
582.26

... , ... , ... , ...

450074 , . , 32,
e-mail: Dubovikie@mail.ru

() ()

(, , 1976).

(, 1966; , 1976; , 1981; , 1988;
, 1993; , 1994).

« », – .
1,5 ,
() .
, 1976; , 1984; , 2001). (,

© ... , ... , ... , ... , 2008

(, , 1976; , , 1984).

6.
(1,5 %- -).

50 . 50-100 .
(Raper, Fennell, 1965; Raper, Thom, 1968; Watanbe, 2000).

(2002-2005 .)
Nostoc commune Vauch.,

», «
(, , 1969; , 1977; , 1991, 1998; , 1995; , 2000;).

N. commune
(, 1989; , 1995, 1998),

N. commune
(, 1998; , 2002).

N. commune.
N. commune ,
(. 1). -

N. commune .
27

: *Cyanophyta* – 8, *Chlorophyta* – 13, *Xanthophyta* – 4, *Bacillariophyta* – 2
(. 2). - *N. commune*

, : *Pleurochloris magna*
Boye-Pet., *Tribonema nitens* (Klebs.) Hazen., *Chlorhormidium nittens* Kütz.,
Dictyochloris fragrans Visch. ex Starr., *Macrochloris dissecta* (Korsch.) Fott.,
Mychonastes homosphaera Fott et Novakova, *Chlamydomonas gloeogama* Korsch.,
Phormidium tenue (Menegh.) Gom.
Spongiococcum tetrasporum Deason emend. Deason, *Heterothrix exilis* Pasch.,
Scytonema ocellatum Lyngb. :
Oscillatoria brevis (Kütz.) Gom., *Oscillatoria limnetica* Lemm., *Chlamydomonas* sp.

: *Phormidium autumnale* (Ag.)

Gom., *Plectonema boryanum* Gom., *Chlorococcum* sp., *Chlorella vulgaris* Beijer.
 - (14),
 - (10).

1. *Nostoc commune* Vauch.

| | | | | | |
|--|----|-----|---------|-----|----|
| | | | | | |
| | 30 | - , | | () | 8 |
| | 12 | - , | - | | 21 |
| | | | (10 %) | | |
| | 5 | | : | () | 4 |
| | | | (1-2 %) | | |

2. - *Nostoc commune* Vauch.

| | | | | | |
|--|---|----|----|----|----|
| | | | | | |
| <i>Cyanophyta</i> | 1 | 2 | 2 | 4 | 8 |
| <i>Chlorophyta</i> | 3 | 5 | 7 | 11 | 13 |
| <i>Bacillariophyta</i> | 1 | 1 | 1 | 2 | 2 |
| <i>Xanthophyta</i> | 2 | 2 | 3 | 4 | 4 |
| | 7 | 10 | 13 | 21 | 27 |
| <i>Ch₁₃P₆H₃B₂PF₁X₁hydr₁</i> | | | | | |

N. commune ,

50 % , *N. commune*, *Chlorella vulgaris*.

7 *Xanthophyta*, 9 *Chlorophyta* 26
Cyanophyta (18) (, 1993).
N. commune

9 : *Penicillium citrinum* Thom., *Fusarium moniliforme* Sheldon, *Fusarium* sp., *Aspergillus fumigatus* Fresen., *A. granulosis* Raper et Thom., *A. niger* Thiegh., *A. terreus* Thom., *Mucor* sp.,

Mycelia sterilia.

Penicillium, Aspergillus (, 1995).

(. 3),

Penicillium citrinum., *Aspergillus granulosis*, *A. niger*. *Aspergillus fumigatus*
Fusarium moniliforme

N. commune

Rhodotorula.

R. glutinus Thom,

R. rubra Fres. (, 1956; , 1995).

3.

commune Vauch. (-)

Nostoc

| | |
|--|-----------------|
| | , $\cdot 10^3/$ |
| | 23,0 \pm 0,2 |
| | 21,0 \pm 1,5 |
| | 25,0 \pm 0,55 |

()

Cyanophyta.

« » -

Microcoleus
vaginatus (Vauch.) Gom. *Cylindrospermum licheniforme* (Bory) Kütz.,

C. licheniforme,

« » *M. vaginatus*, *Oscillatoria brevis* (Kütz) Gom.
Phormidium autumnale (Ag.) Gom.

17

: *Cyanophyta* –

9, *Chlorophyta* – 5, *Bacillariophyta* – 3.

: $P_5Ch_3B_3CF_2$ ${}_2M_1NF_1$.

Chlorophyta

Bracteacoccus minor (Chod.) Petrova, *Borodinella polytetras* Mill., *Stichococcus*
minor Näg., *Ulothrix variabilis* Kütz., *Chlorococcum* sp.

Hantzschia amphioxys (Ehr.) Grun., *H. amphioxys* (Ehr.)

Grun. f. *capitata*, *Navicula mutica* (Näg.) Grun.

(. 4).

Mucor, Rhizopus

Fusarium.

(*Mucor, Rhizopus*)

(Garrett, 1960),

A. fumigatus, *A. Terreus* –

(*Penicillium lanosum*).

4. « »

| | | |
|--------------------------|--|--|
| | | |
| <i>Aspergillus niger</i> | | |
| <i>A. fumigatus</i> | | |
| <i>A. terreus</i> | | |
| <i>A. repens</i> | | |
| <i>Penicillium</i> | | |
| <i>Mucor</i> sp. | | |
| <i>Fusarium</i> sp. | | |
| <i>Rhizopus</i> sp. | | |
| <i>Mycelia sterilia</i> | | |
| : – ; – ; – ; «-» – | | |

Mycelia sterilia –

10 .

1984).

(, 1989).

63 %.

Trentepohlia *Trebouxia* (, 2003).

Desmococcus vulgaris,

Anabaena variabilis Kütz. f. *rotundospora* Hollerb.

5.

Cyanophyta, Chlorophyta, Xanthophyta.

Ch₃H₂ 2P₁.

5.

| | | | |
|--------------------------------|--|---|--|
| <i>Tilia cordata</i> Mill. | <i>Desmococcus vulgaris</i> (Näg.) Brand emend. Vischer., <i>Trentepohlia</i> <i>umbrina</i> Kütz., <i>Trebouxia arboricola</i> Pium. | <i>Radiosphaera sphaerica</i> (Korsch.) Fott. | <i>Aspergillus raperi</i> (Corda) Sacc., <i>Aspergillus niger</i> Thiegh. |
| <i>Betula pendula</i> Roth. | <i>D. vulgaris</i> , <i>Trentepohlia umbrina</i> , <i>T. arboricola</i> | <i>Stichococcus minor</i> Näg., <i>Chlamydomonas minu-</i> <i>tissima</i> Korsch. | <i>Trichoderma viride</i> Pers. Fr. |
| <i>Populus nigra</i> L. | <i>Anabaena variabilis</i> f. <i>rotundospora</i> Hollerb. | <i>Synechococcus elongatus</i> Näg., <i>Plectonema</i> <i>boryanum</i> Gom., <i>Ulothrix</i> <i>variabilis</i> Kütz., <i>Pleurochloris magna</i> Boye-Pet., <i>Neosporangiococcum</i> sp. | <i>Alternaria oleraceae</i> Rap. et Thom., <i>Aspergillus raperi</i> (Corda) Sacc. |

Cyanophyta,

– Chlorophyta.

I.E. Dubovik, N.A. Kireeva, Z.R. Zakirova & I.P. Klimina

Department of Botany, Biochemistry and Biotechnology, Bashkir State University,
32, Frunze St., 450074 Ufa, Bashkortostan, Russia, e-mail: Dubovikie@mail.ru

MACROSCOPIC ALGAL GROWTHS AND CONCOMITANT MICROMYCETES

The paper presents results of the investigation of interrelations between autotrophic (algae) and heterotrophic (micromycetes) microorganisms inhabiting soil surface and bark of trees.

Keywords: edaphophilous and aerophilous algae, consortia, surface overgrowth.

... , 1984. – 149 .

... / ... , 1989. – 608 .

... , 1969. – 228 .

... *Anabaena*

variabilis // ... , 1956. –

50-53.

... // ... – 1977. – **68**, 2. –

31-34.

... :
 ... , 1998. – 235 .

...
 ... : ... , 1995. – 156 .

... // ...

XI ... 1. – : ... , 2003. – 95-96.

... //

... – 1995. – **64**, 2. – 149-164.

...
 ... // ... – 2002. – **12**. – 1. – 56-59.

... // ... – 1991. – 9. – 63-71.

... //

... – 1998. – 4. – 442-452.

...
 ... (*Nostoc commune* Vauch.)
 // ... – 1989. – 12. – 45-49.

... // ... – 1966. –

27. – 117-129.

...
 //

... : ... , 1981. – 174 .

...
Nostoc commune Vauch.
 // //

... – 1993. – 135. – 31-37.

...
 ... *Nostoc commune* (Cyanophyta)
 // ... – 2000. – **85**, 1. – 71-79.

... : ...

... : ... , 1988. – 32 .

...
 // ... – 1994. – 4. – 3-8.

... //

... , 1981. – 11-17.

... : ... , 1976. – 144 .

... // ... – 1998.

– 12. – 1449-1461.

Garett S.D. Soil fungi and soil fertility. – Oxford, 1963. – 165 p.

Raper K.B., Fennell D.I. The genus *Aspergillus*. – Baltimore: The Williams and Wilkins Co., 1965. – 686 p.

Raper K.B., Thom C.A. Manuel of the *Penicillia*. – N.-Y.; L.: Hafner Rubl. Comp., 1968. – 875 p.

Watanabe T. Pictorial atlas of soil and seed fungi: Morfologies of cultured fungi and key to species. – Florida, 2000. – 411 p.

24.01.07