

**PHAEOPHYCEAE-STRUCTURE
AND REPRODUCTION
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PHAEOPHYCEAN CELL

PHAEOPHYCEAE [CHROMOPHYCOTA]

CHLOROPHYLL A; CHLOROPHYLL C.

BETA CAROTENE; FUcoxANTHIN;

LAMINARIN AND MANNITOL stored on physodes or fucosan vesicles.

PLASTID HAS PERIPLASTIDIAL CISTERNAE the outer membrane of which continuous with outer nuclear membrane. Stalked pyrenoid often protruding.

FLAGELLA ONE OR TWO, LATERAL, anteriorly forwarding long and tinsel, posterior flagellum short and whiplash.

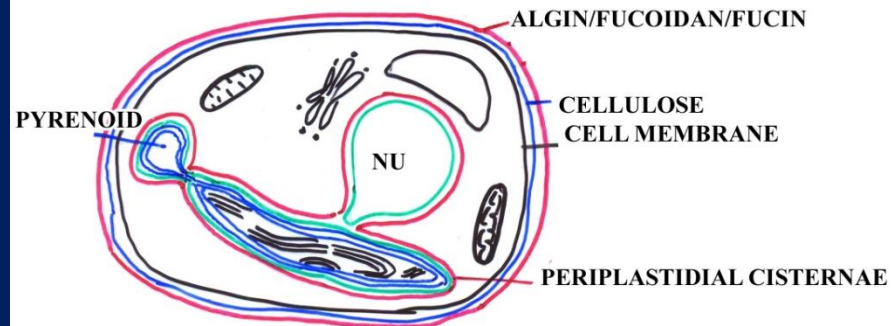
**LIFE-CYCLE: DIPLOHAPLONTIC OR SPORIC/
DIPLONTIC OR GAMETIC**

CELL WALL: INNER CELLULOSIC, OUTER ALGINIC ACID

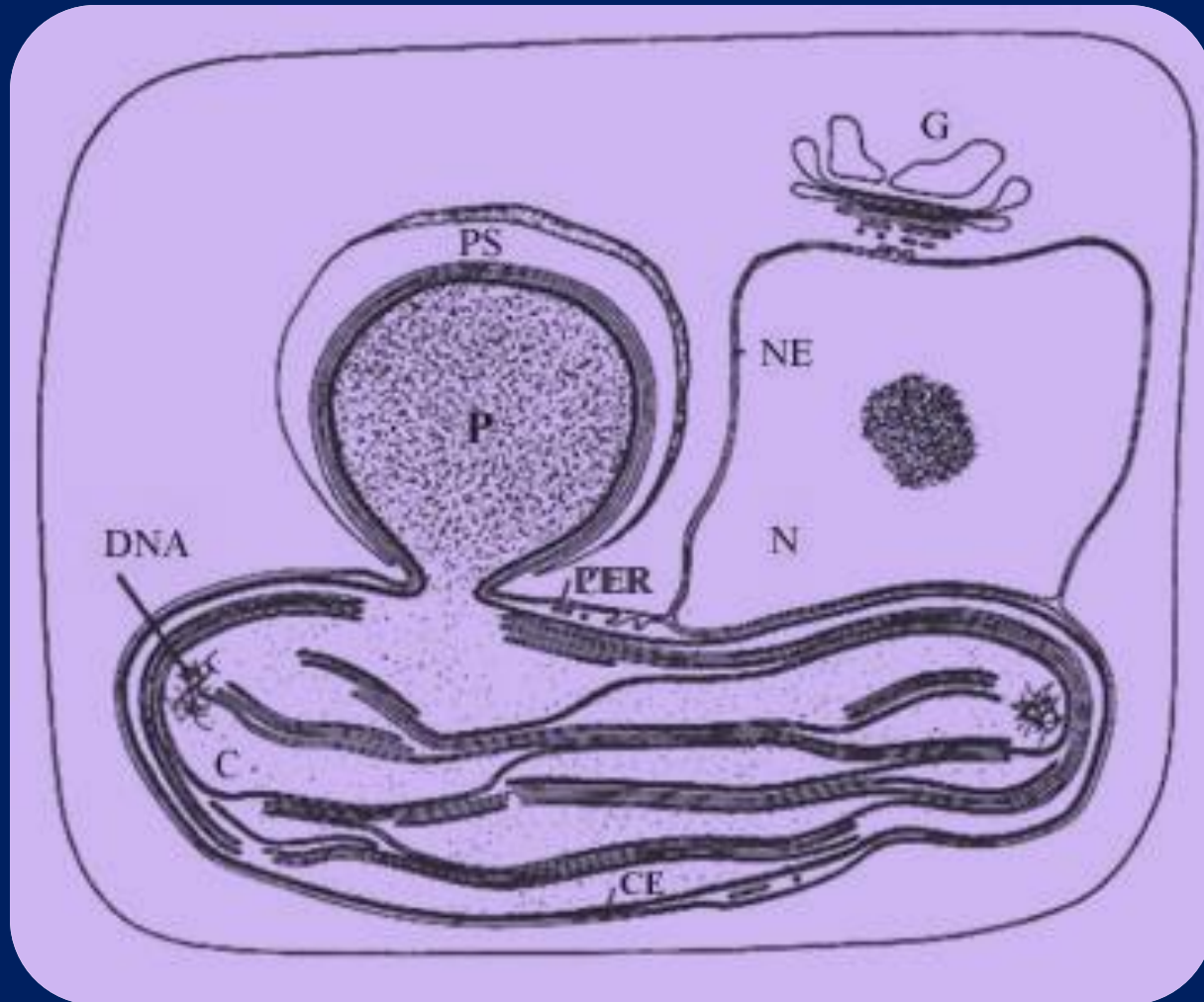
POLYMER OF D-MANNURONIC ACID AND L-GLURONIC ACID

FUCOIDAN - LAMINARIA AND FUCUS

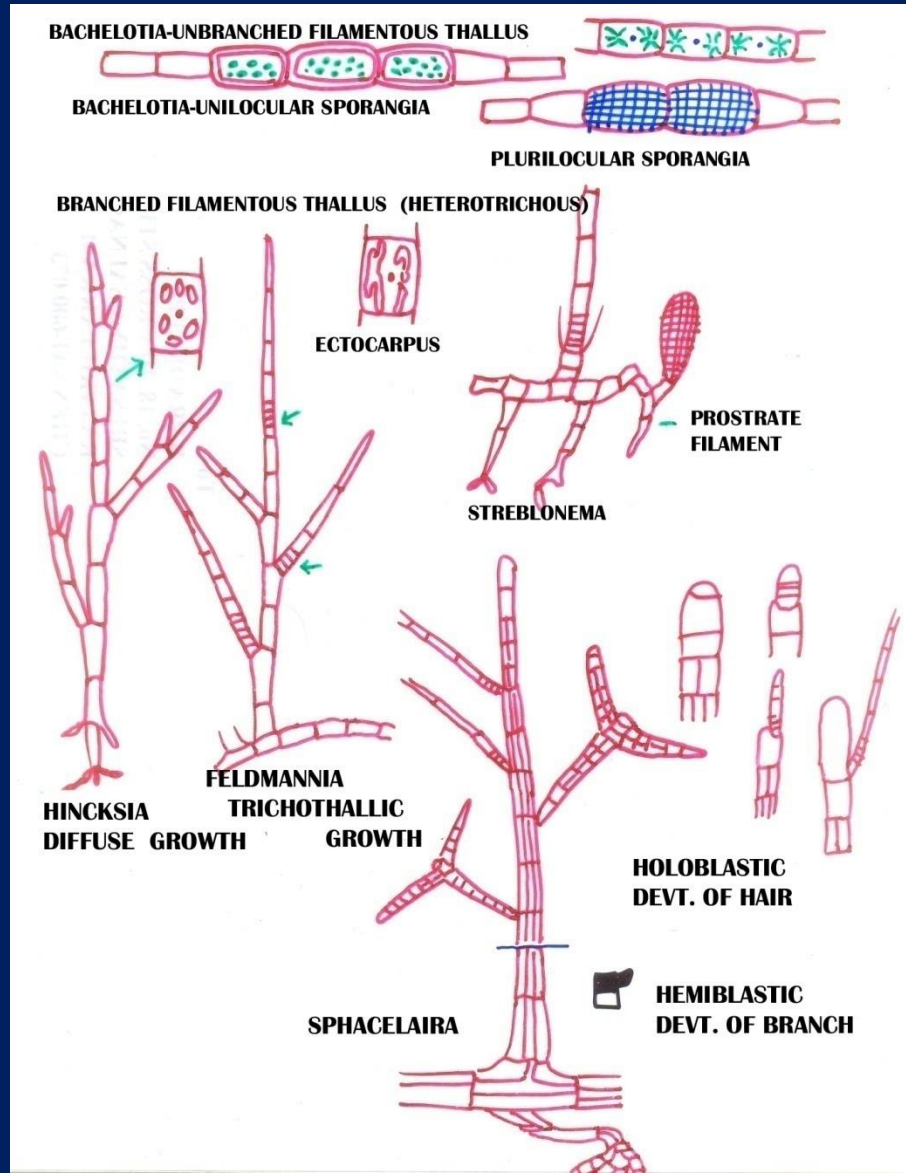
**FUCOIDAN FORMED OF L-FUCOSE, D-GALACTOSE, D-XYLOSE
AND URONIC ACID.**



PHAEOPHYCEAN CELL



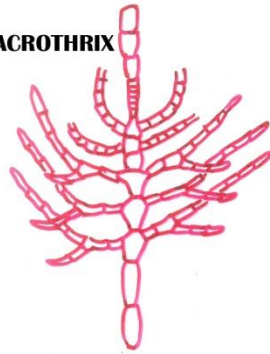
THALLUS ORGANIZATION



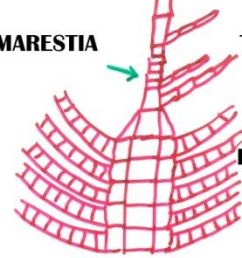
THALLUS ORGANIZATION

UNIAXIAL FORM - PSEUDOPARENCHYMATOUS THALLUS

ACROTHRIX



DESMARESTIA



TERETE

FOLIOSE

MULTIAXIAL FORMS:

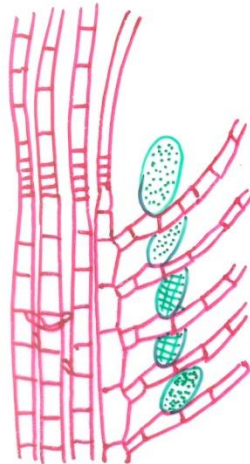
GELATINOUS AND AMORPHOUS - LEATHESIA

BRANCHED - LEVRINGIA

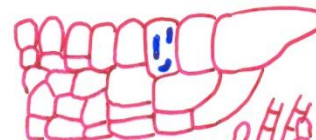
CRUSTOSE - RALFISA & HERIBAUDIELLA

BLADED - CUTLERIA

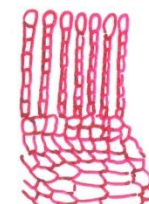
LEVRINGIA



RALFSIA - V.S. OF YOUNG THALLUS



RALFSIA
V.S. OF MATURE
THALLUS



MESOSPORA
V.S.

THALLUS ORGANIZATION

FILAMENTOUS STAGE ALSO ARISE AS A PART OF THE LIFE-HISTORY OF PARENCHYMATOUS FORMS- GAMETOPHYTES OF LAMINARIALES.



MALE FILAMENTS



FEMALE THALLUS

PARENCHYMATOUS THALLUS ORGANIZATION:

FOLIOSE THALLI: DICTYOTALES

RIBBON SHAPED THALLUS: *DICTYOTA*

FUNNEL SHAPED THALLUS: *PADINA*

RIBBON SHAPED THALLUS

WITH A MIDRIB: *DICTYOPTERIS*

SACCATE THALLUS: SCYTOSIPHONALES

COLPOMENIA

ROSENVINGEA

HYDROCLATHRUS

TERETE THALLI: FUCALES

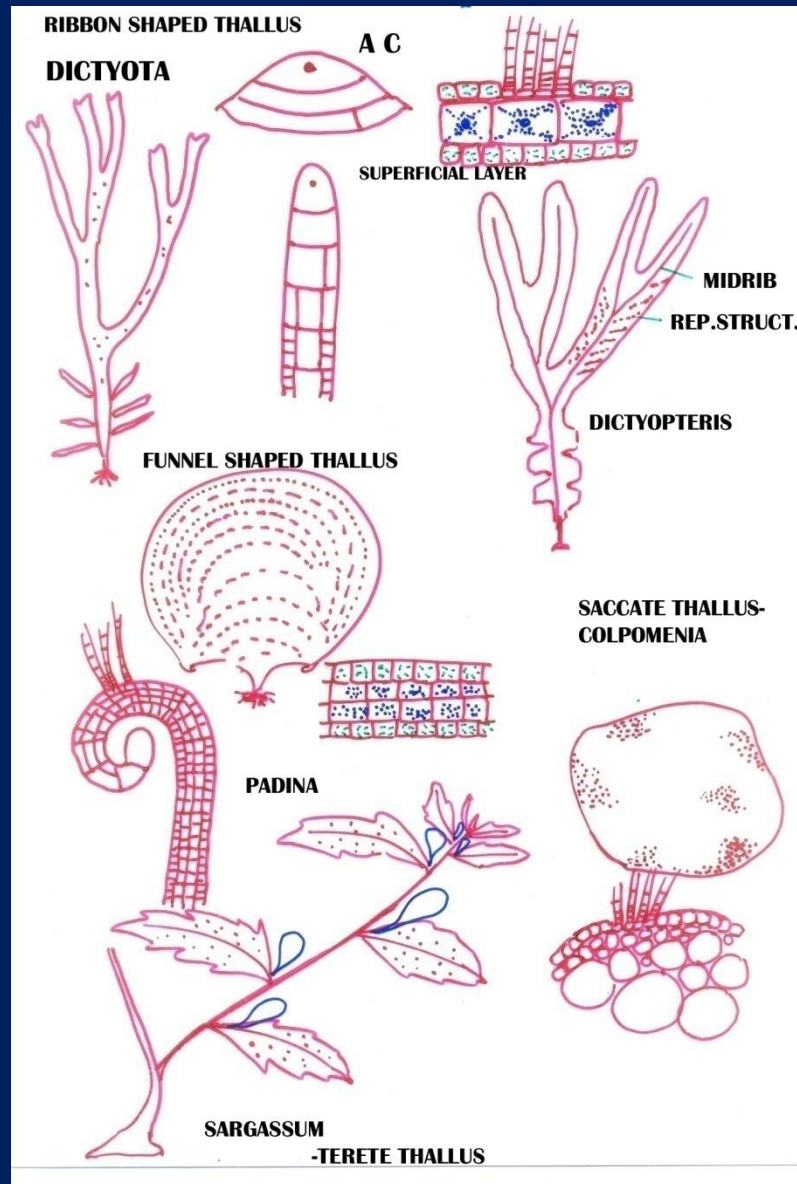
SARGASSUM

TURBINARIA

HIGHLY SPECIALIZED THALLI:

LAMINARIALES

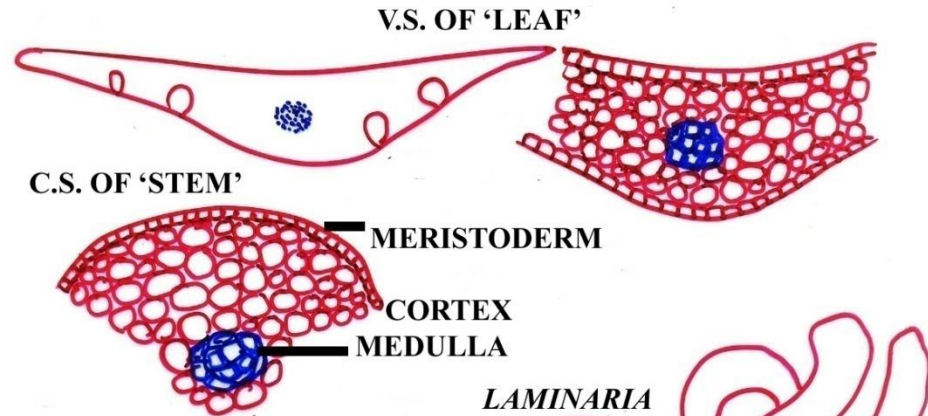
THALLUS ORGANIZATION



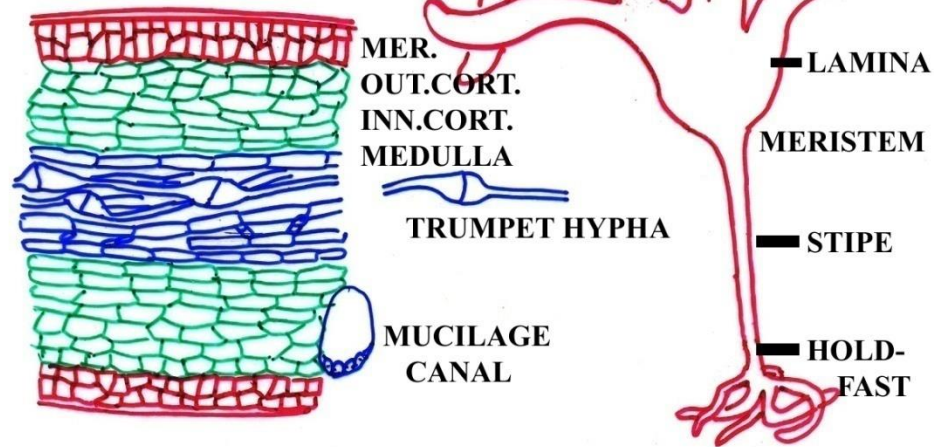
THALLUS ORGANIZATION

THALLUS ORGANIZATION IN PHAEOPHYCEAE PARENCHYMATOUS THALLUS:

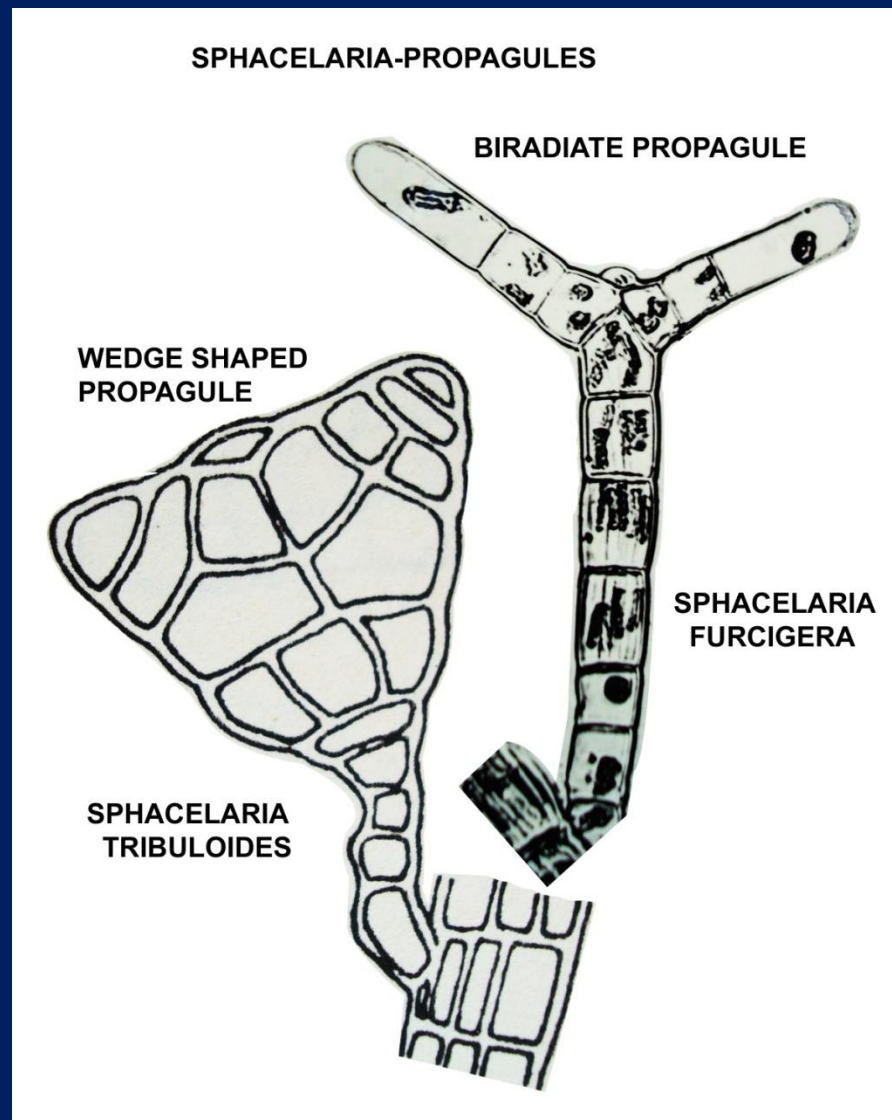
TERETE THALLUS: *SARGASSUM*



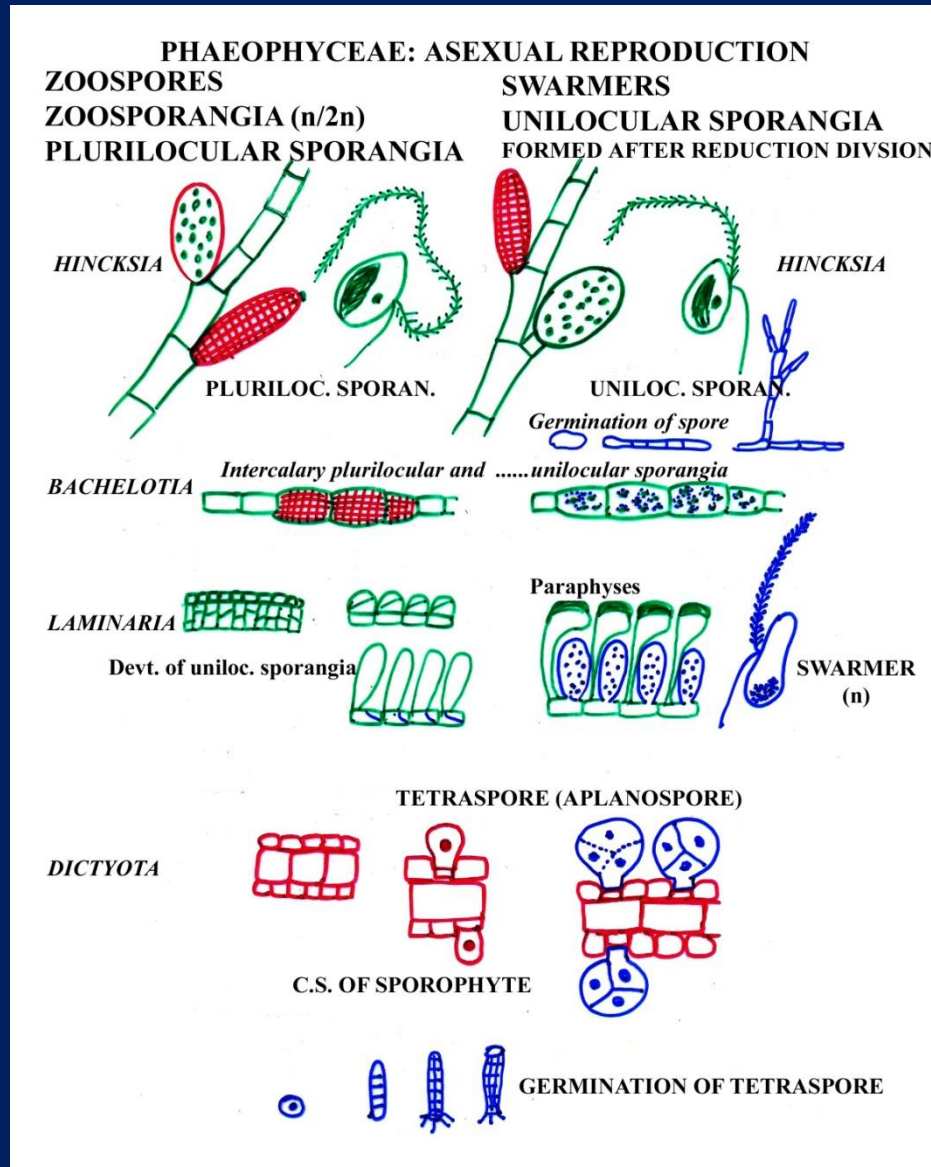
V.S. OF *LAMINARIA*



VEGETATIVE REPRODUCTION

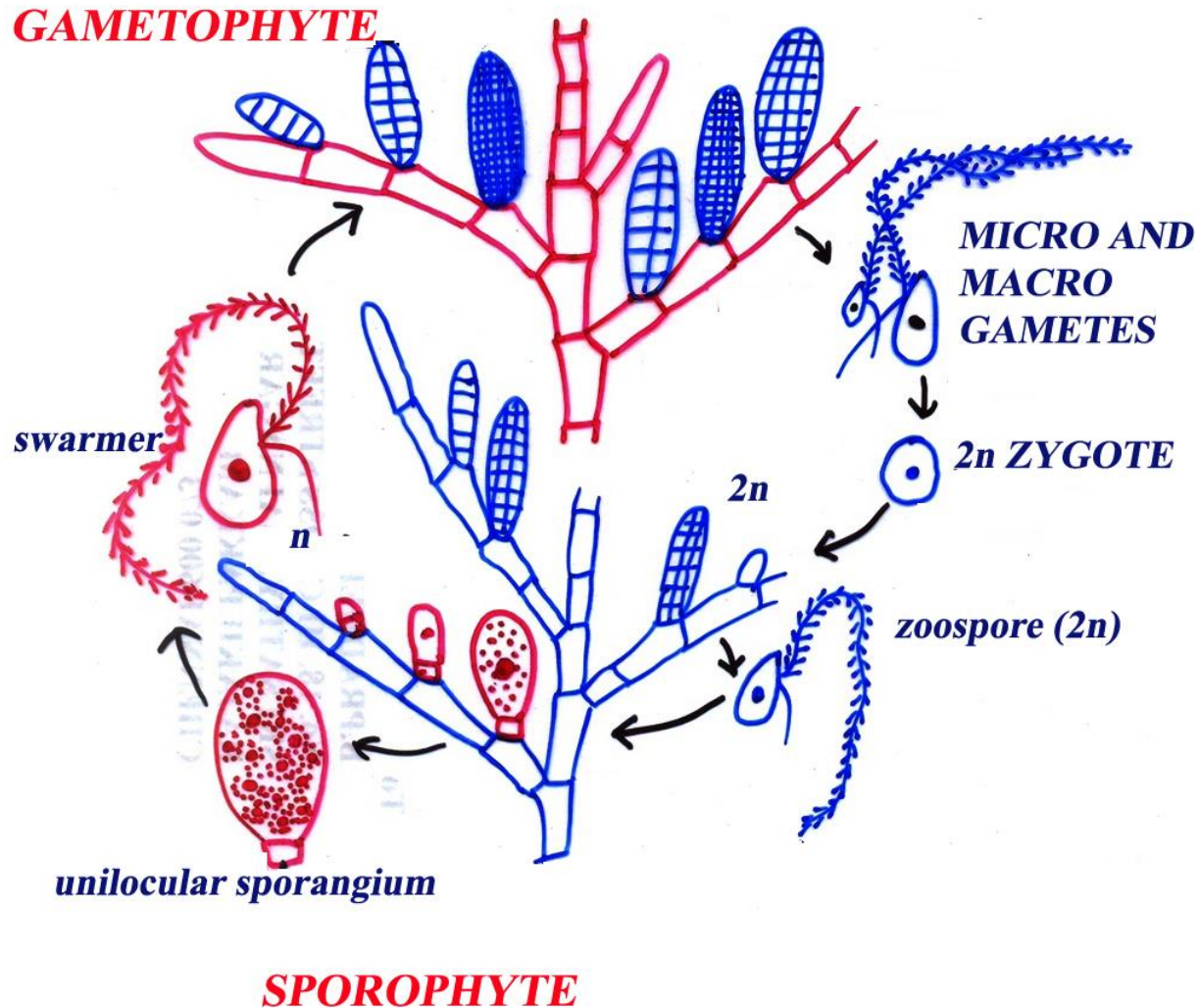


ASEXUAL REPRODUCTION



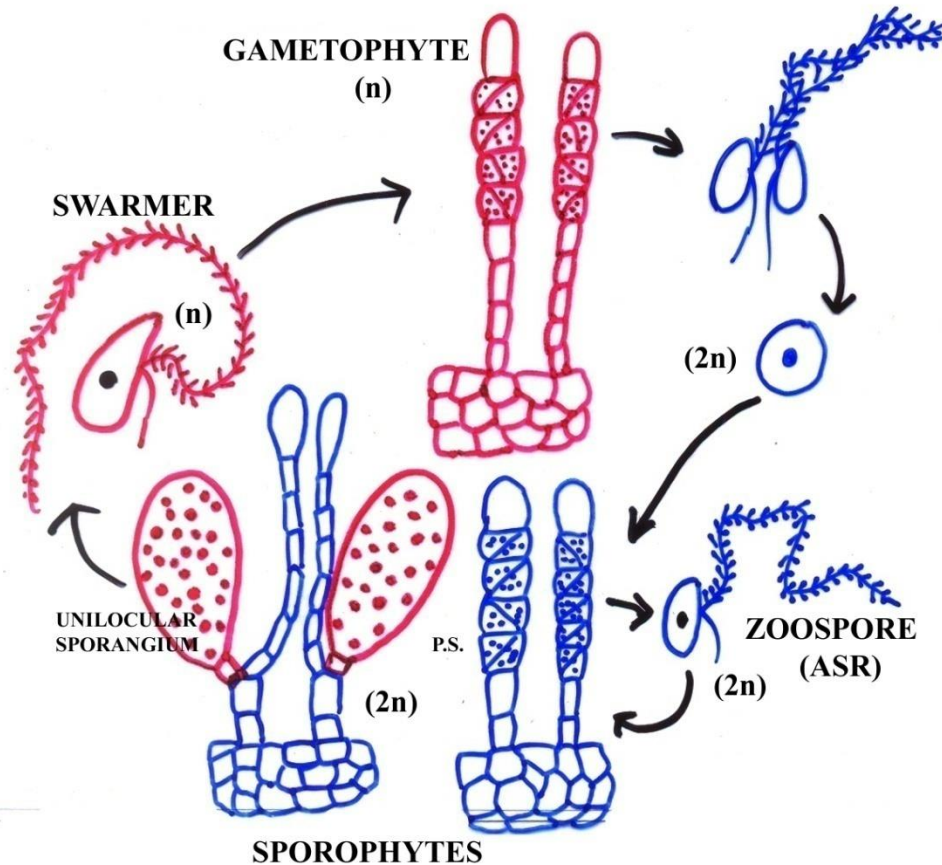
SEXUAL REPRODUCTION AND LIFE CYCLE

DIPLOHAPLONTIC/SPORIC LIFE CYCLE HINCKSIA



SEXUAL REPRODUCTION AND LIFE CYCLE

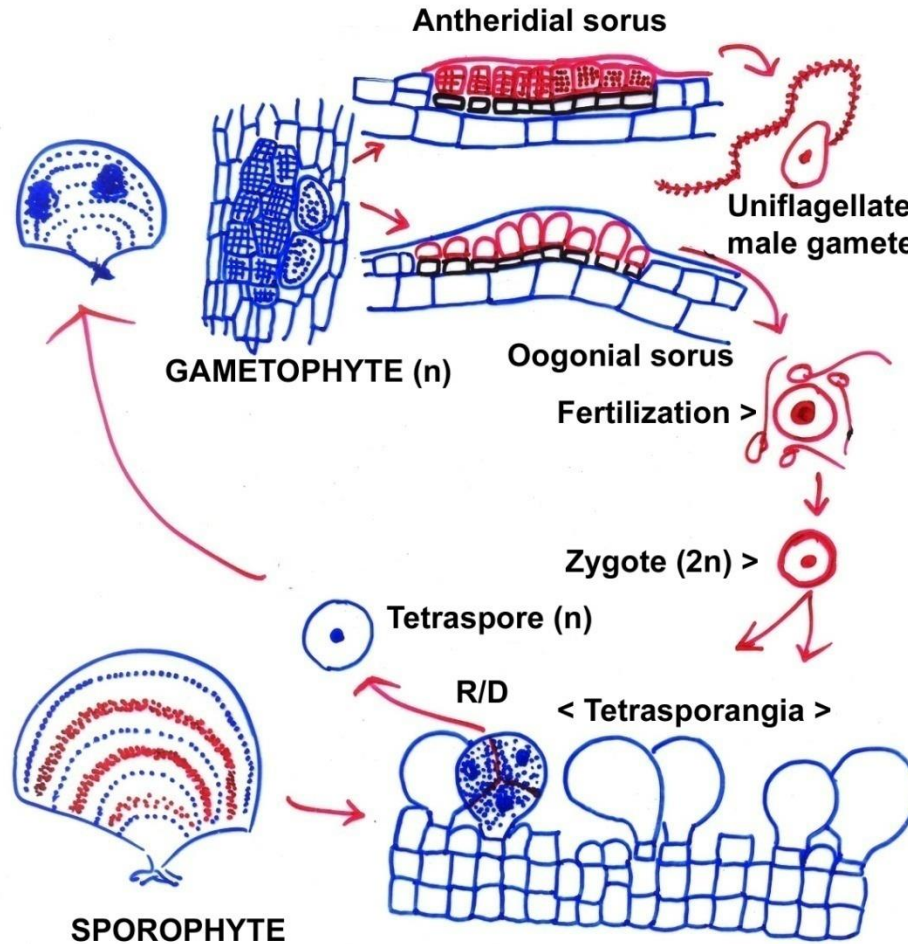
STRUCTURE AND REPRODUCTION IN PHAEOPHYCEAE *RALFSIA*: (RALFSIACEAE)



ISOGAMOUS; DIPLOHAPLONTIC/SPORIC LIFE CYCLE
BIPHASIC, ISOMORPHIC ALTERNATION OF GENERATIONS
CRUSTOSE ALGA, MARINE.

SEXUAL REPRODUCTION AND LIFE CYCLE

SEXUAL REPRODUCTION AND LIFECYCLE IN PHAEOPHYCEAE PADINA (DICYOTACEAE, DICTYOTALES)



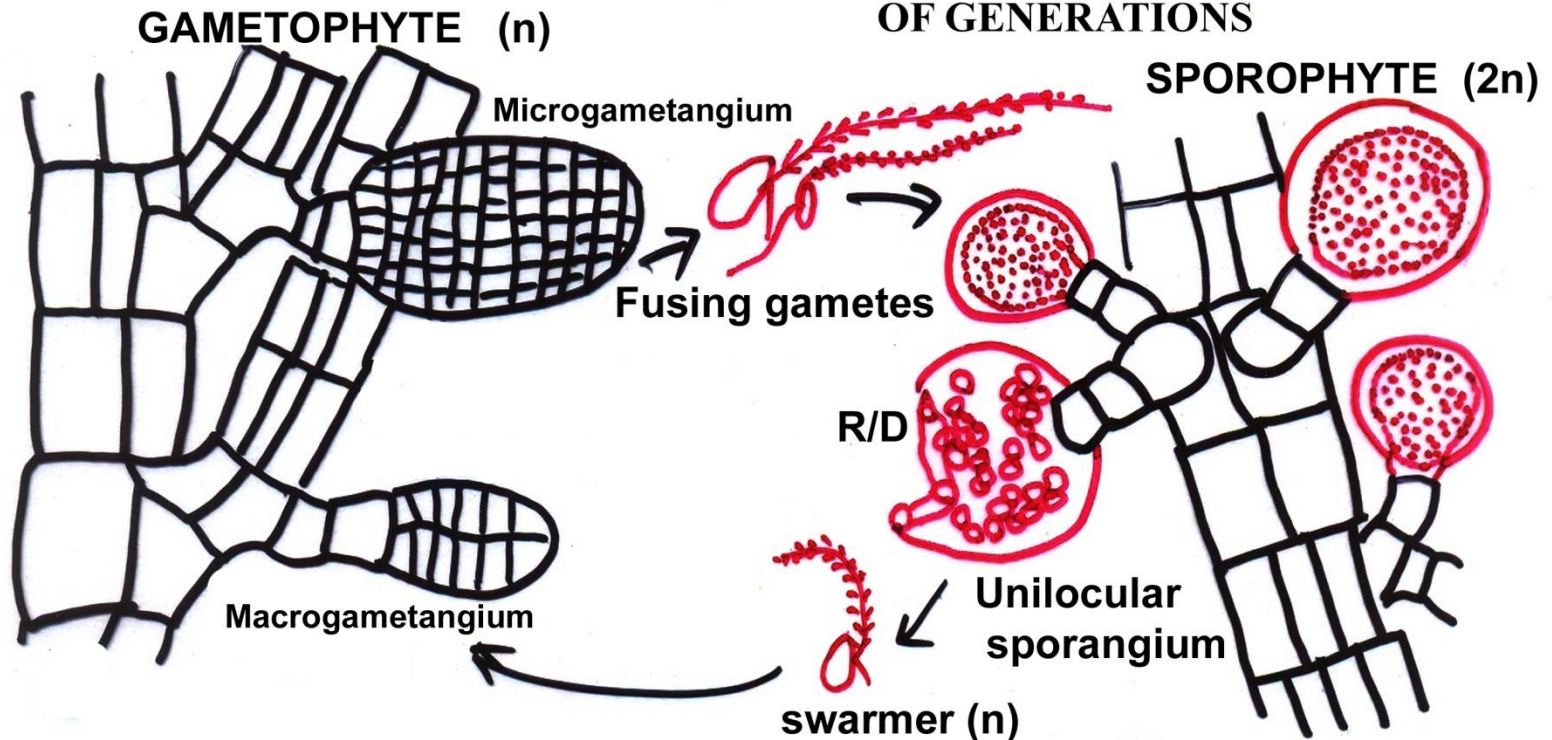
V.S. OF SPOROPHYTE

DIPLOHAPLONTIC/SPORIC LIFE CYCLE, BIPHASIC, ISOMORPHIC ALTERNATION OF GENERATIONS. OTHER EXAMPLES: *DICTYOTA*, *DICTYOPTERIS*, *STOECHOSPERMUM*, ETC.

SEXUAL REPRODUCTION AND LIFE CYCLE

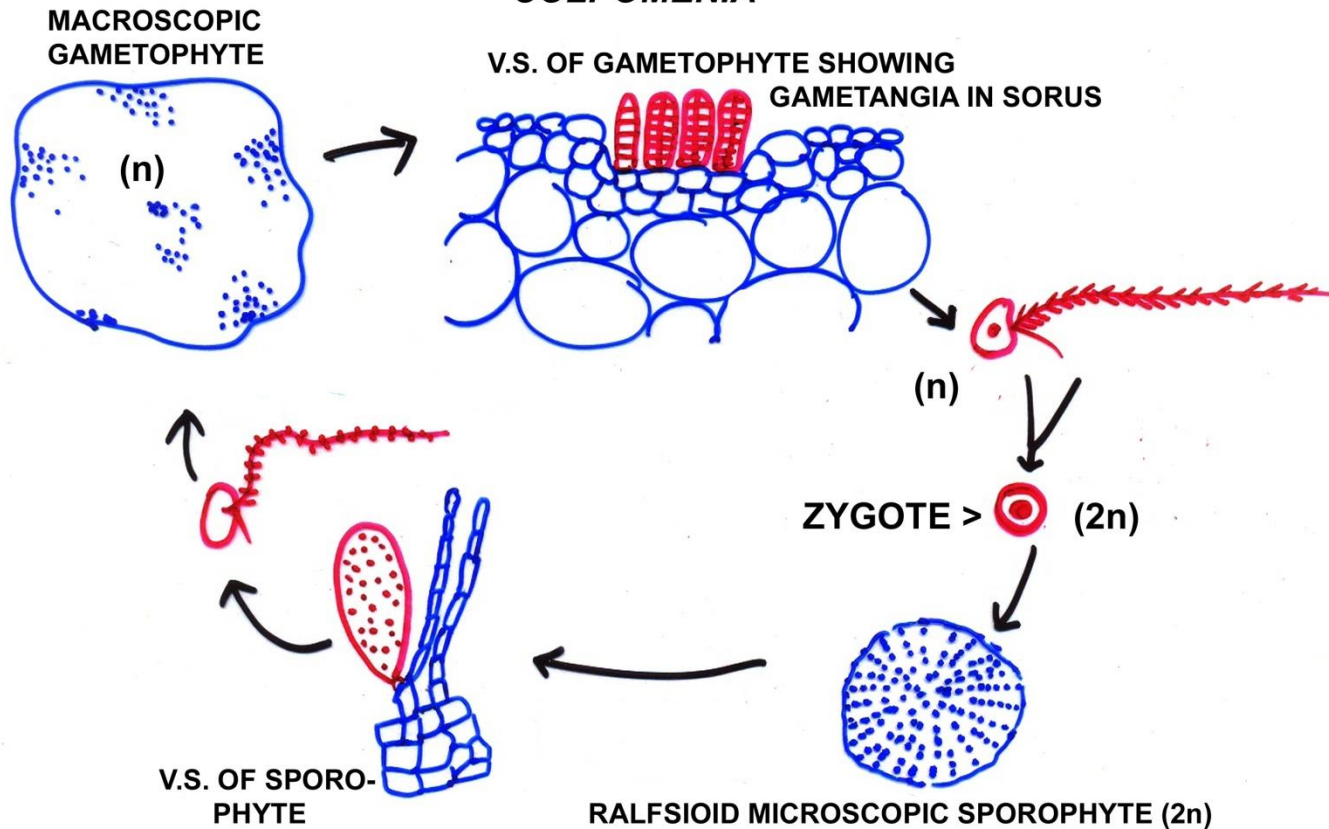
SEXUAL REPRODUCTION AND LIFE CYCLE IN PHAEOPHYCEAE *SPHACELARIA*

ANISOGAMOUS
DIPLOHAPLONTIC/SPORIC, BI-PHASIC, ISOMORPHIC ALTERNATION
OF GENERATIONS



SEXUAL REPRODUCTION AND LIFE CYCLE IN PHAEOPHYCEAE

SEXUAL REPRODUCTION AND LIFE CYCLE IN PHAEOPHYCEAE *COLPOMENIA*



DIPLOHAPLONTIC/SPORIC LIFECYCLE; BIPHASIC, HETEROMORPHIC ALTERNATION OF GENERATIONS; OTHER EXAMPLE: *CUTLERIA*.

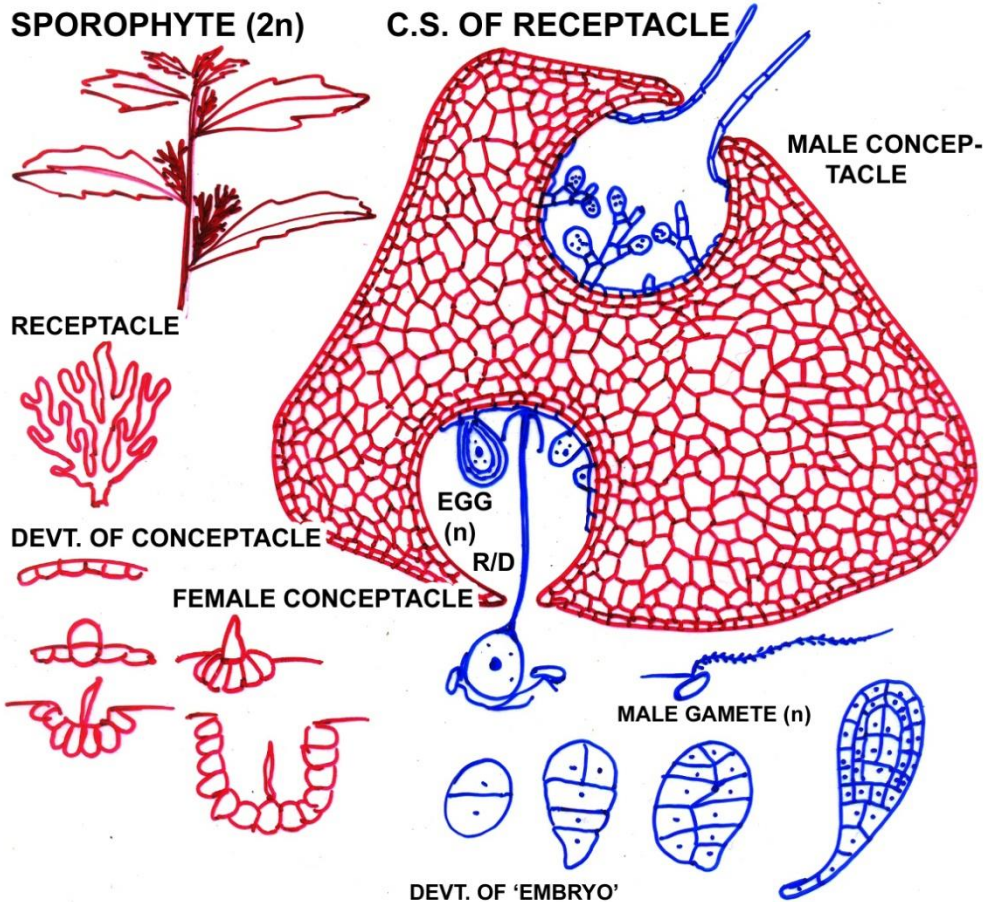
SEXUAL REPRODUCTION AND LIFE CYCLE

SEXUAL REPRODUCTION AND LIFE CYCLE IN PHAEOPHYCEAE *SARGASSUM* (FUCALES)

DIPLONTIC/GAMETIC LIFE CYCLE.

SPOROPHYTE (2n)

C.S. OF RECEPTACLE



SEXUAL REPRODUCTION AND LIFE CYCLE

VARIATIONS OCCUR IN OTHER MEMBERS OF FUCALES

CONCEPTACLES BISEXUAL: *FUCUS*

CONCEPTACLES UNISEXUAL: *SARGASSUM*
TURBINARIA

ANTHERIDIA : EACH WITH 64 ANTHEROZOIDS

OOGONIA WITH 8 EGGS > *FUCUS*
4 EGGS > *ASCOPHYLLUM*
2 EGGS > *PELVETIA*
1 EGG > *SARGASSUM,*
CYSTOSEIRA &
TURBINARIA

STRASBURGER 1906

MOE & HENRY 1982 : REDUCED GAMETOPHYTIC
THEORY

END