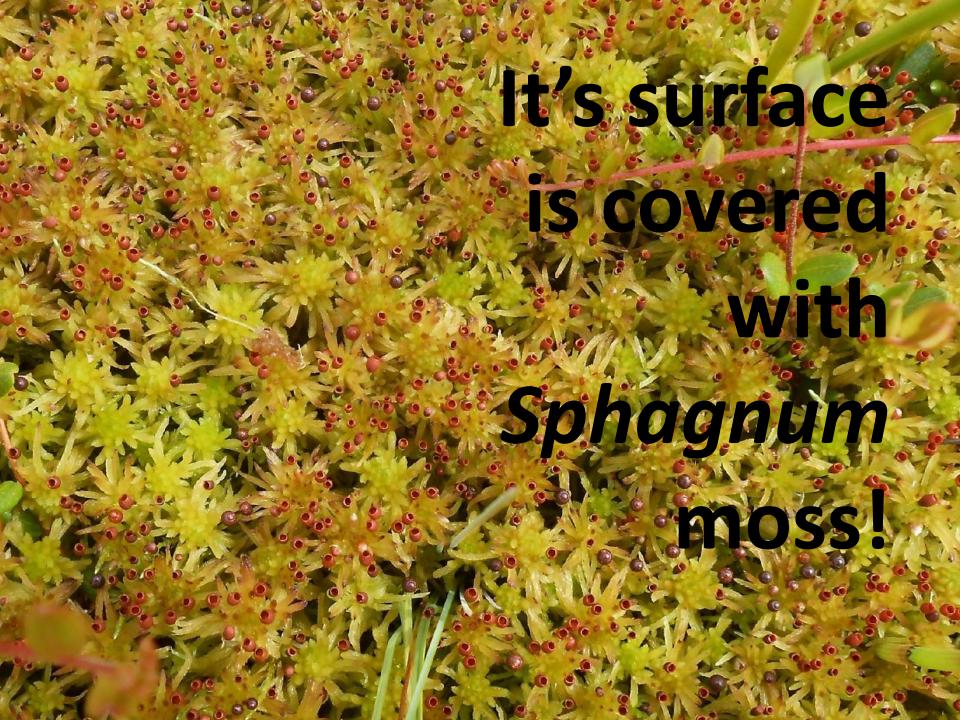
ACCORDING TO THE SOIL SPECIALIZATION...)))

(And some botanical science...)

Plants of the olygotrophic swamps

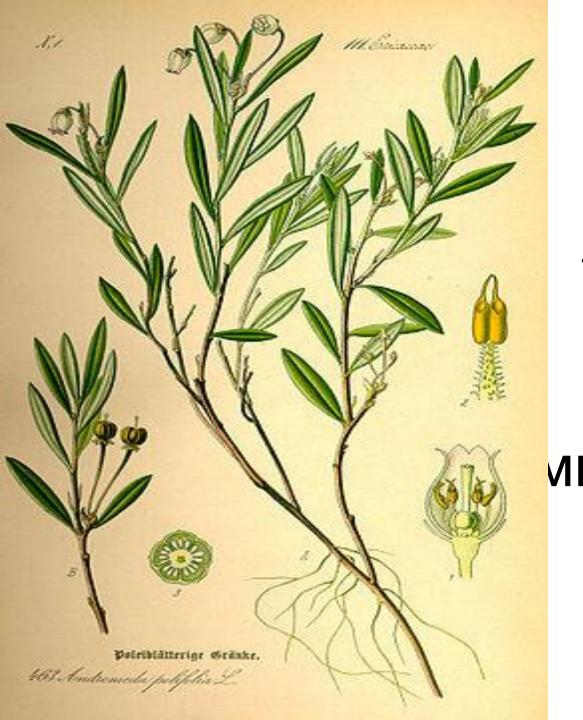




- 1. Lack of nutrition
- Olygotrophic swamps are water reservoirs which are poor with organic matter, actually with nitrogen compounds.

- Due to such severe conditions, plants of swamps, or OXYLOPHYTES, have some special characteristics.
- Here are some of them.

•For example, plants of *Ericaceae* family –

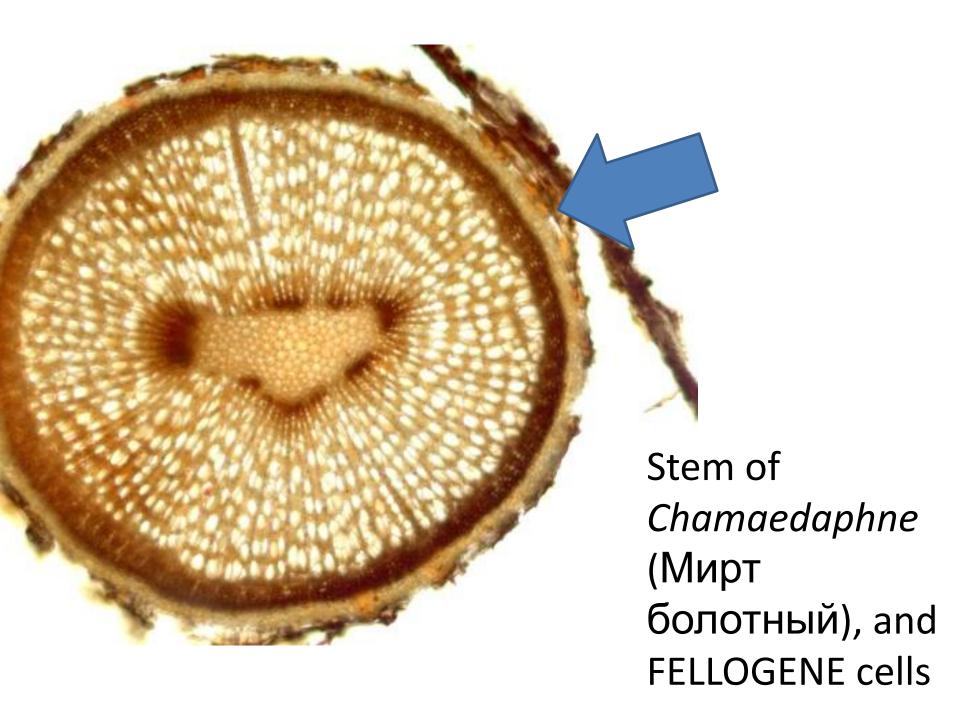


- Andromeda polifolia, - Подбел иноголистный,



Chamaedaphne calyculata, ...
Мирт
болотный,...

•have some special cells, which produce fellem.



- These cells, or FELLOGENE cells, also are A BORDER between a stem and some outer tissues, which are to be separated from the stem.
- Эти клетки, или клетки ФЕЛЛОГЕНА, также находятся на ГРАНИЦЕ стебля и других тканей коры, которые затем отваливаются от стебля.

So the parts of tissues located ABOVE the FELLOGENE separate from the stem. It leads to decrease in nutrition losses during growing season.

2. Low temperature

- These swamps are regions with relatively low-temperatured soil.
- •Олиготрофные болота зоны со сравнительно низкой температурой почвы.

- •It influences badly on roots, because absorption of water is complicated.
- •Это плохо влияет на корни, т.к. всасывание воды [при низких температурах] затруднено.

 On the other side, the sun rays reach plants very fast, which makes all the aerial runners warmer.

 As a result, subterranean organs of OXYLOPHYTES are subjected to cold, but aerial ones are overheated.



But leaves of *Chamaedaphne (mupm)* also have double layers of photosynthetic tissue to accumulate more sun rays.

Due to this fact, the leaves of *Andromeda* (подбел многолистный) are placed at an angle to the horizon.



 It contributes to decrease influence of solar rays.

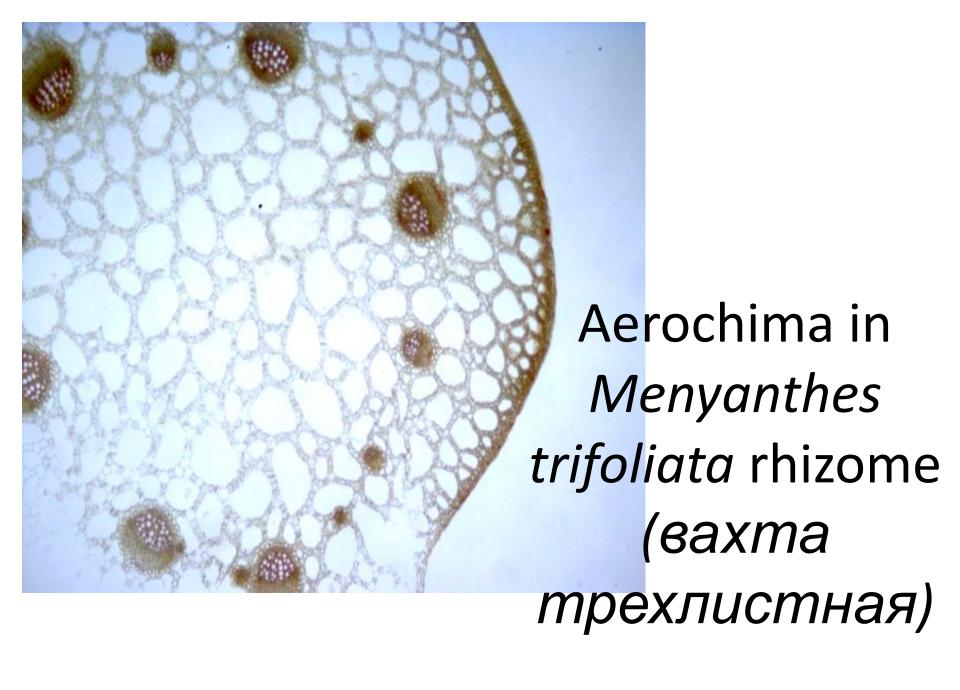
3. Water excess

•Finally, the soil of olygotrophic swamps is very MOISTENED, so athmosphere OXYGEN can not penetrate through it.

 According to this, roots do not get enough oxygen for respiration.

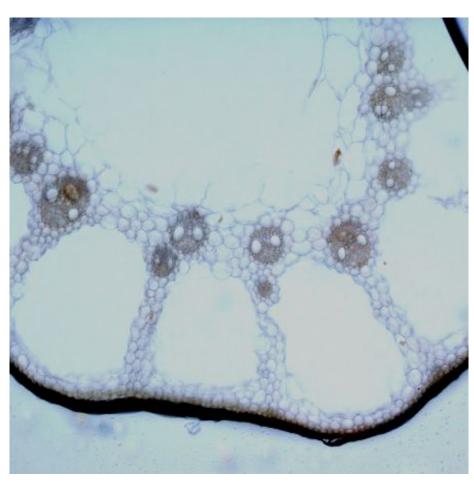
- And OXYLOPHYTES have some adaptations for breath:
- They possess special tissue termed AERENCHIMA. It contains cells and plenty of air cameras!





Aerochima of *Eriophorum* (πушица):

stem





leave

 There are much more ecological factors, which influence on the OXYLOPHYTES; these factors caused evolutionary adaptations in plants. So the plants of olygotrofic swamps are adapted to high and low temperatures, lack of nutrients and oxygen.

Thanks for listening!!!



•(this was a leafstalk of Commarum palustre – сабельник болотный, черешок листа)