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23 2004 .

**RADIOLARIAN ECOLOGY AND BIOGEOGRAPHY: NEW VISION OF THE PROBLEM.
PART 2. ABIOTIC FACTORS, RADIOBLARIAN PALEOBIOGEOGRAPHY,
MARINE PALEOLANDSCAPE ENVIRONMENTS IN GEOLOGICAL PAST**

M.S. Afanasieva*, E.O. Amon, B.I. Chuvashov****

**Paleontological Institute RAS*

***Institute of Geology and Geochemistry, Urals Branch of RAS*

The new data on distribution radiolarians of Late Devonian, Carboniferous, Early Permian, and Late Cretaceous ages in paleobasins of Urals and adjacent territories of Russian and Western-Siberian platforms are analyzed. It is established, that in the geological past the paleobasins with maximal density of populations and high taxonomic diversity of radiolarians were located near to a continental land, or in zones of aulacogen and active tectonic faults. It is shown, that radiolarian bioefficiency is controlled by leading abiotic factors: currents, upwelling, the El Nino effects, hydrosulphuric pest, rift zones and deep faults, supply silica and other minerals in sea water.

Key words: *radiolarians, conditions of inhabitation, settling, paleobiogeography, Middle and Late Paleozoic, Late Mesozoic, marine paleolandscapes.*

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1981, 1984; [, , 1966, 1981, 1986].

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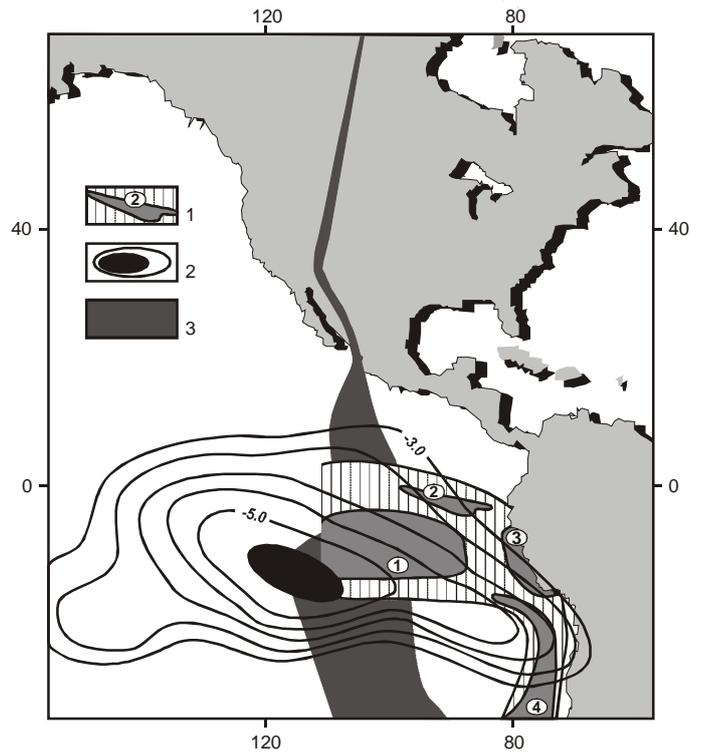
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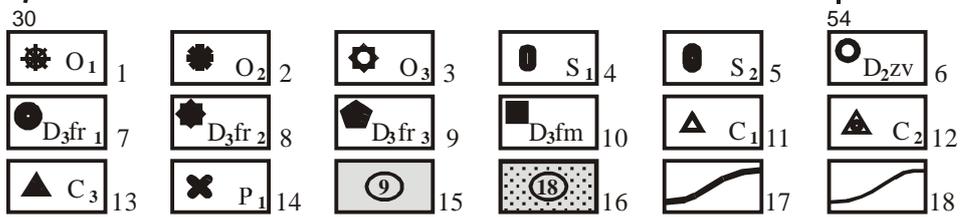
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 [Anderson et al., 1990; Venec-Peyre et al., 1995; Vernaud-Grazzini, Caulet, 1995; Boltovskoy, 1998, 1999].
 [Handoh et al., 2003],
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 [Riegraf, 1995]
 [, 1994, 1998; 2000; , 2004; Anderson et al., 1990].

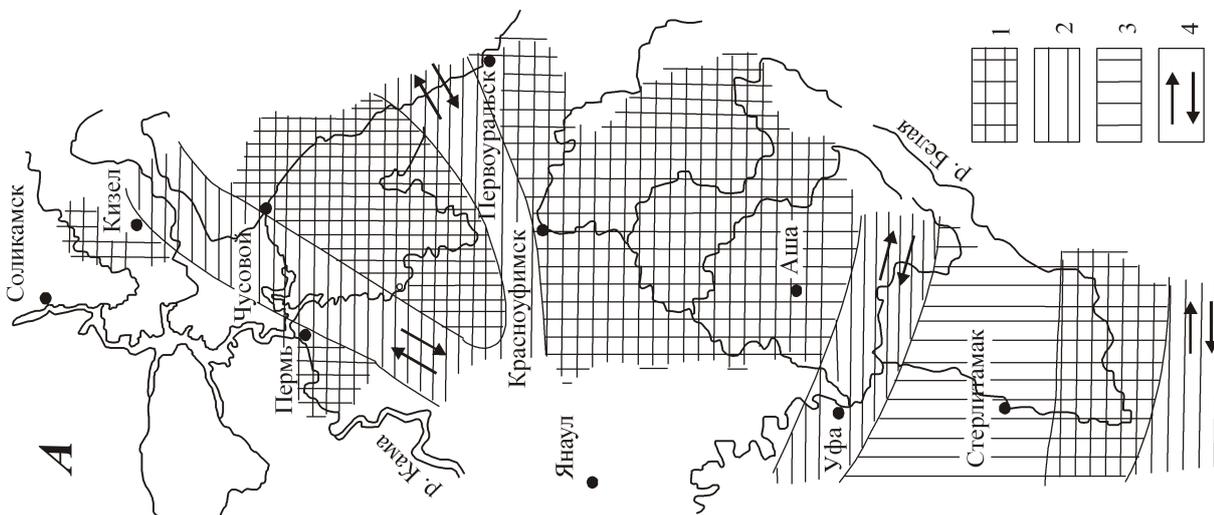
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 [1994, 1998]. -
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 SiO₂,
 (.1).
 SiO₂
 (20-40),
 (65-70 %)
 [Klevtsova, Afanasieva, 1998; , 2000] (.2).
 SiO₂
 [, 2000].
 [, 1994]. [, 1975; Klevtsova, Afanasieva, 1998; , 2000].

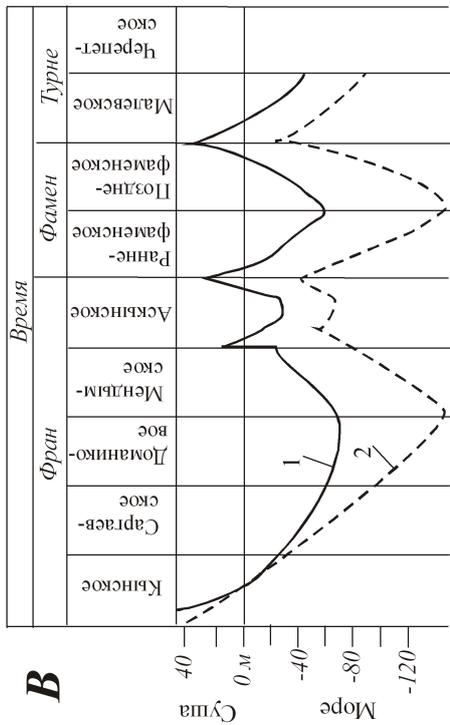


. 2.
 1-14 - : 1-3 - : 1 - , 2 - , 3 - -
 ; 4, 5 - : 4 - , 5 - ; 6 - , 7-10 - : 7 -
 , 8 - , 9 - , 10 -
 ; 11-13 - : 11 - , 12 - , 13 - ; 14 - ; 15 - (1-
 17): (1) - , (2) - , (3) - , (4) - , (5) -
 - , (6) - - , (7) - , (8) - - , (9) - -
 , (10) - - , (11) - - , (12) - , (13) - ,
 (14) - - , (15) - - , (16) - - , (17) - -
 - ; 16 - (18-20): (18) - , (19) - , (20) - -
 ; 17 - ; 18 - (. . . [1978] . . . [2000]).

(Na, Ca, Mg, K, Al, Si, Fe), [, 1987],
 Na, Ca, Mg, :
 Al, Si, K, Ti, 1. ($4,27 \times 10^{14}$ /);
 Si 2. , -
 Si , -
 [..., 2002]. 20 %;
 3. ;
 4. ;
 5. -
 48 % ,
 - 50-68 % ,
 Si (,
 46 % ,
 - 35-82 % .) ;
 SiO₂ ; , 7. -
 ($n \times 10^{-4}$ /): Ca - 4,88;
 SiO₂ - 4,26; - 3,2; Na⁺ - 2,07; Mg²⁺ - 1,33;
 K⁺ - 0,74; Fe²⁺ - 0,223; Al - 0,003. ,
 SiO₂, Al₂O₃, , ...
 Fe₂O₃ - MgO, CaO, Na₂O -
 [..., 2002]. .
 [, 1987]:
 1. , 40-75
 :
 2. .
 92 % ,
 7-8 % [,
 ..., 2002]. , 95 %
 3. -
 SiO₂ , .



4.



А.

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3 -
4 -

(1)

С.

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(1 - *Archaeosphaera*; 2, 3 - *Parathurammina*; 4 - *Cribrosphaeroides*; 5 - *Irregulariina*; 6 - *Archaelagena*; 7 - *Nanicella*); II -

(8 - *Girvanella*; 9 - *Pycnostroma*; 10 - *Siphonites*; 11 - *Nodosinella*; 12 - *Spongiostroma*); III - (13 -

; 14 -

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; 19-21 -

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; 27 - *Lingula*; 28 -

Buchia; 29 -

Leiorhynchus; 30 -

; 31 - ; 32 -

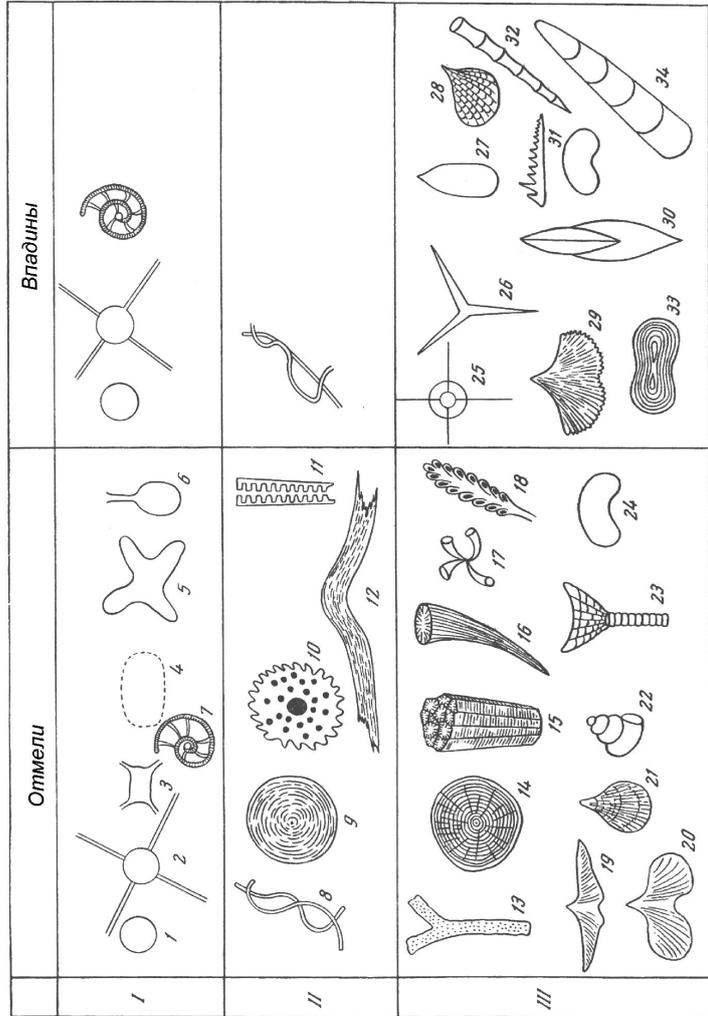
; 33 -

Entomozoe; 34 -

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[1968],

С



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SiO₂,

[, 2002].

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(18,69 %),

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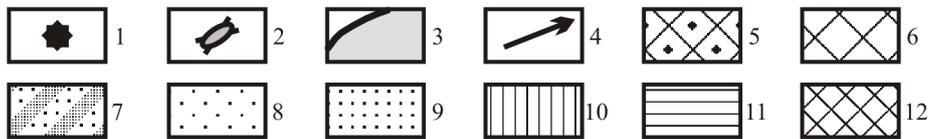
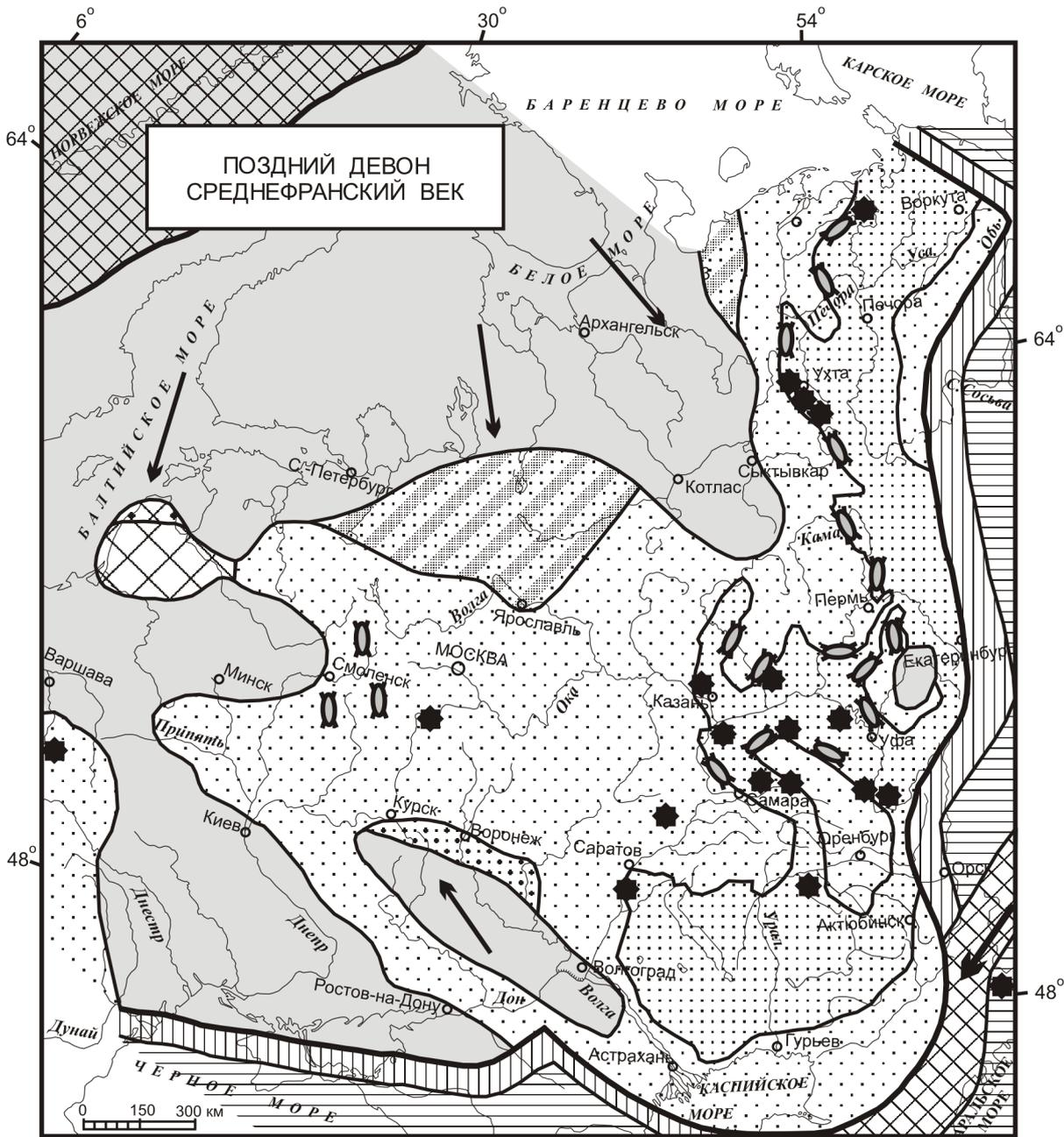
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5. ([, 2000]).

1 – ; 2 – ; 3 –

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(5 –), 7 – (, 8, 9 –

(8 – , 9 –

10 – , 11 – , 12 –

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[Menner et al., 1996].

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SiO₂

(. 2), (. 6)

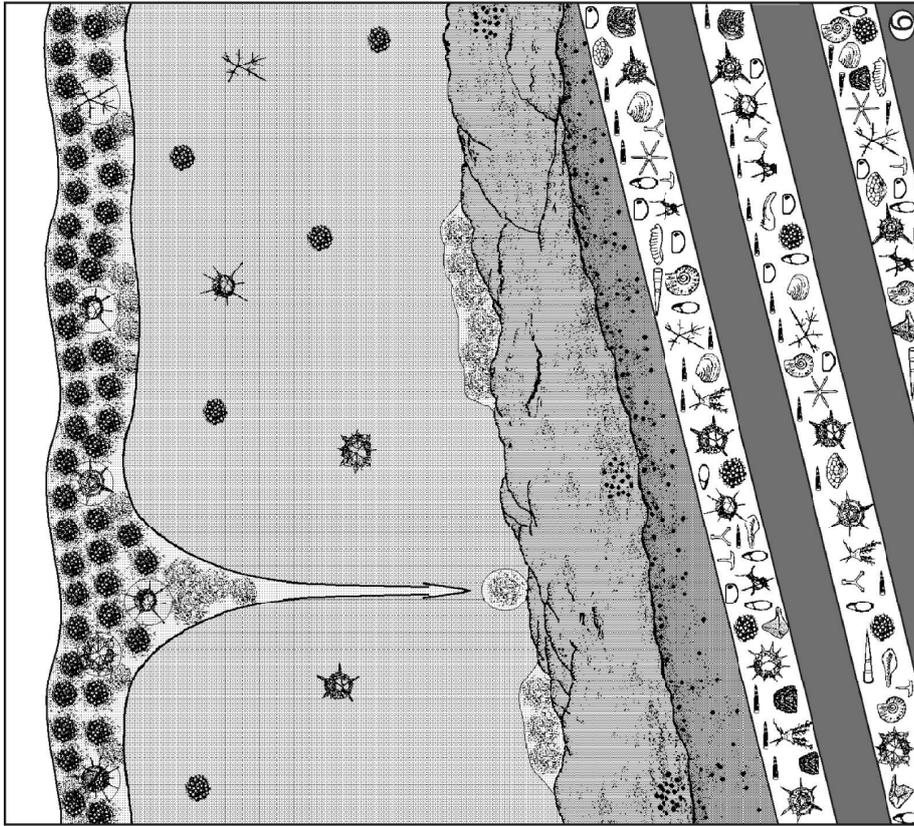
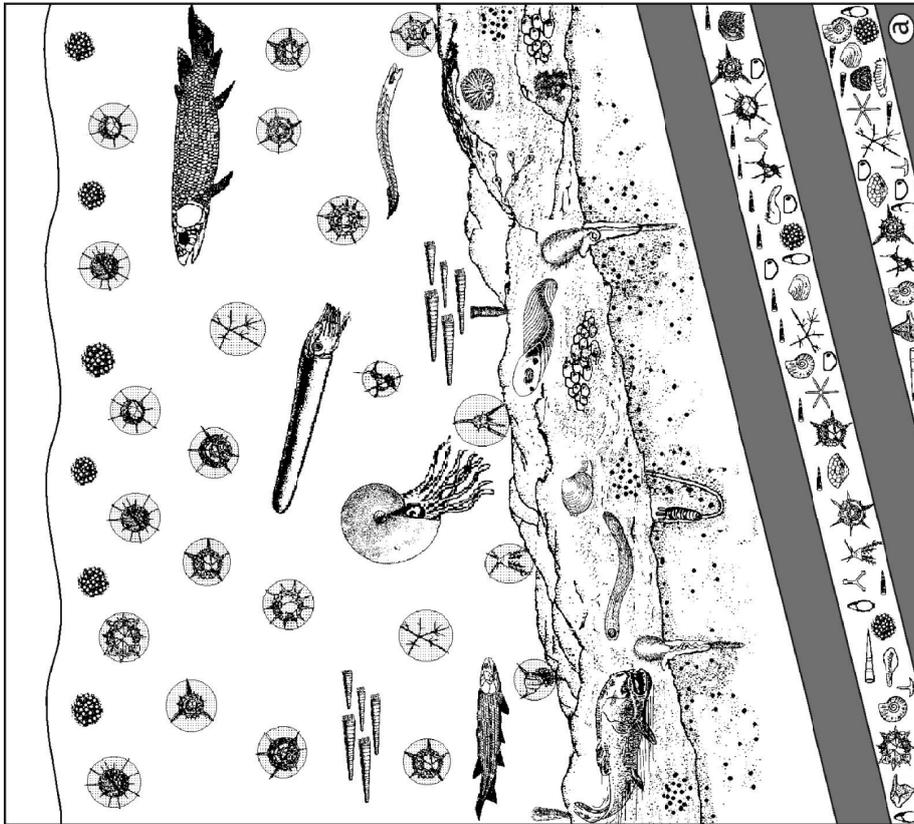
[, 1998; [, 2000].

[, 2000].

100-

200 .

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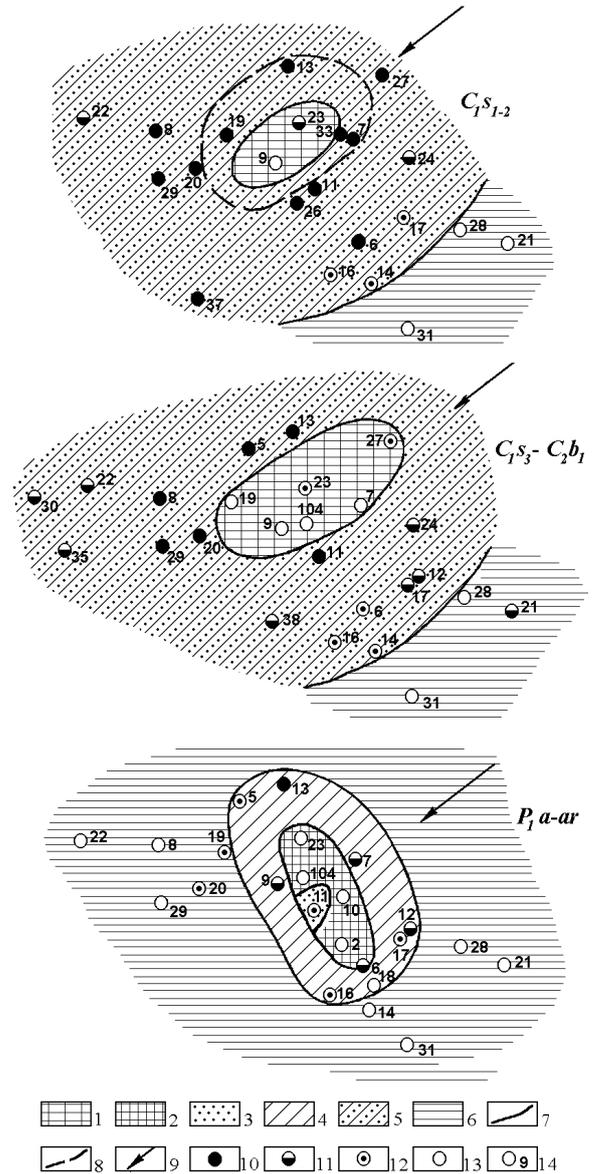


. 6. ([, 2000]).

- ; 2- ; 3- ; 4- ; 5- ; 6- ; 7- ; 8- « » ; 9- ; 10- ; 1-

« » « »

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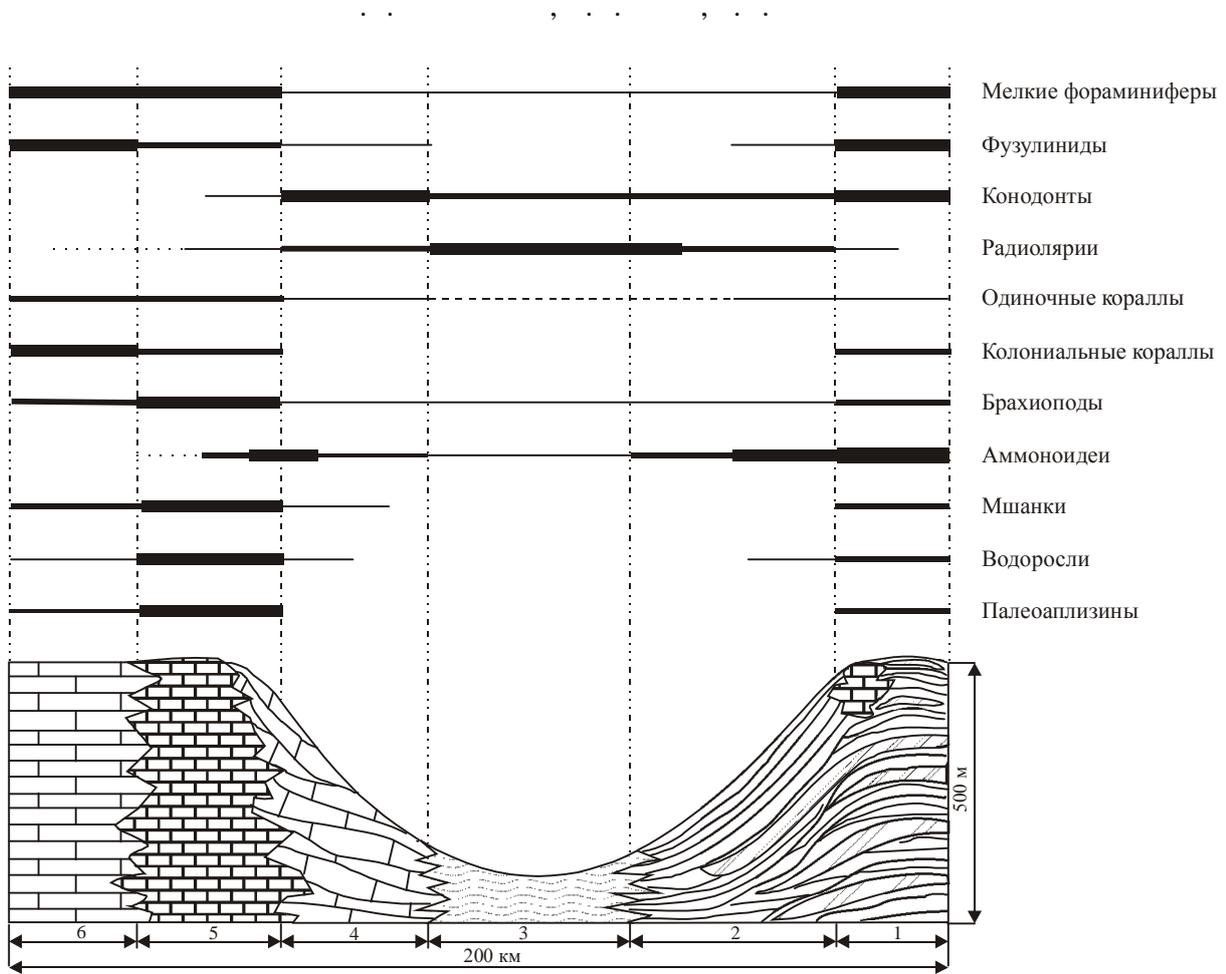


. 7.

, 1987, 2000]).

[, 1986, 2002; , 1987, 2000] (. 7).

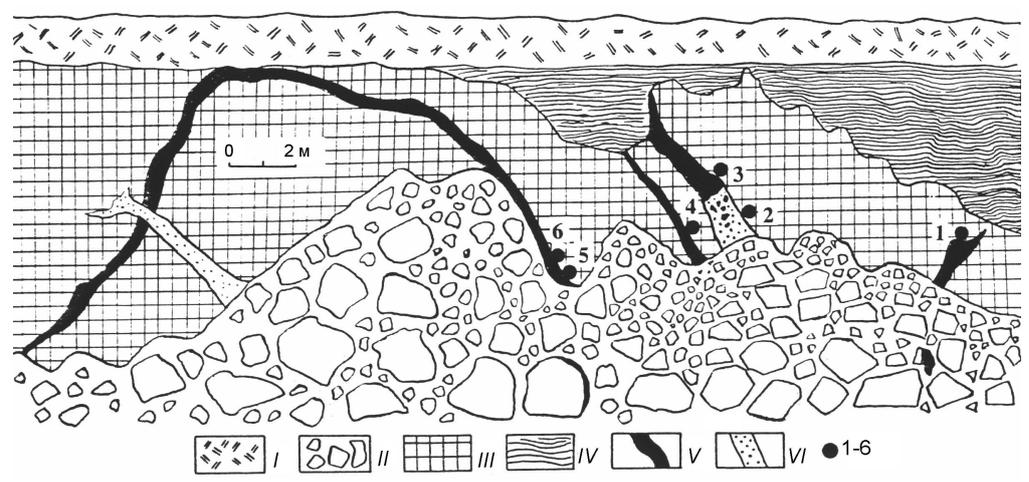
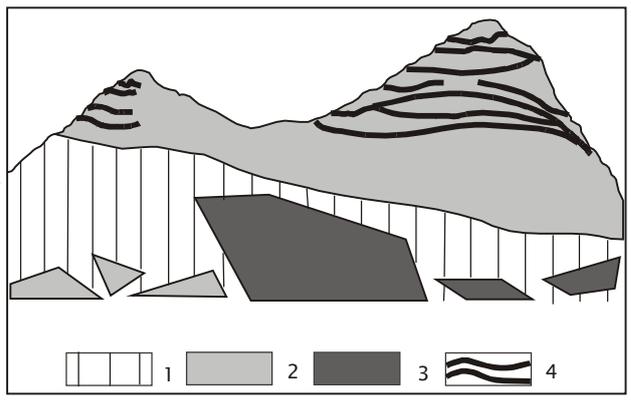
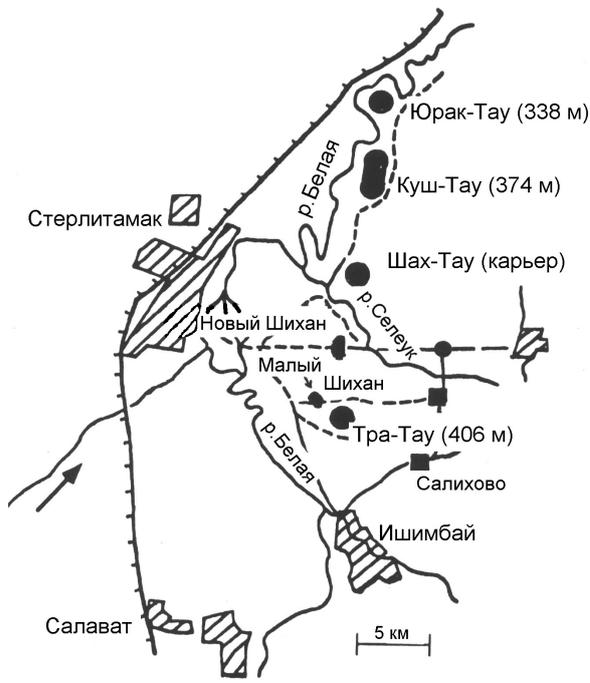
1-6 - : 1 - , 2 -
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 8 - ; 9 -
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[(, 1999)].

1 - ; 2 - ; 3 - ; 4 - ; 5 - ; 6 -



9. (). ; 1 - ; 2 - ; 3 - ; 4 - ([, 1999]). ; I - ; II - ; III - ; IV - ; V - ; VI - ; 1-6 - ([, 1996]).

Entactinosphaera, Astroentactinia, Copicyntra.

(Chuvashov, 1983).

[Chu-

() [Chuvashov, Crasquin-Soleau, 2000].

Copicyntra [, 2000].

(. 8).

[, 1999].

[1956]

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2002; [, 2003], [, 2001, , 2003], [, 1999], (5-15) (. 9) [, 1996].

25 . () () (. 9) [, 1996].

SiO₂ () [, 1990].

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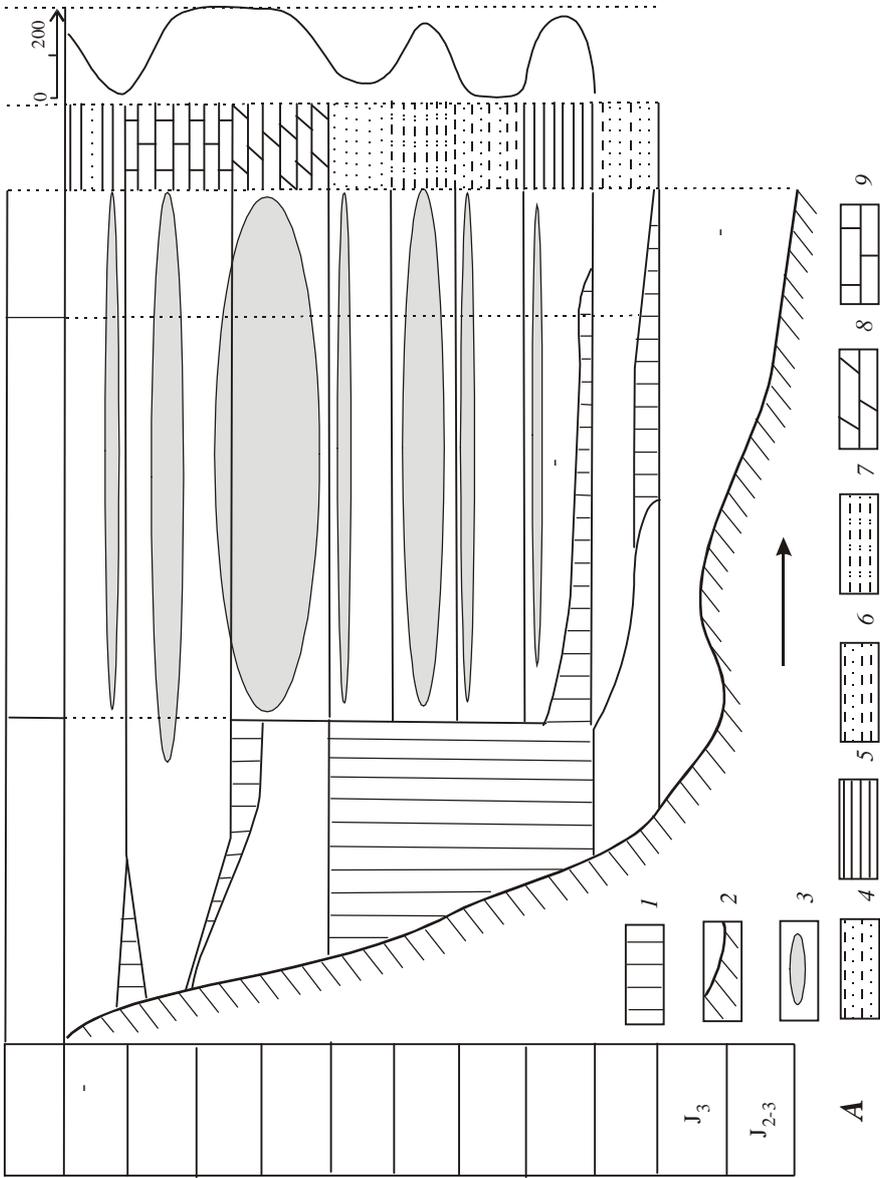
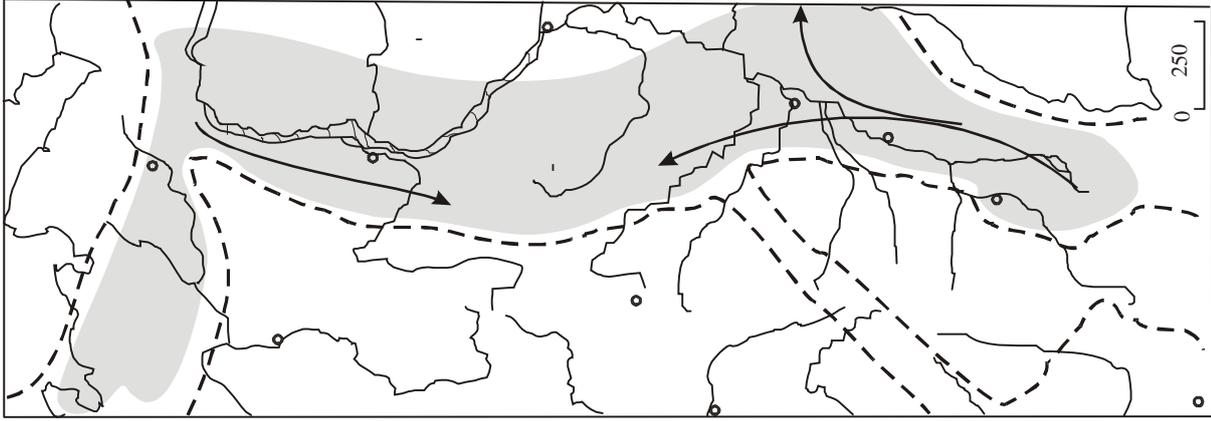
100-200 [. 2002].

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[, 2000, 2001].

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 A: 1- ; 2- ; 3- ; 4- ; 5- ; 6- ; 7- ; 8- ; 9- ;

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Prunobrachium //

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- ... , 1959. 557 . : , 2002.
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