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

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# TEN NEW RECORDS OF DEEP WATER MARINE ALGAE FROM GEORGIA AND SOUTH CAROLINA[1]

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 discrepency 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, Leptofauchea 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 *Leptofauchea 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 *Leptofauchea 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 vinacea*** 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 | | | | |
| *Struvea pulcherrima* | + | - | 0 | + |
| Codiaceae | | | | |
| *Codium carolinianum* | + | - | 0 | + |
| Phaeophyta | | | | |
| Dictyotales | | | | |
| Dictyotaceae | | | | |
| *Dictyopteris justii* | + | - | 0 | - |
| *D. hoytii* | +* | - | X | + |
| *Spatoglossum schroederi* | + | - | 0 | + |
| Fucales | | | | |
| Sargassaceae | | | | |
| *Sargassum filipendula* | + | - | X | + |
| *S. pteropleuron* | + | - | 0 | - |
| Rhodophyta | | | | |
| Cryptomeniales | | | | |
| Squamariaceae | | | | |
| *Peyssonnelia rubra* | + | 0 | X | + |
| Corallinaceae | | | | |
| *Lithothamnion* sp. | | | X | |
| *Lithophyllum* sp. | | | X | |
| Melobesiaeae | | | | |
| Melobesioid 1 | | | X | |
| Grateloupiaceae | | | | |
| *Halymenia vinacea* | + | - | 0 | - |
| Gigartinales | | | | |
| Plocamiaceae | | | | |
| *Plocamium brasiliense* | - | - | X | + |
| Rhodymeniales | | | | |
| Rhodymeniaceae | | | | |
| *Chrysymenia enteromorpha* | - | - | X | + |
| *Leptofauchea rhodymenioides* | + | - | 0 | - |
| *Rhodymenia divaricata* | - | - | X | + |
| *R. occidentalis* | +* | - | 0 | - |
| *R. pseudopalmata* | + | + | X | + |
| Ceramiales | | | | |
| Ceramiaceae | | | | |
| *Pterothamnion plumula* | + | - | 0 | - |
| *Compsothamnion thuyoides* | +* | - | X | + |
| Delesseriaceae | | | | |
| *Cryptopleura* sp. | | | X | |

+ = Previously recorded; - = not recorded; X = collected this study; 0 = new record this study; +* = Eiseman (unpublished data.)


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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*** Børgesen (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, *Chrysymenia 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.

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