

PLANT GROUPS

(4)

- 1) The plant body consists of an erect axis differentiated into nodes & internodes with laterals growth at the nodes.
- 2) The reproductive organs are complex & are surrounded by a layer of sterile tissue
- 3) The motile male gamete, Antherozoid is an elongated biflagellate spiral structure.

Division	Charophyta
Class	Charophyceae
Order	Charales
Family	Characeae
Genus	<i>Chara</i>

Chara is submerged aquatic alga, consisting of an erect branched axis attached to the substratum by multicellular rhizoid, the plants grow to a height of (5-130 cm) & resembles in appearance to a miniature horse tail. The plant body is differentiated into nodes & internodes from each node a whorl of short laterals may be limited or unlimited.



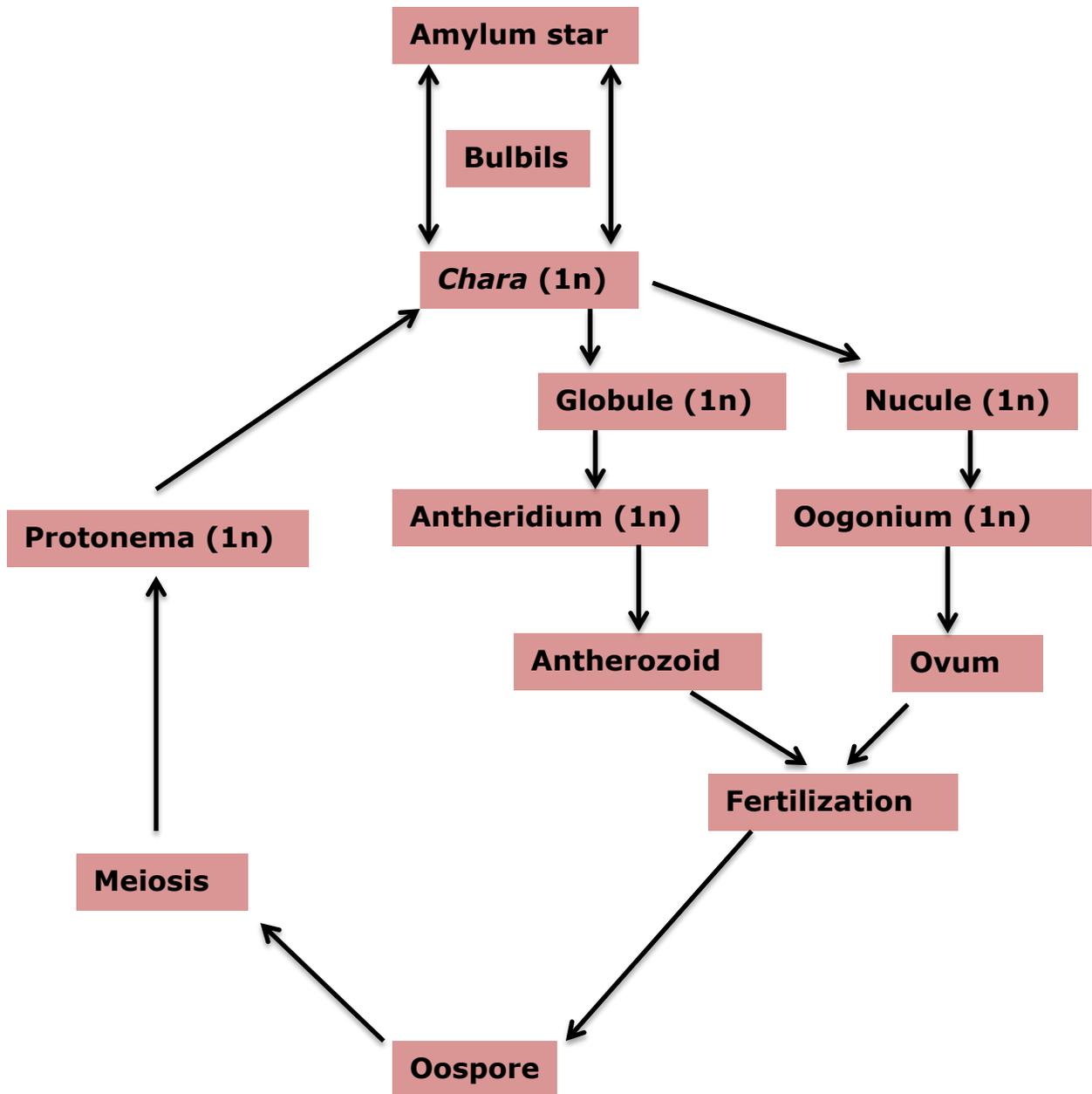
Life Cycle

Reproduction: Only two kinds of reproduction the vegetative & the sexual are found in *Chara*.

Vegetative Reproduction

1. **Amylum stars**: Each amyllum star is an aggregation of cells, looking like a star.
2. **Bulbils**: These are small rounded tuber like structure which is developed on the Rhizoids.

Sexual Reproduction is advanced **Oogamy**

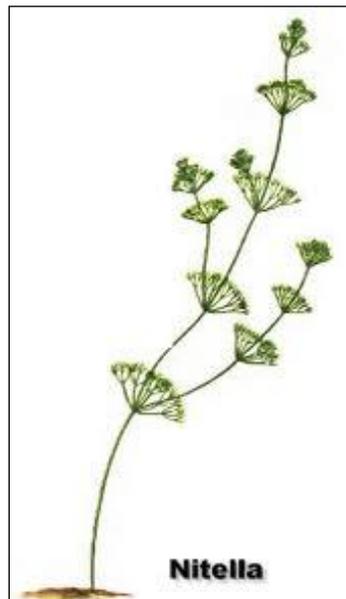


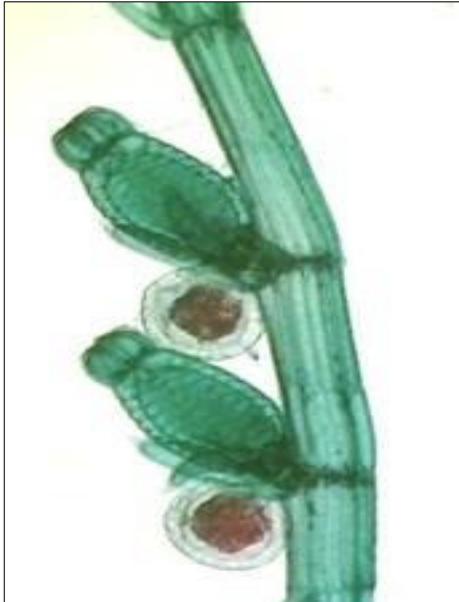
Graphic representation life cycle of *Chara*

Division	Charophyta
Class	Charophyceae
Order	Charales
Family	Characeae
Genus	<i>Nitella</i>

Nitella this genus resembles *Chara* it also subaquatic but unlike *Chara* it grows in much deeper water. Plant body in *Nitella* more branched & does not have calcareous deposition. The mode of sexual reproduction organs in *Chara* the **Nucule** directed upwards & **Globule** downwards but in *Nitella* the **Globule** being directed upwards (Terminal) & the **Nucule** downwards (Lateral).

The **Nucule** is relatively less elongated than *Chara* & has 10-celled coronal arranged in two tiers which are small while in *Chara* 5-celled coronal & large.

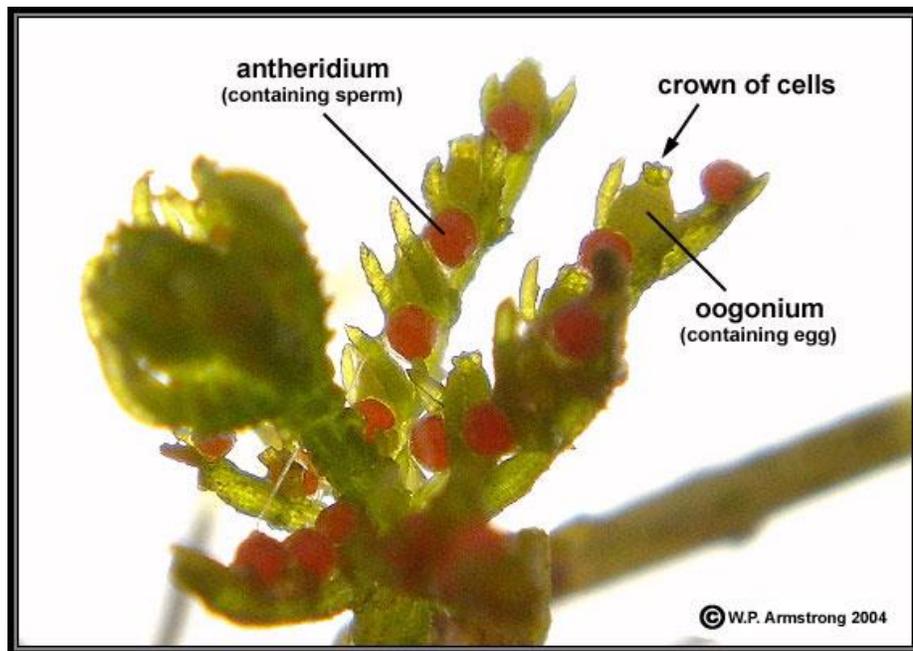




Chara

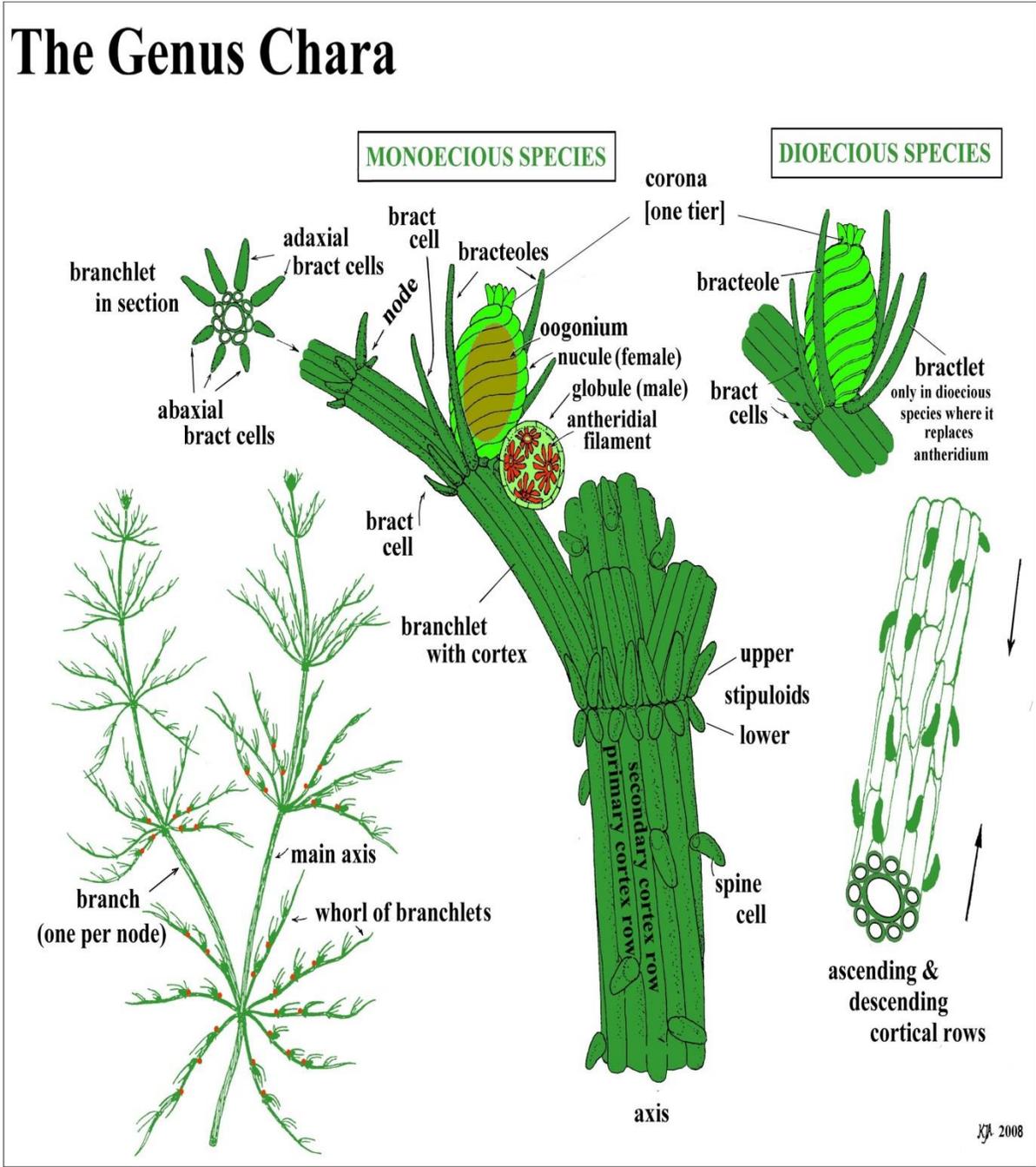


Nitella



Chara

The Genus Chara



The Genus Nitella

- Main axis single celled.
- Main axis circular in cross-section.
- No cortex (i.e. no longitudinal striations).
- No spine cells.
- Branchlets branched (furcate).
- No stipuloides.
- Corona of nucule 2-celled in height.
- No bract cells or bracteoles.

