

Acknowledgement I wish to express my gratitude to Director, Botanical Survey of India for all facilities.

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Triuranthera 属は 4 種をふくみ、スマトラとボルネオに分布している。ボルネオから記載された *Medinilla dispar* Cogn. も本属のものであることが分り、4 種の区別を検索表で示した。

○Male organs of *Pterocladia capillacea* (Gelidiaceae, Rhodophyta)

(Isamu AKATSUKA) 赤塚伊三武：紅藻オバクサの雄性生殖器官

The present paper deals with male organs of *Pterocladia capillacea* (Gmel.) Born. & Thur. (= *Pterocladia tenuis* Okamura), a member of the Gelidiaceae. Materials used in the present study were collected in August, 1972, near the Experiment Station of Tokyo University of Fisheries, which was located in Kominato, Chiba Prefecture. Thirty four individuals were found out as male plants after the careful examination of the materials which included about 1000 individuals. The male plants measure 2-10 cm in height. They

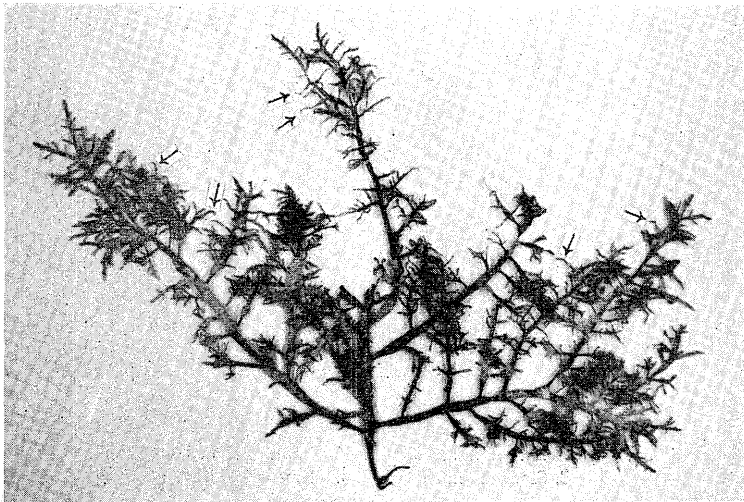


Fig. 1. A male plant of *Pterocladia capillacea*. Arrows show branchlets forming male reproductive organs. $\times 1$.

are similar to the female or tetrasporangial plants in their external appearance and not easily distinguished from the latter (Fig. 1).

The antheridial sori forming patches are found not only on the ultimate branchlets, but also on the branches and main axes. The male fertile branchlets tend to bend to the dorsal direction and, in many cases, they are somewhat larger than the sterile ones.

Basing on my own observations, the process of antheridium formation of this plant may be summarized as follows. In surface-view of male fertile areas, the outermost cells of cortex, whose shape is oviform, undergo a division taking place slightly oblique to the longer axis of the cell (Fig. 2-a, -b). In each of these cells the cell division takes place perpendi-

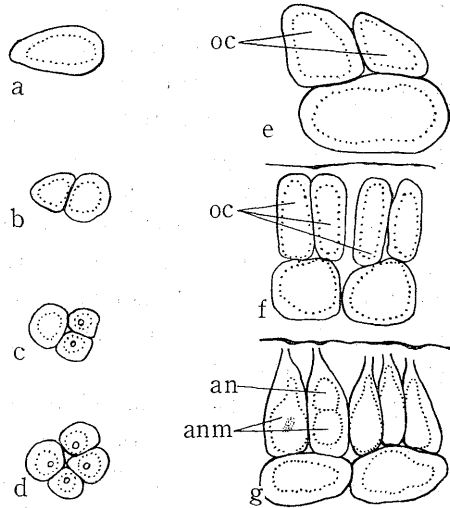


Fig. 2. Antheridium formation in *Pterocladia capillacea*. a-d. Various stages in the antheridia formation. e-g. Sectional view of various stages of the antheridia formation (an., antheridium; anm., antheridial mother cell; oc., outermost cortical cell). $\times 1100$.

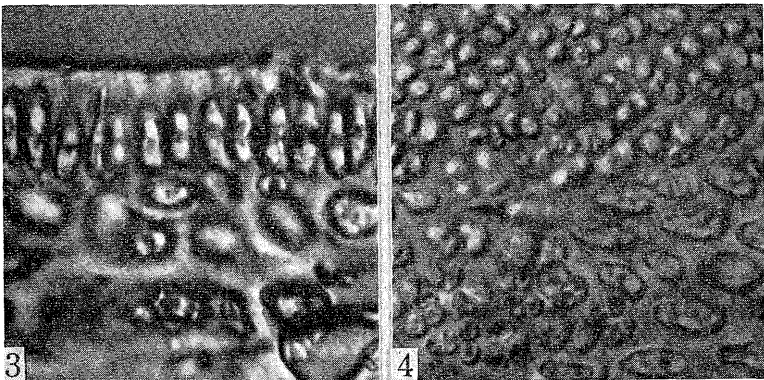


Fig. 3. Sectional view of male plant of *Pterocladia capillacea*, showing an arrangement of male reproductive organs. $\times 1100$. Fig. 4. Surface-view of male plant of *Pterocladia capillacea*, showing arrangements of male reproductive cells and vegetative ones. $\times 1100$.

cularly to the first-formed division, resulting in four cells (Fig. 2-c, -d). In the sectional view, the outermost cortical cells are divided into two cells with the plane, which occurs vertically to the thallus surface (Fig. 2-e, -f). These two cells become an initial of the antheridial mother cells. These cells again undergo cell divisions which take place parallel to the first-formed plane and result in four cells, namely the antheridial mother cells. Compared with the vegetative cells, the antheridial mother cells are slightly longer, measuring about 8μ (Fig. 3). In general, four antheridial mother cells are derived from a single outermost cortical cell. The antheridial mother cells are then divided transversely into two cells, whose distal one transforms into antheridium (Fig. 2-g) which measures about 2μ wide and 4μ high. Four antheridia formed in this manner stand aggregate, forming a group. The antheridia are almost elliptical in surface-view and measure about $2 \times 2.5\mu$ (Fig. 4).

The result of the present investigation agrees fundamentally with that on the male reproductive organs of other species of *Pterocladia* so far studied (Bornet & Thuret, 1876; Newton, 1931; Feldmann & Hamel, 1936; Fan, 1961). The manner of the antheridium formation of the present species is also similar to that of the species of *Gelidium* (Bornet & Thuret, 1876; Kylin, 1928; Dixon, 1959; Fan, 1961; Akatsuka, 1970).

I wish to express my thanks to Prof. Hideo Kasaki, Tokyo Metropolitan University, for kindly reading the manuscript, and also thank Mr. Ken O'Yabu, Onzyuku Kasei Senior High School, for collecting the materials.

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オバクサ (紅藻類, テングサ科) の雄性体は雌性体または四分胞子体に比較して, 外形的には著しい相違を示さないが, 次に述べる形質により区別できる。1) 精子嚢を生じた最末小枝はやや大形となり, 2) 一方の側にそり返る, 3) その部分は色が褪色して白色に近い。原則として, 1個の表皮細胞から4個の精子嚢が形成される。

(Dept. Biol., Tokyo Metropolitan Univ. 東京都立大学理学部生物学科)