

# Chlorophyta



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# 1 topic

- Chromatophore color greenchlorophyll, in whichwith pigments a, b, Karantinandxanthophylbright color will be. Most often close cellscellulose, sometimes pectinthe shell containing substancesin the cell envelopewhen pectin is digested, it zalagaidaconsists of.



Негізгі бет

Басты бет

- The structure of cellsProtoplasm-close to the cell envelopesettleCore-green algae most often one core sometimesthere will be a lot of coreCellChromatophore-protoplasm.depending on the type of plant plate, tape, Star, grainand other forms.Chromatophoresconstructionhigheststagesas the structure of chlorophyll plants. Theyit consists of a colorless protein stroma impregnated with chlorophyll.The richest protein in Pyrenoid chromatophorethere are dense bodies-pyrenoids. Pyrenoidstarch as a nutrient around, very rarein the case of grease grease drops.Vacuole-the Central part of the cell on the juicea large vacuole filled with a giant





- Department of green algae-Chlorophyta  
These are green algae (Euchlozphycae) or class of fibrous (Jsocontae) Green algaethe construction Departmentand reproduction depending on the features Divide on 3 class: Embedded or conjugated (Conjugatophyceae) class Siphon (Siphonophyceae) class. Department of green algae-Chlorophyta Classname Main feature Real green Mobile vegetative forms, which in the form of variou salgae or one cellularfrom the form from the beginning ,morecellulr the equilibrium fiber these include lamellar and non-cellular algae.

- During reproduction, there is no period of the movable fiber, in this regard, through zoospore and aplanospore reproduction is destroyed, instead a two-fold cell is released, and filamentous species breakage of tallom into small parts through the combination of vegetative cells to each other the addition of intracellular substances is called conjugation. All cells contain one nucleus, pyrenoid, plate or from a chromatophore in the form of a ribbon filled with cell juice it consists of a vacuole. The nutrient is starch. Conjugationalgae (coupling) haploid only in vegetative state, only the diploid during the



## 2 topic: Class green algae:

- Green algae-Chlorophyta) - one of the lowest species of plants. The most common in nature. Mostly live fresh water. In salt and sea waters, soils are also found species that live on the soil. 5 class green algae:
- 1. volvox green algae (Volvozorhuseae);
- 2. chlorococcus (protococcus) green algae (Chlorophyll, Chlorophyll);
- 3. green algae ulotrix (Ulotrichorhuseae);
- 4. Safonova green algae (Roborescue);
- 5.conjugates (Sonjugotorhuseae), known about 400 native 13 - 20 thousand.

- Class volvoksovy algae- Volvocophyceae. To the class algae are simple representatives of the green algae. Most volvox algae have unicellular organisms as well as colonial forms. At that time, when the surface of puddle waters or small columns are painted in green color, most often found in Chlamydomonas. If you translate the word "Chlamydomonas" from Greek, it means a conventional body, is covered with outer sheath. Annual green algae found in Chlamydomonas only unlike microscope. It is green, contains chlorophyll, which will give a green color to the whole cell.



- A class of ductal algae is Protocophyceae. The class of ductal algae are mainly unicellular, rare-earth colonial organisms. Only the simple filamentous and lamellar forms are multicellular. One of the most common among white-cell green algae is Chlorella (Chlorella). It is found in fresh waters and soils. Chlorella cells are small, globular, better looking than a microscope. The surface of the Chlorella cell is covered with a shiny film, under which the cytoplasm and nucleus are located, and the cytoplasm is a green chromatophore.





- Lotrisone algae  
Ulothrichophyceae. Class  
plotnikovyh algae are green algae,  
structure of thallus which is  
whisker or flake. On the rocks  
under the watercourses and the  
remains of rotten trees, you can  
see a set of threads of light blue  
color sticking to them. As a result  
of the division of the cells of the  
multicellular green algae ulotrix,  
they grow threads. As a result of  
the photosynthesis of oratrix he  
synthesizes nutrients, organic  
matter and sucks it out of the  
water with organic substances.





- A class of siphon algae is Siphonophyceae. Unlike other green algae belonging to this class, they do not have a cellular structure. Siphon algae long ago appeared before many green algae. The number of species of their life currently does not exceed 400-500 species. 90% of siphon algae grow in the sea. One of the main representatives is a relative of the Caulerpa. It is a 1 m long algae that is often found in the Mediterranean. True sexual reproduction there is, sometimes, propagated vegetatively by using parts of the thallus. The sexual process is isogamic.



- The class of conjugating algae is Conjugatophyceae. Microscopic green algae are mainly related to the class of conjugating algae. The total number of species is 4700. Many of them form a series of desmids. The thallus is multicellular, filamentous or unicellular with no flagella. Sexual process is happening through a combination of zoospores and gametes.

# 3 topic

- 178 relatives, about 700 species have been identified in Kazakhstan. They are unicellular, multicellular and form deposits. The cells of one or more nuclei, sometimes naked, are predominantly covered with cellulose and pectin sheaths. Some species are not divided into cells (siphon green algae), despite the size and distribution. The cells are dominated by chlorophylls such as carotene, xanthophyll pigments like green and highly developed plants. The spare substance is starch, sometimes fat.



Басты  
бет

Негізгі



- Sexual (with zoospores, fixed spores), sexual (isogamy, heterogamy, oogamy, conjugation) and vegetative (unicellular forms-by dividing into two, multicellular forms-with parts of the threads). Sometimes unicellular and bundle species (green volvox algae) become excessive, the water looks like "bloom". Species of sea green algae salad (*Ulva*), monostroma (*Monostroma*) are used as food in East Asia. Unicellular green algae (*Chlorella*, *Spirulina*, etc.) are grown as fodder for food, livestock, to clean dirty water, air (on spaceships, diving boats).



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- Green algae-the most common in nature, often found, contain more than 15,000 species. These include unicellular algae, abundant, multicellular unbranched (trichal) and branched (heterotrichal) thread, plate and siphon structures. Among them are organisms of all structural structure. Despite this diversity, depending on the characteristic of all names, chloroplast is a pure green color dominated by chlorophylls and pigment pigments, as well as additional carotenes, xanthophyll pigments. Green algae reproduce vegetatively, sexually. In unicellular forms, vegetatively propagates by simple double cell division, community breakdown in sociable and filamentous forms, and thread breaking into particles. Asexual reproduction occurs through zoospores and immobile aplanospores.



# 4 topic

- Algae-lowland plants that live mainly in water, moist soil, stone and tree trunk. Algae in nature have multicellular, unicellular, bundle species. Most of them do not have roots, stems and leaves, so the body is called a layer (tall). Algae contain chromatophores and pigments (so there are green, red, brown, etc. colors). They reproduce vegetatively (with part of the body), without sexual (with the help of spores) and sexual (with the addition of germ cells). The representative of the green algae-Chlamydomonas, Chlorella, chlorococcum. In their construction there are specific features.

Негізгі

Басты



- Green algae, Cyanophyta (Cyanophyta) is a part belonging to prokaryotic (nucleus) organisms, which makes up the simplest group of algae in structure. They are the oldest of the autotrophic organisms. Excavations of blue-green algae have been found among sedimentary rocks formed before the Cambrian. Blue-green algae are very common in nature. About 2 thousands of springs, uniting in 3 class, meet in all continents and waters (bitter, fresh). In Kazakhstan, 549 taxa (species, variation, form) of 3 classes, 9 rows, 30 families, 66 related were identified. Blue-green algae form unicellular, globular, together forming bundles (colonies), and multicellular forms-honeysuckle, sometimes branched shrubs. The color is usually dark green, although they are found both pink and purple, even dark.



• It depends on the pigments contained in the cell (phycocyan-blue-green, phycoerythrin-red, carotene-scarlet; various carotenoids) and their ratio. Cells without fibers, and varieties of multicellular filaments are capable of sliding. It feeds on autotrophic and mixotrophic (mixed). The latter inhabit rotten organic matter and polluted waters, feed on both photosynthesis and finished organic waste. Due to this, in the summer there are species such as rapid reproduction and reduced water quality (Anabena). Such waters are painted in blue green color and "bloom", irritating (organoleptic) properties of intuitive organs are violated, an unpleasant smell appears, and green algae completely capture the surface of the water, insects and fish die without oxygen content. Green algae during photosynthesis do not form such starches as plants, instead of which glycoproteins (polysaccharides), characteristic of animals, are formed



red  
alga



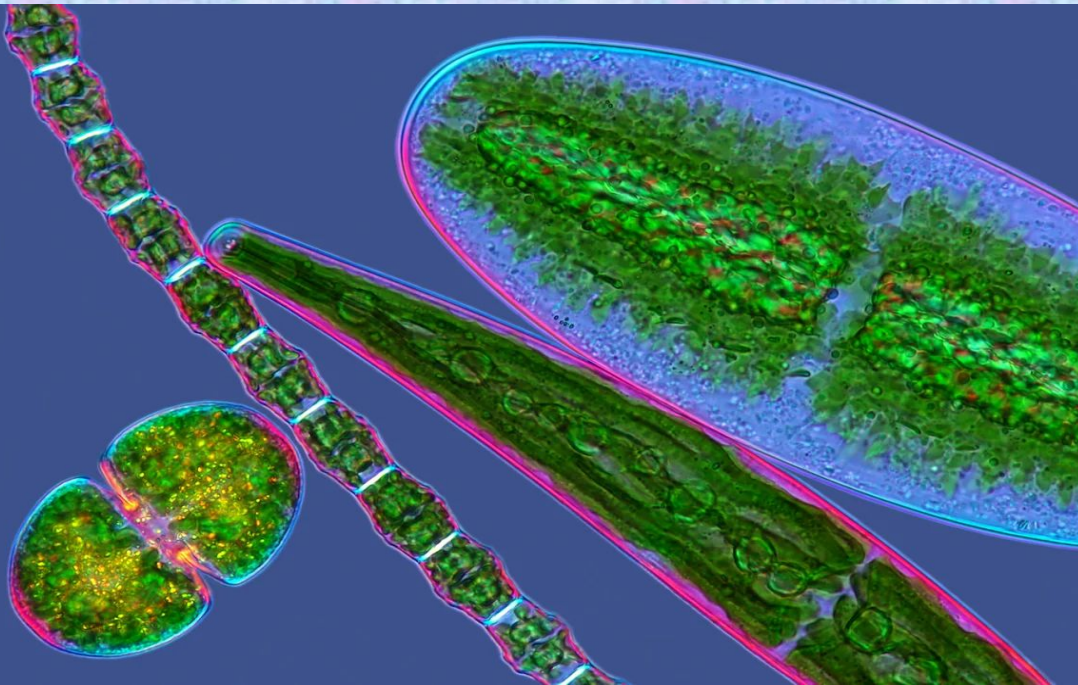
brown  
alga



green  
alga

## 5 topic

- Distribution Algae are found in Thai waters of the Pacific ocean, at a distance from Alaska to Canada, to the lower Californy. The main habitats of algae are coastal rocky zones, forests are usually located at a depth of 2 to 30 meters.



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бет

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- Green algae reproduce vegetatively, sexually. In unicellular forms, vegetatively propagates by simple double cell division, community breakdown in sociable and filamentous forms, and thread breaking into particles. Asexual reproduction occurs through zoospores and immobile aplanospores. In green algae, along with the presence of hologamic, isogamic, heterogamic and oogamic sexual processes, there is a zygotamic and sexual process. In some species there is an exchange of isomorphic generation. Most green algae are found in fresh waters, several species - in marine waters, some species live on moist soils, tree bark.

Thank you for your attention

