

**CHAMPIA FELDMANNII DIAZ-PIFERRER AND SPERMOTHAMNION  
GYMNOCARPUM HOWE, TWO NEW RECORDS FOR THE BRAZILIAN COAST.**

**CHAMPIA FELDMANNII DIAZ-PIFERRER AND SPERMOTHAMNION GYMNOCARPUM  
HOWE, DUAS NOVAS REFERÊNCIAS PARA O LITORAL BRASILEIRO.**

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**SUMMARY** – This paper deals with two species of marine Rhodophyta found for the first time along the Brazilian coast. The plants were hitherto known only from Caribbean area. They are *Champia feldmannii* Diaz-Piferrer and *Spermotheramnion gymnocarpum* Howe. Each new record is documented with structural and reproductive features.

**RESUMO** – O trabalho trata de duas espécies de algas marinhas, da divisão Rhodophyta, encontradas pela primeira vez ao longo do litoral brasileiro. As plantas são conhecidas somente na zona das Caraíbas. São elas: *Champia feldmannii* Diaz-Piferrer e *Spermotheramnion gymnocarpum* Howe. Os autores apresentam além de descrições das estruturas vegetativas e de reprodução observações sobre a ecologia dos taxons referidos.

## INTRODUCTION

When the first author studied the benthic algae from Itamaracá and its neighborhood, located in the North of the State of Pernambuco, two species of Rhodophyta that were not hitherto known to occur along the Brazilian coast were found. The species studied here were collected from depths of 0.5-11.0 m, on other algae. Previous studies of deep water marine algae known to occur in Brazil can be found in the following publications: Joly and Oliveira Filho (1967, 1968), Joly and Sazima (1971 a 1971b), Joly *et al.* (1976), Oliveira Filho (1976), Pereira (1974, 1977) and Ugadim and Pereira (1978).

The species studied were collected by the Itamaracá Commission in 1965. Data of the activities of the Commission can be found in Kempf (1967-1969, 1972) and Pereira (1977). The collections were made by hand or by dredge in the deeper stations. Some samples from beyond this region were also studied.

The material studied is deposited in the Phycological Herbarium of the Department of Botany of University of São Paulo (SPF), and in the Herbarium of Department of Biology of Rural Federal University of Pernambuco.

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## RESULTS

*Champia feldmannii* Diaz-Piferrer

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Figures 1-5.

Plants growing in tufts, abundantly and repeatedly irregularly branched, measuring up to 12 cm high. The segments are clearly barrel shaped measuring from 1 to 8 mm in diameter and each segment is about 5 to 8 mm long, the upper ones being smaller. The tips of the branches are frequently curved. Each segment is a hollow vesiculum separated from neighboring segments by a cellular diaphragm. Structurally the cortex is made of one cell layer, formed by very small, roundish cells measuring from 16 to 23  $\mu\text{m}$  in diameter and larger ones measuring from 56 to 107  $\mu\text{m}$  of diameter. The large cells are continuously disposed and the small ones are discontinuous. Tetrasporangia are found scattered between the cortical cells of the segments. The tetrasporangium has a diameter of about 100  $\mu\text{m}$ . Cystocarps, with a diameter of about 1.000  $\mu\text{m}$ , are found scattered on the segments. The carpospore has a diameter of about 100  $\mu\text{m}$ . The spermatangia with a diameter of 16 to 19  $\mu\text{m}$  are also found in the cortical layer of the segments.

The plants from State of Pernambuco were collected in the stations with the prefix ITA. The precise locations of these stations can be found in Pereira (1974, 1977).

*Stations:* ITA 14; ITA 21; ITA 22; ITA 25; ITA 30; ITA 32; ITA 41; ITA 43; ITA 46; ITA 47; ITA 76; ITA 79; ITA 90; ITA 91; ITA 92; ITA 101; ITA 102; ITA 105. (SPF 6716). *Depth:* from 0.5 to 11.0 m.

*Additional material:* from the States of Ceará and Rio Grande do Norte (SPF 7652, SPF 7653, SPF 7654).

*Substrate:* The species was found on *Hypnea cervicornis*, *H. musciformis* and *Vidalia obtusiloba* or on biodetritic facies (ITA 21; ITA 41; ITA 43), or fluvial quartzose sand (ITA 69; ITA 101; ITA 102; ITA 105).

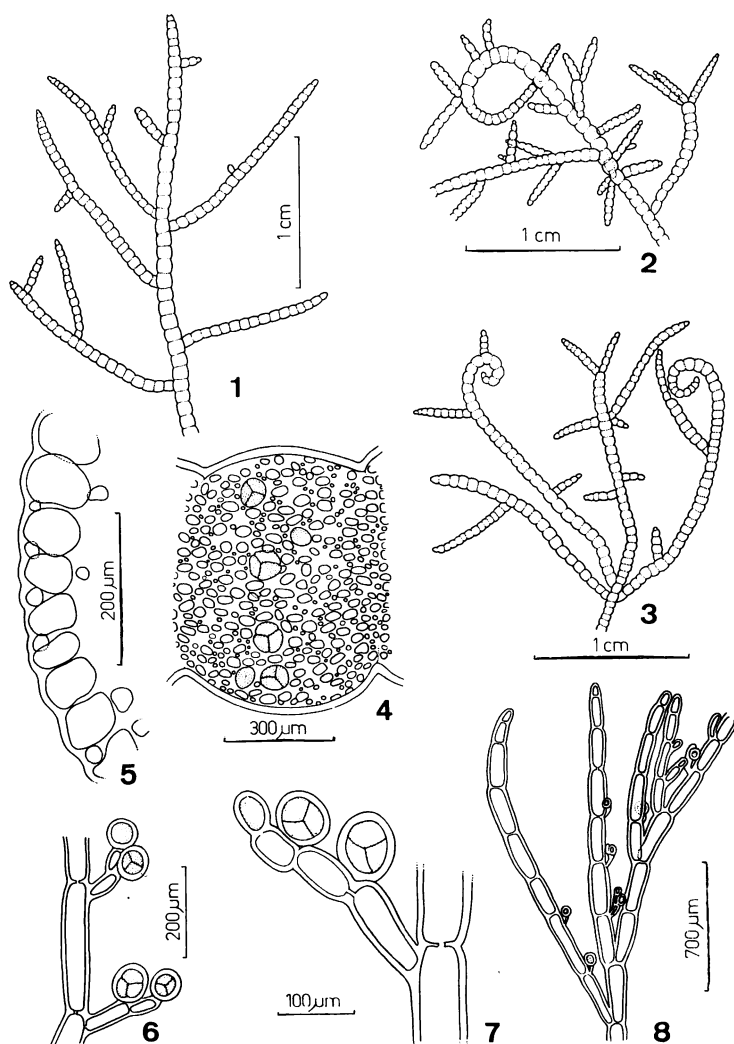
*Comments* — The Brazilian plants are very similar to those described by Diz-Piferrer (1977) as *Champia feldmannii* on the Venezuela coast. This author presents a good comparative summary of the more important taxonomic character for the separation of the species of the genus *Champia*. Diaz-Piferrer found samples at up to 2 m of depth, growing isolated or as epiphytes on species of *Bryothamnion*, *Cryptonemia*, *Laurencia*, *Pterocladia* and *Sargassum*. Tetrasporic, female and male plants were found in January, February, June, July, August, November and December.

*Spermothamnion gymnocarpum* Howe

"in" Britton &amp; Millspaugh, Bahama Flora p. 579, 1920.

Figures 6-8.

Branched filamentous plants measuring up to 1.5 cm high. Decumbent portion formed by unisseriate filaments measuring from 75 to 94  $\mu\text{m}$  in diameter, fixed to the substrate by rhizoids. The erect filaments are abundantly and irregularly branched or with sub secunda branching with a diameter of 85 to 108  $\mu\text{m}$ . The cells of these branches are from 275 to 413  $\mu\text{m}$  long. The thickness of the membrane varies from 16 to 28  $\mu\text{m}$ . The tetrasporangia are on the adaxial side of the branches, measuring from 56 to 65  $\mu\text{m}$  in diameter.



Figs. 1-5 - *Champia feldmannii*. Fig. 1 - Upper portion of a plant without incurved branch tip. Figs. 2 and 3 - Upper portions of plants with incurved branches. Fig. 4 - A segment with tetrasporangia. Note the cortical cells. Fig. 5 - Transverse section of a segment showing the cortical cells.

Figs. 6-8 - *Spermothamnion gymnocarpum*. Fig. 6 and 7 - Portions of tetrasporic plants with tetrasporangia. Fig. 8 - Upper portion of a tetrasporic plant. Note the pattern of branching.

Figs. 1-5 - *Champia feldmannii*. Fig. 1 - Porção superior de uma planta sem râmulo encurvado. Fig. 2 e 3 - Porções superiores de plantas com râmulo encurvado. Fig. 4 - Segmento com tetrasporângios. Fig. 5 - Secção transversal de um segmento mostrando as células corticais.

Figs. 6-8 - *Spermothamnion gymnocarpum*. Fig. 6 e 7 - Partes da planta com tetrasporângios. Fig. 8 - Porção de uma planta tetraspórica.

This species was collected in 6 stations: ITA 21; ITA 31; ITA 32; ITA 34; ITA 72; ITA 77. (SPF 7666, 8812). Depth from 0.5 to 11.0 m.

*Comments* — The plants were found growing on *Laurencia papillosa* and *Crouania attenuata*. We have nothing to add to Taylor's and Howe's discussions (see Taylor 1960 and Howe 1920). This is the first time that this species has been found in the South Atlantic.

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