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LAND AND FRESHWATER MOLLUSKS OF THE
CROOKED ISLAND GROUP, BAHAMAS

By

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WITH THREE PLATES

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The Crooked Island group of islands is in the southeastern portion of the Bahama Archipelago. This group consists of three main islands and a few small cays and islets. These are all situated upon a shallow bank and partially enclose a shallow sea, the Bight of Acklins. In addition, there are included a few nearby islands or cays which are separated by deep water from the Crooked Island Bank; Plana or French Cays are 15 to 20 miles east of the northern end of Acklins Island, and Samana or Atwoods Cay is about 25 miles north of Northeast Point, Acklins Island.

HISTORICAL

As mentioned in other reports on various island groups in the Bahamas, the early history of collectors is virtually unknown. An early governor of the Bahamas, Sir Rawson W. Rawson, was a collector of note and sent many mollusks, mainly from Fortune Island, to Thomas Bland of New York. Mr. Rawson was governor of the Bahamas between 1864 and 1869 and during his tenure visited and collected on many of the "Out Islands" and was, in many cases, the first to collect mollusks on most of the more inaccessible islands.

In the summer of 1930, Paul Bartsch of the United States National Museum made an extensive trip covering many island groups in the southern Bahamas. Large collections were made on the major islands of the Crooked Island group as well as on West Plana Cay.

In 1933 the yacht "Utowana" visited Crooked and Fortune Islands and the Plana Cays. Staff members of this museum, Thomas Barbour and James C. Greenway, made excellent collections of land mollusks on these islands. Again, in 1934, the "Utowana" visited Crooked Island, Atwoods (Samana) and the South Cay in the Mira Por Vos group. Mr. Greenway collected the material on Atwoods and on South Cay, Mira Por Vos. I believe this was the first time any naturalist had ever visited these two rather inaccessible islands.

More recently, under the auspices of the Museum of Comparative Zoology and the United States National Museum, Mr.

David W. Robertson, now residing on Great Exuma, his son Robert, a student and colleague of mine, and Robert's companion of former collecting trips, Augustus W. Scott, made an expedition to the Crooked Island group. They left George Town, Great Exuma on August 10, 1958, on the "Sea Queen," a 25-foot native sloop, for the Crooked Island Group, and returned to Great Exuma on September 8th. After returning to Nassau, "Gus" Scott decided to visit these islands again for additional collecting. He arrived on Crooked Island on September 17 and left on September 28. Scott's second trip was to cover a section of Crooked Island not easily accessible on their trip on the "Sea Queen." Extensive collections by both expeditions were made on Fortune, Crooked, Acklins and Castle Islands.

ACKNOWLEDGMENTS

I am most grateful to many persons for the material made available for this study; to James C. Greenway for his time and effort during the several trips made by the "Utowana" throughout most of the Bahama Islands and to Harald A. Rehder of the United States National Museum for making available to me all of their material from these islands. I am particularly indebted to David and Robert Robertson and Augustus Scott for the extensive coverage of these islands and for a complete day by day report of their adventures in the form of a typed journal. I am also indebted to my colleagues, Merrill Champion and Ruth Turner, for reading the manuscript. I am grateful to Mr. Charles P. Bethel, Manager of the Development Board, Nassau, Bahamas, for data on Governor Rawson W. Rawson.

No attempt has been made to indicate where specific material is presently located, as both the United States National Museum and the Museum of Comparative Zoology have almost equal collections from all of the stations given in this report.

NOTES ON THE LAND AND FRESHWATER MOLLUSKS

The 48 species and subspecies of land and freshwater mollusks occurring on these islands may be grouped as follows:

Bahamas and beyond	Widely distributed in Bahamas	Limited in distribution in Bahamas	Endemic	Total
17	8	3	20	48

The figures given above approximate quantitatively those of other island groups.

In the table below we list all of the islands and island groups so far studied and the number of species of mollusks on each. The figures given, however, must be considered as approximate since there are so many variables existing between the various islands. For example, Great and Little Abaco have only 25 species recorded so far, as opposed to 48 species for the Crooked Island group. In land area the Crooked Island group is only one-third as great as the Abaco Islands. Variables here are important to consider. As most of the Bahama species are the same or closely allied to species in the West Indies, particularly to those of Cuba, chance introductions are greater as the Crooked Islands are much nearer to the Greater Antilles than are the Abaco Islands — 110 miles versus 260 miles. Much of the Abaco Islands were and still are, in many areas, covered with a stand of Bahama Pine, a thin forest growing on lime rock which is ecologically rather uniform. There are no pine forests on the Crooked Islands and they have a far greater number of variable habitats. Far more detailed collecting was done in the Crooked Island group than in the Abaco Islands where only a few localized areas have been searched for land and freshwater mollusks.

NUMBERS OF SPECIES

Islands	Bahamas and beyond	Widely distrib- uted in Bahamas	Limited in distribu- tion in Bahamas	Endemic	Total	Land area in sq. miles
Caicos Ids	9	2	5	4 + 4 ¹	24	} about 166 ²
Turks Ids.	7	0	7	4 + 2 ¹	20	
Ragged Ids.	4	2	3	5	14	22 ³
Cay Sal Bank	1	0	1	1	3	7
Great and Little Inagua	13	3	7	23	46	560
Mariguana Id.	1	3	3	7	14	96
Bimini Ids.	15	8	2	2	27	8
Long Id.	9	7	4	8	28	130
Eleuthera	12	10	10	10	42	166
Great and Little Abaco	4	11	5	5	25	776
Grand Bahama	9	12	5	2	28	430
Cat Island	13	12	4	7	36	160
Crooked Id. Group	17	8	3	20	48	219

¹ Four species are endemic to Caicos and Turks Islands, together.

² From data sent by Bernard Lewis, Director, The Institute of Jamaica.

³ Estimated from the United States Hydrographic Office, Chart No. 26-d.

LIST OF THE SPECIES KNOWN FROM THE
CROOKED ISLAND GROUP

HELICINIDAE

EUTROCHATELLA ACKLINSSENSIS, new species

Plate 3, figure 4

Description. Shell reaching a length of 3.5 mm., turritid, rather thin, imperforate and finely sculptured. Color a grayish white. Whorls 5 and strongly convex. Spire moderately extended. Aperture subcircular. Outer lip simple, parietal area glazed. Columella arched. Suture well indented. Sculpture consisting of numerous spiral, incised lines. Nuclear whorls $1\frac{1}{2}$ to 2 and smooth. Operculum unknown.

Length	Width
3.5 mm.	3.5 mm. Holotype
3.2	3.4 Paratype

Types. The holotype is in the United States National Museum, no. 390633, from inland from Cornucopia, Acklins Island, Bahamas. Paratypes from the same locality are in the Museum of Comparative Zoology, no. 225315.

Remarks. *E. acklinsensis* does not appear closely related to any other species in the Bahama Islands. It shows distant relationships with two or three Cuban species of a similar size but differs from all by having the whorls turritid and strongly convex.

ALCADIA (ALCADIA) MCLEANI Clench

Alcadia (Alcadia) mcleani Clench 1937, Proc. New England Zool. Club **16**:74, pl. 3, fig. 6 (Landrail Point, Crooked Island, Bahamas).

Specimens examined. CROOKED ISLAND: Stopper Hill; $1\frac{1}{4}$ mi. SE of Gordon Bluff; S of Cripple Hill; $\frac{1}{2}$ mi. NE of Fairfield; $1\frac{1}{4}$ mi. W of Church Grove; 1 mi. NW of Colonel Hill; McKi Hill. ACKLINS ISLAND: Delectable Bay; $\frac{3}{4}$ mi. S of Binnacle Hill Settlement; Pinnacle Point; Indian Wells; inland from Cornucopia, $3\frac{3}{4}$ mi. NE of Salina Point.

HELICINA RAWSONI Pfeiffer

Helicina rawsoni Pfeiffer 1867, Malakozoologische Blätt. **14**:165 (Inagua Island, Bahamas).

Specimens examined. FORTUNE ISLAND: Walker Bay. CROOKED ISLAND: Major Cay Settlement. ACKLINS ISLAND: 2 mi. SE of Snug Corner; Delectable Bay; 2½ mi. SE of Pompey Bay Settlement; Pinnacle Point; Indian Wells; inland from Cornucopia; 2 mi. S of Binnacle Hill.

LUCIDELLA (POENIELLA) TANTILLA Pilsbry

Helicina tantilla Pilsbry 1902, Nautilus **16**:53 (Palm Beach, Florida).

Specimens examined. ACKLINS ISLAND: inland from Cornucopia.

EUTROCHATELLA CALIDA Weinland

Helicina calida Weinland 1862, Malakozoologische Blätt. **9**:91 (Crooked Island, Bahamas).

Specimens examined. FORTUNE ISLAND: Walker Bay; Windsor Point. CROOKED ISLAND: Gordon Bluff; Sea View. ACKLINS ISLAND: Mason Bay; Snug Corner; Delectable Bay; Pompey Bay; Pinnacle Point; Indian Wells; 2 mi. S. of Binnacle Hill; Jamaica Bay. WEST PLANA CAY.

POMATIASIDAE

OPISTHOSIPHON (OPISTHOSIPHON) ACKLINSSENSIS Bartsch

Opisthosiphon (*Opisthosiphon*) *acklinsensis* Bartsch 1946, United States Nat. Mus. Bull. **192**:221, pl. 36, fig. 9 (Spring Point, Acklins Island, Bahamas).

Specimens examined. CROOKED ISLAND: Landrail Point; Stopper Hill; Marine Farm Hill; Pitts Town Point; Gordon Bluff; ½ mi. NE of Fairfield; 1¼ mi. W of Church Grove; 1 mi. NW of Colonel Hill; McKi Hill; Caigdale. ACKLINS ISLAND: 2½ mi. S of Chesters; Snug Corner; Delectable Bay; 2½ mi. SE of Pompey Bay; Pinnacle Point (Spring Point).

OPISTHOSIPHON (OPISTHOSIPHON) LUCAYANORUS, new species

Plate 3, figure 2

Description. Shell reaching 16 mm. in length, light in structure, shining and attenuate. Color a nearly uniform straw-yellow, occasional specimens having the middle whorls a dark mahogany-brown. Small dots of brown in both axial and spiral arrangement are faint or lacking. Whorls 6 to 7, decollated and

moderately convex. Spire attenuate. Aperture subcircular. Lip holostomatous and reflected. Suture crenulate, slightly channeled and becoming broadly so just about one-sixth of a whorl behind the lip. Sculpture consists of fine growth lines and the rather strongly developed sutural crenulations. Nuclear whorls smooth and opaque. Operculum paucispiral with fine, arcuate ridges on the outer surface.

Length	Width	
14.8 mm.	7 mm.	Holotype
16.6	7.5	Paratype
14.8	7	Paratype

Types. Holotype, Museum of Comparative Zoology, no. 221179, from $3\frac{3}{4}$ mi. NE of Salina Point, Acklins Island, Bahamas. Additional paratypes are from the same locality and from Binnacle Hill; 2 mi. S of Binnacle Hill and from Pinnacle Point, Acklins Island. A series of paratypes is in the United States National Museum.

Remarks. This species differs from all other Bahama *Opisthosiphon* by being smooth and not axially costate. It differs from *Opisthosiphon acklinsensis* Bart., the only other *Opisthosiphon* in the Crooked Island group, by being smooth and by having the sutural crenulations somewhat broader.

CHONDROPOMA (CHONDROPOMA) GLABRATUM Reeve

Chondropoma semilabre of authors, not of Lamarck.

Chondropoma glabratum Reeve 1863, *Conchologia Iconica* 14: *Chondropoma*, pl. 2, fig. 12 (Bahamas).

Chondropoma (Chondropoma) glabratum fortunatum Bartsch 1946, United States National Mus. Bull. 192:210, pl. 35, fig. 6 (near Albert Town, Fortune Island, Bahamas).

Chondropoma (Chondropoma) glabratum acklinsense Bartsch 1946, United States National Mus. Bull. 192:210, pl. 35, fig. 5 (Jamaica Bay, Acklins Island, Bahamas).

Specimens examined. FORTUNE ISLAND: Windsor Point; Walker Bay; Douglas Town; Albert Town. CROOKED ISLAND: Landrail Point; Marine Farm Hill; Pittstown Point; Gordon Bluff; Sea View; Cripple Hill; $\frac{1}{2}$ mi. NE of Fairfield; between Browns and True Blue. ACKLINS ISLAND: Chesters; $2\frac{1}{2}$ mi. S of Chesters; Mason Bay; 2 mi. SE of Snug Corner; Delectable Bay; Binnacle Hill; 2 mi. S of Binnacle Hill; Pinnacle Point; Cornucopia; $3\frac{3}{4}$ mi. NE of Salina Point; Salina Point; Jamaica Bay; W of China Hill.

CHONDROPOMA (CHONDROPOMA) GLABRATUM PLANICOLUM Bartsch

Chondropoma (*Chondropoma*) *planicolum* Bartsch 1946, United States National Mus. Bull. **192**:213, pl. 34, fig. 7 (West Plana Cay, Bahamas).

Specimens examined. WEST PLANA CAY.

CHONDROPOMA (CHONDROPS) PLANAENSE Bartsch

Chondropoma (*Chondrops*) *planaense* Bartsch 1946, United States National Mus. Bull. **192**:196, pl. 33, fig. 5 (West Plana Cay, Bahamas).

Specimens examined. WEST PLANA CAY.

COLONINA HYDII Weinland

Cyclostomus hydii Weinland 1862, Malakozoologische Blätter **9**:90 (Crooked Island, Bahamas).

Colonina fortunensis Bartsch 1946, United States Nat. Mus. Bull. **192**:245, pl. 38, fig. 11 (near Albert Town, Fortune Island, Bahamas).

Colonina nana Bartsch 1946, United States National Mus. Bull. **192**:246, pl. 38, fig. 12 (West Plana Cay, Bahama Islands).

Specimens examined. FORTUNE ISLAND: Upper Landing; Windsor Point; Douglas Town; Albert Town. CROOKED ISLAND: French Wells; Bullet Hill; between Browns and True Blue. ACKLINS ISLAND: Snug Corner; Mason Bay; Delectable Bay; Binnacle Hill; $\frac{3}{4}$ mi. S of Binnacle Hill; Pinnacle Point; Cornucopia; $3\frac{3}{4}$ mi. NE of Salina Point; Jamaica Bay; W of China Hill. CASTLE ISLAND: NE end; N coast. WEST PLANA CAY.

Through an oversight, records for *Colonina hydii* Weinland were not included in my report on the "Land and Freshwater Mollusks of Great and Little Inagua Islands," 1959, Bull. Mus. Comp. Zool. **121**:29-53. These are as follows:

Specimens examined. GREAT INAGUA: near Lantern Head. LITTLE INAGUA: $1\frac{1}{2}$ mi. from Northwest Point; NW side of Little Inagua.

COLONELLA ACKLINSSENSIS Bartsch

Colonella acklinsensis Bartsch 1946, United States National Mus. Bull. **192**:251, pl. 38, fig. 8 (Pinnacle Point, Acklins Island, Bahama Islands).

Specimens examined. ACKLINS ISLAND: $\frac{3}{4}$ mi. S of Binnacle Hill; 2 mi. S of Binnacle Hill; Pinnacle Point; $3\frac{3}{4}$ mi. NE of Salina Point.

COLONELLA MARIGUANENSIS PLANAENSIS Bartsch

Colonella mariguanensis planaensis Bartsch 1946, United States National Mus. Bull. **192**:250, pl. 38, fig. 5 (West Plana Cay, Bahamas).

Specimens examined: WEST PLANA CAY.

AMNICOLIDAE

LITTORIDINA TENUIPES Couper

Amnicola tenuipes Couper 1844 [in] S.S. Haldeman, Monograph Limniades of North America, Philadelphia, pt. 7, p. 4 of cover, and pt. 8, p. 23, pl. 1, figs. 14-15 (Hopeton, Georgia).

Specimens examined. CROOKED ISLAND: Major Cay Settlement. ACKLINS ISLAND: between Pleasant Point and Claret Cove; 2 mi. S of Binnacle Hill Settlement.

LYMNAEIDAE

LYMNAEA (GALBA) CUBENSIS Pfeiffer

Lymnaeus cubensis Pfeiffer 1839, Archiv für Naturgeschichte **5**:354 (Cuba).

Specimens examined. ACKLINS ISLAND: Delectable Bay; Pompey Bay.

PLANORBIDAE

DREPANOTREMA LUCIDUM Pfeiffer

Planorbis lucidus Pfeiffer 1839, Archiv für Naturgeschichte **5**:354 (Cuba).

Specimens examined. CROOKED ISLAND: $1\frac{1}{2}$ mi. SE of Gordon Bluff; $1\frac{1}{4}$ mi. ESE of Colonel Hill. ACKLINS ISLAND: Delectable Bay; between Pleasant Point and Claret Cove; Pinnacle Point.

DREPANOTREMA CIMEX Moricand

Planorbis cimex Moricand 1839, Mem. Soc. Phys. Geneve **8**:143, pl. 3, figs. 8-9 (Bahia, Brazil).

Specimens examined. CROOKED ISLAND: Pitts Town Point. ACKLINS ISLAND: Pompey Bay.

TROPICORBIS ALBICANS Pfeiffer

Planorbis albicans Pfeiffer 1839, Archiv für Naturgeschichte 5:354 (Cuba).

Specimens examined. FORTUNE ISLAND: Albert Town. ACKLINS ISLAND: 2½ mi. S of Chesters; Pompey Bay; Pinnacle Point.

PHYSIDAE

PHYSA CUBENSIS Pfeiffer

Physa cubensis Pfeiffer 1839, Archiv für Naturgeschichte 5:354 (Cuba).

Specimens examined. ACKLINS ISLAND: 2½ mi. S of Chesters; Pompey Bay.

SUCCINEIDAE

SUCCINEA BARBADENSIS Guilding

Succinea barbadensis Guilding 1828, Zoological Jour. 3:532 (Barbados).

Specimens examined. CROOKED ISLAND: Stopper Hill; ½ mi NE of Fairfield. ACKLINS ISLAND: 2½ mi. S of Chesters; Delectable Bay Settlement; Pompey Bay Settlement; Binnacle Hill; Pinnacle Point.

PUPILLIDAE

PUPOIDES NITIDULUS Pfeiffer

Bulimus nitidulus Pfeiffer 1839, Archiv für Naturgeschichte 5:352 (Cuba).

Specimens examined. FORTUNE ISLAND: Albert Town. CROOKED ISLAND: Marine Farm Hill; McKi Hill; Bullet Hill; between Browns and True Blue. ACKLINS ISLAND: 2½ mi. S of Chesters; Mason Bay; Delectable Bay; Binnacle Hill; 2 mi. S of Binnacle Hill; Pinnacle Point. WEST PLANA CAY.

GASTROCOPTA PELLUCIDA Pfeiffer

Pupa pellucida Pfeiffer 1841, Symbolae ad Historiam Heliciorum 1:46 (Cuba).

Specimens examined. FORTUNE ISLAND: Windsor Point; Douglas Town; Albert Town. CROOKED ISLAND: S of Cripple Hill; 1 mi. NW of Colonel Hill; McKi Hill; Bullet Hill; between

Browns and True Blue. ACKLINS ISLAND: $2\frac{1}{2}$ mi. S of Chesters; Mason Bay; Delectable Bay; Pompey Bay; Binnacle Hill; Pinnacle Point; $3\frac{3}{4}$ mi. NE of Salina Point; Indian Wells. WEST PLANA CAY.

GASTROCOPTA RUPICOLA MARGINALBA Pfeiffer

Pupa marginalba Pfeiffer 1840, Archiv für Naturgeschichte 1:253 (Cuba).

Specimens examined. FORTUNE ISLAND: Upper Landing; Windsor Point; Albert Town. CROOKED ISLAND: Landrail Point; 1 mi. NW of Colonel Hill. ACKLINS ISLAND: 2 mi. S. of Binnacle Hill; Pinnacle Point; Cornucopia; $3\frac{3}{4}$ mi. NE of Salina Point. CASTLE ISLAND: NE end; SW end. WEST PLANA CAY.

STROBILOPSIDAE

STROBILOPS HUBBARDI VENDRYESIANA Gloyne

Helix vendryesiana Gloyne 1871, Jour. de Conchyliologie 19: 333 (Bellevue, St. Andrew, Jamaica).

Remarks. This rare species is known elsewhere in the Bahamas from Great Inagua and the Caicos Islands.

Specimens examined. ACKLINS ISLAND: 2 mi. S of Binnacle Hill.

SUBULINIDAE

LAMELLAXIS (ALLOPEAS) GRACILIS Hutton

Bulimus gracilis Hutton 1834, Jour. Asiatic Soc. Bengal 3:93 (Mirzapur, Ceylon).

Specimens examined. CROOKED ISLAND: Marine Farm Hill; N of Cripple Hill; $1\frac{1}{4}$ mi. N of Church Grove.

OLEACINIDAE

OLEACINA (LAEVOLEACINA) SOLIDULA Pfeiffer

Polyphemus solidula Pfeiffer 1840, Archiv für Naturgeschichte (Wiegmann) 1:252 (near Matanzas, Cuba).

Specimens examined. CROOKED ISLAND: Stopper Hill; inland from Pitts Town Point; $1\frac{1}{4}$ mi. SE of Gordon Bluff; $\frac{1}{2}$ mi. NE of Fairfield; $1\frac{1}{4}$ mi. W of Church Grove; 1 mi. NW of Colonel Hill; McKi Hill. ACKLINS ISLAND: $2\frac{1}{2}$ mi. S of Chesters; Snug Corner; Delectable Bay; $2\frac{1}{2}$ mi. SE of Pompey Bay; Binnacle

Hill; 2 mi. S of Binnacle Hill; $3\frac{3}{4}$ mi. NE of Salina Point; Indian Wells.

VARICELLA GRACILLIMA FLORIDANA Pilsbry

Varicella gracillima floridana Pilsbry 1907, Man. of Conch. (2) 19:57 (Key West, Florida).

Specimens examined. FORTUNE ISLAND: near Upper Landing. CROOKED ISLAND: 1 mi. NW of Colonel Hill. ACKLINS ISLAND: 2 mi. S of Binnacle Hill; Cornucopia; Indian Wells. WEST PLANA CAY.

POLYGYRIDAE

POLYGYRA PLANA Dunker

Helix plana Dunker 1843, Abbildungen neuer Conchylien, Cassel, 1:51, *Helix*, pl. 3, fig. 11 (? West Indies).

Specimens examined. CROOKED ISLAND: Pitts Town Point; Stopper Hill; $1\frac{1}{4}$ mi. SE of Gordon Bluff; $\frac{1}{2}$ mi. NE of Fairfield; $1\frac{1}{4}$ mi. ESE of Colonel Hill; Major Cay Settlement.

SAGDIDAE

HOJEDA INAGUENSIS Weinland

Helix inaguensis Weinland 1880, Jahrb. deut. malak. Gesell. 7:369, pl. 12, fig. 22 (Little Inagua).

Specimens examined. FORTUNE ISLAND: Upper Landing; Douglas Town; Albert Town. CROOKED ISLAND: $\frac{1}{2}$ mi. NE of Fairfield. ACKLINS ISLAND: $2\frac{1}{2}$ mi. S of Binnacle Hill; Pinnacle Point; Cornucopia; $3\frac{3}{4}$ mi. NE of Salina Point; Indian Wells. WEST PLANA CAY.

LACTEOLUNA SELENINA Gould

Helix selenina Gould 1848, Proc. Boston Soc. Nat. Hist. 3:38 (Georgia and Florida).

Specimens examined. CROOKED ISLAND: Landrail Point; $1\frac{1}{4}$ mi. W of Church Grove. ACKLINS ISLAND: Mason Bay.

BULIMULIDAE

DRYMAEUS BAHAMENSIS GREENWAYI Clench

Drymaeus bahamensis greenwayi Clench 1933, Proc. New England Zool. Club 13:88, pl. 1, fig. 11 (Landrail Point, Crooked Island, Bahamas).

Specimens examined. CROOKED ISLAND: Landrail Point; Gordon Bluff; $1\frac{1}{4}$ mi. W of Church Grove. ACKLINS ISLAND: between Pleasant Point and Claret Cove; Delectable Bay; Pompey Bay; Binnacle Hill.

UROCOPTIDAE

MICROCERAMUS SWIFTI Bland

Macroceramus swifti Bland 1875, Ann. Lyceum Nat. Hist. New York **6**:83 (Turks Island, also Inagua).

Specimens examined. FORTUNE ISLAND: Windsor Point; Douglas Town; $\frac{1}{2}$ mi. E of Albert Town. CROOKED ISLAND: Stopper Hill; Gordon Bluff; $1\frac{3}{4}$ mi. E of Colonel Hill. ACKLINS ISLAND: Delectable Bay Settlement; 2 mi. S of Binnacle Hill; Cornucopia; $3\frac{3}{4}$ mi. E of Salina Point; W of China Hill. WEST PLANA CAY.

MICROCERAMUS RUSSELLI Clench

Microceramus russelli Clench 1937, Proc. New England Zool. Club **16**:63, pl. 3, figs. 4-5 (Blue Hole Hill, 2 mi. NNE of Orange Creek, Cat Island, Bahamas).

Specimens examined. FORTUNE ISLAND: near Upper Landing. CROOKED ISLAND: NE end.

MICROCERAMUS PROVIDENTIA Pilsbry

Microceramus gossei providentia Pilsbry 1904, Man. of Conch. (2) **16**:161, pl. 26, fig. 16 (Nassau, New Providence [Bahamas]).

Specimens examined. CROOKED ISLAND: Marine Farm Hill; S of Cripple Hill; McKi Hill. ACKLINS ISLAND: $2\frac{1}{2}$ mi. S of Chesters; Snug Corner; Delectable Bay; $2\frac{1}{2}$ mi. SE of Pompey Bay; Binnacle Hill; Cornucopia; Pinnacle Point; Indian Wells. WEST PLANA CAY.

MICROCERAMUS (SPIROCERAMUS) ROBERTSONI, new species

Plate 3, figure 1

Description. Shell reaching 6.7 mm. in length, thin, imperforate, dull and sculptured. Color probably gray, whorls 11 and convex. First 5 to 6 whorls forming the conic portion of the spire. Aperture subcircular. Lip simple. Columella nearly

straight. Axis simple and not twisted. Suture indented. Sculpture consisting of numerous fine, oblique axial riblets. These riblets are somewhat stronger on the first 5 to 6 whorls.

Length	Width	
6.7 mm.	1 mm.	Holotype

Type. Holotype, Museum of Comparative Zoology, No. 225313 from Delectable Bay Settlement, Acklins Island, Bahamas. Collected by Robert Robertson and Augustus Scott, Sept. 2, 1958.

Remarks. This species is closely related to *Microceramus greenwayi* Clench from Foxtown, Little Abaco Island, Bahamas. It differs by being a little more coarsely sculptured and having the nuclear whorls a little smaller.

This is the second species known in this subgenus from the Bahamas. The remaining few species occur only in central and eastern Cuba.

GONGYLOSTOMA BAHAMENSIS Pfeiffer

Cylindrella bahamensis Pfeiffer 1861, Malakozologische Blätter 7:214, pl. 2, figs. 8-11 (Nassau, Bahamas).

Specimens examined. CROOKED ISLAND: Stopper Hill.

CERIONIDAE

CERION (STROPHIOPS) REGIUM Benson

Pupa decumana 'Ferussac' Pfeiffer 1848, Monographia Heliciorum Viventium 2:320 (St. Thomas; Cuba ?), non Gray 1825.

Pupa regia Benson 1849, Ann. Mag. Nat. Hist. (2) 4:125 (Nanking, China [Castle Island, Bahamas]).

Remarks. This species appeared to be quite abundant on parts of Castle Island and in the vicinity of Salina Point on Acklins Island.

Just how the error of Nanking, China (cited as the type locality) occurred, is, of course, unknown. The first to collect this species again was Governor Rawson at some time between 1864 and 1869. The specimens he obtained were sent to many institutions, and specimens were not again collected until Bartsch visited Castle Island in 1930 and Robertson and Scott in 1958.

This is the largest of all species of *Cerion*. It seems to prefer open and exposed places, attached to the stems of bushes and other scrub growth.

For a complete discussion covering the complex history of names concerned with this species, see Pilsbry 1902, *Man. of Conch.* (2) **14**:236.

Specimens examined. ACKLINS ISLAND: 2 mi. S of Binnacle Hill; Salina Point; Jamaica Bay; W of China Hill. CASTLE ISLAND: NE end; SW end, E and W sides.

CERION (STROPHIOPS) WEINLANDI v. Martens

Pupa weinlandi v. Martens 1860, *Malakozologische Blätter* **6**:207, pl. 2, fig. 1 (Crooked Island, Bahamas).

Specimens examined. ACKLINS ISLAND: Snug Corner; Mason Bay; $\frac{3}{4}$ mi. S of Binnacle Hill; Cornucopia; Jamaica Wells; $3\frac{3}{4}$ mi. E of Salina Point; Sugar Bay.

CERION (MULTOSTROPHIA) MARMORATUM Pfeiffer

Pupa marmorata Pfeiffer 1847, *Zeitschrift für Malakozoologie* **4**:83 (locality unknown [Fortune Island, Crooked Island Group, Bahamas]).

Pupa martensi Weinland 1862, *Malakozologische Blätter* **9**:174 (Crooked Island, Bahamas).

Strophia inflata Maynard 1889, *Contributions to Science* **1**:126, pl. 7, figs. 21a, 30a-b (Salina Point, Acklins Island, Bahamas).

Cerion multistriatum Pilsbry and Vanatta 1896, *Proc. Acad. Nat. Sci., Philadelphia* **48**:335, pl. 11, fig. 8 (Crooked Island, Bahamas).

Cerion submarmoratum Pilsbry and Vanatta 1897, *Proc. Acad. Nat. Sci., Philadelphia* **49**:365, text-figs. 3-4 ([Fortune Island] Bahamas).

Cerion martensi cliffordi Clench 1933, *Proc. New England Zool. Club* **13**:91, pl. 1, fig. 10 (Landrail Point, Crooked Island, Bahamas).

Specimens examined. FORTUNE ISLAND: North Cay; Windsor Well; Douglas Town; Albert Town; N end. CROOKED ISLAND: Goat Cay; French Wells; $\frac{1}{4}$ mi. NE of French Wells; Landrail Point; between Browns and True Blue; Richmond; S. of Cripple Hill; $\frac{1}{2}$ mi. NE of Fairfield; 2 mi. W of Church Grove; 1 mi. NW of Colonel Hill; Major Cay Settlement; Caigdale; Cove Settlement. ACKLINS ISLAND: Chesters; Snug Corner; Delectable Bay; $2\frac{1}{2}$ mi. SE of Pompey Bay; Jamaica Cay; Binnacle Hill; $3\frac{3}{4}$ mi. NE of Salina Point.

CERION (STROPHIOPS) UTOWANA Clench

Cerion (Strophlops) utowana Clench 1933, Proc. New England Zool. Club 13:92, pl. 1, figs. 1-2 (East Plana Cay, Bahamas).

Specimens examined. EAST PLANA CAY.

CERION (STROPHIOPS) GREENWAYI Clench

Cerion (Strophlops) greenwayi Clench 1934, Proc. Boston Soc. Nat. Hist. 40:206, pl. 2, fig. H (Black Booby Cay, Atwoods or Samana Group, Bahama Islands).

Remarks. Only dead and very old specimens of this species were found on West Plana Cay by Bartsch in 1930. Several quite different forms occurred, from typical costate *greenwayi* to nearly smooth, slender or very stout specimens which approximate *C. utowana* Clench from East Plana Cay. It is impossible to tell whether or not these specimens existed at one time or represent populations which existed at different times.

Specimens examined. ACKLINS ISLAND: W end of Blue Mt. SAMANA CAY. WEST PLANA CAY.

CERION (MAYNARDIA) PERICULOSUM Clench

Cerion (Strophlops) periculosum Clench 1934, Proc. Boston Soc. Nat. Hist. 40:215, pl. 2, fig. B (South Cay, Mira Por Vos Group, Bahamas).

Specimens examined. MIRA POR VOS: South Cay.

FRUITICICOLIDAE

HEMITROCHUS VARIANS Menke

Helix varians Menke 1829, Verzeichnis Conchy. — Samml. Malsburg, Pyrmont, p. 5. (Locality not given).

Specimens examined. FORTUNE ISLAND: 1/2 mi. E of Albert Town; North Cay. CROOKED ISLAND: Pitts Town Point; Land-rail Point; Caigdale; Bullet Hill; between Browns and True Blue; French Wells. ACKLINS ISLAND: Indian Wells. WEST PLANA CAY.

HEMITROCHUS GALLOPAVONIS Pfeiffer

Helix gallopavonis 'Valenciennes' Pfeiffer 1842, Symbolae ad Historiam Heliceorum 2:28 (St. Croix; Turks Islands).

Helix caribaea Weinland 1862, Malakozoologische Blätter **9**:195 (Crooked Island, Bahamas).

Helix gallopavonis major Weinland 1880, Jahrbücher deut. malak. Gesell. **7**:373 (Turks Island [Bahamas]).

Helix gallopavonis elatior Weinland 1880, Jahrbücher deut. malak. Gesell. **7**:374 (Turks Island, Bahamas).

This species does not occur on St. Croix.

Specimens examined. FORTUNE ISLAND: Goat Cay; Douglas Town; Windsor Point; N end of Fortune Island. CROOKED ISLAND: Gordon Bluff; Sea View; Richmond; near Cripple Hill; Fairfield; Colonel Hill; Major Cay Settlement; Cove Settlement. ACKLINS ISLAND: Lovely Bay Settlement; Chesters; Snug Corner; between Pleasant Point and Claret Cove; Delectable Bay Settlement; Pompey Bay Settlement; Jamaica Cay; Cotton Cay.

HEMITROCHUS MILLERI Pfeiffer

Helix milleri Pfeiffer 1867, Malakozoologische Blätter **14**:126 (Long Cay [Fortune Island] Bahama Islands).

Specimens examined. FORTUNE ISLAND: Walker Bay; Windsor Wells. ACKLINS ISLAND: Cornucopia Bay.

HEMITROCHUS GILVUS Férussac

Helix gilvus Férussac 1821 [1822], Tableaux Systematiques des Animaux Mollusques, p. 29 [refers to plate 21-B, fig. 1 in Férussac's Histoire Naturelle des Mollusques. Plate 21-B was published in 1821, though the text did not appear until 1850, **1**:171.] (Locality unknown in 1821 but stated to be Cuba in 1850.)

Helix multifasciatus Weinland and v. Martens 1860, Malakozoologische Blätter **6**:17 (Crooked Island, Bahama Islands).

Helix (Hemitrochus) multifasciatus polytaeniata Pilsbry 1889, Man. of Conch. (2) **5**:30, pl. 31, fig. 29 (no locality given).

Helix (Helicogena) gilvus Férussac. Torre 1939, Nautilus **52**:77.

Specimens examined. ACKLINS ISLAND: 2½ mi. SE of Pompey Bay Settlement; Binnacle Hill; ¾ mi. S of Binnacle Hill; 2 mi. S of Binnacle Hill; Cornucopia; 3¾ mi. NE of Salina Point. CASTLE ISLAND: N. coast.

PLAGIOPTYCHA SCOTTI, new species

Plate 3, figure 3

Description. Shell reaching 16 mm. in greater diameter, light in structure, rather dull, finely sculptured and umbilicate. Color a light straw-yellow with two narrow, spiral bands of pale brown at the periphery. Whorls $4\frac{1}{2}$ and convex. Spire depressed, hardly appearing above the body whorl. Aperture subelliptical. Outer lip simple and slightly reflected along the basal margin to the columellar area. Suture impressed. Sculpture consists of numerous, fine growth lines. Basal tooth well within the aperture, centered, elevated and diagonal to the lip margin.

Greater diameter	Height	
14 mm.	5 mm.	Holotype
15.5	6.5	Paratype
15.2	5.8	Paratype

Types. The holotype is in the Museum of Comparative Zoology, no. 225311, from 2 miles south of Binnacle Hill Settlement, Acklins Island, Bahamas. Collected by Robert Robertson and Augustus Scott, August 30, 1958. Additional paratypes in the Museum of Comparative Zoology and the United States National Museum.

Remarks. This species is related to *P. bahamensis* Pfr. from the Turks Islands and to *P. williamsi* Clench from Mariguana Island. *P. scotti* differs from *P. bahamensis* by being larger, having a larger gular tooth, and by being smooth. It differs from *P. williamsi* by being far more depressed, having a more open umbilicus, and by being smooth. Both *bahamensis* and *williamsi* are strongly and axially ribbed.

SPHAERIDAE

EUPERA BAHAMENSIS Clench

Byssanodonta bahamensis Clench 1938, Bull. Mus. Comp. Zool. 80:535, pl. 2, fig. 6 ($\frac{1}{2}$ mi. E of Arthurs Town, Cat Island, Bahama Islands).

Specimens examined. ACKLINS ISLAND: Pompey Bay Settlement.

The genus *Eupera* Bourguignat 1854 was placed in the synonymy of *Byssanodonta* d'Orbigny 1846 by Thiele (1934, Handbuch der Systematischen Weichtierkunde **3**:853). This was unfortunate, as the two genera are very different and do not belong even in the same family. *Byssanodonta* is without hinge teeth and is somewhat angled posteriorly on both the dorsal and ventral margins. *Eupera* has well developed hinge teeth and is rounded posteriorly. In addition, all American species of *Eupera* are mottled with a blackish pigment on the inside of the shells, a character not indicated or mentioned by d'Orbigny for *Byssanodonta*.

The following is a synopsis of the genus *Eupera*.

Eupera Bourguignat 1854, Rev. Mag. Zool. (2) **6**:84 (nomen nudum); *ibid.* p. 663, monotypic, *Pisidium moquinianum* Bourguignat (= *Cyclas modioliformis* Anton); Pilsbry and Bequaert 1927, Bull. Amer. Mus. Nat. Hist. **53**:354.

Limosina Clessin 1872, Malakozoologische Blätter **19**:160 (type species, *Cyclas modioliformis* Anton, subsequent designation, Pilsbry and Bequaert 1927).

Clessinella Waagen 1905, Sitz.-Ber. Akad. Wiss. Wien, Math. Naturw. Kl. **114**:171, monotypic, *Sphaerium* (*Clessinella*) *sturany* Waagen.

Byssanodonta of authors [not of d'Orbigny 1846, Voyage l'Amerique Meridionale **5**:621, pl. 84, figs. 21-23, monotypic, *Byssanodonta paranensis* d'Orbigny].

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