ECTOCARPUS

Systematic position -

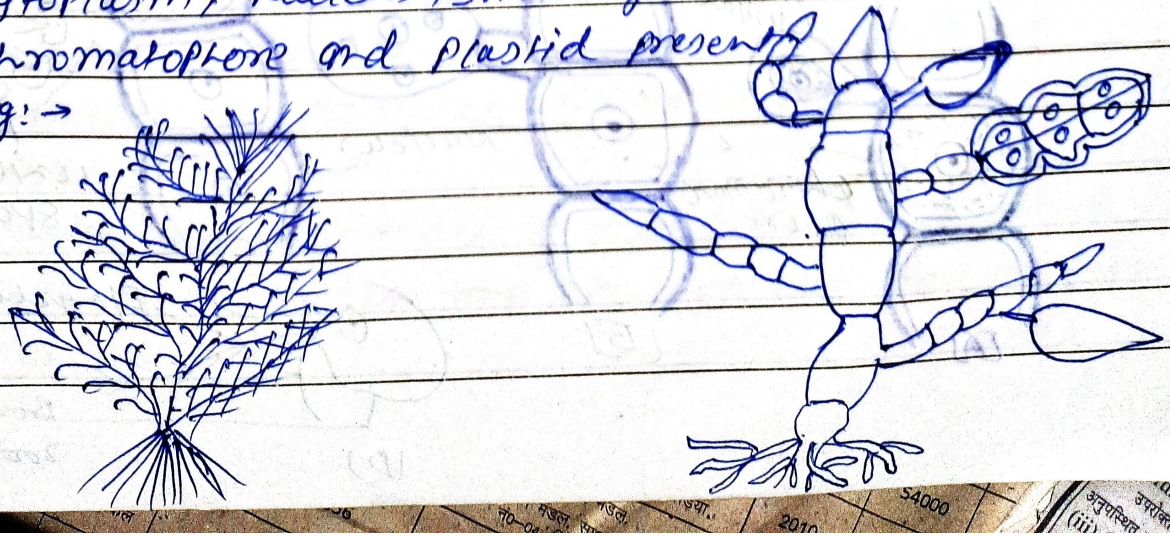
Class – Phaeophyceae
Order – Ectocarpales
family – Ectocarpaceae
Genus – Ectocarpus

Occurrence :- (i) It is most primitive brown alga.
(ii) It has worldwide distribution found in temperate and polar region.
(iii) In India - Atlantic sea coast, Epiphytic and Endophytic in nature.

STRUCTURE

(i) Plant body is small heterotrichosis filament differentiate into erect and prostrate system.
(ii) The prostrate system is irregularly and frequently branched.
(iii) Filament are generally uniseriate and usually consists of a single strand of class.
(iv) Branch is always lateral with colourless mucilage hair
(v) Filament are short and cylendrical. cell wall is thick, 3-layer made up of pectic-cellulose layer.
(vi) Cytoplasm, nucleus, small golden brown disc shaped chromatophore and plastid present.

Fig: →



Reproduction of Ectocarpus = 2 types

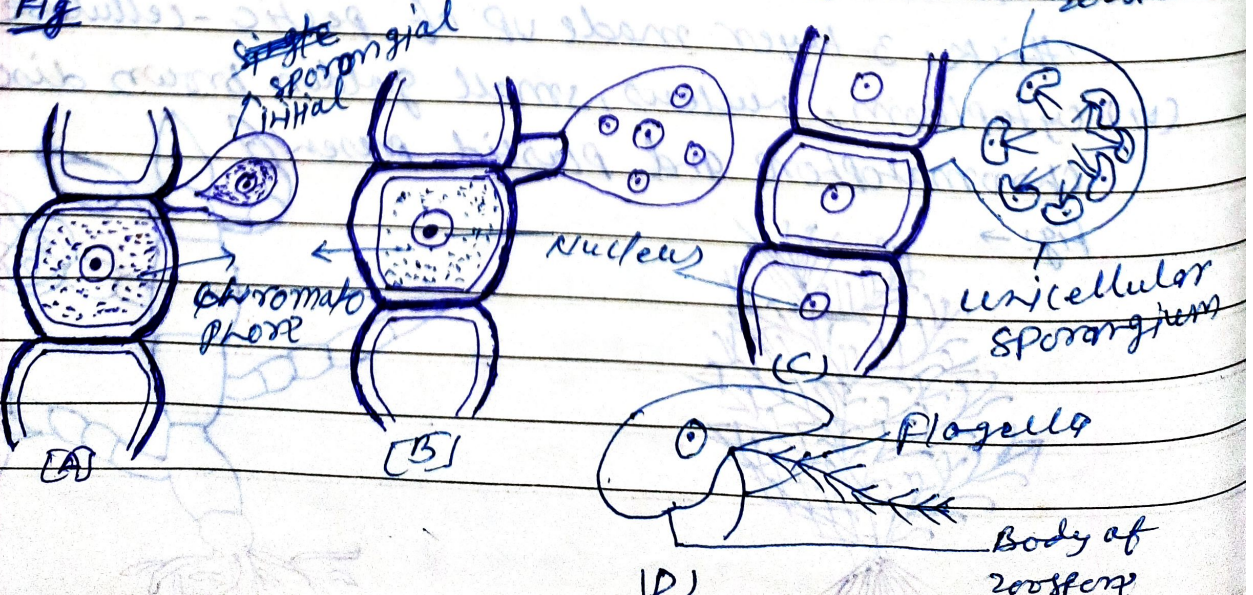
(1) Asexual Reproduction — on Diploid Halli
(2) Sexual Reproduction — on Haploid Halli

(1) **Asexual Reproduction** — It is two types of asexual reproduction —

(A) Natural zoospore
(B) ~~Neutral~~ Neutral zoospore.

(B) **Neutral zoospore** — (i) It is long core like multicellular called pluriloculus sporangia.
(ii) sporangia are uninucleate and diploid in nature Reniform, biflagillate.
(iii) sporangia are stalked or sessile born on lateral branch tip of prostrate system.
(iv) protoplast metamorphosed into zoospore.
(v) Flagella are unequal, bigger, tinsel and smaller are whiplash type.
(vi) zoospore are liberated through apical pore and swim in water come to bottom.
(vii) zoospore ~~from the prostrate~~ germinate by producing a tubular structure from the prostrate system (sporophyte) plant body.

Fig



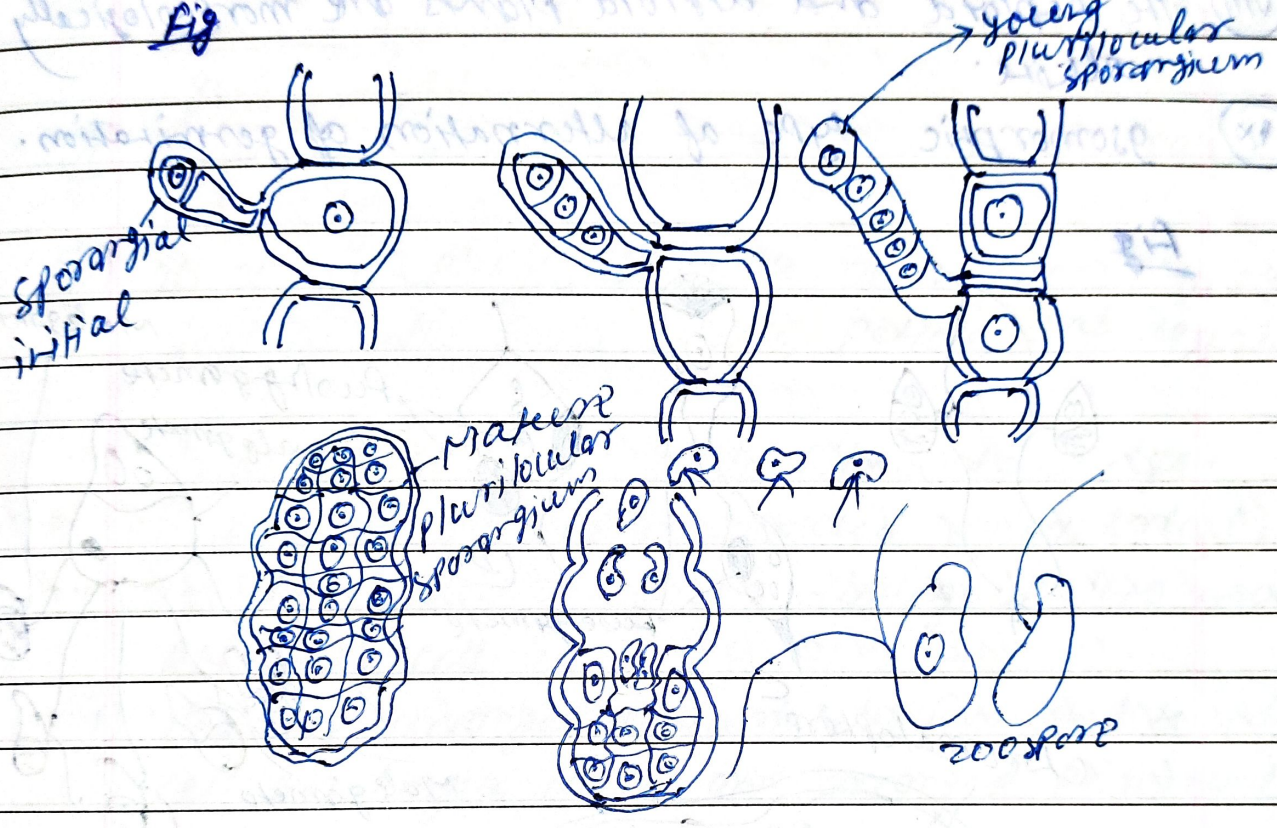
(B) Natural zoospore :- (i) It produce from unilocular sporangia at the tip of lateral branch of erect system.

(ii) Diploid (2n) nucleus meitically and mitotically forming 02-64 zoospore called Meiozospore.

(iii) zoospore are liberated through apical pore of sporangia

(iv) zoospore germinate into gametophytic plant body.

Fig



(2) Sexual Reproduction

(i) It takes place by the formation of biflagellate gamete.

(ii) Gamete are structurally similar to zoospore.

(iii) Gamete are produced in gametangia born on diploid plant.

(iv) Similar gamete are active and function as male is called (+) Strain and passive function as female(-) Strain