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# THE SEXUAL MALE PLANTS OF GRACILARIA CEARENSIS (JOLY ET PINHEIRO) JOLY ET PINHEIRO

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## 1 — INTRODUCTION

When we first described *Tylotus cearensis* (see Joly *et al.*, 1965) we were not aware of Papenfuss paper on certain South African marine algae (see Papenfuss, 1952). In this paper, Papenfuss transfered *Tylotus beckeri* (J. Agardh) Kylin to *Gracilaria beckeri* (J. Agardh) Papenfuss, based on the studies made by Dawson (1949) of the type species of the genus *Tylotus* (*T. obtusatus* J. Agardh) from western Australia, that has sporangia zonately divided. Because of this, the union made by Kylin of *Tyleiophora* J. Agardh with *Tylotus* J. Agardh (see Kylin, 1956) was not possible, thus the African plant described as *Tyleiophora beckeri* J. Agardh which has cruciately divided sporangia was excluded from *Tylotus*, as already pointed out by Papenfuss (l. c., p. 175). In the ligth of the evidence brought up by Dawson's studies it is necessary to make the transfer:

*Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro *comb. n.*

*Tylotus cearensis* Joly et Pinheiro, New marine algae from Brazil: 81, pl. V, figs. 1-4, 1965.

## 2 — DESCRIPTION

Of this species, only tetrasporic and female plants were known. This paper describes the male plants and gives additional information on the biology of the species.

The male thallus is an erect structure, of a deep red colour when alive, growing isolated or in small clumps, measuring up to 12 cm high. From a small holdfast the strap shaped thallus arise, showing a di-to politomic branching pattern and reaching from 4 to 8 mm at its widest portion (figure 1). Proliferations can occur either at the points of branching or at the margins.

The dichotomies are from 1,5 to 3,0 cm apart. The vegetative portions are from 320 to 341 micra thick. Structurally the frond shows a medullar region composed of large, roundish, colourless cells; a sub cortical region of smaller cells and a cortex composed of one to three even smaller coloured cells. These cells have a diameter of about 12 micra and are up to 15 micra high.

The spermatangia are produced from the cortical cells on both surfaces and are grouped together forming irregular dark patches when seen from the surface (figure 2). The spermatia are somewhat elongated measuring up to 30 micra high and with a maximum diameter of about 10 micra, clearly forming rows (figures 3 and 4).

This species is very common at the shores of the municipality of Fortaleza, Ceará (see Ferreira & Pinheiro, 1966); it is a shallow water plant being found fixed to rocks partially buried in the sand. This species has been collected all year around but the male plants were secured only during the month of September. In this month also, female-cystocarpic and tetrasporic plants were collected.

## 3 — SUMMARY

This paper besides transfering *Tylotus cearensis* Joly et Pinheiro to *Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro also presents for the first time descriptions of the male structures of this characteristic species.

## 4 — RESUMO

O presente trabalho transfere *Tylotus cearensis* Joly et Pinheiro para *Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro e apresenta, pela primeira vez, descrições das estruturas masculinas desta espécie característica.

## 5 — BIBLIOGRAPHIC REFERENCES

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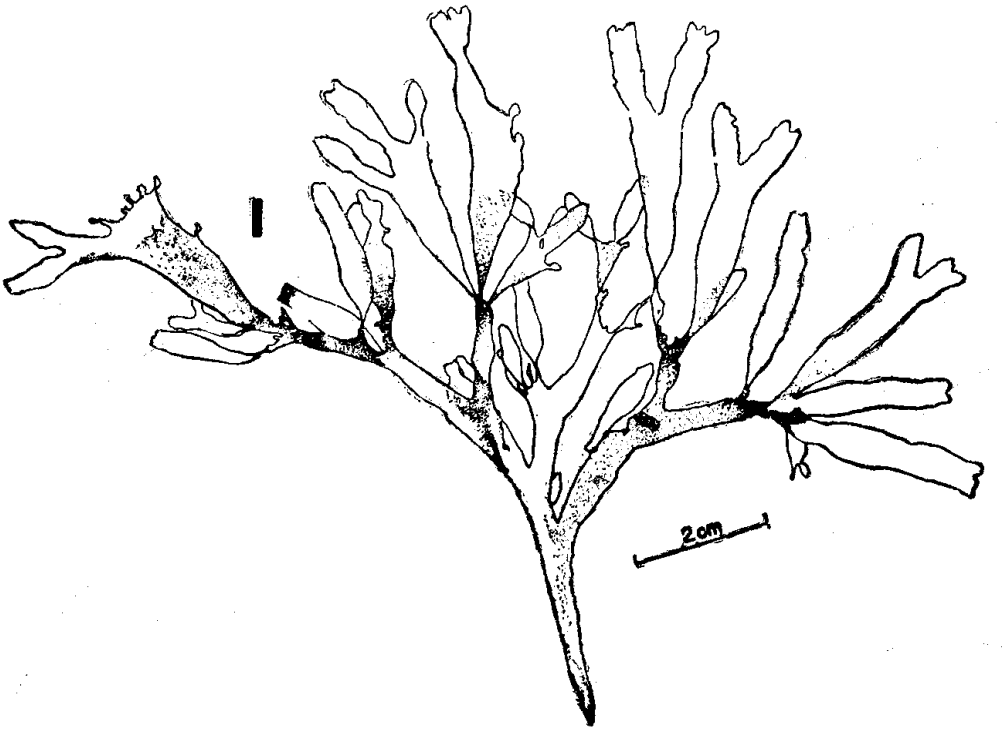
## FIGURES

Figure 1 — Habitus of an old male plant of *Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro.
Figure 2 — Surface view of a group of spermatangia in *Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro.
Figures 3 and 4 — Cross sections of the fertile portion showing developing spermatangia in *Gracilaria cearensis* (Joly et Pinheiro) Joly et Pinheiro.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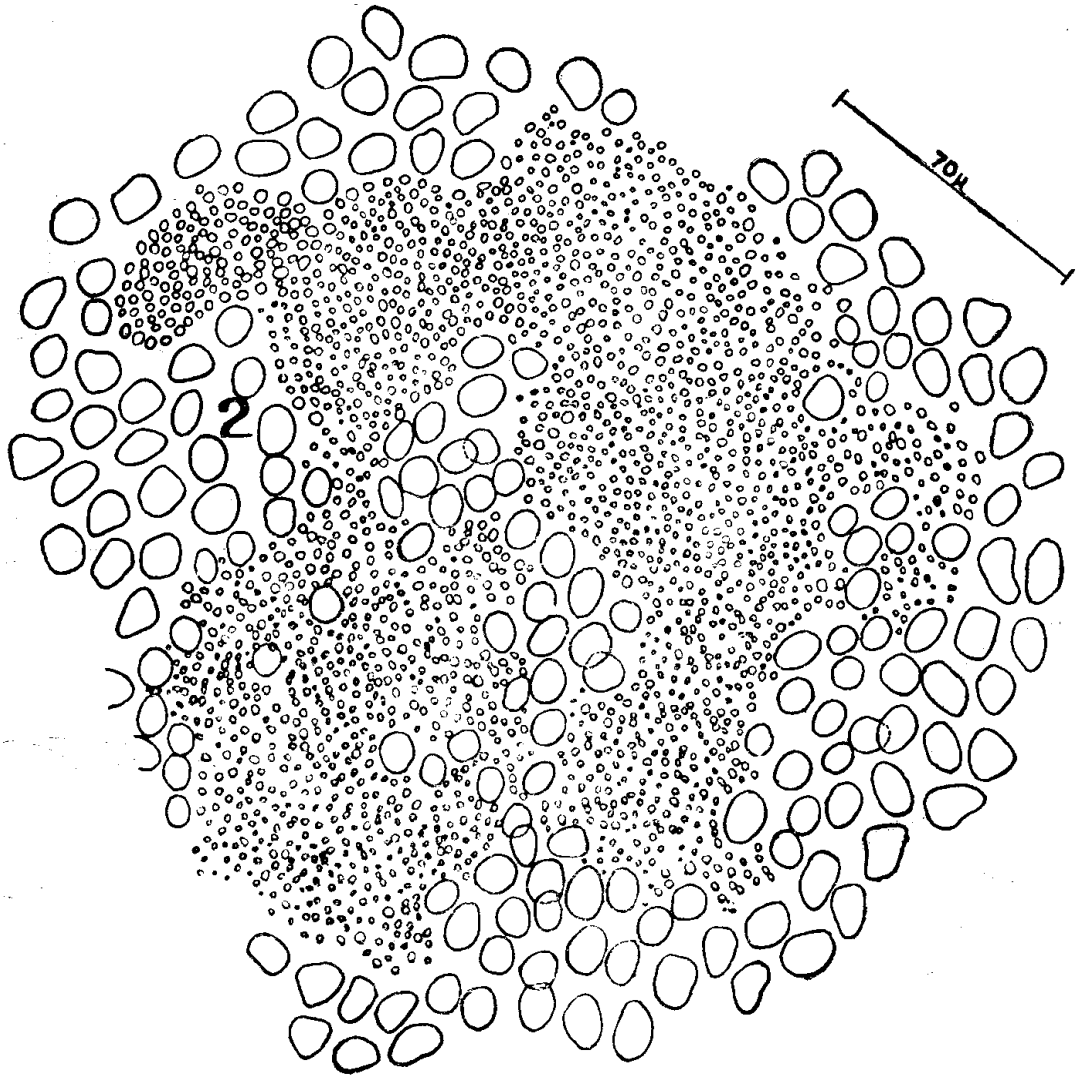
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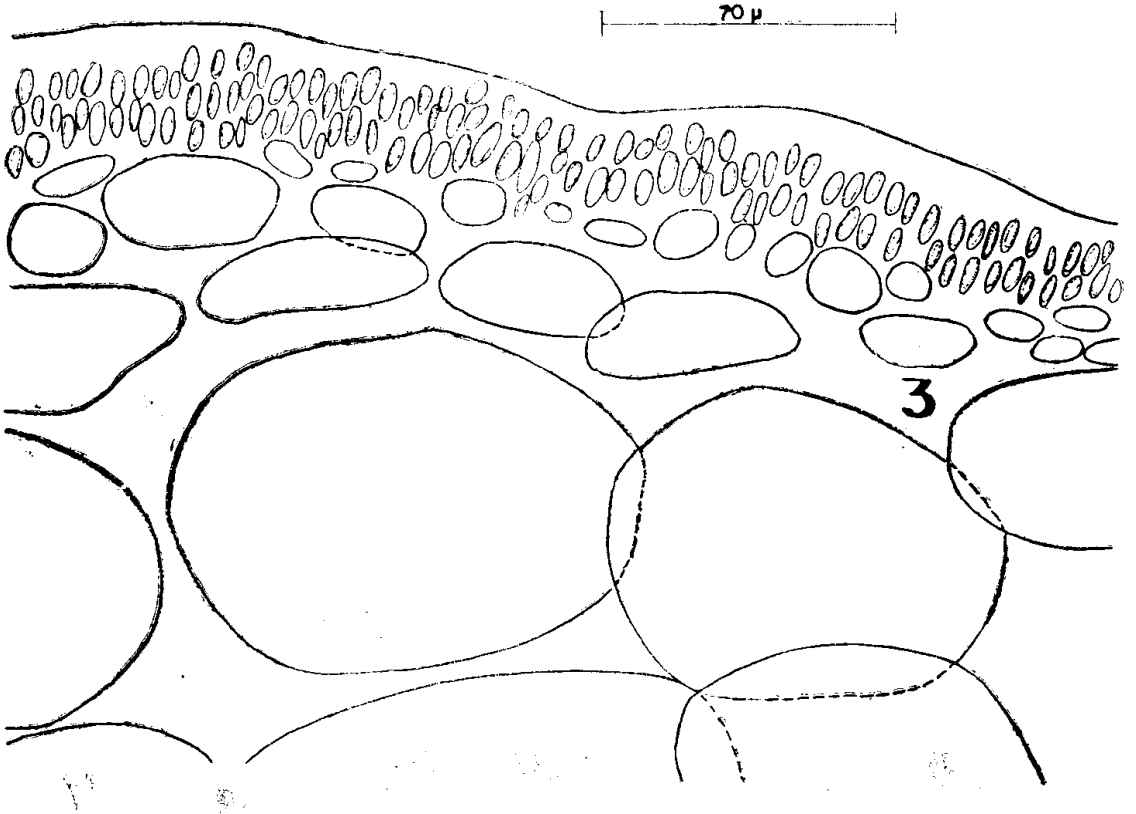
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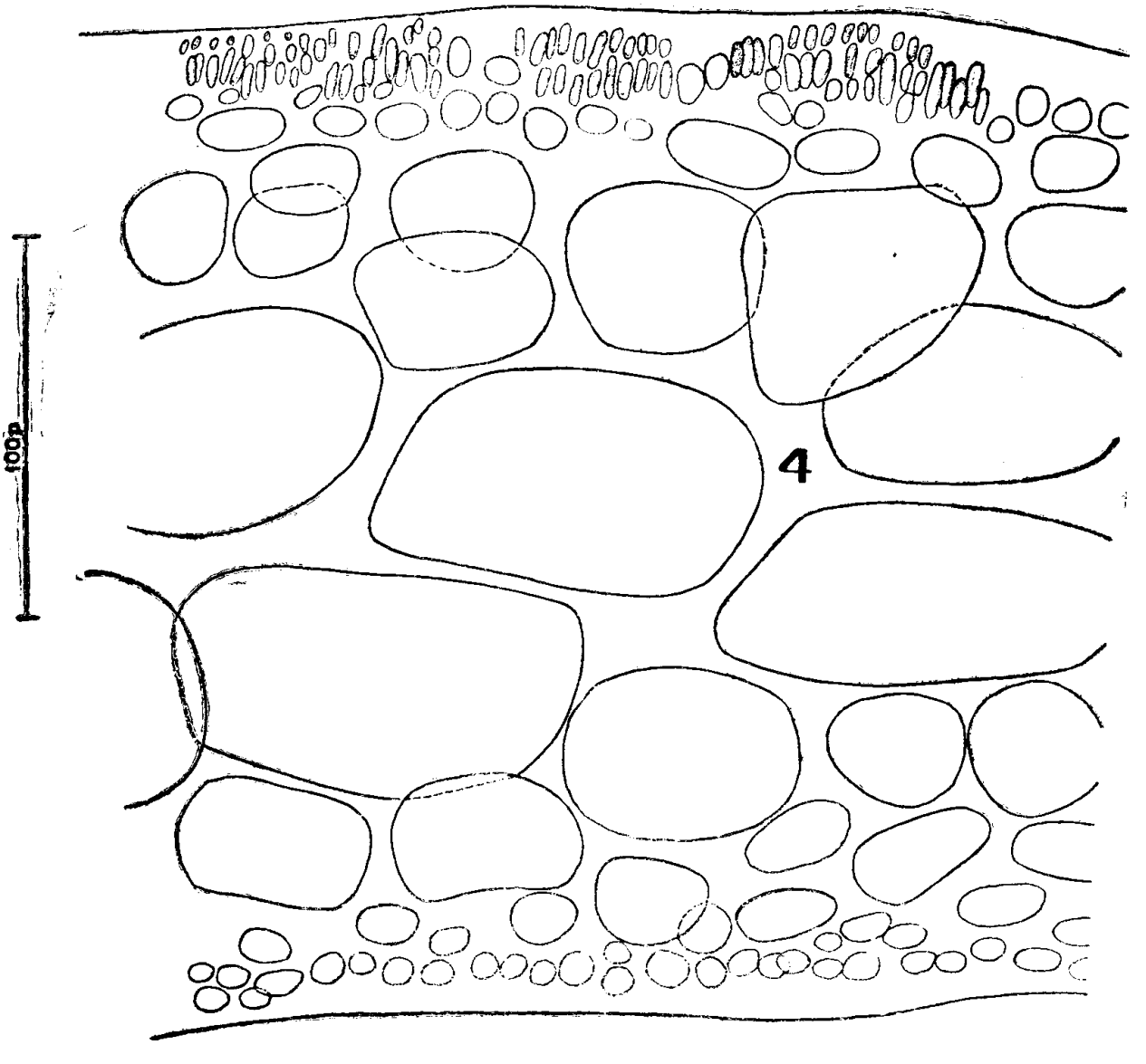
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