

INVERTEBRATES FROM CAVES OF PINEGA AREA

– BRIEF REVIEW –



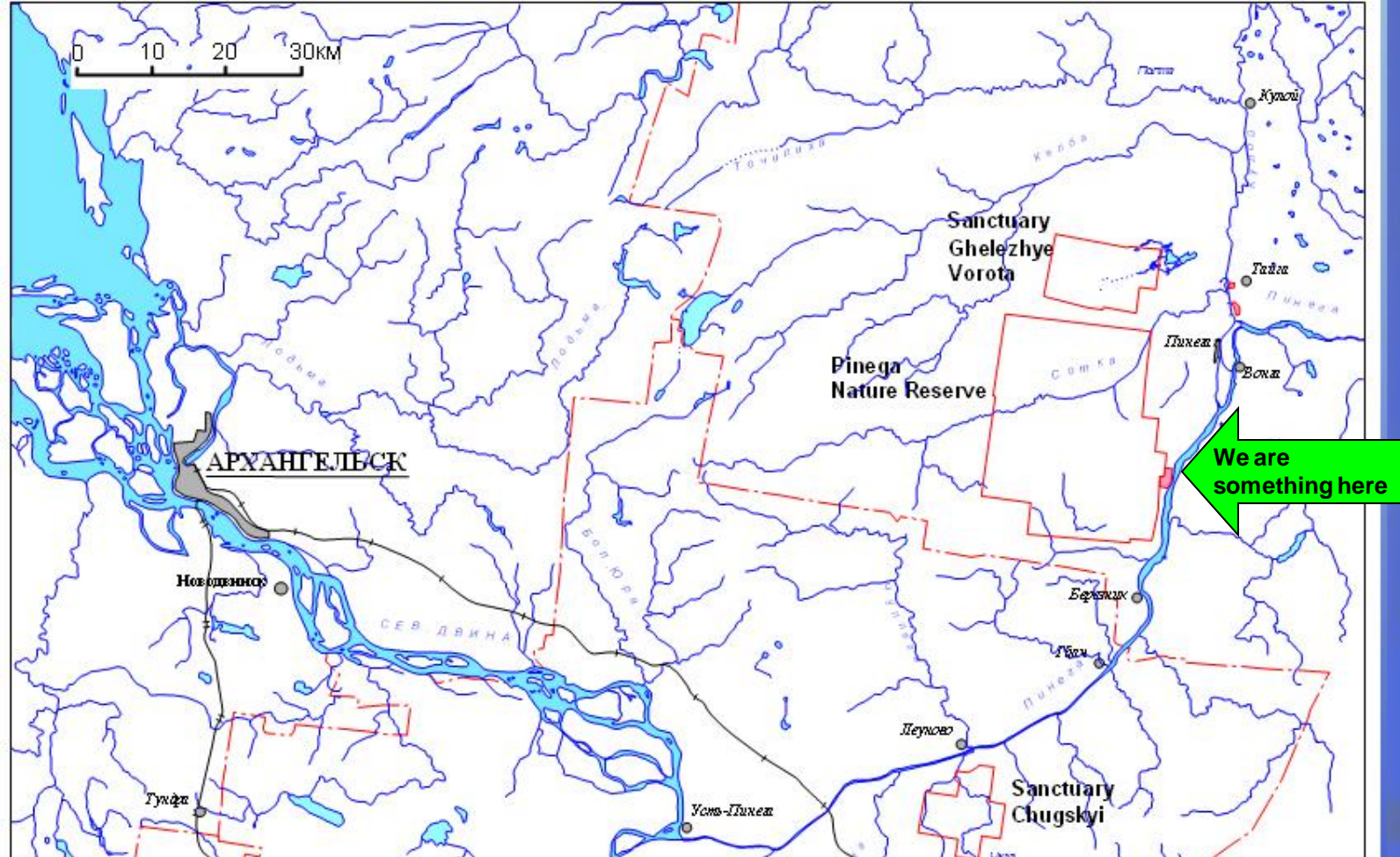
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Pinega Nature Reserve

2011, September



- Climate is severe-temperate, humid
- Average long-term temperature $+0,16\text{ }^{\circ}\text{C}$
- $T_{\text{jan}} = -14,7\text{ }^{\circ}\text{C}$ $T_{\text{jul}} = +14,3\text{ }^{\circ}\text{C}$
- Frostless season 85–95 days
- Precipitation total $\approx 550\text{ mm}$

Notholca caudata (Rotatoria, Brachionidae)



<http://cfb.unh.edu>

- Occur also in Sweden and Canada (Кутикова, 1994). *Notholca* spp. do not usually inhabit regions below 58° N latitude (Кутикова, 1998); *Notholca* spp. are cold stenotherms, living only within a limited range of cold temperatures. These rotifers are planktonic but also may be littoral.

Probably *N. caudata* is a glacial relict (Bayanov, 2003).

N. caudata eat phytoplankton such as *Asterionella* and *Melosira*.

Mysis relicta (Mysidacea, Mysidae)

- Inhabit waters of basin of Arctic Ocean, Baltic Sea & Great Lakes. These areas include lakes in Sweden, Norway, British Columbia, Montana and California (Фильчаков, 1995 et al.).

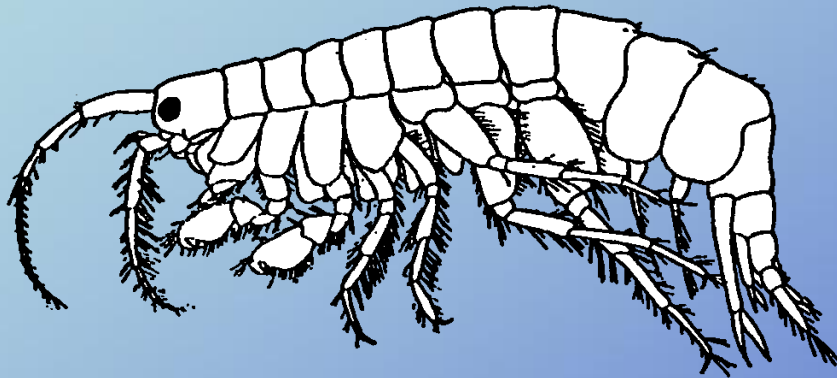


- *Mysis* is a omnivorous filter feeder. Algae, detritus, and different zooplankton are all consumed.

- *M. relicta* is a glacial relict (Bayanov, 2003).

Pallasea quadrispinosa

(Amphipoda, Pallaseidae)



- Freshwater lakes & rivers of Scandinavia, north Germany, Poland & Russia, saltish sites of White & Baltic Sea. Finding of this species known from Siberia (Тахтеев, 2000).
- Probably *P. quadrispinosa* is a glacial-freshwater relict (Тахтеев, 2000; Bayanov, 2003).

Amphipoda indet.

Kulogorskaya-4 cave, yesterday



Mesofauna of karst landscapes

A.N. Severtsov Institute of Ecology and Evolution (Moscow)

- A.B. Babenko (2008) & O.L. Makarova (2006, 2007, 2009)
- Investigation of mesofauna from cold karstogenic habitats of Pinega Nature Reserve, such as Maseev, Severnyi & Tarakanyi Ravines, rocky outcrop and some sinkholes were studied.
- Organic matter (tree waste, dust of rotten wood) from some caves was examined too.

➤ Findings of investigation show, that epigeous karst habitats have specific set of collembolan and mite species.

➤ Cave habitats had negative temperatures, organic matter wasn't invade with arthropods.

Parasitiformes, Mesostigmata

Ascidae

Arctoseius sp.1

Arctoseius sp.2

Cheiroseius cf. *sayanicus*

Polyaspididae

Trachytes hirschmanni

Trachytes edleri

Pachylaelapidae

Pachylaelaps kievati

Rhodacaridae

Gamasellus sp.

Uropodidae

Dinychus micropunctatus

Iphidinychus gaieri

Veigaiidae

Veigaiia belovae

Zerconidae

Syskenozercon kosiri

Zercon sp.

arctic

arcto-mountain

northeurope-siberian

with montain links

A
R
E
A
L

From:

О.Л. Макарова (2009)

Collembola

Isotomidae

<i>Appendisotoma abiskoensis</i>
<i>Desoria alaskensis</i>
<i>D. tshernovi</i>
<i>D. inupikella</i>
<i>Isotoma</i> sp. aff. <i>variodontata</i>
<i>Isotomodella psammophila</i>
<i>Folsomia ciliata</i>
<i>F. cryptophila</i>
<i>F. bisetosa</i>
<i>Pachyotoma</i> sp.
<i>Pseudisotoma sensibilis</i>
<i>Tetracanthella wahlgreni</i>

Hypogastruridae

<i>Hypogastrura tullbergi</i>
<i>Willemia trisphaerae</i>

Onychiuridae

<i>Chaetophorura simplex</i>
<i>Ch. bella</i>
<i>Oligaphorura</i> cf. <i>ursi</i>
<i>Protaphorura jacutica</i>

arctic	A R E A L
arcto-alpian	
northeurope-siberian	
european	

From:

А.Б. Бабенко (2008)

Desoria tshernovi



<http://svalbardinsects.net>

Typical for cold karst
habitats collembolan
species.

Insecta

Our knowleges about insects in Pinega caves is very poor.
There is only fragmentary data in speleological materials
of N. Frantz, A.Semikolennyh and other explorers.

Ephemeroptera indet. (juvenile)

K-1 cave(Франц, 2003)

Diptera

Culicidae indet.

K-2 cave(Франц, 1992)

Helomyza serrata (Helomyzidae)

Caves: Golubinskyi Proval, Kitezhh, imeni Vysotskogo, cave system
imeni Tereshenko (Семиколенных, 1992)



Helomyza serrata
(Helomyzidae)

Caves:

Golubinskyi Proval,
Kitezhh,

imeni Vysotskogo,

imeni Tereshenko

(Семиколенных, 1992)

Thank you for your attention!

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