulariaceae seem to be the major foodplant in this area.

18. Junonia evarete (Cramer) — Tropical buckeye

Howe, 1975:138	Precis coenia
Kimball, 1965:42	Precis orithya
Klots, 1951:108	Precis lavinia
Riley, 1975:74	

First ENP Record: Cape Sable/Flamingo, June, July (Young, 1955).

Status: Resident.

Phenology: Reported for every month except February.

Habitat: Seldom far from the coast, open areas, adults visiting flowers at roadsides and canals.

Localities: Collier County: Chokoloskee. Dade County: Long Pine Key, Snake Bight Trail, West Lake. Monroe County: Bear Lake Road, Cape Sable, Flamingo, Mrazek Pond, Rowdy Bend, Snake Bight Trail.

Foodplants: Verbenaceae *Phyla (Lippia) nodiflora (capeweed, Puerto Rico, Wolcott, 1948), *Stachytarpheta (blue porterweed, West Indies).

Distribution: Southern Florida and southern Texas to South America; the West Indies.

Comments: Has been confused with J. coenia for quite some time and has only recently been separated as a distinct species (see discussion under J. coenia).

19. Anartia jatrophae (Johannson) White peacock

Howe, 1975:138
Kimball, 1965:42
Klots, 1951:110
Riley, 1975:75

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year. Particularly common in the Hole-in-the-Donut, November, 1979.

Habitat: Disturbed areas. Common near fresh water canals, adults visiting flowers at roadsides. Not usually found near brackish or salty water. Also seen commonly on lawns defending a territory much as the buckeye does.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, Old Ingraham Highway, Otter Cave, Research Center, Royal Palm, Tamiami Trail. Monroe County: Flamingo, Mrazek Pond.

Foodplants: Acanthaceae *Ruellia (Texas, McGuire and Rickard, 1974), R. occidentalis (Texas, Kendall, 1964). Euphorbiaceae Manihot esculenta (Brazil, West Indies). Verbenaceae *Phyla (Lippia) (capeweed, Texas, McGuire and Rickard, 1974). Scrophulareaceae *Bacopa monniera (water hyssop).

Distribution: Widespread in the New World tropics. Southern U.S. to Argentina, West Indies.

20. Siproeta stelenes (Linnaeus) Malachite

Howe, 1975:139	
Kimball, 1965:43	Metamorpha stelenes
Klots, 1951:278	Metamorpha stelenes
Riley, 1975:77	

First ENP Specimen: Whiskey Creek, 20 January 1960, V. C. Gilbert (ENP coll.).

Status: This is a recently established species in South Florida, particularly common around Homestead. The adults are seen only occasionally in the park.

Phenology: Reported for every month of the year.

Habitat: Shaded woody areas. Avocado and other fruit groves in agricultural land, but in the park have been seen flying across rather large, open areas.

Localities: Dade County: Hole-in-the-Donut, Long Pine Key, prairie near Entrance Station, Royal Palm, Whiskey Creek. Monroe County: Gopher Creek near Lostman's River.

Foodplants: Acanthaceae *Blechum brownei, *Ruellia (Texas, McGuire and Rickard, 1974), rarely R. coccinea (West Indies).

Distribution: Southern Texas, strays to Kansas. Recently established in southern Florida. West Indies south to Brazil.

Comments: Congregations of hundreds were seen at the Agricultural Research and Education Center, University of Florida, in Homestead, attracted by fallen fruits in December, 1979.

21. Phyciodes frisia (Poey) — Cuban crescent

Howe, 1975:141
Kimball, 1965:41 — Eresia frisia
Klots, 1951:101
Riley, 1975:79

First ENP Report: Coot Bay, 5 April 1955 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month but October.

Habitat: Near coastal or brackish waters. Seems to be associated closely with the distribution of a foodplant, Dicliptera assurgens found near buttonwoods. Besides the few locations listed, the species is not found elsewhere on the Florida mainland although common in the Keys.

Localities: Collier County: Chokoloskee. Dade County: Snake Bight Trail. Monroe County: Bear Lake Road, Flamingo, Rowdy Bend.

Foodplants: Acanthaceae *Dicliptera assurgens, *Ruellia, Justicia brandegeana (shrimp flower).

Distribution: Southern U.S. to northern Argentina, West Indies and the Bahamas.

Comments: A similar species, P. tharos is found near freshwater areas. P. frisia is easily distinguished from tharos or phaon by the concave outer margin of the forewing.

22. Phyciodes phaon Edwards — Phaon crescent

Howe, 1975:143
Kimball, 1965:40 — Phyciodes gorgone
Klots, 1951:99
Riley, 1975:79

First ENP Report: Long Pine Key, 4 April 1955 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Found in open areas on lawns or in disturbed vegetation. Common along roadsides.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Pine Island, prairie near Entrance Station, Research Center, Royal Palm, Tamiami Trail. Monroe County: Flamingo, Mrazek Pond.

Foodplants: Verbenaceae P. lanceolata (California), *Phyla (Lippia) nodiflora.

Distribution: Florida to Virginia, west to California, north to Kansas, West Indies south to Guatemala.

23. Phyciodes tharos (Drury) Pear crescent

Howe, 1975:143
Kimball, 1965:40
Klots, 1951:100

First ENP Report: Coot Bay (?), 5 April 1955 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month except February.

Habitat: Open areas, lawns, roadsides along canals. Does not seem to be a coastal species and stays closer to freshwater marshes or sawgrass prairies.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway, Research Center, Royal Palm, Tamiami Trail. Monroe County: Coot Bay (?).

Foodplants: Asteraceae (Compositae) *Aster spp., Verbesina helianthoides (crownbeard).

Distribution: Central Canada to Mexico. Not reported from most of Nevada, California and western Oregon.

Comments: The Coot Bay report is perhaps in error as it is the only brackish/saltwater location reported from the area for this species.

24. Vanessa atalanta (Linnaeus) Red admiral

Howe, 1975:203
Kimball, 1965:42
Klots, 1951:107
Riley, 1975:83

First ENP Report: Royal Palm, 8 July 1954 (Phillips, MS).

Status: Probably a casual migrant from the north. Larvae have never been found in this area, neither are the adults numerous.

Phenology: Reported for every month.

Habitat: Open areas. The adults I have seen were visiting flowers along roadsides near canals or in other disturbed locations.

Localities: Dade County: Visitor's Center, Hayes Barn Road, Loop Road, Royal Palm, Tamiami Trail.

Foodplants: Moraceae Humulus (hops). Urticaceae *Boehmeria (false nettle), *Parietaria (pellitory), Urtica.

Distribution: Canada south to Guatemala. Occasionally on Cuba, Hispaniola and Jamaica. A known migrant in the Old World, present in North Africa, Europe and Western Asia. Introduced to the Hawaiian Islands.

25. Vanessa cardui (Linnaeus) Painted lady

Howe, 1975:205
Kimball, 1965:42
Klots, 1951:107
Riley, 1975:82

Only ENP Record: Paradise Key, pre-1942 (Kimball, 1965).

Status: Rare stray.

Phenology: Kimball reports V. cardui from Paradise Key as irregularly present December-March.

Foodplants: Asteraceae (Compositae) predominantly *Cirsium spp. (thistle) in North America and Europe.

Distribution: Paleartic, Africa, southern Canada to Panama. Has been recorded from parts of the West Indies but is not known to be resident there or in the southern U.S. except for California and southern Arizona. A cosmopolitan species and a well-known migrant with a wide distribution.

Comments: Kimball's reference is to the Blatchley MS describing work done by F. M. Jones to survey the natural history of Paradise Key for the Florida Women's Club, previous owners of that part of the park. This would date the record as pre-1942. As there has been no other evidence since of any semi-permanent establishment, this record can only be viewed as a very rare occurrence.

26. Vanessa virginiensis (Drury) American painted lady

Howe, 1975:206
Kimball, 1965:42
Klots, 1951:108
Riley, 1975:82

First ENP Specimen: Tamiami Trail, 9 March 1980, D. S. Smith.

Status: Another specimen was captured at the same locality on 14 March 1980, also by D. S. Smith. There have been previous, although infrequent, captures of this species around the Miami area, particularly in Matheson Hammock. The insect may be breeding temporarily in these areas.

Phenology: Reported for March and May-August.

Habitat: Adults have been caught visiting Bidens in open areas. Howe (1975) describes this species as having a wide variety of environments.

Localities: Dade County: Tamiami Trail.

Foodplants: Asteraceae (Compositae) primarily on Antennaria and Gnaphalium (everlasting flowers), less often on Artemisia and *Senecio (golden ragwort). Very rarely on Boraginaceae Myostis (mouse ear), Malvaceae (Malva) and Scrophulariaceae Antirrhinum.

Distribution: Southern Canada to Colombia, Canary Islands, and Hawaii. Rare in the Greater Antilles, occasional vagrants in Europe. Not known to be migrants, at least to the extent of cardui.

27. Euptoieta claudia (Cramer) — Varigated fritillary

Howe, 1975:210
Kimball, 1965:40
Klots, 1951:84
Riley, 1975:84

First ENP Specimen: Long Pine Key, 20 May 1956, E. T. Christensen, (ENP coll.).

Status: Resident. Seems to have declined in numbers in recent years.

Phenology: Reported for months of January, March, May, August and December. Present regularly in the prairie near the Entrance Station in August, 1979.

Habitat: Muhlenbergia or sawgrass prairies, sometimes in association with pinelands.

Localities: Dade County: Long Pine Key, Loop Road, prairie near Entrance Station, Tamiami Trail.

Foodplants: Fabaceae (Leguminosae) *Desmodium (tick trefoil). Menispermaceae Menispermum (moonseed). Passifloraceae *Passiflora spp., P. foetida (Texas, McGuire and Rickard, 1974). Podophyllaceae Podophyllum (may apple). Portulacaceae *Portulaca (purslane). Sedaceae Sedum (stonecrop). Violaceae Viola.

Distribution: Resident in the southern U.S., but migrates north to Canada. Rare in Jamaica and Cuba. South to Argentina.

RIODINIDAE

28. Calephelis virginiensis (Guerin-Meneville) — Little metalmark

Howe, 1975:261	
Kimball, 1965:46	Lephelisca virginiensis
Klots, 1951:123	Lephelisca virginiensis

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month but August and November.

Habitat: Found in sawgrass prairies. Usually very local but fairly abundant when present.

Localities: Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Royal Palm, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Asteraceae (Compositae) Cirsium horridulum (Texas, Kendall, 1976).

Distribution: Southeast Virginia through the Carolinas and the Gulf States to Texas and Florida. North to Arkansas.

LYCAENIDAE

29. Eumaeus atala (Poey) — Atala

Howe, 1975:276
Kimball, 1965:46
Klots, 1951:132
Riley, 1975:98

First ENP Record: Royal Palm (Safford, 1919).

Status: There have been no recent records of this species in the park. The last note of this butterfly's presence was a 3 February 1937 report from Long Pine Key (Comstock and Huntington, 1943).

Phenology: Reports are for every month but May and October.

Habitat: Brushy areas and edges of hammocks where there is coontie and mature pinelands. Adults may be seen visiting flowers in sunny, open areas. The female enters heavily shaded areas for oviposition on young, tender shoots of coontie.

Localities: Dade County: Long Pine Key, Royal Palm.

Foodplants: Cycadaceae *Zamia integrefolia (coontie).

Distribution: Southern Florida, Bahamas, Cuba.

Comments: Attempts were made to re-establish the atala at Royal Palm Hammock from a small colony discovered in Broward County (Rawson, 1961). This experiment was not successful. There have been other isolated reports of the butterfly from Dade and the Keys in recent years, but it was generally believed to be on the verge of extinction if not so already. A colony was discovered, however, on Key Biscayne in December 1979 and later in 1980. Two other distinct locations were found (Leston, Lenczewski and Smith, in press). Because of difficulties in distinguishing the subspecies, it has not been determined if these result from a spread of the Cuban subspecies or are small relict populations of the American subspecies florida surviving from times of abundance, reportedly in the 1920's. By the 1930's atala had disappeared from Miami. At this time,

the park population may also have been severely diminished during logging operations in Long Pine Key, when much of the area was gutted by fire. The species may have recurring peaks of abundance and then crashes.

The abundance of atala's foodplant, Zamia, does not seem to be a limiting factor. There are still many areas of coontie surviving in south Florida contrary to Rawson's (1961) inability to locate it. One of the problems may be destruction of habitats through development and too frequent burning in park areas, which does not allow an intermediate pine/hammock stage to be reached.

30. Calycopis cecrops (Fabricius) — Red-banded hairstreak

Howe, 1975:299	
Kimball, 1965:46	Strymon cecrops
Klots, 1951:133	Strymon cecrops

First ENP Specimen: Royal Palm, 20 April 1951, D. Lennox (ENP coll.).

Status: Resident.

Phenology: Reported for every month but September.

Habitat: Mostly in or near pinelands but also found at hammock edges and at flowers along roadsides and other disturbed areas. Particularly abundant in October around Rhus copallina at Long Pine Key.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Royal Palm, Tamiami Trail. Monroe County: Flamingo, Snake Bight Trail.

Foodplants: Anacardiaceae *Rhus copallina (dwarf sumac). Euphorbiaceae *Croton.

Distribution: Eastern Kansas through Ohio to southern New Jersey, south to Florida and Texas.

31. Fixenia favonius (Smith) — Southern hairstreak

Howe, 1975:301	Euristrymon favonius
Kimball, 1965:47	Strymon favonius
Klots, 1951:135	Strymon favonius

First ENP Specimen: Royal Palm, 30 March 1939, D. Berry (ENP coll.).

Status: Casual, not established in the area. Royal Palm seems to be the only place in the park where favonius has ever been captured and that only twice since 1939, once in 1955 and again in 1967 when C. V. Covell reported it as abundant.

Phenology: Reported only from March and April.

Habitat: Hammocks.

Foodplants: Fagaceae *Quercus (oaks).

Distribution: Southern Florida to southeastern North Carolina.

32. Panthiades m-album (Boisduval and Le Conte) White-M hairstreak

Howe, 1975:302	
Kimball, 1965:47	Strymon m-album
Klots, 1951:133	Strymon m-album

First ENP Report: Royal Palm, 28, 29 December 1956 (Lindsley, MS).

Status: Casual.

Phenology: Reported for March-June and October-December.

Localities: Other than Royal Palm, the only other park specimen is from Loop Road, Dade County, collected by D. S. Smith on 7 March 1979.

Foodplants: Fabaceae *Vicia (vetches). Fagaceae *Quercus (oak).

Distribution: Connecticut and Pennsylvania to Texas and Florida. South to Guatemala. Not reported from the West Indies.

33. Strymon melinus Hubner — Gray hairstreak

Howe, 1975:303
Kimball, 1965:47
Klots, 1951:134

First ENP Report: Chokoloskee, about 1912, (Grossbeck 1917).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, along roadsides and near disturbed vegetation.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Apocynaceae *Echites umbellata. *Boraginaceae Cynoglossum (hound's tongue). *Fabaceae Phaseolus (beans). Hypericaceae *Hypericum (St. Johnswort). Malvaceae Abelmoschus esculentus, *Gossypium hirsutum (cotton), *Hibiscus, Sphaeralcea (scarlet mallow). Polygonaceae *Polygonum (knotweed). *Rosaceae Crataegus (hawthorne), also apple, blackberry, strawberry and many others. The larvae bore into the fruit or seeds.

Distribution: Canada south throughout the U.S. to Venezuela.

34. Strymon columella (Fabricius) Columella hairstreak

Howe, 1975:305
Kimball, 1965:47
Klots, 1951:140
Riley, 1975:104

First ENP Report: Everglades National Park, 29 December 1964-4 January 1965 (Chambers, MS).

Status: Resident.

Phenology: Reported for every month but October.

Habitat: Open areas, roadsides near sawgrass and coastal prairies.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Fabaceae Poinciana regia (News Lep. Soc., 1977). Malvaceae *Sida (Texas, McGuire and Rickard, 1974).

Distribution: Southern Florida, Texas, California to Brazil.

35. Strymon acis (Comstock and Huntington) Bartram's hairstreak

Howe, 1975:306
Kimball, 1965:46
Klots, 1951:138

First ENP Specimen: Royal Palm, 30 March 1939 (Allyn Museum coll.).

Status: This species may no longer be present in the park. It had been found consistently in 1971 and 1972 (Covell, MS) in Long Pine Key, but has not been reported in recent years although present in pinelands outside the park.

Phenology: Reported for every month but June, July and October.

Habitat: Pinelands.

Localities: Dade County: Long Pine Key.

Foodplants: Euphorbiaceae Croton discolor (Jamaica), *Croton linearis.

Distribution: Southern Florida through the Antilles to Dominica.

Comments: Frequent burning of pinelands may discourage this species that seems to prefer a more mature pineland understory.

D. S. Smith has noted that acis did not return to an original collection site in Dade County as long as five months after a controlled burn although fairly common in a nearby unburned area.

36. Strymon martialis (Herrick-Schaffer) Martial hairstreak

Howe, 1975:306
Kimball, 1965:46
Klots, 1951:138
Riley, 1975:102

First ENP Report:	Everglades National Park, 29 December 1964-4 January 1965 (Chambers, MS).
Status:	Resident.
Phenology:	Reported for every month but October.
Habitat:	Open areas, roadsides near sawgrass prairies.
Localities:	Dade County: Loop Road, Royal Palm, Snake Bight Trail, Tamiami Trail.
Foodplants:	Ulmaceae *Trema micrantha.
Distribution:	Southern Florida, Bahamas, Cuba and Jamaica.

37. Brephidium pseudofea (Morrison) Eastern pigmy blue

Howe, 1975:318
Kimball, 1965:49
Klots, 1951:163
Riley, 1975:114

First ENP Report: Flamingo, 8 and 9 April 1958 (Kimball, MS).

Status: Resident.

Phenology: Reported for all months but February and October.

Habitat: Very local and always coastal. Found in saltwater marshes and tidal flats where Salicornia is present.

Localities: Dade County: Snake Bight Trail. Monroe County: Bear Lake Road, Flamingo, Whitewater Bay.

Foodplants: Bataceae *Batis maritima (saltwort). Chenopodiaceae *Salicornia bigelovi (glasswort).

Distribution: Coastal Alabama, Georgia and Florida, strays to Texas. Also found in the Bahamas.

Comments: Usually flies in a very restricted area with a weak, slow flight, but has been known to land on a tour boat in the middle of Whitewater Bay!

38. Leptotes cassius (Cramer) Cassius blue

Howe, 1975:319
Kimball, 1965:49
Klots, 1951:157
Riley, 1975:108

First ENP Record: Chokoloskee, 8 April about 1912 (Grossbeck, 1917).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Usually flying around shrubby vegetation, seems to stay higher than Hemiargus thomasi or ceraunus, which prefer lawns. L. cassius very often visits flowering shrubs or trees at edges of hammocks or disturbed vegetation and roadsides.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Otter Cave, Research Center, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: A wide variety of seeds and flowers of: Fabaceae (Leguminosae) *Crotalaria incana (rattle-box), *Desmodium (tick trefoil, West Indies), *Galactia volubis (hairy milk pea), *Indigofera (West Indies), Phaseolus (lima beans), *Plumbago (leadwort). *Malphigiaceae (Texas, McGuire and Rickard, 1974).

Distribution: Southern Florida and the West Indies including the Bahamas to Argentina.

39. Hemiargus thomasi Clench — Miami blue

Howe, 1975:322
Kimball, 1965:49
Klots, 1951:162
Riley, 1975:110

First ENP Report: Royal Palm, 4 and 5 April 1955 (Ritterbush, MS).

Status: No longer present in the park. The most recent specimens taken from the area were 10 May 1972 (Covell, MS) at Flamingo.

Phenology: Reported for every month of the year.

Habitat: Open areas, coastal, preferring to fly low on lawns, visiting Bidens in disturbed areas, edges of hammocks, roadsides.

Localities: Collier County: Chokoloskee. Dade County: Royal Palm. Monroe County: Flamingo.

Foodplants: Fabaceae (Leguminosae) *Cesalpinia spp. (gray nicker), C. crista, *Pithecellobium guadalupensis. Sapindaceae *Cardiospermum halicacabum. Leston, Lenczewski and Smith found larvae feeding on the seeds of this balloonvine at Key Largo in November. The larvae pupated and then emerged in ten days. The variety of halicacabum in the park seems to have much smaller balloons and no larvae have been found on these.

Distribution: Florida Keys to St. Kitts. Not found in Cuba or Jamaica.

Comments: The Miami blue was reported as extremely common in the Miami area in the 1930's and 1940's. It now seems to be restricted to the Keys. The last Florida mainland record outside the park is 1946, Miami (Allyn Museum). Reasons for this extinction on the mainland are unknown although there has been a great deal of destruction of coastal habitats through development. The numbers of another species, H. ceraunus seems to have increased in these areas where thomasi was once found commonly.

40. Hemiargus ceraunus (Fabricius) Ceraunus blue

Howe, 1975:322
Kimball, 1965:49
Klots, 1951:159

First ENP Report: Royal Palm, 28 and 29 December 1956 (Lindsley, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, edges of hammocks or shrubby vegetation. Adults visit Bidens at roadsides and disturbed areas.

Localities: Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, Research Center, Snake Bight Trail, West Lake. Monroe County: Bear Lake Road, Flamingo, Mrazek Pond, Rowdy Bend.

Foodplants: Fabaceae (Leguminosae) *Abrus precatorius (crab's eye), *Cassia aspera, C. brachiata, *Crotalaria (rattle-box), Phaseolus (beans).

Distribution: Florida, southern Texas to Alabama and Georgia.

PAPILIONIDAE

41. Battus polydamas (Linnaeus) — Polydamas swallowtail

Howe, 1975:391
Kimball, 1965:31
Klots, 1951:180 — Papilio polydamas
Riley, 1975:140

Only ENP Report: Royal Palm, 4 April 1955 (Ritterbush, MS).

Status: It seems unlikely that a breeding population is established in the park, the Royal Palm report being the result most likely of a casual stray.

Phenology: Reported for every month but January and December. Up to ten individuals seen by D. S. Smith, February-October at Fairchild Tropical Garden, where larvae were also present.

Habitat: Open areas, gardens near Aristolochia.

Localities: Royal Palm.

Foodplants: Aristolocaceae Aristolochia spp., A. gigantea (larvae found by D. S. Smith), A. elegans (Texas, Kendall, 1964). Passifloraceae *Passiflora spp.

Distribution: Florida, Georgia, Gulf States, West Indies south to Argentina.

Comments: There are thirteen subspecies of B. polydamas in the West Indies. This, according to Riley (1975) seems to indicate the relative immobility of the species.

42. Papilio polyxenes Fabricius — Black swallowtail

Howe, 1975:392
Kimball, 1965:31
Klots, 1951:172
Riley, 1975:148

First ENP Specimen: Near Old Missile Base, 10 May 1972, T. S. Dickel.

Status: Resident. Very common in 1972, polyxenes is still present frequently in the northern part of the park along Loop Road, but only one 1979 sighting in November at Long Pine Key by the author.

Phenology: Reported for every month but January, February and December.

Habitat: Open areas.

Localities: Dade County: Loop Road, Long Pine Key.

Foodplants: Apiaceae (Umbelliferae) cultivated and wild, Daucus (wild carrot), *Oxypolis filiformis, caraway, carrot, celery, dill and parsley. Rutaceae Ruta graveolens, Thamnosma texana.

Distribution: Canada to Florida, Cuba, west to the Rocky Mountains, through New Mexico, Arizona and south to Peru.

43. Papilio cresphontes Cramer — Giant swallowtail

Howe, 1975:397
Kimball, 1965:32
Klots, 1951:173
Riley, 1975:146

First ENP Report: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident.

Phenology: Reported every month of the year.

Habitat: In and around hammocks, roadsides and other shaded vegetation.

Localities: Dade County: Hole-in-the-Donut, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Lauraceae *Persea (Grossbeck, 1917). Nyssaceae Nyssa spp. (swamp tupelo, Grossbeck, 1917). Piperaceae Piper (West Indies). Rutaceae Ptelea trifoliata (hoptree, Grossbeck, 1917), Ruta gaveolens (rue), *Zanthoxylum fagara (main foodplant), Zanthoxylum Clava-Herculis and other citrus. Salicaceae Populus (poplar). Also found on Dictamnus (gas plant).

Distribution: From Canada to Mexico in the eastern U.S., west to Arizona. Cuba, south to Colombia.

Comments: Larvae are fairly common on Z. fagara in October. They look very much like bird droppings and can be easily overlooked. This species is also a pest on citrus and in agricultural literature the caterpillar is known as the "orange dog."

44. Papilio glaucus Linnaeus — Tiger swallowtail

Howe, 1975:399
Kimball, 1965:32
Klots, 1951:175

First ENP Specimen: Royal Palm, 18 June 1956, E. T. Christensen (ENP coll.).

Status: Casual. Probably a stray from further north.

Phenology: Reported for February, April-June, August-November.

Habitat: Open areas, visiting flowers.

Localities: Dade County: Bear Lake Road, Loop Road, Old Ingraham Highway.

Foodplants: Aceraceae (Acer) (maple). Betulaceae Betula (birch). Bignoniaceae Catalpa. Magnoliaceae Liriodendron (tulip tree), *Magnolia virginiana (sweetbay). Oleaceae Fraxinus (ash). Rosaceae Malus (apple), Sorbus (mountain ash), *Prunus (wild cherry). Tiliaceae Tilia (basswood).

Distribution: Found mostly east of the Rocky Mountains from Alaska to the southern U.S.

45. Papilio troilus Linnaeus — Spicebush swallowtail

Howe, 1975:401
Kimball, 1965:32
Klots, 1951:178
Riley, 1975:149

First ENP Record: Chokoloskee, June, about 1912 (Grossbeck, 1917).

Status: Resident. This butterfly seems to have been common in the park over a number of years and there are many specimens in the ENP collection. Since the early seventies however, its numbers seem to have declined and there has been only an occasional report; from Royal Palm 1972 and 1976 (Covell, MS) and more frequently from Loop Road, March-July, 1979 by D. S. Smith.

Phenology: Reported for March through September.

Habitat: In and near shaded woods, the adults often visiting flowers in open areas.

Localities: Dade County: Visitor's Center, Long Pine Key, Mahogany Hammock, Royal Palm.

Foodplants: Fabaceae (Leguminosae) Cercis canadensis (red-bud). Lauraceae Cinnamonum camphora (camphor tree), Lindera pubescens (spice-bush, Texas, Kendall, 1964), Sassafras. Magnoliaceae *Magnolia virginiana (sweet bay). Rutaceae *Zanthoxylum spp., Z. coriaceum (prickly ash).

Distribution: Southern Canada to Florida, Texas and Kansas. Generally eastern U.S. Not recorded from the West Indies except for one stray in Cuba.

46. Papilio palamedes Drury — Palamedes swallowtail

Howe, 1975:401
Kimball, 1965:32
Klots, 1951:178
Riley, 1975:148

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Sometimes found gathered around mud puddles on dirt roads near the Hole-in-the-Donut. Also frequent at edges of hammocks and occasionally pinelands. Particularly abundant in the Muhlenbergia prairie near the Entrance Station in August, 1979.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway, prairie near Entrance Station, Royal Palm, Tamiami Trail. Monroe County: Coot Bay.

Foodplants: Lauraceae *Persea borbonia (red bay, Texas), Sassafras. Magnoliaceae *Magnolia virginiana (sweet bay).

Distribution: New Jersey to Virginia, Missouri, Gulf States and Florida south to Mexico.

Comments: Klots reports palamedes to roost high in oaks or palmettos, supposedly communally, but this has never been observed in our area.

47. Eurytides marcellus (Cramer) Zebra swallowtail

Howe, 1975:402	Graphium marcellus
Kimball, 1965:33	Graphium marcellus
Klots, 1951:179	Papilio marcellus

Only ENP Specimen: Long Pine Key, 27 May 1972, T. Dickel (ENP coll.).

Status: Casual stray. The park is normally beyond the species' southern limit.

Phenology: Reported for May and June.

Foodplants: Annonaceae Asimina triloba (pawpaw), A. parviflora (Texas, Kendall, 1964). Rarely Ericaceae and *Lauraceae (Ehrlich and Ehrlich, 1961).

Distribution: Southern Ontario and Minnesota south to central Florida.

PIERIDAE

48. Zerene cesonia (Stoll) — Dog face

Howe, 1975:366	Colias cesonia
Kimball, 1965:33	
Klots, 1951:189	Colias cesonia
Riley, 1975:131	

First ENP Record: Royal Palm, late February/early March, 1944 (Howes, 1948).

Status: Today only a very small resident population local to the northern limits of the park on Loop Road.

Phenology: Reported for January-June and August-November.

Habitat: Open sunny areas near abandoned habitations and gardens.

Localities: Dade County: Loop Road, Royal Palm.

Foodplants: Fabaceae (Leguminosae) Amorpha californica (lead plant), A. fruticosa, Dalea, *Trifolium (clover).

Distribution: Southern U.S., north to Canada, western Cuba and Hispaniola south to Argentina.

49. Phoebis sennae (Linnaeus) Cloudless sulphur

Howe, 1975:368
Kimball, 1965:34
Klots, 1951:190
Riley, 1975:134

First ENP Record: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident. Populations probably augmented by migrations (Walker, 1978; Williams, 1958).

Phenology: Reported for every month of the year.

Habitat: Along edges of hammocks or pinelands, open areas where adults visit flowers.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Long Pine Key, Loop Road, Old Missile Base, Pa-hay-okee, Palma Vista, Research Center, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Fabaceae (Leguminosae) *Cassia, *Trifolium (clover).

Distribution: Rare in Canada. Eastern and southern U.S. and the West Indies south to Argentina.

50. Phoebis philea (Johansson) Orange-barred sulphur

Howe, 1975:368
Kimball, 1965:34
Klots, 1951:191
Riley, 1975:133

First ENP Report: Royal Palm, 8 July 1958 (Phillips, MS).

Status: Resident.

Phenology: Reported for every month, but particularly abundant in December.

Habitat: Hammock edges, roadsides along canals and other disturbed sites where the adults are found visiting flowers.

Localities: Dade County: Hole-in-the-Donut, Royal Palm, Tamiami Trail.

Foodplants: Fabaceae (Leguminosae) *Cassia spp. (C. bicapsularis, C. fistula, C. fruticosa, and C. occidentalis all reported from the West Indies), Poinciana pulcherrima.

Distribution: P. philea is a tropical species established around the 1930's in southern Florida, its range now extended to Jacksonville. Strays to Virginia, Arkansas, Colorado and Texas. Also present in Cuba and Hispaniola, south to Brazil.

51. Phoebis agarithe (Linnaeus) Large orange sulphur

Howe, 1975:369
Kimball, 1965:34
Klots, 1951:191
Riley, 1975:134

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Often very numerous around hammock edges or visiting flowers in open areas near pinelands.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Research Center, Royal Palm, Tamiami Trail. Monroe County: Coot Bay, Crocodile Point Road, Flamingo, Rowdy Bend.

Foodplants: Fabaceae (Leguminosae) *Cassia, *Pithecellobium dulce, P. flexicaula (Texas, McGuire and Rickard, 1974), *P. guadalupense. In Jamaica recorded on Inga vera.

Distribution: Southern Florida with occasional strays to Kansas, Arizona and Texas. Mexico and West Indies to Peru.

52. Eurema lisa Boisduval and Le Conte — Little sulphur

Howe, 1975:371
Kimball, 1965:36
Klots, 1951:198
Riley, 1975:123

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Flies in open areas on lawns but particularly common in pinelands along the fire roads.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Mahogany Hammock, Nine Mile Pond, Royal Palm, West Lake. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Fabaceae (Leguminosae) *Cassia, *Desmanthus (Texas, McGuire and Rickard, 1974), Falcata (hog peanuts), *Trifolium (clover), and other related legumes.

Distribution: Eastern U.S., Kansas, Virginia to Florida and Texas, south to Costa Rica and the West Indies.

Comments: This species is noted for its migratory habits. Enormous flocks are described from the Atlantic and Caribbean by Klots (1951). In September 1979, B. Lenczewski and D. Leston observed a large number of lisa flying at Flamingo. A large sample was later taken by D. S. Smith and B. Lenczewski. About 15% of the females were of the white form which has never before been recorded in such large numbers.

53. Eurema nise (Cramer) Nise sulphur

Howe, 1975:372
Kimball, 1965:36
Klots, 1951:198
Riley, 1975:120

First ENP Record:	Royal Palm, 1933 (Klots, 1951).
Status:	Casual. May have been temporarily abundant.
Phenology:	Reports are from March, July, November and December.
Habitat:	Brushy, scrubby margins of woods, not in the open as lisa, according to Klots.
Localities:	Royal Palm is the only place in the park from which nise has been reported: said by Klots to be common in 1947 but absent in 1948. Kimball mentions "many" in May and June without stating the year.
Foodplants:	Fabaceae (Leguminosae) Mimosa pudica (sensitive plant).
Distribution:	Southern parts of Florida, Texas and occasionally Arizona. Local in Jamaica, south through Mexico to Argentina. Cuba.

54. Eurema nicippe (Cramer) Sleepy orange

Howe, 1975:372
Kimball, 1965:36
Klots, 1951:197
Riley, 1975:130

First ENP Report: Royal Palm, 8 July 1958 (Phillips, MS).

Status: Resident.

Phenology: Reported for every month but January, March and December.

Habitat: Flies in open areas, along roadsides near disturbed vegetation. Often seen in pinelands. Especially common along Hayes Barn Road in October 1979.

Localities: Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Fabaceae (Leguminosae) *Cassia spp., *Trifolium (clover).

Distribution: Florida to southern California, New York, Pennsylvania, Ohio, Michigan, Nebraska and Colorado south to Costa Rica. Bahamas to Puerto Rico.

55. Eurema daira (Godart) Barred sulphur

Howe, 1975:373
Kimball, 1965:35
Klots, 1951:195
Riley, 1975:122

First ENP Report: Everglades National Park, 29 December 1964-4 January 1965 (Chambers, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas such as lawns and grassy edges of hammocks. Also disturbed and agricultural lands.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway, Research Center, Royal Palm, Snake Bight Trail. Monroe County: Bear Lake Road, Coot Bay, Flamingo.

Foodplants: Fabaceae (Leguminosae) Aeschymomene viscidula (joint vetch), *A.americana, *Desmodium (tick trefoil, West Indies), Stylosanthes biflora (pencil flower).

Distribution: North Carolina to Florida, west to Arkansas and eastern Texas. The Greater Antilles to Grenada and Barbados, south to Brazil.

Comments: The problem of variation in this species is complex (Smith, Leston and Lenczewski, in press). There is the local subspecies daira and possibly a rare immigration--first noted at Chokoloskee--of the Antillean palmira. Each is subject to marked seasonal variation, on top of which there is in males a balanced color polymorphism. Material from the park has contributed to the study.

56. Eurema boisduvaliana Felder and Felder — Boisduval's sulphur

Howe, 1975:374
Kimball, 1965:36
Klots, 1951:196
Riley, 1975:127

Only ENP Record: Royal Palm, 25 May through 4 June around the 1940's (Klots, 1951).

Status: Very rare casual.

Phenology: Reported for May and June in the park with one Key West record for September.

Foodplant: Fabaceae (Leguminosae) Cassia bicapsularis (Texas, McGuire and Rickard, 1974).

Distribution: Mexico to Costa Rica. In the U.S. is found along the Rio Grande and in Hildago County, Texas. Rare casual in Cuba.

57. Nathalis iole Boisduval — Dainty sulphur

Howe, 1975:374
Kimball, 1965:36
Klots, 1951:199
Riley, 1975:130

First ENP Report: Everglades National Park, 4-6 April 1955 (Ritterbush, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas where it flies on lawns. Also grassy edges of disturbed vegetation and agricultural lands, usually staying very close to the ground. Avoids hammock and other wooded areas.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Nine Mile Pond, Research Center, Royal Palm, Tamiami Trail. Monroe County: Flamingo, Rowdy Bend.

Foodplants: Asteraceae (Compositae) *Bidens pilosa (Spanish needle), Dyssodia (fetid marigold), *Helenium (sneezeweed), Palafoxia linearis, Tagetes (garden marigold). Caryophyllaceae Stellaria media (common chickweed). Geraniaceae Erodium (storksbill, Ehrlich and Ehrlich, 1961). Also reported on Thelosperma trifida.

Distribution: Central and southern U.S. to Colombia, Bahamas and Greater Antilles excepting Puerto Rico.

Comments: This butterfly has greatly extended its range in Florida during the past 50 or so years. That the first park record of this now common species was as late as the 1950's supports the extension-of-range hypothesis.

58. Pontia protodice Boisduval and Le Conte — Checkered white

Howe, 1975:378	Pieris protodice
Kimball, 1965:37	Pieris protodice
Klots, 1951:200	Pieris protodice
Riley, 1975:118	

First ENP Record: Royal Palm, January-April, about the 1930's (Kimball, 1965).

Status: Casual. May occur occasionally as a stray from nearby agricultural land, e.g., from Homestead where it is very common. The last specimen taken from the park was from the Hole-in-the-Donut in April 1973.

Habitat: Open areas, fields and agricultural land.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut.

Foodplants: Asteraceae (Compositae) *Erigeron (fleabane). Brassicaceae (Cruciferae) *Brassica spp. (mustard), Capsella Bursa-pastoris (shepard's purse), Lepidium virginicum (pepper grass), Lobularia (sweet alyssum), Selenia aurea and a wide variety of crucifers including cabbage, turnips and cauliflower. Fabaceae (Leguminosae) Astragalus (milk vetch).

Distribution: Southern Canada, most of the U.S., Mexico. A casual stray in Cuba.

Comments: There are no reports of protodice in either Dade or Monroe Counties between the 1940's and 1970. In 1972 and 1973 it was present in the Hole-in-the-Donut area in conjunction with farming. Since then, there has been no report of the checkered white in the park even though at times it is extremely abundant in nearby fields.

59. Pieris rapae (Linnaeus) European cabbage butterfly

Howe, 1975:381
Kimball, 1965:37
Klots, 1951:200
Riley, 1975:119

First ENP Specimen: Royal Palm, 15 May 1956, E. T. Christensen (ENP coll.).

Status: Casual. I have only been able to find one other specimen from the park, taken in 1972 from the Hole-in-the-Donut. It is also now very rare outside the park in Dade County.

Phenology: Reported for May-October.

Habitat: Open agricultural lands.

Localities: Dade County: Hole-in-the-Donut, Royal Palm.

Foodplants: *Brassicaceae (Cruciferae) nearly all. *Capparaceae. Salicaceae *Salix (willow, England). Also reported on Migonette and Reseda.

Distribution: Europe, North Africa, and temperate Asia. North America, Australia, New Zealand and the Hawaiian Islands.

Comments: May have been more common during the days of agriculture in the Hole-in-the-Donut, but in the past decade rapae has been replaced by P. protodice in the fields of Florida City and Homestead.

60. Ascia monuste (Linnaeus) Great southern white

Howe, 1975:381
Kimball, 1965:37
Klots, 1951:202
Riley, 1975:116

First ENP Report: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident. Populations very much augmented by migrants.

Phenology: Reported for every month of the year.

Habitat: Open areas, edges of hammocks and pinelands, visiting flowers at roadsides, coastal areas.

Localities: Collier County: Chokoloskee. Dade County: Visitor's Center, Hole-in-the-Donut, Loop Road, Long Pine Key, Mrazek Pond, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Coot Bay, Flamingo, Rowdy Bend.

Foodplants: Brassicaceae (Cruciferae) wild and cultivated: *Cakile (sea rocket), Lepidium virginicum (peppergrass), Nasturtium (watercress). Capparaceae Cleome spinosa (spiderflower).

Distribution: Southeast Texas, Gulf Coast to Florida, north to Georgia and Virginia, West Indies to Argentina.

Comments: Observations were made by the Nielsens (1952) on Ascia monuste in Florida. Large populations from which migrations originated were found on an offshore bar. Ascia was observed to be breeding on Batis (saltwort) in the mangrove and salt marshes on the lagoon side of the islands. My own observations and those of various lepidopterists visiting the park have found Ascia sometimes extremely abundant in the Flamingo area. I observed very high concentrations in September 1979 on offshore islands in that area. In December 1979, Ascia was also numerous for a short while along roadsides in Homestead and the Main Park Road, ENP. This may have resulted from a southerly migration while there also seemed to be groups moving north from the coast. The female varies greatly in color from a creamy white to a grey form which is usually associated with migrations, but may in fact be temperature related.

61. Appias drusilla (Cramer) Florida white

Howe, 1975:382
Kimball, 1965:36
Klots, 1951:199
Riley, 1975:117

First ENP Record: Royal Palm (Safford, 1919).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Hardwood hammocks.

Localities: Dade County: Royal Palm. Monroe County: Bear Lake Road, Coot Bay.

Foodplants: Euphorbiaceae Drypetes lateriflora. Capparaceae *Capparis (caper).

Distribution: Southern Texas and southern Florida through Brazil and the West Indies.

Comments: The scarcity of park records is probably due to the paucity of collecting within hammocks other than Royal Palm.

HESPERIIDAE

62. Panoquina panoquin (Scudder) — Saltmarsh skipper

Howe, 1975:427
Kimball, 1965:57
Klots, 1951:269

First ENP Specimen:	Cape Sable, 3 August 1932 (DPI collection).
Status:	Resident.
Phenology:	Reported for January-March, August-December.
Habitat:	Coastal, salt marshes.
Localities:	Monroe County: Cape Sable, Flamingo, Snake Bight Trail.
Foodplants:	Cyperaceae *Scirpus (bulrush).
Distribution:	Connecticut south along the Atlantic coast to southern Florida and west along the Gulf coast to Mississippi.

63. Panoquina panoquinoides (Skinner) Obscure skipper

Howe, 1975:428
Kimball, 1965:58
Klots, 1951:270
Riley, 1975:195

First ENP Specimen:	2 miles north of Flamingo, 1 April 1963, C. F. Zeiger (DPI collection).
Status:	Resident.
Phenology:	Reported for every month but June.
Habitat:	Coastal, salt marshes.
Localities:	Dade County: Snake Bight Trail. Monroe County: Bear Lake Road.
Foodplants:	Poaceae *Cynodon dactylon (Bermuda grass) and sugarcane, both reported from the West Indies.
Distribution:	Florida and the Texas Gulf Coast to Brazil, the Cayman Islands and Jamaica.

64. Panoquina ocola (Edwards) Ocola skipper

Howe, 1975:429
Kimball, 1965:58
Klots, 1951:270

First ENP Record:	Royal Palm (Safford, 1919).
Status:	Resident.
Phenology:	Reported for all months but January.
Habitat:	Disturbed areas, roadsides along canals, pinelands.
Localities:	Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, Otter Cave, Tamiami Trail.
Foodplants:	Poaceae Hymenachne amplexicaule (West Indies), rice (Louisiana and Mexico), sugarcane (West Indies).
Distribution:	Southeastern U.S. to Argentina. Sporadic in the Greater Antilles.

65. Calpodes ethlius (Stoll) Brazilian skipper

Howe, 1975:431
Kimball, 1965:57
Klots, 1951:269
Riley, 1975:191

First ENP Specimen: Flamingo, 10 August 1960, H. B. Muller (ENP collection).

Status: Resident.

Phenology: Reported for every month but May and July.

Habitat: Freshwater areas where Canna is found, usually flying around the plants but also common seasonally at flowers of Thalia geniculata.

Localities: Dade County: Royal Palm, Loop Road. Monroe County: Flamingo.

Foodplants: Cannaceae *Canna flaccida, C. indica (Mexico, Kendall, 1976); Euphorbiaceae *Phyllanthus. Brassicaceae (Umbelliferae) Apium graveolens (celery).

Distribution: Southeastern U.S. to Argentina. Throughout the West Indies with the exception of the Virgin Islands. Strays recorded from New York and Missouri to southern California. One of the few butterflies found in the Galapagos.

Comments: A very strong flier with wide dispersal abilities, evidenced by its range and the many stray records.

66. Oligoria maculata (Edwards) Twin-spot skipper

Howe, 1975:432
Kimball, 1965:56
Klots, 1951:260

First ENP Report:	Long Pine Key, 4 April 1955 (Ritterbush, MS).
Status:	Resident.
Phenology:	Reported for all months but June.
Habitat:	Along fire roads in the pinelands and at roadsides bordering sawgrass prairies.
Localities:	Dade County: Loop Road, Long Pine Key, Old Ingraham Highway, Pay-ha-okee, Royal Palm, Tamiami Trail.
Foodplants:	Undetermined grasses.
Distribution:	Florida, Georgia, Alabama, Mississippi, Louisiana and Texas.

67. Lerodea eufala (Edwards) Eufala skipper

Howe, 1975:432
Kimball, 1965:57
Klots, 1951:267
Riley, 1975:196

Only ENP Specimen: Tamiami Trail, 18 March 1979, D. S. Smith.

Status: Resident.

Phenology: March, April, October and November.

Foodplants: Sugarcane (West Indies) and other unknown grasses.

Distribution: Southern U.S. to Argentina. In Cuba and Jamaica, possibly Hispaniola, but not common there.

Habitat: Adults visiting Bidens at roadsides.

Localities: Dade County: Tamiami Trail.

Comments: There can be some difficulty in distinguishing this species from Cymaenes tripunctus, which seems to be far more common in our area. Lerodea has much shorter antennae and a distinctly greyish dusting over the underside of the hindwing and also is a lighter brown in color. Most published records should be treated with extreme caution.

68. Amblyscirtes alternata (Grote and Robinson) Least Florida skipper

Howe, 1975:442
Kimball, 1965:56
Klots, 1951:263

Only ENP Record:	Royal Palm, 8 July 1958 (Kimball, 1965 and Phillips, MS).
Status:	Rare casual. It is certainly not established. This is the only record available for South Florida.
Foodplants:	Undetermined.
Distribution:	Southeastern U.S. Not reported from Mexico.

69. Atrytonopsis loammi (Whitney) Loammi skipper

Howe, 1975:444
Kimball, 1965:56
Klots, 1951:259

Only ENP Record:	Royal Palm, March, probably the 1930's (Kimball, 1965).
Status:	Rare casual. There have been very few records from South Florida.
Phenology:	Reported for January-April, June, September and October.
Foodplants:	Undetermined.
Distribution:	Central Florida to North Carolina, west to Mississippi.

70. Asbolis capucinus (Lucas) The monk

Howe, 1975:447
Kimball, 1965:58
Klots, 1951:271
Riley, 1975:191

First ENP Report:	Royal Palm, 28 and 29 December 1956 (Lindsley, MS).
Status:	Resident.
Phenology:	Reported for every month but February and November.
Habitat:	Edges of hammocks, adults visiting flowers in open areas and occasionally on hammock trails.
Localities:	Dade County: Loop Road, Royal Palm, Tamiami Trail. Monroe County: Bear Lake Road.
Foodplants:	Arecaceae (Palmae) *Acoelorrhaphe wrightii (paurotis palm), *Cocos nucifera (coconut palm), Phoenix, Sabal palmetto (cabbage palm).
Distribution:	Native to Cuba but now well established in southern Florida. The monk appeared in Miami about 1947-1948 in large numbers (Klots, 1951).
Comments:	A fast flier--as a consequence good undamaged specimens are seldom found.

71. Euphyes arpa (Boisduval and Le Conte) — Arpa skipper

Howe, 1975:447
Kimball, 1965:55
Klots, 1951:254 — Atrytone arpa

First ENP Report: Everglades National Park, 29 December 1964-4 January 1965 (Chambers, MS).

Status: Resident, but rare on the south Florida mainland. More commonly found on Big Pine Key.

Phenology: January, March, April, September, October and December.

Habitat: Pinelands.

Localities: Dade County: Long Pine Key.

Foodplants: Arecaceae *Serenoa repens (saw palmetto). The larvae feed from tube-like shelters at the base of fronds.

Distribution: Florida, Georgia, Alabama and Mississippi.

72. Euphyes palatka (Edwards) Palatka skipper

Howe, 1975:448
Kimball, 1965:55
Klots, 1951:255

First ENP Report:	Long Pine Key, 4 April 1955 (Ritterbush, MS).
Status:	Resident.
Phenology:	Reported for all months but January. Common along Tamiami Trail 9-14 March 1980 as reported by D. S. Smith.
Habitat:	Sawgrass prairies, adults often attracted to Bidens at roadsides.
Localities:	Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Tamiami Trail.
Foodplants:	Cyperaceae *Cladium jamaicense (sawgrass).
Distribution:	Florida to Virginia and west to Mississippi.
Comments:	May be confused with arpa, but is much more likely to be found.

73. Euphyes berryi Bell — Berry's skipper

Howe, 1975:449
Kimball, 1965:56
Klots, 1951:255 — Atrytone berryi

First ENP Specimen: Loop Road, Dade County, 29 April 1979, D. Leston and D. S. Smith.

Status: There is very little known of this species. I consider it to be resident on the basis of consistent collection by D. S. Smith along the northern limits of the park but it is very local and adults seem to be present only for short periods.

Phenology: Reported for March, April, August, September and November.

Habitat: Freshwater swampy areas, borders of sawgrass, the adults visiting Bidens flowers.

Localities: Dade County: Loop Road, Tamiami Trail.

Foodplants: Undetermined.

Distribution: There are a few records for southern and central Florida for the species--everywhere rare--perhaps extending to Georgia.

74. Poanes aaroni (Skinner) Aaron's skipper

Howe, 1975:455
Kimball, 1965:55
Klots, 1951:251

First ENP Record:	Royal Palm, 20 March-9 April 1933 (Kimball, 1965).
Status:	Resident, but very local.
Phenology:	Reported for March, April, June-August and October.
Habitat:	Freshwater swamps, adults visiting Pontederia lanceolata (pickerelweed) or Bidens.
Localities:	Dade County: Loop Road, Tamiami Trail.
Foodplants:	Undetermined grasses.
Distribution:	Eastern U.S., from New Jersey south to Florida.
Comments:	Howe (1975) describes this species as an inhabitant of salt marshes. The records for Florida indicate it is to be found in sawgrass areas or freshwater swamps.

75. Problema byssus (Edwards) Byssus skipper

Howe, 1975:457
Kimball, 1965:55
Klots, 1951:252

Only ENP Record: Royal Palm, March and April (Kimball, 1965).

Status: Rare casual. Other than this park record there are only two reports from the Miami area (Kimball, 1965).

Phenology: March, April and October.

Foodplants: Poaceae *Tripsacum dactyloides (Eastern gamagrass, Missouri).

Distribution: Florida, Georgia, Alabama and Texas, north to Iowa and Kansas.

Comments: Howe (1975) describes this species as being very local, the adults not leaving the vicinity of the larval foodplant and gives this as a reason for the rarity of byssus. The places where Tripsacum is most likely to be encountered is around pond margins and hammocks.

76. Atrytone delaware (Edwards) — Delaware skipper

Howe, 1975:459	
Kimball, 1965:55	Atrytone logan
Klots, 1951:254	Atrytone logan

First ENP Specimen: Long Pine Key, 10 September 1972, T. S. Dickel.

Status: Resident.

Phenology: Reported for every month but January, February and December.

Habitat: Sawgrass prairies, along roadsides in pinelands, adults visiting Liatris flowers. May also be found in swampy areas where adults visit Pontederia flowers.

Localities: Dade County: Hayes Barn Road, Loop Road, Long Pine Key, Royal Palm, Tamiami Trail.

Foodplants: Poaceae *Andropogon, *Erianthus spp., E. alopecuroides, E. divaricatus (woolly beard grass), *Panicum virgatum.

Distribution: Massachusetts to the Dakotas south to Florida and Texas.

Comments: Not reported from the Keys, making the park its most southerly known locality.

77. Atalopedes campestris (Boisduval) The sachem

Howe, 1975:462
Kimball, 1965:54
Klots, 1951:243

First ENP Report:	Everglades National Park, 29 December 1964-4 January 1965 (Chambers, MS).
Status:	Resident.
Phenology:	Reported for every month but October.
Habitat:	Disturbed vegetation, visiting Bidens, hammock edges, weedy agricultural land and pineland.
Localities:	Dade County: Tamiami Trail. Monroe County: Bear Lake Road, Flamingo, Mrazek Pond.
Foodplants:	Poaceae *Cynodon dactylon (Bermuda grass), *Stenotaphrum secundatum (St. Augustine grass).
Distribution:	Southern U.S. Strays to Colorado, Nebraska, Iowa and New York. South to Brazil and Ecuador.

78. Wallengrenia otho (Smith) Broken dash

Howe, 1975:481
Kimball, 1965:54
Klots, 1951:248
Riley, 1975:184

First ENP Report: Royal Palm, 28 and 29 December 1956 (Lindsley, MS).

Status: Resident.

Phenology: Reported for every month but February.

Habitat: Disturbed areas, roadsides, hammock and pineland edges, adults visiting Bidens and other flowers.

Localities: Dade County: Long Pine Key, Loop Road, Research Center, Royal Palm, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Poaceae *Panicum spp., Digitaria sanguinale (crab grass), *Paspalum spp. (Texas, McGuire and Rickard, 1974), rice (West Indies), *Stenotaphrum secundatum (St. Augustine grass, Texas), sugarcane (West Indies).

Distribution: Georgia and Florida to Texas, south through Mexico to Argentina, also in the West Indies.

79. Polites baracoa (Lucas) Baracoa skipper

Howe, 1975:485
Kimball, 1965:54
Klots, 1951:246
Riley, 1975:183

First ENP Specimen:	Royal Palm, 8 July 1958 (Phillips, MS).
Status:	Resident.
Phenology:	Reported for every month of the year.
Habitat:	Adults are found around disturbed areas visiting flowers. Most frequently along fire roads in the pinelands, trampled paths and lawns.
Localities:	Dade County: Loop Road, Long Pine Key, Research Center, Royal Palm.
Foodplants:	Undetermined grasses and have been raised on sugarcane.
Distribution:	Florida, southern Georgia, Cuba and Hispaniola.

80. Polites vibex (Geyer) Whirlabout

Howe, 1975:488
Kimball, 1965:54
Klots, 1951:247

First ENP Specimen: Loop Road, 20 May 1979, D. S. Smith.

Status: Resident.

Phenology: Reported for all months but January, June, October.

Habitat: Disturbed areas, adults found visiting flowers at roadsides and along canals.

Localities: Dade County: Loop Road, Tamiami Trail.

Foodplants: Poaceae *Cynodon dactylon (Bermuda grass), *Paspalum setaceum, *Stenotaphrum secundatum (St. Augustine grass).

Distribution: From Virginia and Arkansas south to Argentina.

81. Hylephila phyleus (Drury) Fiery skipper

Howe, 1975:489
Kimball, 1965:54
Klots, 1951:245
Riley, 1975:185

First ENP Report: Chokoloskee, about 1912 (Grossbeck, 1917).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, lawns, weedy and disturbed vegetation. Adults usually visiting flowers along roadsides.

Localities: Collier County: Chokoloskee. Dade County: Loop Road, Long Pine Key, Research Center, Tamiami Trail, West Lake. Monroe County: Mrazek Pond.

Foodplants: Poaceae Agrostis (bent grass), *Cynodon dactylon (Bermuda grass), *Stenotaphrum secundatum (St. Augustine grass), sugarcane.

Distribution: Canada to Argentina and through the West Indies.

82. Copaeodes minima (Edwards) Southern skipperling

Howe, 1975:495
Kimball, 1965:53
Klots, 1951:232

First ENP Report: Royal Palm, 8 July 1958 (Phillips, MS).

Status: Resident.

Phenology: Reported for every month but December.

Habitat: Open areas, lawns and weedy roadsides.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Old Missile Base, Research Center, Tamiami Trail. Monroe County: Flamingo.

Foodplants: Poaceae *Cynodon dactylon (Bermuda grass).

Distribution: Georgia and Florida west to Arkansas and Texas, south to Panama.

83. Ancyloxypha numitor (Fabricius) Least skipper

Howe, 1975:497
Kimball, 1965:53
Klots, 1951:231

First ENP Report:	Royal Palm, 8 July 1954 (Phillips, MS).
Status:	Resident.
Phenology:	Reported for all months but January-March, November and December.
Habitat:	Adults are weak flying among tall grasses in wet sawgrass prairies.
Localities:	Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Old Ingraham Highway.
Foodplants:	Poaceae Poa (Delaware Valley), rice (Louisiana), Zizaniopsis miliacea (marsh millet).
Distribution:	Canada south to Florida, west to Texas. Not reported from Mexico.

84. Lerema accius (Smith) Clouded skipper

Howe, 1975:500
Kimball, 1965:56
Klots, 1951:260

First ENP Record: Royal Palm, 28 and 29 December 1956 (Lindsley, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas and at roadsides visiting flowers near weedy, agricultural land.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Royal Palm, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Poaceae Echinochloa poiretiana, Erianthus alopecuriodes, *Paspalum setaceum, Pennisetum ciliare, Napier grass (both Texas, McGuire and Rickard, 1974), *Stenotaphrum secundatum (St. Augustine grass), Zea mays (Indian corn).

Distribution: From New England to Florida, west to Illinois and Texas south to northern South America. Not found in the West Indies.

85. Cymaenes tripunctus (Herrich-Schäffer) Three spot skipper

Howe, 1975:501
Kimball, 1965:57
Klots, 1951:267
Riley, 1975:181

First ENP Specimen: Everglades National Park, 30 January 1959, S. V. Fuller (DPI collection).

Status: Resident, adults often very abundant locally.

Phenology: Reported for every month of the year.

Habitat: Along paths and edges of hammocks or other woody vegetation.

Localities: Collier County: Chokoloskee. Dade County: Snake Bight Trail. Monroe County: Flamingo.

Foodplants: Poaceae *Panicum maximum (Guinea grass), sugarcane (Cuba).

Distribution: Florida and southern Mexico to southern Brazil and Argentina. Common in the Greater Antilles, the Cayman and Virgin Islands. Rare in the Bahamas and absent from the Lesser Antilles.

Comments: Has been extensively confused with Lerodea eufala but the antenna length seems to distinguish it: less than half the length of the costa in L. eufala and greater than half the length of the costa in C. tripunctus. L. eufala is also a paler brown and has a distinctly greyish dusting over the underside of the hindwing. A semi-circle of underside hindwing spots are clearly visible in tripunctus. In my experience, it appears that Cymaenes tripunctus is much more common in South Florida than Lerodea eufala and I have taken it in numbers, particularly in November/December at Snake Bight Trail but have never collected L. eufala inside or out of the park.

86. Nastra lherminieri (Latreille) Swarthy skipper

Howe, 1975:502
Kimball, 1965:57
Klots, 1951:266

First ENP Specimen: Long Pine Key, 4 October 1979, B. Lenczewski.

Status: Resident, but uncommon in Florida.

Phenology: February, October and December.

Habitat: A specimen was captured at flowers of Liatris in pinelands/sawgrass association.

Localities: Dade County: Long Pine Key.

Foodplants: Poaceae Schizachyrum scoparius.

Distribution: New York to Florida, west to Missouri and Texas. Southern range is uncertain.

Comments: Kimball (1965) gives no record south of Titusville, stating that this species seems to avoid the subtropical regions. Howe (1975) mentions a distribution through Mexico to Paraguay but this was substantiated by one specimen he had seen labeled "Brazil"!

87. Nastra neamathla (Skinner and Williams) Neamathla skipper

Howe, 1975:502
Kimball, 1965:57
Klots, 1951:267

First ENP specimen:	Bear Lake Road, 6 September 1979, D. S. Smith.
Status:	Resident, but not very commonly found.
Phenology:	Reported for the months of January-May and July-November.
Habitat:	Saltmarsh, mangrove or brackish water areas.
Localities:	Monroe County: Bear Lake Road, Snake Bight Trail.
Foodplants:	Unknown.
Distribution:	Georgia and Florida west through Texas and Arizona to southern California, south to Costa Rica.

88. Pyrgus oileus (Linnaeus) Tropical checkered skipper

Howe, 1975:517
Kimball, 1965:52
Klots, 1951:216
Riley, 1975:178

First ENP Report: Royal Palm, 7 and 8 July 1954 (Phillips, MS).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Open areas, lawns, shaded trails and roadsides near Sida.

Localities: Collier County: Chokoloskee. Dade County: Hole-in-the-Donut, Loop Road, Long Pine Key, Snake Bight Trail, Royal Palm, Tamiami Trail, West Lake. Monroe County: Bear Lake Road, Flamingo, Rowdy Bend.

Foodplants: Malvaceae *Albutilon, Althaea (hollyhock), *Hibiscus spp., Malva, *Malvastrum (false mallow), *Sida spp. (Mexico, Kendall, 1976) and various other Malvaceae.

Distribution: Southern Florida to Texas, West Indies and south to Argentina.

89. Erynnis juvenalis (Fabricius) Juvenal's dusky wing

Howe, 1975:521
Kimball, 1965:53
Klots, 1951:226

First ENP Report: Royal Palm, 8 July 1958 (Phillips, MS).

Status: Casual in southern Florida, more common in the north.

Phenology: Reported for January, February, April-July.

Habitat: Oak woods.

Localities: Dade County: Royal Palm. Besides the Royal Palm report there is only one other mention of this species in the park (Burns, 1964) but no locality is given.

Foodplants: Corylaceae Corylus (hazelnut). Fabaceae *Apios (ground nut), *Galactia (milk pea), Lathyrus (vetchling), all considered dubious by Klots. Fagaceae *Quercus spp.

Distribution: Canada and Wyoming south to Florida, Texas, Arizona and Mexico.

Comments: There has been a report in the park also of E. zarucco, a similar species (Phillips, MS) from Royal Palm, 8 July 1958, but he queried the determination. I have chosen to delete this species from the list because of the uncertainty involved and the lack of any further collaborating evidence.

90. Erynnis horatius (Scudder and Burgess) Horace's dusky wing

Howe, 1975:524
Kimball, 1965:53
Klots, 1951:223

First ENP Specimen: Long Pine Key, 20 May 1956, E. T. Christensen, (ENP collection).

Status: Casual, our area being the most southerly limit of its distribution.

Phenology: Reported for the months of January, March-June.

Habitat: The few specimens collected have been near pinelands or hammock edge visiting Bidens or other flowers.

Localities: Dade County: Long Pine Key, Loop Road. The only other specimen recorded from the park is mentioned only as from Everglades National Park (Burns, 1964).

Foodplants: Fabaceae Wisteria (dubious). Fagaceae *Quercus spp. (oak).

Distribution: Eastern U.S. from Massachusetts to Florida, west to Colorado, New Mexico and eastern Texas.

91. Ephyriades brunnea (Herrich-Schaeffer) Florida dusky wing

Howe, 1975:532
Kimball, 1965:52
Klots, 1951:219
Riley, 1975:175

First ENP Specimen: Coot Bay (?), 5 April 1955, P. Ritterbush (ENP collection).

Status: Resident but not many records from the park.

Phenology: Adults are reported for every month.

Habitat: In or near pineland but can also be found in areas where the fruit tree Barbados cherry is grown (Tamburo and Butcher, 1955). I suspect the Coot Bay locality because of its saltwater association.

Localities: Dade County: Long Pine Key, Royal Palm. Monroe County: Coot Bay (dubious).

Foodplants: Malpighiaceae *Byrsonima lucida (locustberry), Malpighia glabra (Barbados cherry).

Distribution: From southern Florida through some of the Keys south to Dominica.

Comments: Larvae have been found in Long Pine Key on Byrsonima lucida.

92. Staphylus hayhursti (Edwards) Southern sooty wing

Howe, 1975:540	
Kimball, 1965:52	Staphylus mazans
Klots, 1951:218	Pholisora hayhursti
First ENP Record:	Royal Palm, July, probably around the 1920's (Kimball, 1965).
Status:	Resident.
Phenology:	Reported for January, March-May, July-September, November and December.
Habitat:	Shaded trails at edge of coastal buttonwood.
Localities:	Collier County: Chokoloskee. Dade County: Snake Bight Trail, Royal Palm. Monroe County: Bear Lake Road.
Foodplants:	Amaranthaceae *Alternanthera. Chenopodiaceae *Chenopodium (pigweed).
Distribution:	Pennsylvania to Colorado and south to central Texas and southern Florida.
Comments:	Recent specimens taken at Snake Bight Trail, 18 November 1979, flying with P. oileus and C. tripunctus and visiting Sida flowers. The Royal Palm record is ancient and refers to a period when the area under this name was more extensive and varied.

93. Urbanus proteus (Linnaeus) — Long-tailed skipper

Howe, 1975:558
Kimball, 1965:51 — Goniurus proteus
Klots, 1951:207
Riley, 1975:163

First ENP Report: Royal Palm, late February/early March, 1944 (Howes, 1948).

Status: Resident. Populations augmented by migrations (Williams, 1958).

Phenology: Not reported for June and July.

Habitat: Hammock trails, open areas visiting flowers, lawns, roadsides along disturbed sites.

Localities: Collier County: Chokoloskee. Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Otter Cave, Pine Island, Research Center, Snake Bight Trail, Tamiami Trail. Monroe County: Bear Lake Road, Flamingo.

Foodplants: Brassicaceae (Cruciferae) catnip, cabbage and turnips. Fabaceae (Leguminosae) *Bauhinia, Clitoria mariana, *Desmodium spp., Phaseolus, Soja, *Vigna, Wisteria, the major foodplant family. Cannaceae Canna spp. (rarely). Has also been reported on Prosopis (mesquite) and Stigmatophyllum lingulatum.

Distribution: Southern U.S. to Argentina and the West Indies.

94. Urbanus dorantes (Stoll) Dorantes skipper

Howe, 1975:559
Kimball, 1965:51 Goniurus dorantes
Klots, 1951:210
Riley, 1975:163

First ENP Record: Chokoloskee, 20 November, 1969 (Knudson, 1974).

Status: Resident.

Phenology: Reported for every month but February.

Habitat: Similar to U. proteus. Open areas, visiting flowers at roadsides, lawns and disturbed areas.

Localities: Dade County: Hayes Barn Road, Hole-in-the-Donut, Loop Road, Long Pine Key, Old Missile Base, Old Ingraham Highway, Research Center, Snake Bight Trail, West Lake. Monroe County: Bear Lake Road, Flamingo, Rowdy Bend.

Foodplants: Fabaceae (Leguminosae) Clitoria, Phaseolus (beans) and many other legumes as does U. proteus.

Distribution: Southern U.S. to Argentina, the Bahamas and Greater Antilles except Jamaica.

Comments: Dorantes skipper has experienced a "population explosion" since 1969 (Knudson, 1974). Not believed to have been present before then, it is now quite common in southern Florida. Ours is a different subspecies from the Cuban, but is common in southeastern Texas and could have spread to Florida from that area. According to Knudson, the lack of any records from the Gulf Coast however seems to indicate that dorantes was introduced artifically or with Hurricane Camille in 1969.

95. Polygonus leo (Gmelin) — Hammock skipper

Howe, 1975:569
Kimball, 1965:50
Klots, 1951:205 — Polygonus lividus
Riley, 1975:158

First ENP Report: Flamingo, 27 July 1961, H. B. Muller (ENP collection).

Status: Resident.

Phenology: Reported for every month but February.

Habitat: Hardwood hammocks.

Localities: Dade County: Snake Bight Trail. Monroe County: Flamingo.

Foodplants: Fabaceae (Leguminosae) *Piscidia piscipula (Jamaica dogwood), Pongamia pinnata, Lonchocarpus sericeus. Also reported on Derris eliptica (Puerto Rico).

Distribution: Florida, western Texas, Arizona, southern California, West Indies south to Peru and Argentina.

96. Polygonus manueli Bell and Comstock — Manuel's skipper

Howe, 1975:570
Kimball, 1965:50
klots, 1951:206
Riley, 1975:159

Only ENP Record:	Royal Palm (paratype), 25 February 1948 (Kimball, 1965).
Status:	Probably a misdetermination of a specimen of P. leo.
Foodplants:	Muelleria moniliformis (Brazil), a shrub found on tidal mud flats.
Distribution:	Dubious in southern Florida. The Lesser Antilles to Peru and Argentina.
Comments:	The single paratype from Royal Palm is the sole basis for regarding P. manueli as occurring in Florida. However, the original description by Bell and Comstock is infelicitous.

97. Epargyreus clarus (Cramer) Silver-spot skipper

Howe, 1975:571
Kimball, 1965:51
Klots, 1951:206

First ENP Report: Royal Palm, 6 April 1955 (Ritterbush, MS).

Status: Casual. Probably not established in southern Florida but is a stray from the north where it is more common.

Phenology: Reported for March-May, July and August.

Habitat: Adults have been taken in open areas visiting flowers.

Localities: Dade County: Loop Road, Royal Palm, Tamiami Trail.

Foodplants: Fabaceae (Leguminosae) *Acacia, Amorpha, Amphicarpa monoica, *Apios spp., *Desmodium spp. (beggars ticks), Gleditsia (honey locust), Lathyrus paluster, Lespedeza (bush clovers), Phaseolus (beans), Pueraria, Robinia spp. (locust, usual food), Wisteria; mostly woody legumes.

Distribution: Canada south to Florida, Texas and northwestern Mexico.

98. Epagyreus zestos Geyer — Zestos skipper

Howe, 1975:572
Kimball, 1965:50
Klots, 1951:206
Riley, 1975:157

First ENP Record:	Royal Palm, March, probably the 1930's (Kimball, 1965).
Status:	Resident, but its presence in the park is now questionable.
Phenology:	Reported for January-November.
Habitat:	Mostly found near buttonwood and coastal areas.
Localities:	Collier County: Chokoloskee. Dade County: Snake Bight Trail. Monroe County: Bear Lake Road.
Foodplants:	Fabaceae (Leguminosae). Reported from the West Indies as feeding on leguminous trees and shrubs.
Distribution:	Florida Keys, Bahamas, the Antilles, Central and South America.
Comments:	The last known mainland specimen was from Bear Lake Road, 6 May 1973 (T. S. Dickel); it is still common in the lower and middle Keys.

99. Phocides pigmalion (Cramer) Mangrove skipper

Howe, 1975:575
Kimball, 1965:50
Klots, 1951:205 Phocides batabano
Riley, 1975:156

First ENP Report: Chokoloskee, 8 April, about 1912 (Grossbeck, 1917).

Status: Resident.

Phenology: Reported for every month of the year.

Habitat: Larvae are found on red mangrove where they construct shelters from the leaves, emerging to feed at night. Adults are usually close by and often seen visiting flowering trees near the coast or brackish waters.

Localities: Dade County: Royal Palm. Monroe County: Bear Lake Road, Coot Bay, Flamingo.

Foodplants: Rhizophoraceae *Rhizophora mangle (red mangrove).

Comments: The larvae and adults have been found often in and around coastal Dade County but have not been seen quite as commonly in the park. This could be due to the inaccessibility and lack of collecting in much of the mangrove areas.

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*Manuscript lists are deposited at the South Florida Research Center library, Everglades National Park.