Commun. Fac. Sci. Univ. Ank. Series C
V. 7, pp 1-4 (1989)

ECTOCARPUS SPECIES LIVING AS PARASITES IN THE MARINE ENVIRONMENT IN OUR SEAS.

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(Received: 3. July. 1989)

ABSTRACT

In the marine environment surrounding Turkey on there sides many Algae types and species are living. The Algae hanging firmly on the thallus and rhizoids of these species and living as parasytes are most commonly classified as species of Ectocarpus.

INTRODUCTION

There are 15 parasytic species of *Ectocarpus* in the world (Newton, L. 1931) (Fritsch E. F. 1965). There are 8 types of these species gathered up in our seas. They live as parasytes over the algae existing mostly on the *P*haeophyceae and Rhodophyceae group. These *Ectocarpus* species having a thread-like thallus hang on firmly to the algae over which they exist. Their lives are 1-2 months longer compared to the lives of algae which do not have parasyte characteristics.

MATERIALS AND METHODS

Parasytic species of *Ectocarpus* was collected from Aegean Sea and Mediterranean Sea. They were kept in % 5 formaldehyde with the non parasitic species of the algaes. After that algaes prepared for microscopical study with regular methods.

OBSERVATIONS

Let us point out the 8 types of *Ectocarpus* species existing as parasytes in the marine environment in our seas with due referance to their characteristics:

E. tomentosoides Farl.

Gregarious, covering the host plant with a matted growth, or more scattered, forming patches in the lamina; filaments are 1,2 cm. in length, attaining highest development in the spring; articulations once or twice as long as broad. Plurilocular sporangium borne in short, numerous,

straight or slightly falcate branches, diverging at right angles from the filaments, sessile, linear, generally simple. (Figure). On the species of *Cystoseira*.

E. battersii Born.

Forming lax tufts, 1,2 mm. in height; erect filaments simple or branched, terminating in a hair. Plurilocular sporangium ovoid or elongated. sessile or shortly stalked, borne on the erect filaments or arising from the basal layer; unilocular sporangium subglobose, borne among the plurilocular sporangium or on seperate filaments. (Figure). On Taonia Atomaria.

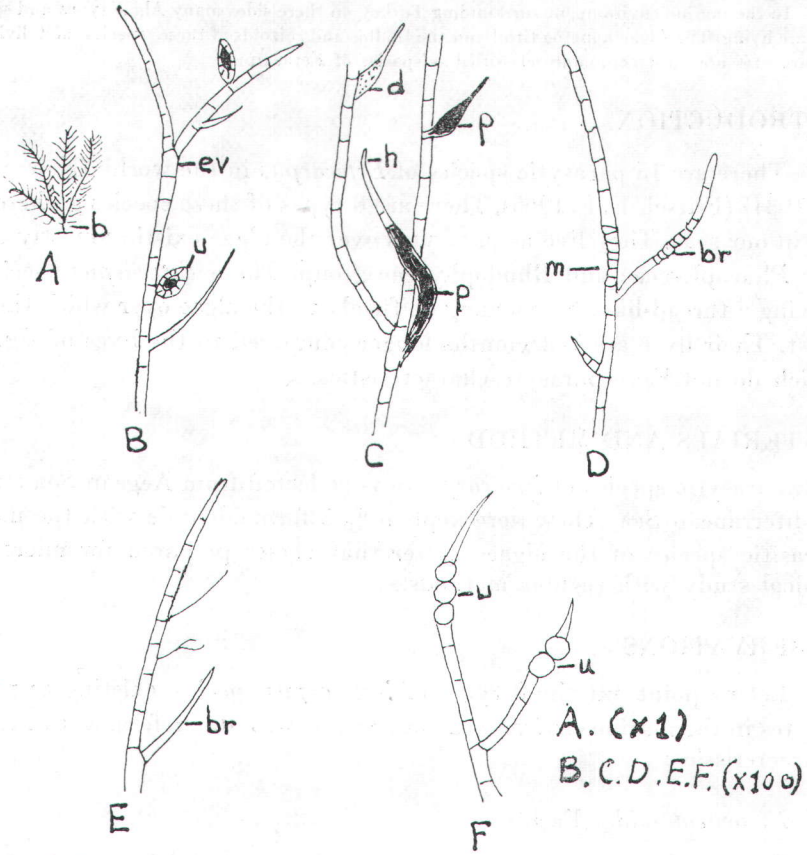

Figure A, Ectocarpus tomentosoides Farl. habit;, B, with unilocular sporang:um; C, with plurilocular sporangium; D, Ectocarpus luteolus Sauv.; E, Ectocarpus Battersii Born.; F, Ectocarpus clandestinus Sauv.; b, basal system; br, branch; d, dehisced plurilocular sporangium; ev, point of evection; h, hair; m, intercalary meristem; p, plurilocular sporangium; u, unilocular sporangium.

E. luteolus Sauv.

Occuring in and among the outer cells of the host; much branched at the base, the branches forming a cushion from which the erect filaments arise; erect filaments simple, attenuate upwards, terminating in a hair, articulations 1–3 times as long as broad. Plurilocular sporangium terminal or lateral, 30–80, mm. long. (Figure). On *Fucus vesiculosus* and *Fucus serratus.*

E. clandestinus Sauv.

Filaments simple, 2–6 mm. long, occuring in hemispherical tufts, formed of short assimilating filaments arising from a cushion-like base and elongated hairs; assimilating filaments erect or incurved, attenuate at the base, obtuse at the apex; articulations 1–4 times as long as broad. (Figure). Parasitic on the thallus of *Fucus vesiculosus, Fucus serratus.*

E. minimus Naeg.

Small species forming a fringe on the fronds of the host; filaments scarely 3 mm. long, simple or furnished with a few short branches given off at wide angles. Plurilocular sporangium irregularly oval or oblong, borne at the apices of the branches. Parasitic on *Ceramium rubrum, Cladophora rupestris.*

E. microscopicus Batt.

In tufts about 3 mm. diameter, branched, articulate, attachment rhizoids formed from the lower colourless parts of the filaments; upper branches fastigiate, assimilating, or bearing colourless hairs which are attenuate at their apices, their articulations being 6 times as long as broad. Sporangium numerous, cylindrical, sessile, borne on the ramuli. Parasitic on *Gracilaria compressa.*

E. simplex Crouan

Frond 1 cm. in length, branches few, alternate, occasionally opposite or unilateral. Sporangium conical, obtuse, pedicellate. On species of *Dictyota.*

E. solitarius Sauv.

Filaments growing below the epidermis of the host or on the surface; external erect filaments short and terminated by a sporangium or

long and ending in a hair. Plurilocular sporangium terminal on short filaments or lateral on long filaments on old fronds of *Dictyota dichotoma*.

DISCUSSION

The *Ectocarpus* species living as parasytes hanging firmly on the thallus and rhisoid of the algae in the Phaeophyceae and Rhodophyceae classification have 15 different types in the world; however only 8 types are gathered up in the marine environment Turkish seas. These species, compared to the parasitic *Ectocarpus* species living in the other seas of the world, are more poorly developed, less branched and shorter. These sort of parasitic species; hinder development of their plants which they live on them.

ACKNOWLEDGEMENT

I am grateful to Dr. Eifion Jones from Marine Science Laboratoires, University of Bangor, for his help on the identify to the species of Ectocarpus.

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