4-1981

Ten New Records of Deep Water Marine Algae from Georgia and South Carolina

Stephen M. Blair
Harbor Branch Foundation

Margaret O. Hall
Harbor Branch Foundation

Follow this and additional works at: <https://aquila.usm.edu/goms>

DOI: 10.18785/negs.0402.09

Recommended Citation

Blair, S. M. and M. O. Hall. 1981. Ten New Records of Deep Water Marine Algae from Georgia and South Carolina. *Northeast Gulf Science* 4 (2).

Retrieved from <https://aquila.usm.edu/goms/vol4/iss2/9>

This Article is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in Gulf of Mexico Science by an authorized editor of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

TEN NEW RECORDS OF DEEP WATER MARINE ALGAE FROM GEORGIA AND SOUTH CAROLINA¹

The central portion of the eastern coast of the United States has been recognized as a transition zone between the subtropical and temperate marine floras of the northwestern Atlantic (Hoyt, 1920; Williams, 1948; Stephenson and Stephenson, 1952; Humm, 1969). There is a discrepancy between species numbers recorded for adjacent areas in this region. Searles and Schneider (1978) recorded 297 species of Chlorophyta, Phaeophyta and Rhodophyta from the coast of North Carolina, Wiseman (1978) recorded 105 species from South Carolina, and Chapman (1971; 1973) recorded 63 species from the Georgia coast. Collections taken during the Bureau of Land Management's South Atlantic Hard Bottom Study (Contract AA551-CT8-25) provided new records and geographical range extensions of benthic algae for South Carolina and Georgia.

Dredge collections were made in oil and gas lease tracts in the Georgia Bight during September and October 1978. Sixty-five samples (32 of which contained algae) were taken in 3 tracts (JI198, JI380, JI463) located approximately 95 to 136 km east of Charleston, South Carolina. Six samples (1 of which contained algae) were taken from a fourth tract (BRN912) located approximately 78 km east of Jekyll Island, Georgia. Samples were preserved in 70% ethanol and identified to species level where possible. Identification of certain samples listed in the South Atlantic Hard Bottom Study (Continental Shelf Associates, 1979), hereafter designated SAHBS, was not possible due to the time constraints of the contract. Further examination of the samples has provided a more detailed list of taxa for the present

report. Representative specimens from the collections are on deposit in the Harbor Branch Foundation Herbarium (HBFH).

Twenty-one taxa from three divisions were recorded; 2 Chlorophyta, 5 Phaeophyta, and 14 Rhodophyta. *Codium carolinianum*, *Struvea pulcherrima*, *Dictyopteris justii*, *Spatoglossum schroederi*, *Sargassum pteropleuron*, *Halymenia vinacea*, *Rhodymenia occidentalis*, *Leptofaucha rhodymenioides*, and *Pterothamnion plumula* are new records for South Carolina. *Peyssonnelia rubra* is a new record for Georgia. The presence of *Dictyopteris justii*, *Halymenia vinacea*, *Rhodymenia occidentalis* and *Leptofaucha rhodymenioides* in South Carolina represent northern extensions of their known geographical distributions.

Three species have been previously recorded from Florida, *Dictyopteris justii* (Taylor, 1960), *Halymenia vinacea* (Cheney and Dyer, 1974), and *Leptofaucha rhodymenioides* (Croley and Dawes, 1970). One species, *Rhodymenia occidentalis* had previously been recorded from the Virgin Islands (Taylor, 1960). Table 1 shows the regional distribution of the species collected. (N) = Northern range extension.

Struvea pulcherrima (J.E. Gray) Murray and Boodle

Collections: JI198 13-A-a: 32°45'05"N, 78°53'37"W, 31.5 m; JI463 3-A-a: 32°31'00"N, 78°48'42"W, 45.5 m; JI463 10-A-a: 32°29'44"N, 78°48'04"W, 52.0 m.

Codium carolinianum Searles — as *C. taylori* in SAHBS (Continental Shelf Associates, 1979)

Collections: JI198 3-A-a: 32°46'05"N, 78°51'45"W, 34.0 m; JI198 8-A-a: 32°44'25"N, 78°54'04"W, 32.0 m; JI198 10-A-a: 32°44'32"N, 78°53'49"W, 31.5 m; JI198 15-A-a: 32°45'22"N, 78°53'41"W, 32.0 m; JI198 10-A-a: 32°46'02"N, 78°51'57"W, 33.0 m.

¹ Contribution No. 213 from the Harbor Branch Foundation, Inc.

***Dictyopteris justii* Lamouroux (N)**

Collection: JI463 1-A-a: 32°30'52"N,
78°50'14"W, 46.0 m.

***Spatoglossum schroederi* (Mertens) Kützing**

Collections: JI463 3-A-a: 32°31'00"N,
78°48'42"W, 45.5 m; JI463 13-A-a: 32°
29'57"N, 78°51'24"W, 47.0 m; JI463
22-A-a: 32°30'55"N, 78°48'01"W, 50 m.

***Sargassum pteropleuron* Grunow**

Collection: JI198 13-A-a: 32°45'05"N,
78°53'37"W, 31.5 m.

***Peyssonnelia rubra* (Greville) J. Agardh**

Collection: BRN912 6-A-a: 31°04'23"N,
80°27'37"W, 36.5 m.

***Halymenia vlnacea* Howe and Taylor (N)**

Collection: JI198 7-A-a: 32°44'18"N,

TABLE 1. Regional distribution of the species collected.

	Fla.	Ga.	S.C.	N.C.
Chlorophyta				
Siphonales				
Boodleaceae				
<i>Struvea pulcherrima</i>	+	-	0	+
Codiaceae				
<i>Codium carolinianum</i>	+	-	0	+
Phaeophyta				
Dictyotales				
Dictyotaceae				
<i>Dictyopteris justii</i>	+	-	0	-
<i>D. hoytii</i>	+	-	X	+
<i>Spatoglossum schroederi</i>	+	-	0	+
Fucales				
Sargassaceae				
<i>Sargassum filipendula</i>	+	-	X	+
<i>S. pteropleuron</i>	+	-	0	-
Rhodophyta				
Cryptomeniales				
Squamariaceae				
<i>Peyssonnelia rubra</i>	+	0	X	+
Corallinaceae				
<i>Lithothamnion</i> sp.			X	
<i>Lithophyllum</i> sp.			X	
Melobesiaeeae				
Melobesioid 1			X	
Grateloupiaceae				
<i>Halymenia vlnacea</i>	+	-	0	-
Gigartinales				
Plocamiaceae				
<i>Plocamium brasiliense</i>	-	-	X	+
Rhodymeniales				
Rhodymeniaceae				
<i>Chrysymenia enteromorpha</i>	-	-	X	+
<i>Leptotauchea rhodymenioides</i>	+	-	0	-
<i>Rhodymenia divaricata</i>	-	-	X	+
<i>R. occidentalis</i>	+	-	0	-
<i>R. pseudopalmata</i>	+	+	X	+
Ceramiales				
Ceramiceae				
<i>Pterothamnion plumula</i>	+	-	0	-
<i>Compsothamnion thuyoides</i>	+	-	X	+
Delesseriaceae				
<i>Cryptopleura</i> sp.			X	

+ = Previously recorded; - = not recorded; X = collected this study; 0 = new record this study; +* = Eiseman (unpublished data.)

78°53'53"W, 32.0 m.

***Leptofauchea rhodymenioides* Taylor (N)**

Collections: JI463 15-A-a: 32° 29'08"N, 78° 49'54"W, 51.0m; JI463 19-A-a: 32° 29' 44" N, 78° 48' 54"W, 51.0 m; JI463 21-A-a: 32° 30'05"N, 78° 48'28" W, 0 , 50.0 m, the last collection was recorded as *Fauchea hasleri* in SAHBS (Continental Shelf Associates, 1979).

***Rhodymenia occidentalis* Børjesen (N)**

Collections: JI380 6-A-a: 32° 34'33"N, 78°35'42"W, 51.0 m; JI380 17-A-a: 32° 35' 24"N, 78° 34'44"W, 50.0 m; JI463 6-A-a: 32°30'31"N, 78° 49'21"W, 47.5 m; JI463 13-A-a: 32°29'57"N, 78°51'24"W, ♀, 47.0 m; JI463 16-A-a: 32°29'17"N, 78° 49'29"W, ♀, 49.0 m; JI463 19-A-a: 32°29'44"N, 78° 48'54"W, 51.0 m.

***Pterothamnion plumula* (Ellis) Nägeli**

Collection: JI380 17-A-a: 32° 35'24"N, 78°34'44"W, 50.0 m.

Dictyopteris hoytii Taylor *Sargassum filipendula* C. Agardh, *Plocamium brasiliense* (Greville) Howe and Taylor, *Chrysomenia enteromorpha* Harvey, *Rhodymenia divaricata* Dawson, *R. pseudopalmata* (Lamouroux) Silva, and *Compsothamnion thuyoides* (Smith) Schmitz plus unidentified species of *Lithothamnion*, *Lithophyllum*, and *Cryptopleura* were also present in these collections as was a small melobesioid alga.

ACKNOWLEDGMENTS

We wish to thank Drs. Nathaniel J. Eisman and Richard B. Searles for their comments on the manuscript.

LITERATURE CITED

- Chapman, R.L. 1971. The macroscopic marine algae of Sapelo Island and other sites on the Georgia coast. *Bull. Ga. Acad. Sci.* 29: 77-89.
- _____. 1973. An addition to the macroscopic marine algal flora of Georgia. The genus *Cladophora*. *Bull. Ga. Acad.* 31: 147-150.
- Cheney, D.P. and J.P. Dyer. 1974. Deep-water benthic lagae of the Florida Middle Ground. *Mar. Biol.* 27: 185-190.
- Continental Shelf Associates, Inc. 1979. *South Atlantic Hard Bottom Study*. Report to the Bureau of Land Management, contract AA551-CT8-25. 356 p.
- Croley, C.F. and C.J. Dawes. 1970. Ecology of the algae of a Florida Key. I. Preliminary checklist, zonation, and seasonality. *Bull. Mar. Sci.* 20: 165-185.
- Hoyt, W.D. 1920. Marine algae of Beaufort, North Carolina. *Bull. Bur. Fish., Wash.* 36: 367-556.
- Humm, H.J. 1969. Distribution of marine algae along the Atlantic coast of North America. *Phycologia* 7: 43-53.
- Searles, R.B. and C.W. Schneider. 1978. A checklist and bibliography of North Carolina seaweeds. *Bot. Mar.* XXI: 99-108.
- Stephenson, T.A. and A. Stephenson. 1952. Life between the tidemarks in North America. II. Northern Florida and the Carolinas. *J. Ecol.* 40: 1-49.
- Taylor, W.R. 1960. Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas. 870 pp. Ann Arbor: Univ. Mich. Press.
- Williams, L.G. 1948. Seasonal alternation of marine floras at Cape Lookout, North Carolina. *Am. J. Bot.* 35: 683-695.
- Wiseman, D.R. 1978. In: R.G. Zingmark (ed.) An annotated checklist of the biota of the coastal zone of South Carolina. University of Carolina Press, Columbia, South Carolina. pp. 23-36.
- Stephen M. Blair and Margaret O. Hall, *Harbor Branch Foundation, RR1, Box 196, Fort Pierce, FL 33450.*