

A New Species of Brown Alga from South Africa

by

R. H. Simons

Carpomitra longicarpa Simons sp. nov., a speciebus *Carpomitrae* aliis fronde ecostata tereteque, soris elongatis et filamento uniseriato fili sporangiferi paucis cellulis dilatatis terminato differt.

Frons obscure olivaceo-brunnea cornea ecostata, base callum stuposum deinde unum vel plures primarios axes cauliformes formans. *Axes* filiformes ad 1 mm lati et ad 50 cm alti teretes articulati ramosi penicillis coloratis terminati. *Rami* alterni vel oppositi quam axibus graciliores sed ceterum conformantes. *Sori* pedicellati in ramis vel axibus laterales cylindro-clavati ad 6 mm alti et ad 0.5 mm lati, quisque ab annulo terminali constrictione patenti separati, ex duobus stratis, interiore cellulis elongatis sterilibus, exteriore filamentis fertilibus radiantibus, constantes. *Filamenta fertilia* ex filis sporangiferis constantia circa 200 μ longa. *Filum sporangiferum* ex sporangiis in filamento uniseriato lateraliter portatis constans. *Filamentum uniseriatum* ex circa decem cellulis, superioribus quattuor vel quinque coloratis dilatatis suglobosis c. 16 μ diam., cellula basali subconica, cellulis intermediis cylindraceutis c. 8 μ latis constans. *Sporangia* unilocularia cylindro-clavata ad 60 μ longa et 15 μ lata in cellulis inferis filamentorum uniseriatorum portata. PLATE 1. FIG. 1.

Type: Cape: Bizana district, Mzamba, sublittoral on rocks, *Simons* 865 (PRE, holo.).

Frond dark olive-brown horny unribbed, forming at the base a stupose callus from which one or more primary stem-like axes arise. *Axes* filiform up to 50 cm high and 1 mm broad terete articulated branched terminating in a pigmented penicillus. *Branches* alternate or opposite more slender than the axes but otherwise conforming. *Sori* lateral on branches (or axes) cylindro-clavate up to 6 mm high and 0.5 mm broad, each separated from a terminal annulus by a patent constriction; consisting of two tissues, an inner of elongated sterile cells, an outer of radiating fertile filaments. *Fertile filaments* consisting of sporangiferous threads about 200 μ long. *Sporangiferous threads* each consisting of sporangia carried laterally on a uniseriate filament. *Uniseriate filament* consists of about 10 cells, the upper 4 or 5 pigmented dilated subglobose about 16 μ diam., the basal cell subconical, the intermediate cells cylindrical about 8 μ broad. *Sporangia* unilocular cylindro-clavate up to 60 μ long and 15 μ broad pedicellate on the lower cells of the uniseriate filaments.

CAPE.—British Kaffraria, *Flanagan* 45 (BOL). Bomvanaland Coast, *Filmer* s.n. (BOL). Bizana: Mzamba, *Simons* 865 (PRE, BOL); *Simons* 866 (BOL).

All the cited specimens except *Simons* 865-866 bear the inscription *Carpomitra chytraphora* Kuetz., and one bears the further name "*Carpomitra filiformis* (Suhr) Papenf. (1950)". *Chytraphora filiformis* Suhr, the basionym of *Carpomitra filiformis* (Suhr) Papenf. and *Carpomitra chytraphora* Kuetz. are both described as flattened and with a mid-rib whereas the present plant has terete axes and there is no sign of a mid-rib anywhere. Then, too, the sori of *C. chytraphora* and *C. filiformis* are cupule-shaped which contrasts with the cylindro-clavate shape of the sori of *C. longicarpa*. There is a further difference between the present plant and the other(s) and indeed it is one

which, as far as can be ascertained from the literature, occurs in no other member of the Sporochneales to which order these plants belong: terminating its sporangiferous threads is a series of four or five dilated pigmented cells; in other species there is apparently only one dilated cell at the apex of such a thread.

In general, this plant has the characteristics of members of the order Sporochneales of the Phaeophyceae and, more particularly, of the family Sporochneaceae *sensu* Decaisne (1842). Because of the all but terminal position of its sori, this species belongs either in the genus *Sporochneus* or in the genus *Carpomitra*. Of these two genera, only *Carpomitra* has a sterile annulus differentiated above its sori (Fritsch, 1945, p. 173). Thus the present plant would appear to be a member of this genus. But there is a slight difficulty, because typically the species of *Carpomitra* have sori crowned with a penicillus of fine hairs. The present plant showed no evidence of such a penicillus. However, in the author's opinion this seems an insufficient reason for excluding this plant from the genus *Carpomitra*.

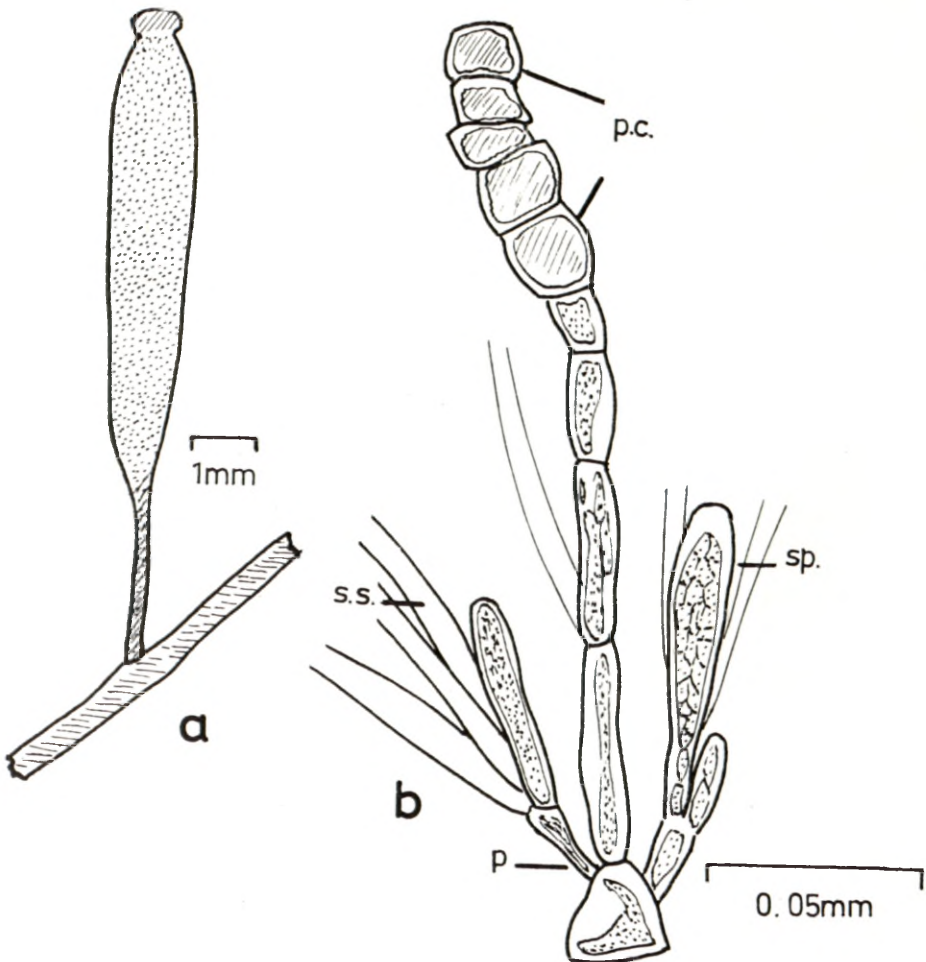


FIG. 1.—*Carpomitra longicarpa*; a, a single sorus supported on its pedicel; b, a single sporangiferous thread from a sorus.

p.—pedicel; p.c.—pigmented cell; sp.—sporangium; s.s.—evacuated sporangium.

REFERENCES

- DE TONI, J. B. (1895). *Sylloge Algarum*, Vol. 3. Patavii.
- FRITSCH, F. E. (1945). *Structure and Reproduction of the Algae*, Vol. 2. Cambridge University Press.
- KUETZING, F. TR. (1859). *Tabulae Phycologicae*. 9: 37, t. 89, fig. 2. Nordhausen.
- PAPENFUSS, G. F. (1943). Notes on South African Marine Algae. II. *J. S. Afr. Bot.* 9: 79-92.
- SUHR, J. N. (1834). Algae von Ecklon. *Flora, Jena* 17 (46) : 721, t. 1.