NOTES ON BRAZILIAN ALGAE. I — NEW FINDINGS CONFIRMING UNCERTAIN RECORDS

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(1) ABSTRACT

This paper reports the finding of *Platysiphonia miniata* (C. Agardh) Börgesen along the Brazilian shores. This genus and species was until now reported under uncertain record (Taylor 1960, p. 551) for the American Atlantic.

(2) INTRODUCTION

Platysiphonia miniata (C. Agardh) Börgesen, known to occur at Cadiz, Spain and in South Africa, has been uncertainly referred to the Brazilian coasts (Taylor 1960, p. 551). Taylor (1. et p. c.) gives De Toni (1900) and Murray (1889) as references. Murray's paper has only one reference to *Sarcomenia miniata* (C. Agardh) J. Agardh, the old name for this plant (J. Agardh 1816, p. 133), giving Guadeloupe as the locality where it was found, in the West Indies besides Cadiz, Spain (type locality for the older *Hutchinsia miniata* C. Agardh 1828, p. 94) (Murray l. c. p. 337). Doubtless Murray was only transcribing the older reference of Mazé and Schramm (1870-1877, p. 268) who apparently were the first to report the present species on the American Atlantic. De Toni (l. c., p. 735) who gathered all the available informations in his time, and was very acurate about geographical distribution of species, quoting after each locality the authority, on which the record was based, unfortunately when he mentions Guadeloupe and Brazil, with a querry after this last country, does not give any references. We were able to trace De Toni's Guadeloupe reference, to Mazé and Schramm (see above), but we could not have any hints on De Toni's Brazilian reference. Possibly it was

a misprinting. This species was apparently never collected again in the American Atlantic. It was with a great interest that we found, when examining a recent collection of marine algae, what seems to us, a plant that is identical with this beautiful and delicate species. Our material came from the "Praia de Peracanga" (Aprox. Lat. S. 21°45', Long. W. 41°32') Municipality of Meaipe, Espírito Santo State, Brazil.

The genus *Platysiphonia* was created by Börgesen (1931) for three species of *Sarcomenia,* namely *S. miniata* (C. Agardh) J. Agardh (designated as the type of the new genus), *S. intermedia Grunow,* and *S. mutabilis* (Harvey) J. Agardh, based on differences of thallus structure between these plants and *S. delesserioides* Sond., the type of *Sarcomenia*. More recently Papenfuss (1944 p. 206) transfered *Taenioma clevelandii* Farlow to *Platysiphonia,* and Silva & Cleary (1954) described a new species, *P. parva*. The distinction between the known species of this genus is based chiefly in the position of the lateral branches, the number and the pattern of division of the flank cells in the tetrasporic branches (cf. Silva & Cleary 1954).

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(3) DESCRIPTION

Plants growing on mussels (*Perna perna* L.), up to 1 cm high, showing a rosy-red colour when alive, having an inconspicuous more or less cylindrical portion fixed to the substratum by long unicellular rhizoids. The erect branches are distinctly flatened, measuring 90-150 micra broad, tapering to the apex; the lateral branches are all produced on the adaxial face of the first order branches, arising always from the central row of cells, which is surrounded by four pericentrals, from those the lateral ones are much more developed, each of which giving rise to two cells, the flank cells, in such a way that, in cross section, there is a thallus with three layers of cells in the midrib and only one layer of cells in the wing portion, being five cells broad from margin to margin. The apical cell is very conspicuous, cutting transversely 3 to 5 segments before each of

these begins to produce the pericentrals. The lateraly placed pericentrals first cut, by an oblique wall, the anterior flank cells.

The tetrasporangia (34-38 micra diameter) are produced acropetally in two rows, in branches similar to the vegetative ones, that are a little broader (150 micra) and shorter (1200 micra). The tetrasporangia arise from the lateral pericentrals, that first divide by an anticlinal wall, giving rise to two cells, of which the upper one will be the tetrasporangium, while the other will suffer two more divisions (periclinals) producing one little cover cell on the adaxial side and a more developed cover cell on the abaxial side. Just after the first division of the lateral pericentrals, the two existing flank cells divide once each, in such a way, that we have 4 flank cells on each side of the branch for each central cell, as compared with two on the vegetative portions; with the development of the tetrasporangia the lateral pericentrals enlarge radialy very much.

(4) SUMÁRIO

Êste trabalho relata a ocorrência de *Platysiphonia miniata* (C. Agardh) Börgesen nas costas do Estado do Espírito Santo, Brasil. Sòmente foram coletadas plantas tetraspóricas. O presente trabalho vem esclarecer as referências duvidosas da ocorrência desta espécie no Atlântico Americano.

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Plate I

Platysiphonia miniata

Figs. 1-6. Portion of a mature tetrasporic plant. Detail of the basal part of a short branch. Apex of a growing branch; note the sequence that pericentrals and flank cells are formed. Detail of an old tetrasporangial branch (the tetraspores were shed) showing the characteristic number of flank cells in the fertile portions. Cross section of the vegetative thallus. Apex of a developing tetrasporangial branch; stapled cells (young tetrasporangia), shaded cells (fertile pericentrals), cover cells, flank cells, axial cells and sterife pericentrals outlined only.

PLATYSIPHONIA