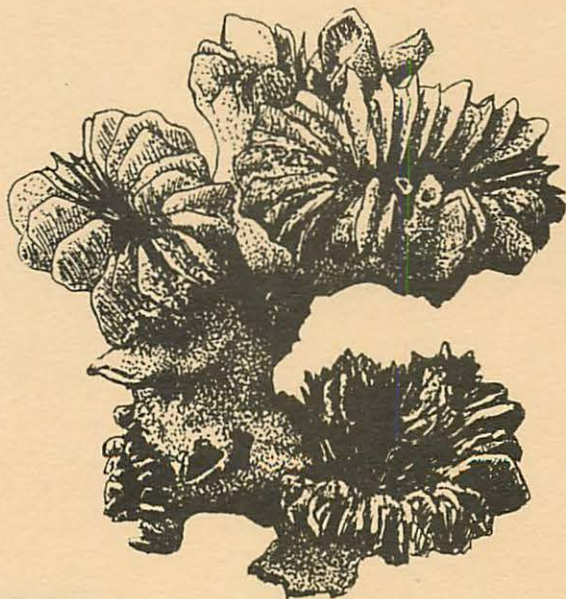


Curatorial Report Number 13

Nova Scotia Museum
1747 Summer St.
Halifax, Nova Scotia, Canada

Collections
made in
association
with
C.S.S. Hudson
Cruise
73-002

By Paul Doleman
September 1973

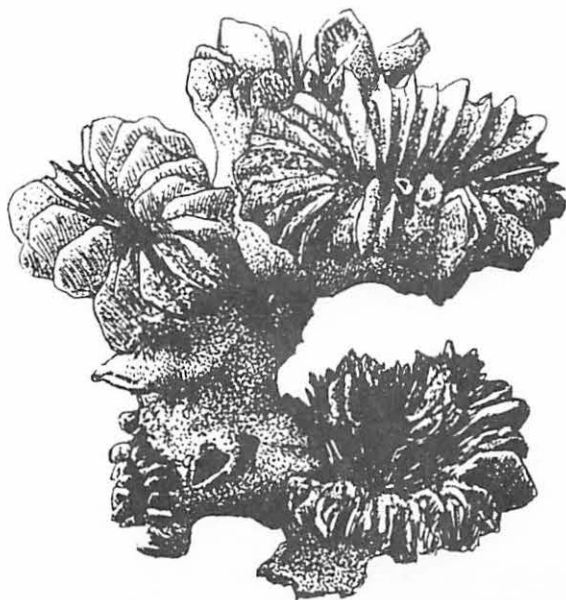


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NOVA SCOTIA MUSEUM

Curatorial Reports

The *Curatorial Reports* of the Nova Scotia Museum contain information on the collections and the preliminary results of research projects carried out under the program of the museum. The reports may be cited in publications but their manuscript status should be clearly indicated.

INTRODUCTION

The program of the Nova Scotia Museum requires a comprehensive collection which has both research and interpretive value. Naturally most of the species represented in the collections are native to Nova Scotia but there are also exotic species.

A collection of tropical shells has developed, mostly through donations, dating back to the last century. These shells give greater interpretive value to the collection because of the increased variety and number of taxa readily available to illustrate biological principles our own fauna cannot, and to supplement exhibits which primarily use native fauna. Exotic specimens also aid in the identification of accidentally occurring specimens as well as collections brought back by tourists. Opportunities to expand this collection have been taken whenever possible.

Another opportunity to expand the collection was taken advantage of early in 1973 when facilities were provided to go to Bermuda to join the C. S. S. Hudson on the second leg of cruise 73-002 from Bermuda to Halifax. Travel arrangements included a day in Bermuda, which was spent collecting molluscs and other marine organisms from the intertidal zone, supplementing collections made in 1972 (Doleman, 1973). About thirty-six mollusc species were collected, approximately thirteen being new to the collection. Waller (1973) has published a list of one hundred sixty mollusc species found in Bermuda, indicating that this collection contains only the more common species.

In all, one hundred seventeen lots have been added to the collection. They have been listed in tables according to the locality where they were collected. The identifications are based on most of the references cited and the molluscs within each table are arranged according to the classification of Thiele (1931, 1935).

Four sand samples were also collected in Bermuda. Portions of each sample have been accessioned while the remainder of the samples have been given to the Education Section of the Nova Scotia Museum. These samples can be used in marine science and geology programs and media kits, as they clearly show the evolution of calcareous sand.

The C. S. S. Hudson left Bermuda February 2, 1973 and docked in Halifax February 6, 1973. The station localities of the cruise are shown in Figure 2. At the station just off Bermuda, dredging was carried out near the same place that the H. M. S. Challenger dredged one hundred years ago. It was hoped that specimens collected from this station would be used in the Challenger Exhibit but unfortunately the sampling was not successful; the chain towing the dredge broke, emptying out the contents. However there are two specimens from other stations which are being displayed in the exhibit: a manganese-coated ahermatypic coral (*Desmophyllum cristagalli* Milne, Edwards and Haime) from Rehoboth Sea Mount and a lantern fish (Myctophidae) from 42°00.0'N, 62°08.0'W. The lantern fish was captured at the surface with a plankton net and the coral was dredged from approximately two thousand meters. There is a great deal of interest in Rehoboth Sea Mount at the present time because of the feasibility of mining manganese from this underwater mountain.

During this trip color slides were taken of the Bermuda seashore collecting areas and the collecting at sea. Representative slides have been added to the Nova Scotia Museum slide collection.

ACKNOWLEDGEMENT

I would like to thank Dr. K. Manchester and Dr. C. Schafer of the Bedford Institute for making the arrangements allowing me to participate in the *C. S. S. Hudson* cruise 73-002.

REFERENCES

- Abbott, R. T., 1954 American seashells. D. Van Nostrand Company Inc., New York. 541 pp.
- Abbott, R. T., 1968 Seashells of North America. A guide to field identification. Golden Press, New York. 280 pp.
- Burch, J. B., 1962 How to know the eastern land snails. Wm. C. Brown Company, Iowa, U. S. A. 214 pp.
- Doleman, P. S., 1973 Curatorial report number 12. Collections made in association with *C. S. S. Dawson* cruise 72-004. Unpublished manuscript.
- Gordon, D. C., 1973 Cruise report of *C. S. S. Hudson* cruise 73-002. Unpublished manuscript.
- Pilsbry, H. A., 1939-1948 Land mollusca of North America (north of Mexico). Wickersham Printing Company, Penn., U. S. A. 2 vols.
- Smith, R. I., ed., 1964 Keys to the marine invertebrates of Wood's Hole Region. Spaulding Co. Boston, Mass., U. S. A. 208 pp.
- Thiele, J., 1931, 1935 Handbook der Systematischen Weichtierkunde. A. Asher and Co. Amsterdam. 2 vols. reprinted 1963.
- Waller, T. R., 1973 The habits and habitats of some Bermudian marine mollusks. *The Nautilus* 87: 31-52.
- Warmke, G. L., Abbott, R. T., 1962 Caribbean seashells. Livingston Publishing Co. Penn., U. S. A. 348 pp.

Table 1

A list of specimens collected at Whalebone Bay, Bermuda, on February 1, 1973. Except where noted, all specimens were collected dead and accessioned collectively under the number 1973-Z-402.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-402.25	1	Unidentified Hydrozoa	Live collected
973-Z-402.26	10	Unidentified Hydrozoa	Live collected
973-Z-402.27	13	Unidentified Hydrozoa	Live collected
973-Z-402.29	1	<i>Gorgonia</i> sp.	Washed up on beach
973-Z-402.2	2	Unidentified Fissurellidae	
973-Z-402.1	1	Unidentified Fissurellidae	
973-Z-402.3	1	<i>Diodora cayenensis</i> Lamarck	
973-Z-402.4	2	<i>Nerita tassellata</i> Gmelin	
973-Z-402.5	1	<i>Nerita tassellata</i> Gmelin	Live collected
973-Z-402.6	1	<i>Littorina angulifera</i> Lamarck	Found on limestone near mangrove trees
973-Z-402.8	1	<i>Rissoina bryerea</i> Montagu	
973-Z-402.7	2	<i>Modulus modulus</i> Linnaeus	
973-Z-402.9	1	<i>Trivia quadripunctata</i> Gray	
973-Z-402.11	1	<i>Nitidella ocellata</i> Gmelin	
973-Z-402.10	4	<i>Columbella mercatoria</i> Linnaeus	
973-Z-402.12	1	<i>Nassarius albus</i> Say	
973-Z-402.13	7	<i>Olivella nivea</i> Gmelin	
973-Z-402.28	1	Unidentified Turridae ?	
973-Z-402.14	3	<i>Siphonoria alternata</i> Say	
973-Z-402.15	1	<i>Arca zebra</i> Swainson	
973-Z-402.16	3	<i>Barbatia domingensis</i> Lamarck	
973-Z-402.17	2	<i>Brachidontes exustus</i> Linnaeus	
973-Z-402.18	1	<i>Codakia orbicularis</i> Linnaeus	
973-Z-402.19	5	<i>Codakia orbiculata</i> Montagu	
973-Z-402.23	12	<i>Chama</i> sp.	
973-Z-402.20	1	<i>Laevicardium</i> sp.	
973-Z-402.24	1	Unidentified Polychaeta	Live collected
973-Z-402.21	14	<i>Lepas anatifera</i> Linnaeus	Found on driftwood, live collected
973-Z-402.22	8	<i>Lepas anserifera</i> Linnaeus	Found on driftwood, live collected

Table 2

A list of specimens collected at Shelly Bay Beach, Bermuda, on February 1, 1973. All specimens were collected dead and accessioned collectively under the number 1973-Z-404.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-404.29	1	Unidentified Anthozoa	
973-Z-404.1	1	Unidentified Fissurellidae	
973-Z-404.2	1	Unidentified Fissurellidae	
973-Z-404.3	1	Unidentified Fissurellidae	
973-Z-404.4	3	Unidentified Fissurellidae	
973-Z-404.5	5	Unidentified Fissurellidae	
973-Z-404.6	4	Unidentified Fissurellidae	
973-Z-404.7	3	<i>Diodora cayenensis</i> Lamarck	
973-Z-404.16	1	<i>Helicina clappi</i> Pilsbry ?	
973-Z-404.8	2	<i>Vermicularia fargoi</i> Olsson ?	Damaged
973-Z-404.9	5	<i>Modulus modulus</i> Linnaeus	
973-Z-404.11	1	<i>Anachis pulchella</i> Sowerby	
973-Z-404.12	1	<i>Nitidella ocellata</i> Gmelin	
973-Z-404.10	1	<i>Columbella mercatoria</i> Linnaeus	
973-Z-404.28	1	<i>Bulla striata</i> Bruguière	
973-Z-404.14	6	<i>Siphonaria alternata</i> Say	
973-Z-404.15	1	<i>Anguispira clarki</i> Vanatta ?	
973-Z-404.28	1	Unidentified Pelecypoda	
973-Z-404.17	1	<i>Arca zebra</i> Swainson	
973-Z-404.19	5	<i>Barbatia dominicensis</i> Lamarck?	
973-Z-404.18	1	<i>Arcopsis adamsi</i> Smith	
973-Z-404.20	1	<i>Brachidontes exustus</i> Linnaeus	
973-Z-404.21	1	Unidentified Pectinidae	Juvenile
973-Z-404.22	14	<i>Codakia orbiculata</i> Montagu	Small specimens
973-Z-404.27	27	<i>Chama</i> sp.	
973-Z-404.26	1	<i>Laevicardium</i> sp.	
973-Z-404.24	2	<i>Pitar fulminata</i> Menke	
973-Z-404.23	1	<i>Macrocallista maculata</i> Linnaeus	Juvenile
973-Z-404.25	30	<i>Transennella cubaniana</i> Orbigny?	

Table 3

A list of specimens collected at Frank's Bay, Bermuda, on February 1, 1973. All specimens were collected dead and accessioned under the number 1973-Z-403.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-403.30	13	Unidentified Foraminifera	Beach-worn
973-Z-403.2	1	Unidentified Fissurellidae	
973-Z-403.1	4	<i>Diodora cayenensis</i> Lamarck	
973-Z-403.16	4	<i>Helicina clappi</i> Pilsbry	Probably washed down to the beach from the surrounding bank
973-Z-403.13	2	<i>Rissoina bryerea</i> Montagu	
973-Z-403.14	1	<i>Rissoina multicostata</i> Adams	
973-Z-403.3	5	<i>Vermicularia spirata</i> Philippi	
973-Z-403.4	4	<i>Caecum cooperi</i> Smith	
973-Z-403.5	1	<i>Caecum nitidum</i> Stimpson	
973-Z-403.6	1	<i>Caecum dalli</i> Bartsch	
973-Z-403.7	17	<i>Modulus modulus</i> Linnaeus	
973-Z-403.8	35	<i>Batillaria minima</i> Gmelin	
973-Z-403.9	15	<i>Cerithium variabile</i> Adams	
973-Z-403.11	5	<i>Nitidella ocellata</i> Gmelin	
973-Z-403.10	•• 3	<i>Columbella mercatoria</i> Linnaeus	
973-Z-403.12	1	<i>Olivella nivea</i> Gmelin	
973-Z-403.15	8	<i>Bulla striata</i> Bruguière	
973-Z-403.17	1	<i>Euglandina rosea</i> Ferussac	Probably washed down to the beach from the surrounding bank
973-Z-403.18	5	<i>Arca zebra</i> Swainson	
973-Z-403.19	1	<i>Arca imbricata</i> Bruguière	
973-Z-403.21	8	<i>Arcopsis adamsi</i> Dall	
973-Z-403.20	4	<i>Anadara notabilis</i> Röding	One valve with periostricum still intact
973-Z-403.22	5	<i>Brachidontes exustus</i> Linnaeus	
973-Z-403.23	1	<i>Ostrea equestris</i> Say	Attached to a rock
973-Z-403.24	9	<i>Codakia orbiculata</i> Montagu	
973-Z-403.31	17	<i>Chama</i> sp.	
973-Z-403.28	2	<i>Laevicardium</i> sp.	
973-Z-403.29	1	Unidentified Veneracea	
973-Z-403.26	2	<i>Asaphis deflorata</i> Linnaeus	
973-Z-403.25	2	<i>Semele proficua</i> Pulteney	
973-Z-403.27	1	<i>Strigilla</i> sp.	

Table 4 A list of specimens collected on the west side Boaz Island, Bermuda, on February 1, 1973. All specimens were accessioned under the number 1973-Z-405.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-405.1	1	Unidentified Fissurellidae	Collected dead in tidepool
973-Z-405.2	13	<i>Cerithium variabile</i> (C. B. Adams)	Collected live in tidepool
973-Z-405.3	1	<i>Glycymeris</i> sp.	
973-Z-405.4	13	<i>Brachidontes exustus</i> Linnaeus	Collected live in holes in limestone
973-Z-405.5	3	<i>Chama</i> sp.	Collected dead on beach

Table 5 A list of specimens collected at Fort Scaur, Bermuda, on February 1, 1973 on a grassy lawn. All specimens were collected dead and accessioned under the number 1973-Z-407.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-407.2	2	<i>Helicina clappi</i> Pilsbry?	
973-Z-407.1	6	<i>Rumina decollata</i> Linnaeus	
973-Z-407.3	1	<i>Anguispira</i> sp.?	

Table 6 The specimen collected at St. Catherine Point, Bermuda, on February 1, 1973. The specimen was dead when collected.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-406.1	1	<i>Spirula spirula</i> Linnaeus	Incomplete

Table 7 A list of specimens collected at Church Bay, Bermuda, on February 1, 1973. The specimens were dead when collected and accessioned under the number 1973-Z-408.

NSM Accession Number	Number of Specimens	Species	Remarks
973-Z-408.1	1	<i>Chiton marmoratus</i> Linnaeus	Posterior valve only
973-Z-408.2	1	<i>Pleurodontites</i> sp.	
973-Z-408.3	1	<i>Barbatia domingensis</i> Lamarck?	

Table 8 A list of geological samples collected on February 1, 1973, in Bermuda.

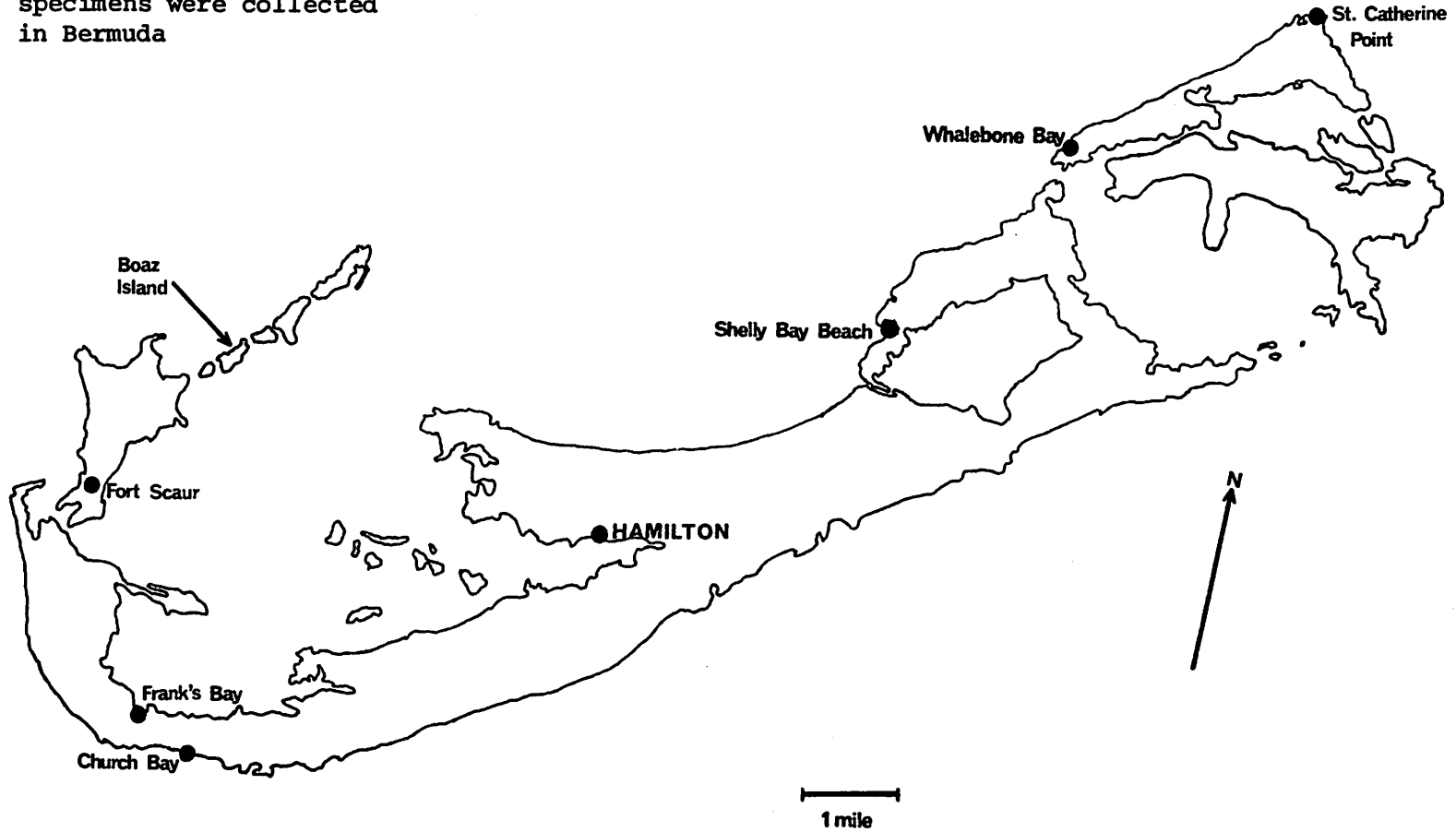
NSM Accession Number	Material	Number of samples or specimens	Locality	Remarks
973-G-1	Calcareous sand	1 vial	Whalebone Bay	
973-G-2	Calcareous sand	1 vial	Shelly Bay Beach	
973-G-3	Calcareous sand	1 vial	Church Bay	
973-G-4	Calcareous sand	1 vial	Frank's Bay	
973-G-5	Shell and coral limestone	6 specimens	Church Bay	Good examples of cementation

Table 9 A list of the specimens collected at sea.

NSM Accession Number	Material	Date	Latitude	Longitude	Depth	Remarks
973-G.6	Manganese	Feb.1, 1973	37°33.0'N	59°56.0'W	2000 meters	
973-409.1	Hydrozoa	Feb.2, 1973	32°44.2'N	64°34.8'W	720 fathoms	
973-Z-409.2	Coelenterata	Feb.2, 1973	32°44.2'N	64°34.8'W	720 fathoms	
973-Z-409.3	Coelenterata	Feb.2, 1973	32°44.2'N	64°34.8'W	720 fathoms	
973-Z-400.1	<i>Desmophyllum cristagalli</i>	Feb.4, 1973	37°33.0'N	59°56.0'W	2000 meters	
973-Z-409-4	Copepoda	Feb.2, 1973	32°44.2'N	64°34.8'W	surface	
973-Z-401.1	<i>Idotea metallica</i>	Feb.4, 1973	40°56.0'N	61°27.0'W	surface	Specimens probably off ship's bottom
973-Z-409.5	Mysidacea	Feb.2, 1973	32°44.2'N	64°34.8'W	surface	
973-Z-101.1	Larval Osteichthyes	Feb.2, 1973	32°44.2'N	64°34.8'W	surface	
973-Z-102.1	Larval Osteichthyes	Feb.5, 1973	40°56.0'N	61°27.0'W	surface	
973-Z-103.1	Myctophidae	Feb.6, 1973	40°00.0'N	62°08.0'W	surface	

Fig. 1

Localities where
specimens were collected
in Bermuda



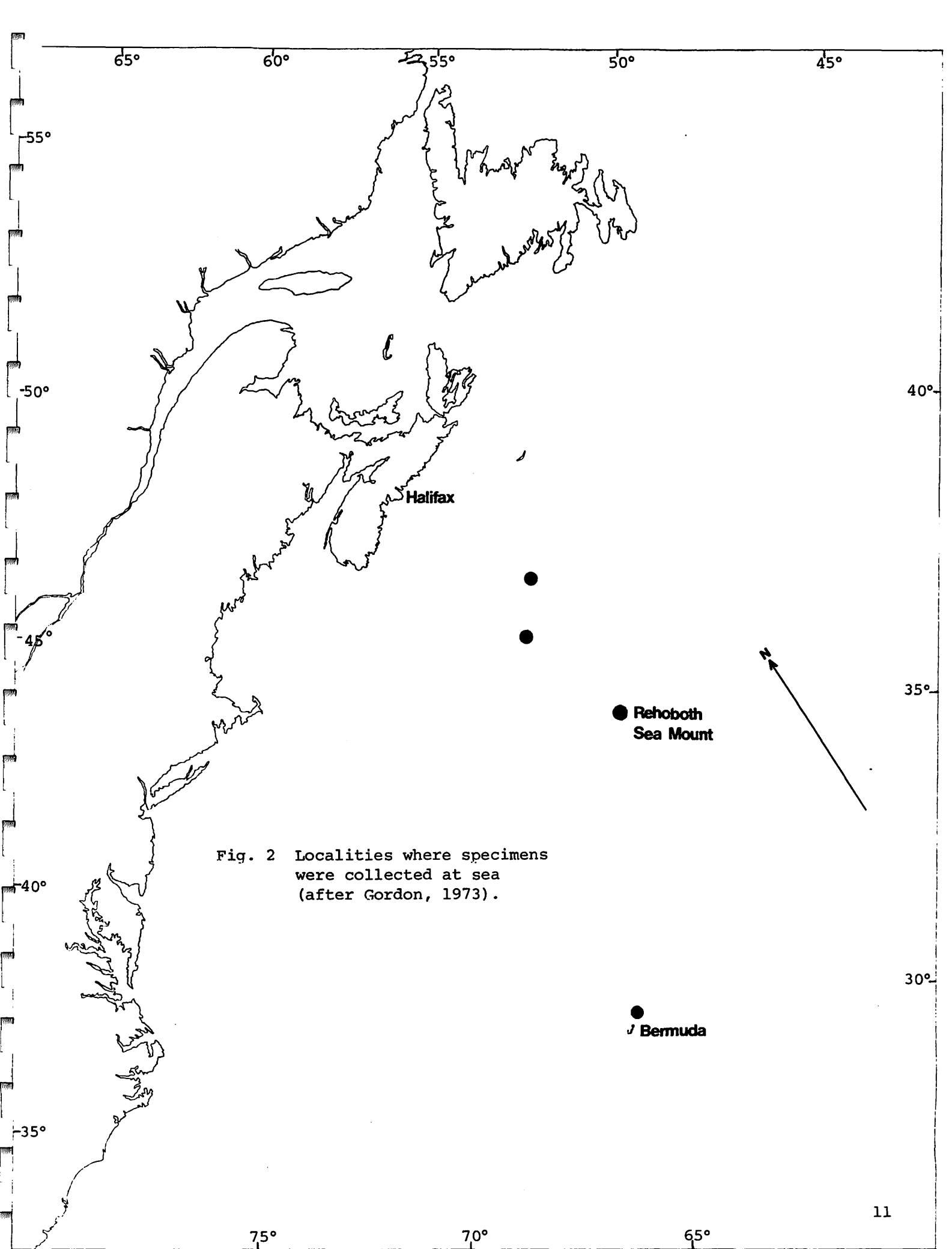


Fig. 2 Localities where specimens were collected at sea (after Gordon, 1973).

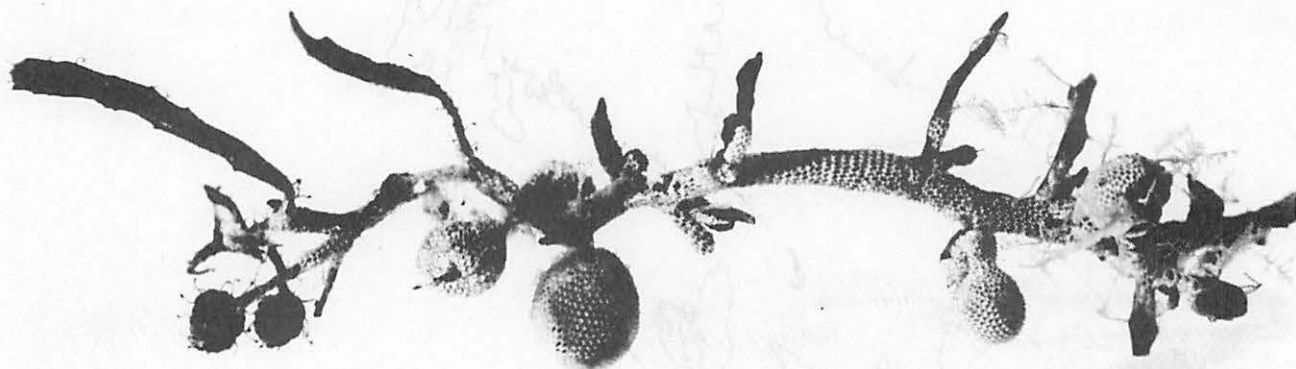


Fig. 3. A sample of *Sargassum* seaweed found washed up on the beach at Whalebone Bay in Bermuda. It is encrusted with Bryozoa and Hydrozoa.

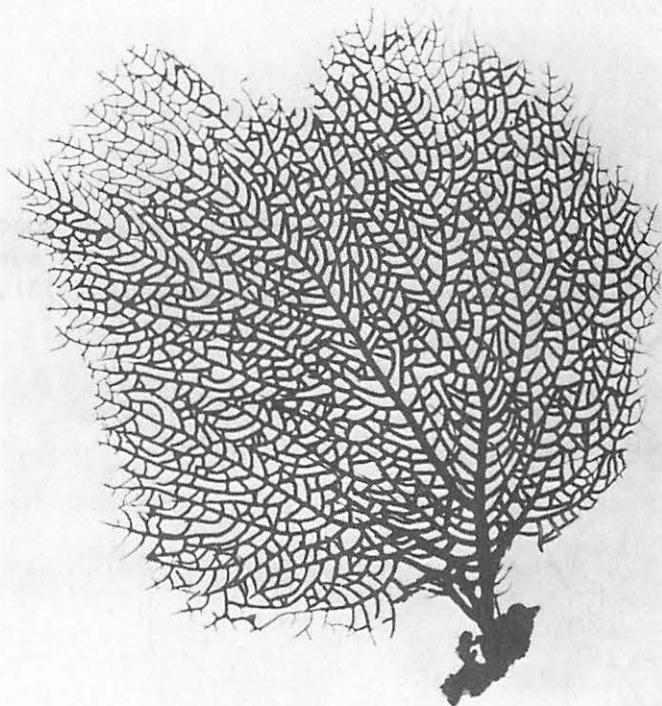


Fig. 4. This sea fan (*Gorgonia*) was also found washed up on the beach at Whalebone Bay.

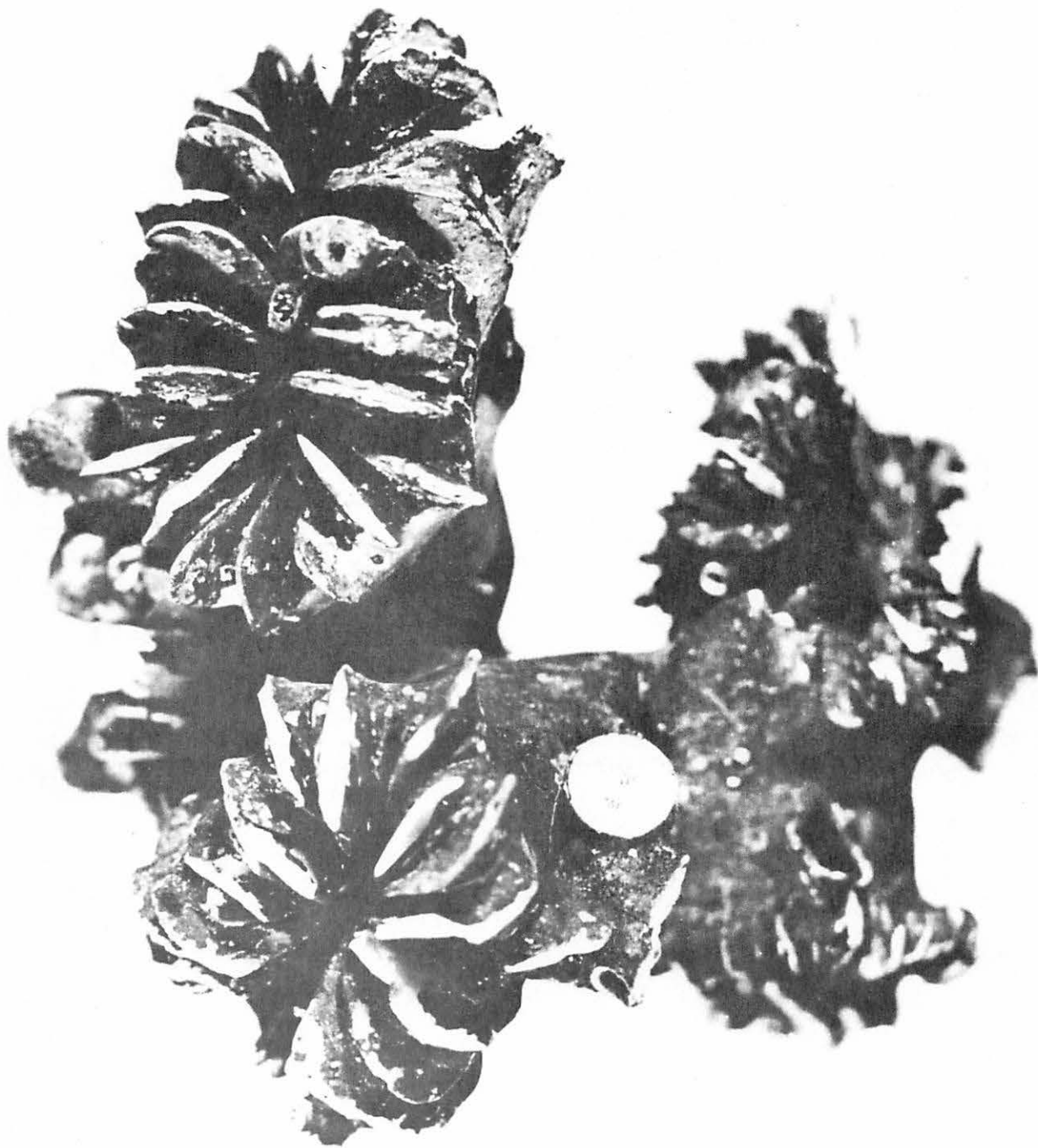


Fig. 5. The coral (*Desmophyllum cristagalli* Milne, Edwards & Haime), dredged from Rehoboth Sea Mount, which was used in the Challenger Exhibit.