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 5–10 (,
 2–3),
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 31 . . ,
 – 25 . . . [, 1987, . 51; 1995, . 25, 27],
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 [, , , 2007].
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 14 .
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 [, , , 1974; , 1975;
 , 2001; , 2004, 2005, 2006; , 2007; ,
 2010],
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 ,
 – (11500–12000).

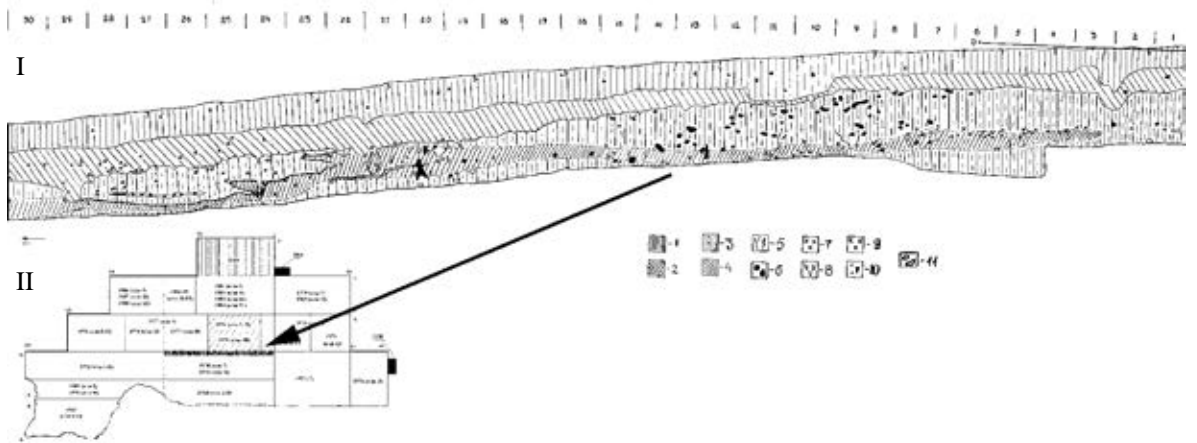
1 691-N/2010/0 Ukraine “Palaeolithic Oecumene of the peri- and meta-Carpathian zone – a study of environment changes of Western Ukraine and South-Eastern Poland in Pleistocene and their influence on primeval settlement and migration pattern (based on loess and cave sites)”.

7 V, 23–25 [1987; Haesaerts et al., 2003].

[2001, .39; 2005].

V [2001, .39].

6 : “
 (. - . . .).
 ” [1984, .175].



1. , 1971 .
 I: 1 – ; 2 – ; 3 – ; 4 – ; 5 – ; 6 – ; 7 – ; 8 – ; 9 – ; 10 – ; 11 – (. . .);

Fig. 1. K ulychivka, 1971.

I – section of the eastern wall of the excavation : 1 – gray soil; 2 – dark brown loam with light stripes in the lower part of which upper cultural layer is situated; 3 – light yellow loam with materials from the lower layer; 4 – layered loam, sandy loam and sand with the artifacts from lower horizon; 5 – frost cracks; 6 – moles’ holes; 7 – flint finds; 8 – small pieces of coal; 9 – ceramics; 10 – bones of fossil animals; 11 – sandstone pieces (by V. Savych);

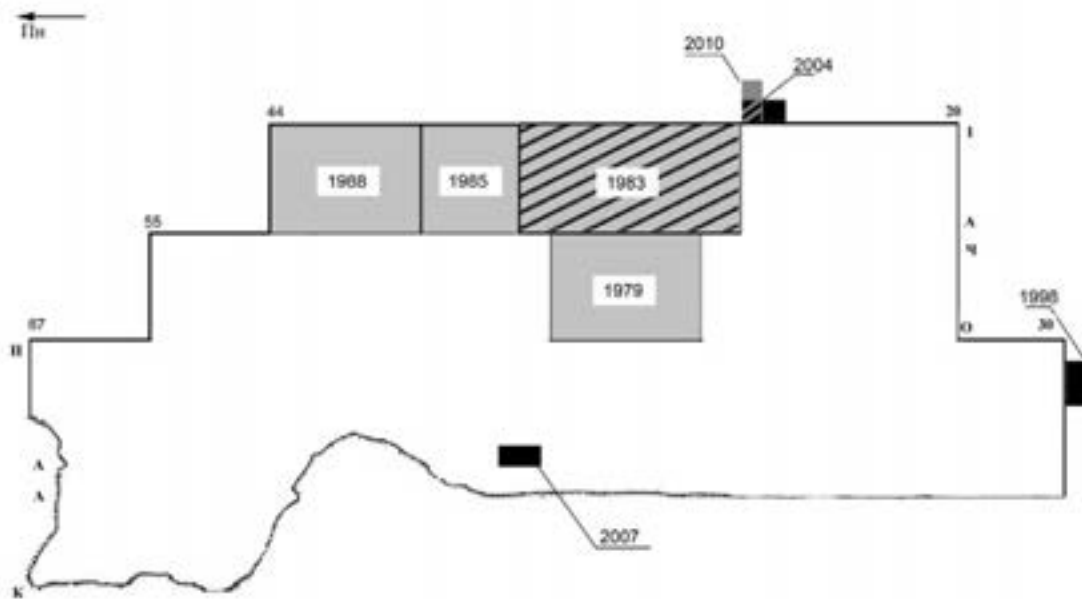
II – general plan of excavations made by V. Savych’s expedition. Grey line marked location of analyzed profile.

(-)
 (, (,
) , 1979 .,
 () ,
 “ (solus – ; fluksus –) –
 , (

...) ...
 2-3°
 ... ” [... ,
 1978, . 248].

... 1975 . [... , 1975, . 16, . 1],
 (...) 2 12 , 8-10° .
 10° [... , 1975,
 . 55].

(19).



. 2. (1998, 2004, 2007, 2010).

Fig. 2. General plan of excavations made by V. Savych's expedition with marked survey pits made by O. Sytnyk's expedition (1998, 2004, 2007, 2010). Areas with deposition of cultural layer III are marked by gray color.

1972 . [... , 1975, . 16, . 1],
 (...)
) - 0,55-1,25 ”,
 (...)
) - 1,25-2,15 ” [... , 1975, . 16, . 1].
 1975 . 1971 ..
 [... , 1975 , . 42-43, . 1].
 (...)

1,3-1,5

(, ,)

40 , 1973 .

(1998 .)

[, “ , 1975, . 57].

(, 1973 .)

1 - - “ -

” [, , 1975, . 57]. [(, 1975] 0,5-0,8) 1970- “ ”

1968-1978 (),

1979 .

1984 . V, (-)

V- “ ” 1979 .

(1978 . . “ ”) , 1979 .

“ ” 1979 .

() , “ ”

[, , 1975; , 1975],

[, , 1975, . 57],

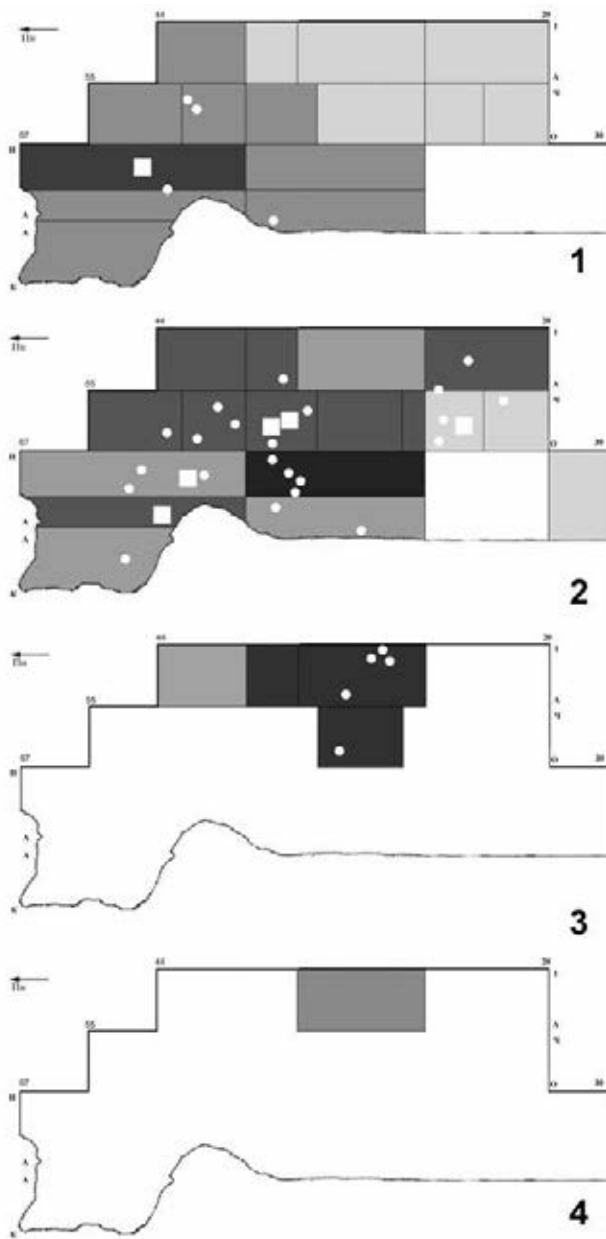


Fig. 3. General plan of excavations, made by V. Savych's expedition with indication of intensity of deposition of cultural remains (darker color means more intensity): 1 – cultural layer I (squares mark remains of dwellings; white circles – remains of hearths); 2 – cultural layer II; 3 – cultural layer III (only remains of hearths); 4 – cultural layer IV. White “clean” areas – absence of cultural remains.

1984–85

IV-

2,73–2,90

[C , 1986, .6],
1988 .

1989, .5–6].

V , 1984–1985 ,

1998].

1979 .–



Fig. 4. Kulychivka. 1970. Excavation I. Pit from cultural layer of Bronze and Iron ages. Photo of V. Savych.

-IV

()

17,

(IV),

),

”(
IV).



Fig. 5. Kulychivka. 1969. Excavation I. During excavation of upper cultural layer. Photo of V. Savych.

(05),

()

()

()

IV.



Fig. 6. Kulychivka. 1969. Excavation I. Concentration of flint with white patina from cultural layer I. Photo of V. Savych.

Fig. 6. Kulychivka. 1969. Excavation I. Concentration of flint with white patina from cultural layer I. Photo of V. Savych.

(, , ,
 , -) . , ,
 ,
 .
 1981–1984 – , ,

05. ()
 , , , , , ,
 - . , ,
 IV .
 (, - “ ” ,),
 (, , , , IV
).
 1983 .

(IV)
 1979 . , .
 - (, ,

), “ ” (IV)
 05-17 , IV
 1984 . ()
 “ ”



.7. . 1980. ().
 Fig. 7. K ulychivka. 1980. Excavation III. Section of eastern wall. Level of stripped-wavy brown loam with deposition of cultural layer I (by V. Savych). Photo of V. Savych.

IV
 (10)². ()
 1984 .
 IV,
 IV
 IV-
 .12.
 " [, 1986, .6].

“ ” , 1979 .
 1976–1979 “ ” IV, IV.
 1979 . IV 1984 . () .

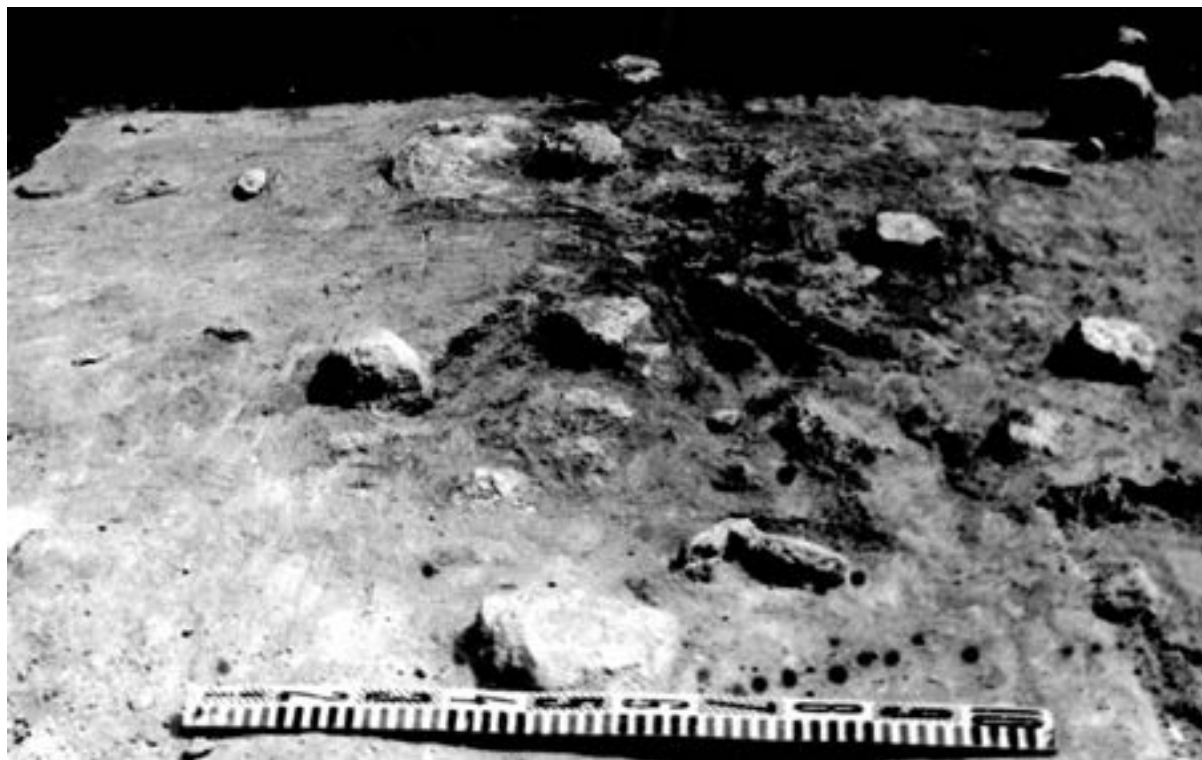


Fig. 8. K ulychivka. 1973. Excavation area II. Lower cultural layer. Remains of hearth. Photo of V. Savych.

3 05,
 “ ” 1976 . (“ ” 1979 . (IV.

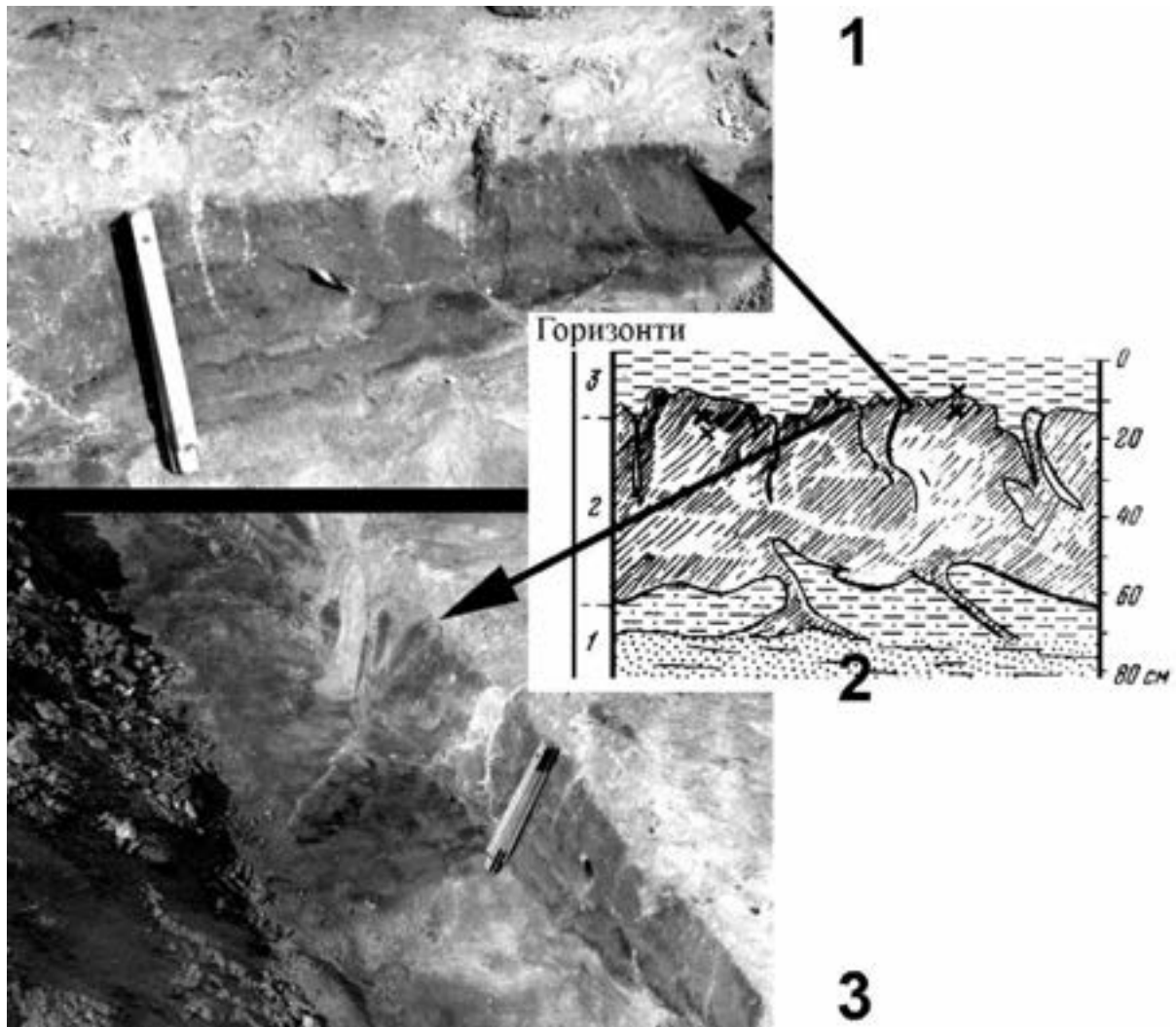


Fig. 9. K ulychivka. 1982. Excavation IV. 1, 3 – photo of ferruginized sandy stripped layer on the contact with deluvial clayish soil (above), from where small cracks of different width – the most saturated by artifacts lower cultural layer – layer II according to later redaction. Photo of V. Savych. 2 – figure of this layer from article of I. Ivanova and N. Rengarten (1975, . 57, . 4).

2 –

(1975, . 57, . 4).

Fig. 9. K ulychivka. 1982. Excavation IV. 1, 3 – photo of ferruginized sandy stripped layer on the contact with deluvial clayish soil (above), from where small cracks of different width – the most saturated by artifacts lower cultural layer – layer II according to later redaction. Photo of V. Savych. 2 – figure of this layer from article of I. Ivanova and N. Rengarten (1975, . 57, . 4).

(. . .) .

, , (. . .) .

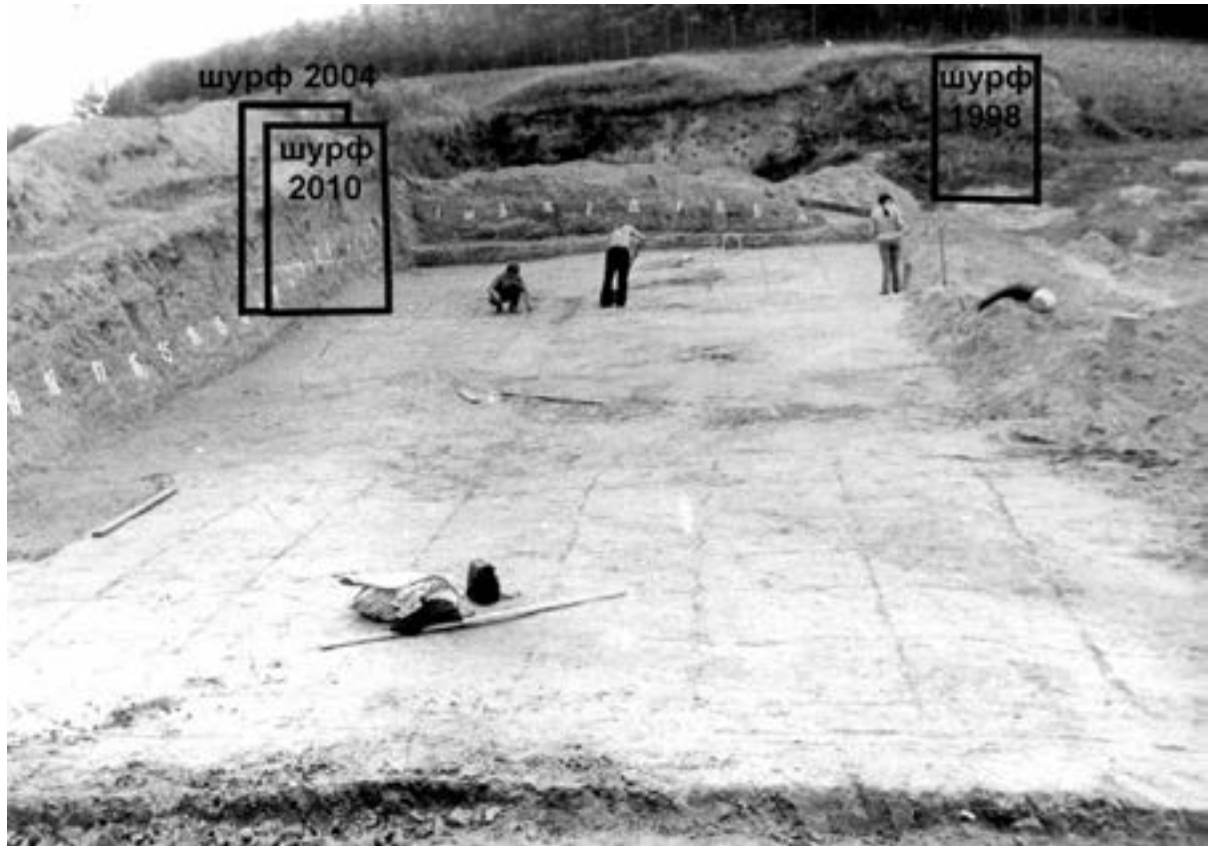
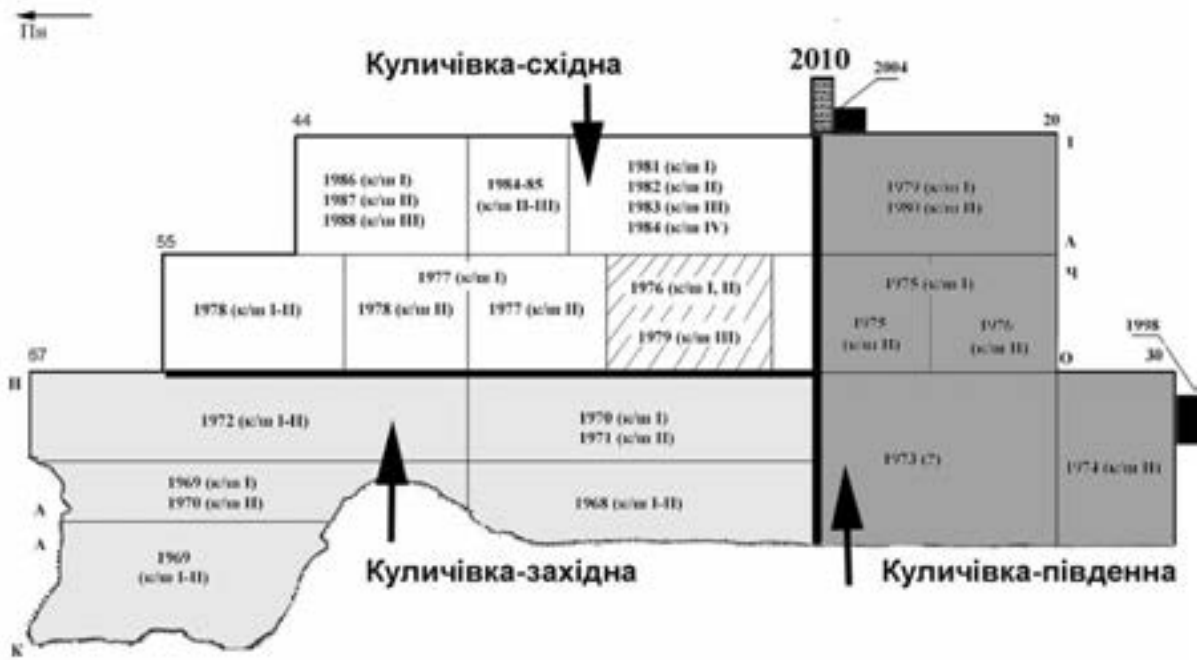


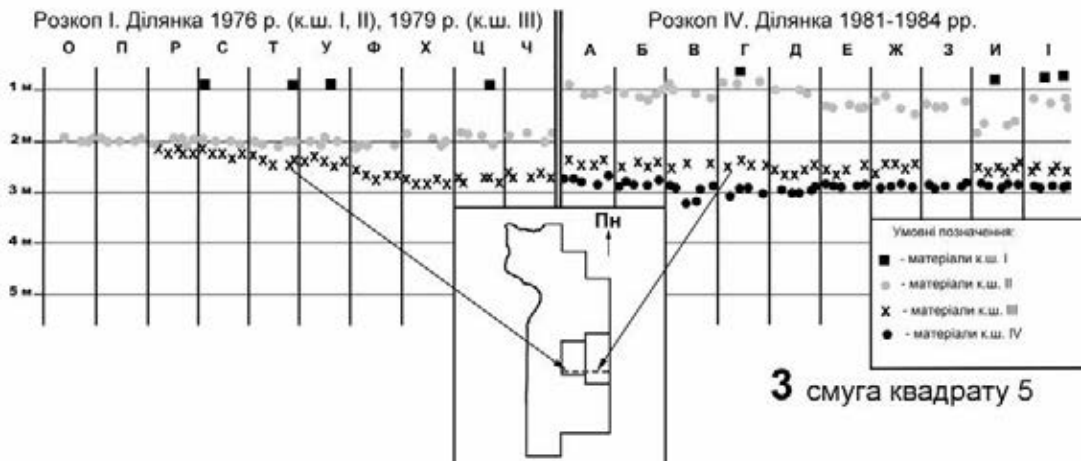
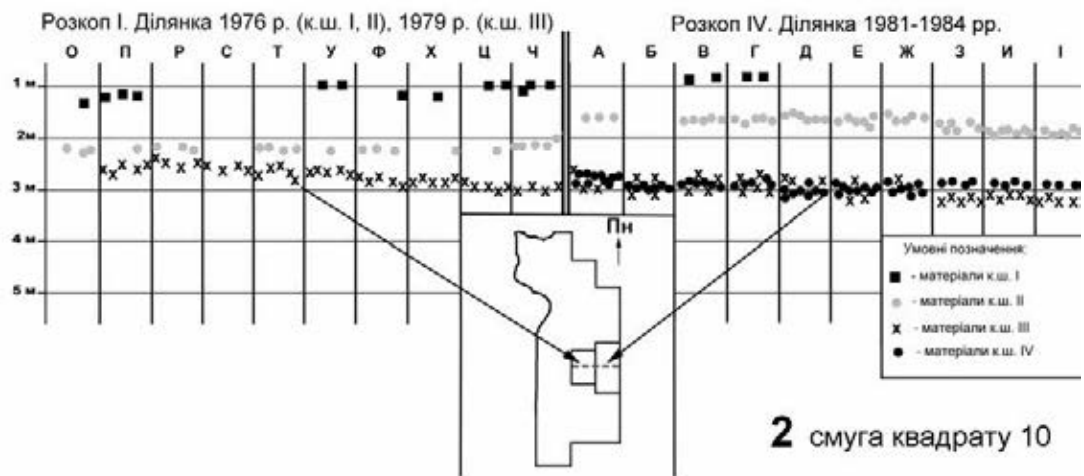
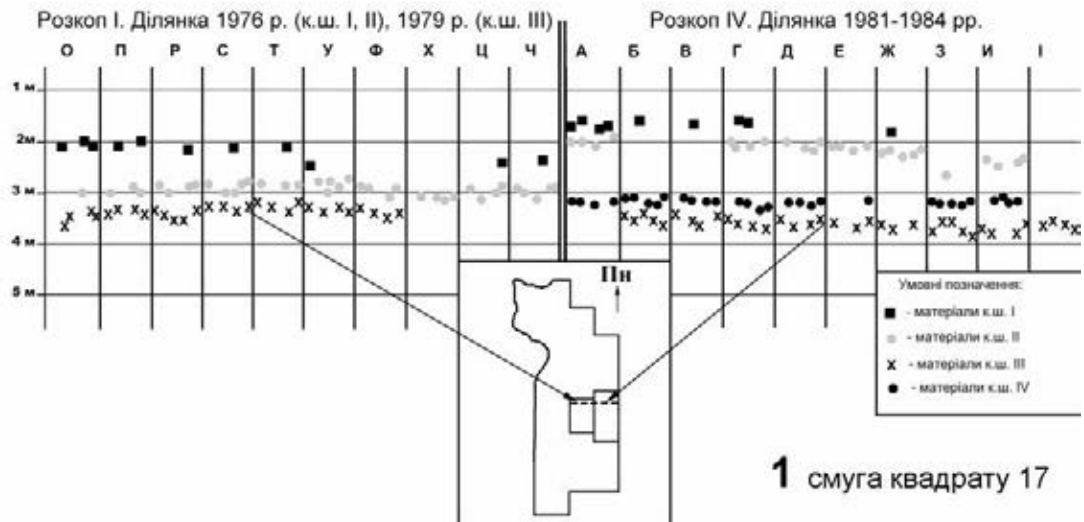
Fig. 10. Koulychivka. 1983. Excavation IV. General view from the north. Places of later survey pits made by expeditions led by O. Sytnyk are marked on the photo. Radiocarbon dates for samples from layer III obtained from survey pit 2010. Photo of V. Savych.

(IV), ; ()
), - ;
 : 1 - ,
 ; 2 - ;
 ; 3 - -
 ; 4 - (2)



11.
 Fig. 11. Kulichivka. General plan of excavations, divided into three parts by cardinal directions.

()
)
)
 ()
)
 IV



. 12.

IV

: 1 -

17;

2 -

10; 3 -

05 [: , 1982, 1983, 1984, 1986].

Fig. 12. K ulychivka. Schematic profiles of separate parts of excavations I and IV on the places of their contact with marked depth of deposition of artifacts relative to 0-line: 1 - profile along the line of sq. 17; 2 - profile along the line of sq. 10; 3 - profile along the line of sq. 05 [by: , 1982, 1983, 1984, 1986].

IV,

1984 .

2010 .

1989 .,

1 ,

(,).

500 ,

50 .

1998 .

), (,).

, 2004 .,
IV.

[, 2007]. 2007 .

“ ”

2010 .

2004 . (20, 21)

02-2004

(. 17).

(.). IV

01-2010,

2,25-2,40

1².

130 ,

() (24).

;

[, 1959].

(92),

(18)

(14).

(4 .),

(2),

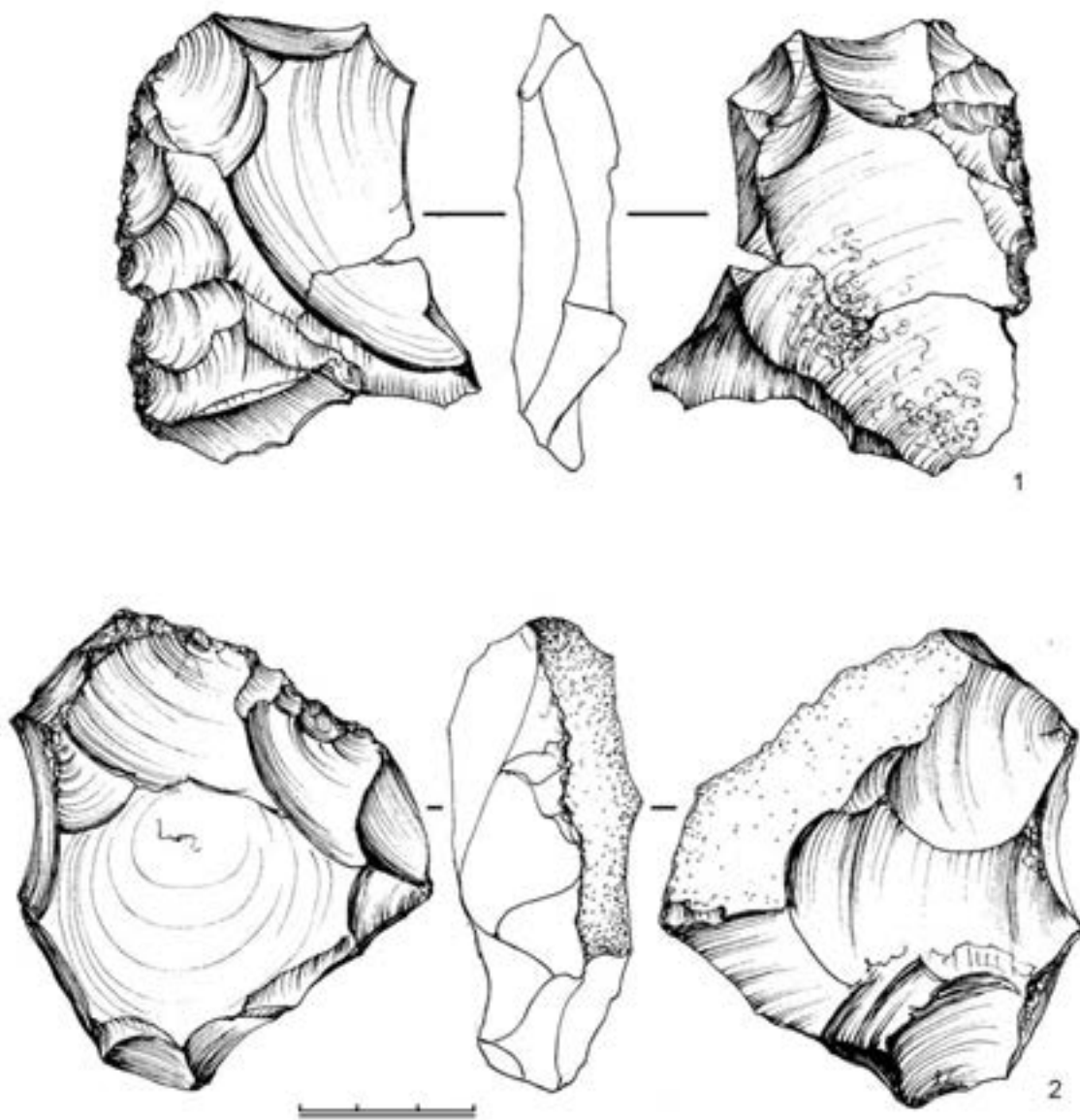


Fig. 13. K ulychivka. 2010. Survey pit 01-2010. Cultural layer III. Cores.

4

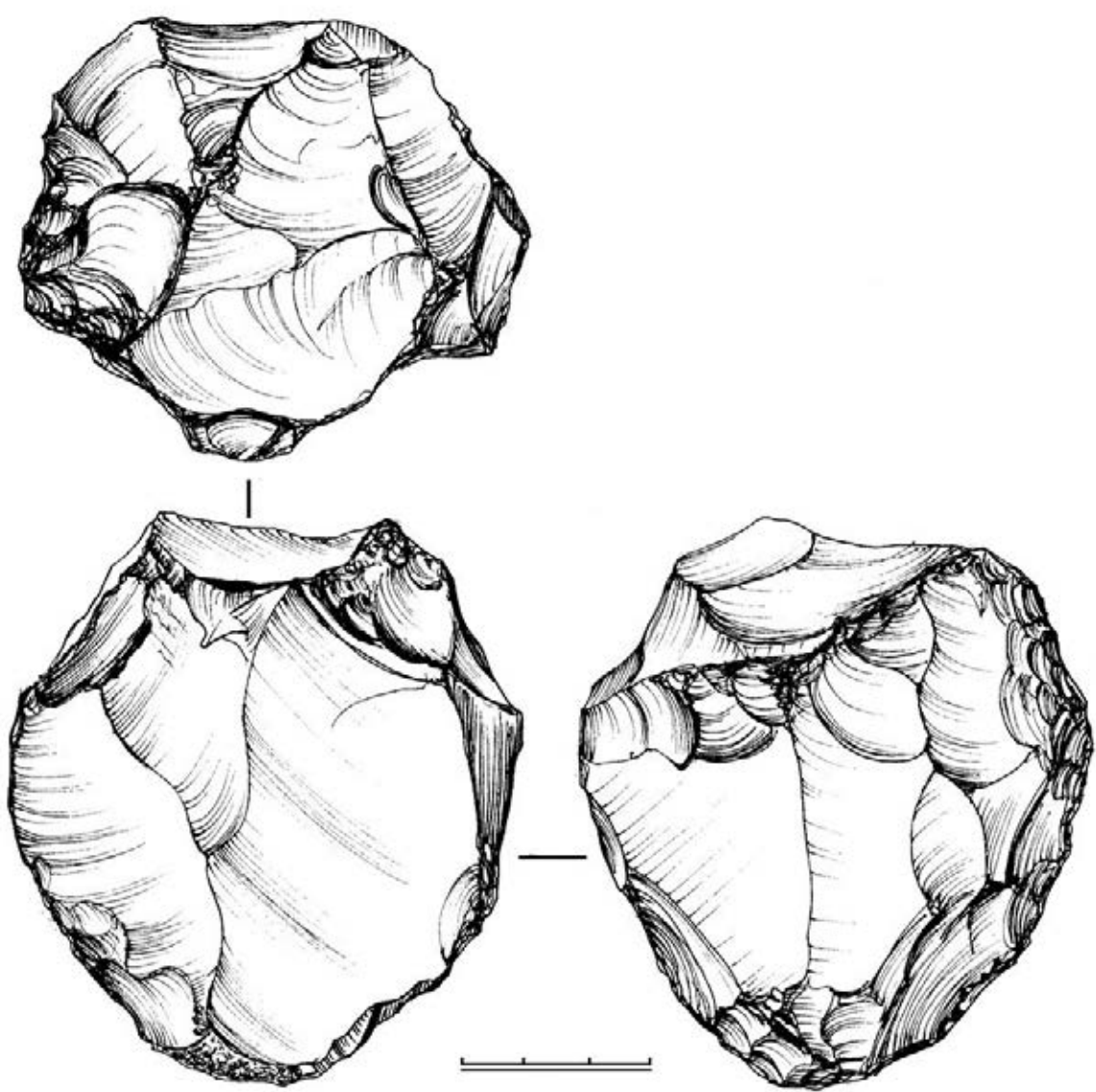
(1,5)

(. 13, 1).

()

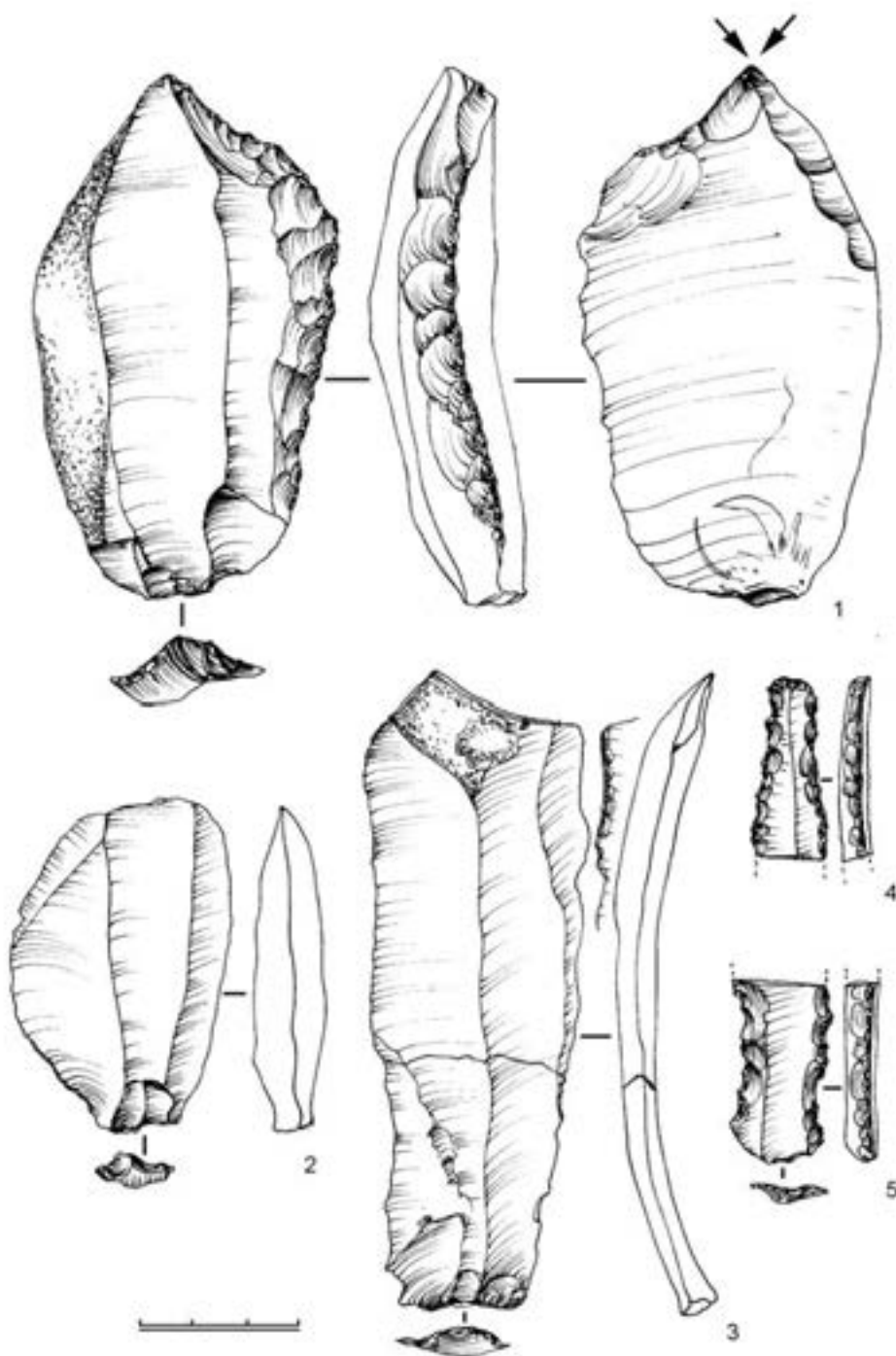
(. 13, 2)

(. 14) –
 (),
 ().

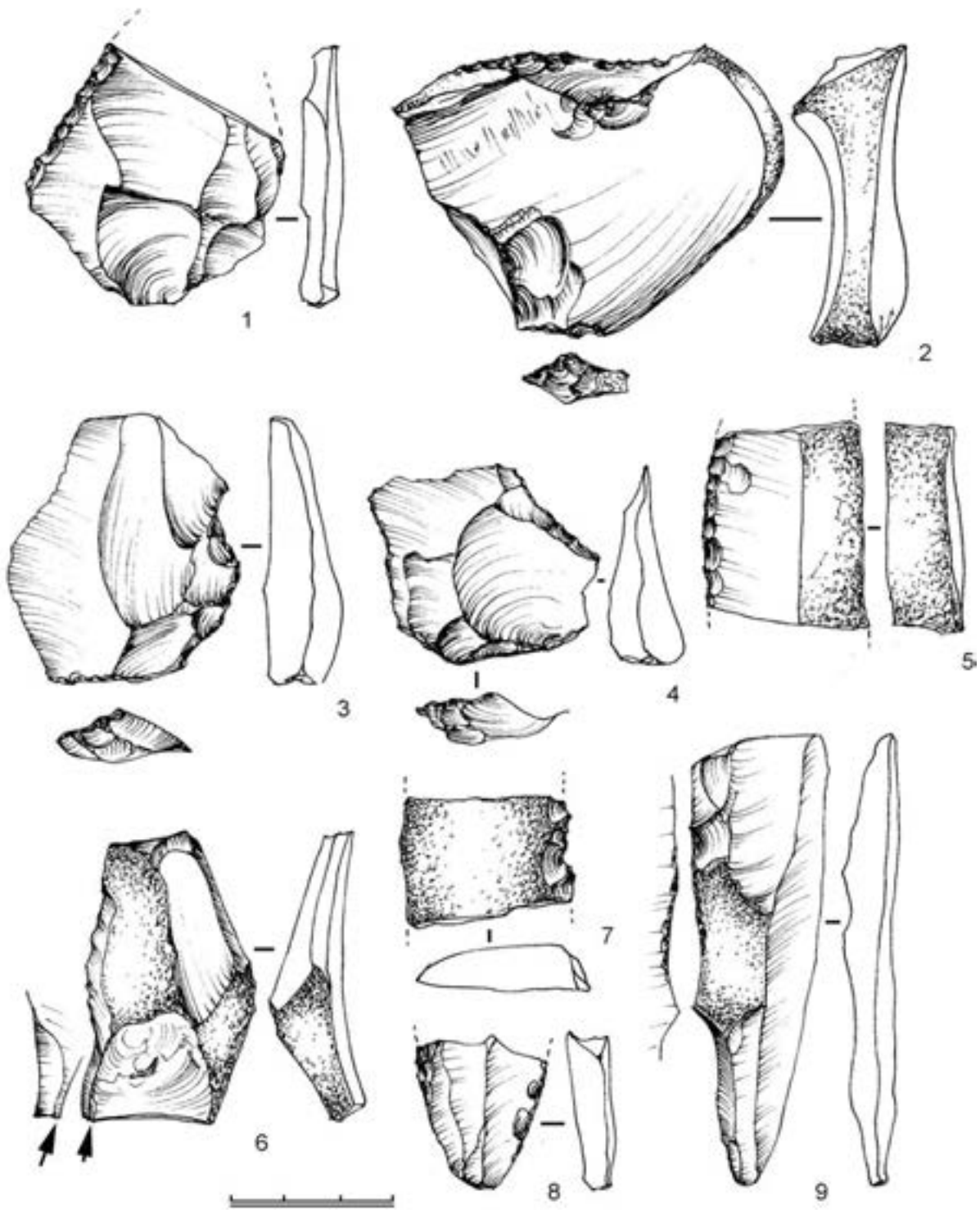


. 14. . 2010. 01-2010.
 Fig. 14. K ulychivka. 2010. Survey pit 01-2010. Cultural layer III. Core.

(?)
 (92 .), (9 .), (13 .),
 (12 .), (11 .), (9 .),
 (12 .), (3 .), (41 .).
 (3-4)



15. . 2010. 01-2010.
 Fig. 15. K ulychivka. 2010. Survey pit 01-2010. Cultural layer III. Tools.



16. 2010. 01-2010.
 Fig. 16. K ulychivka. 2010. Survey pit 01-2010. Cultural layer III. Tools.

(15 %).

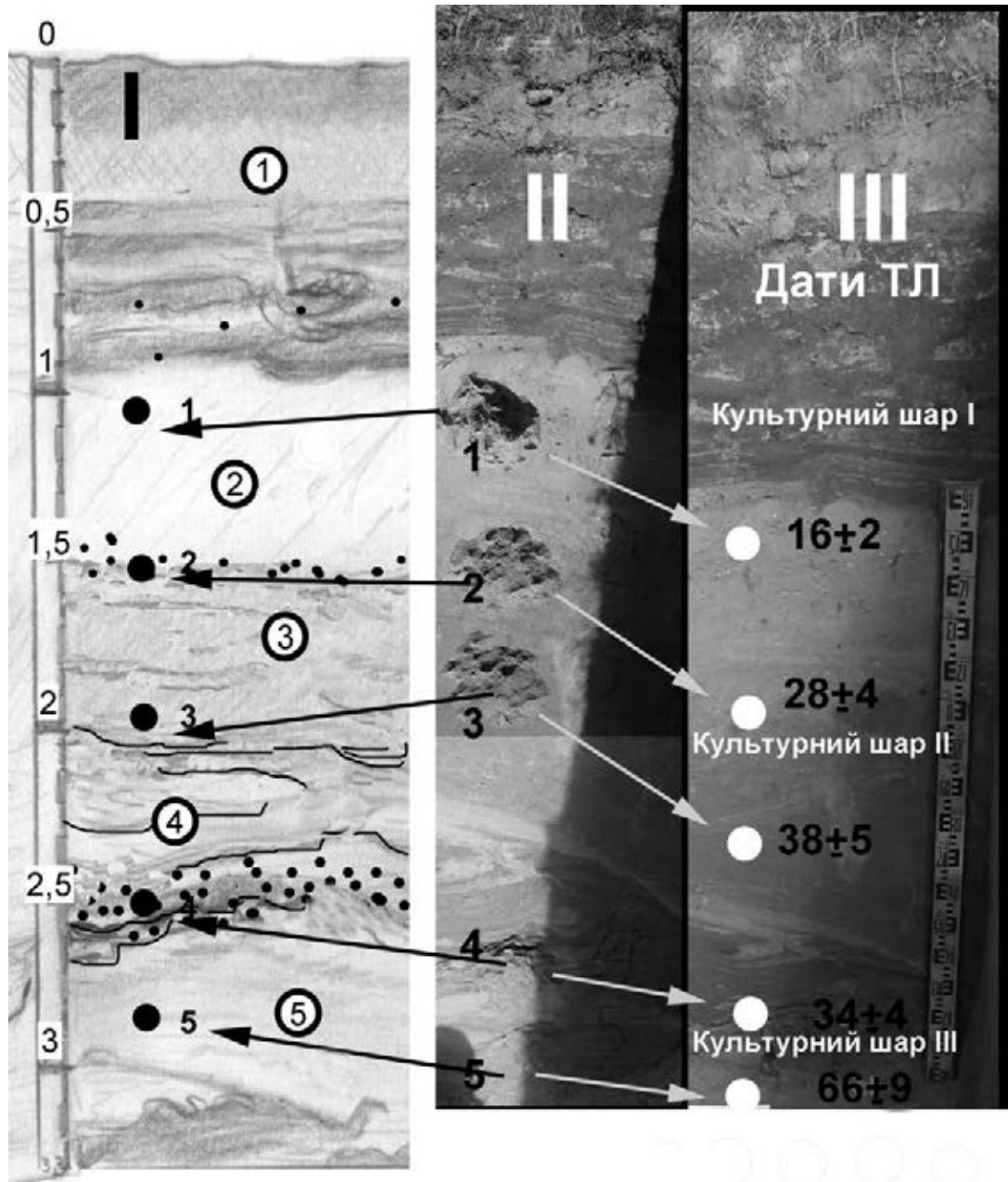
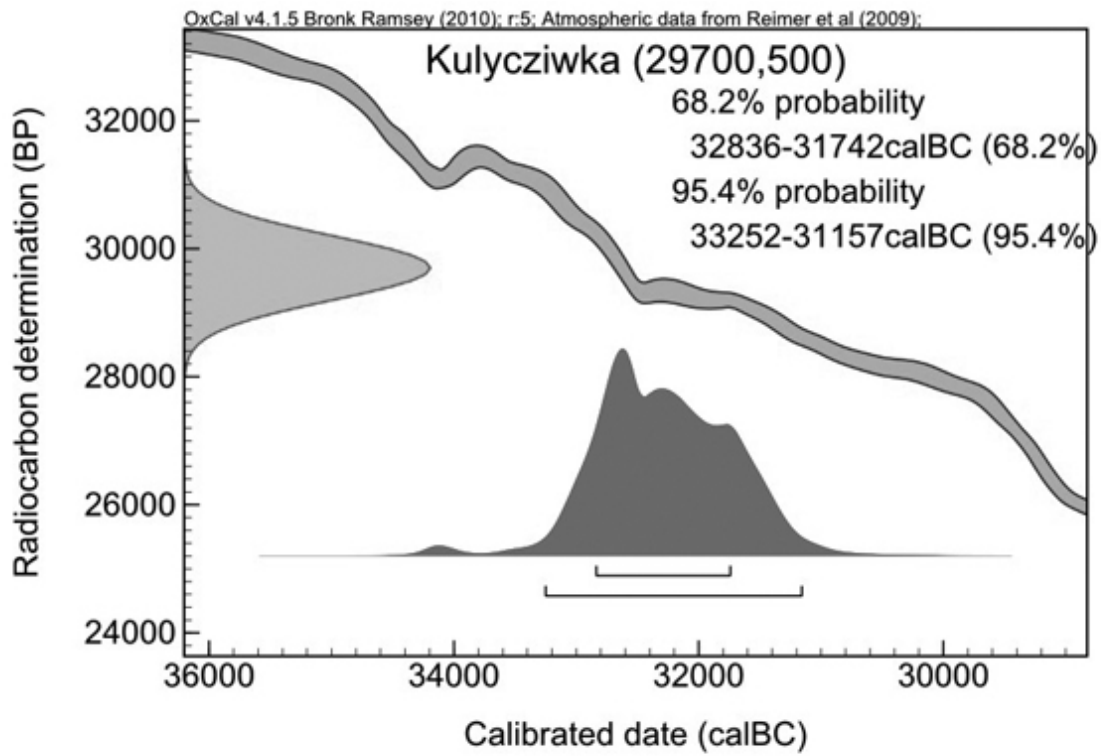


Fig. 17. K ulychivka. I – picture of profile of eastern wall of survey pit from 2004. 1-5 (in circles) – stratigraphy of depositions (by A. Bogucki, description at the text). II – survey pit 01-2010. Places of sampling for TL-dating. III – survey pit 01-2010. TL-dates (J. Kusak, Lublin).



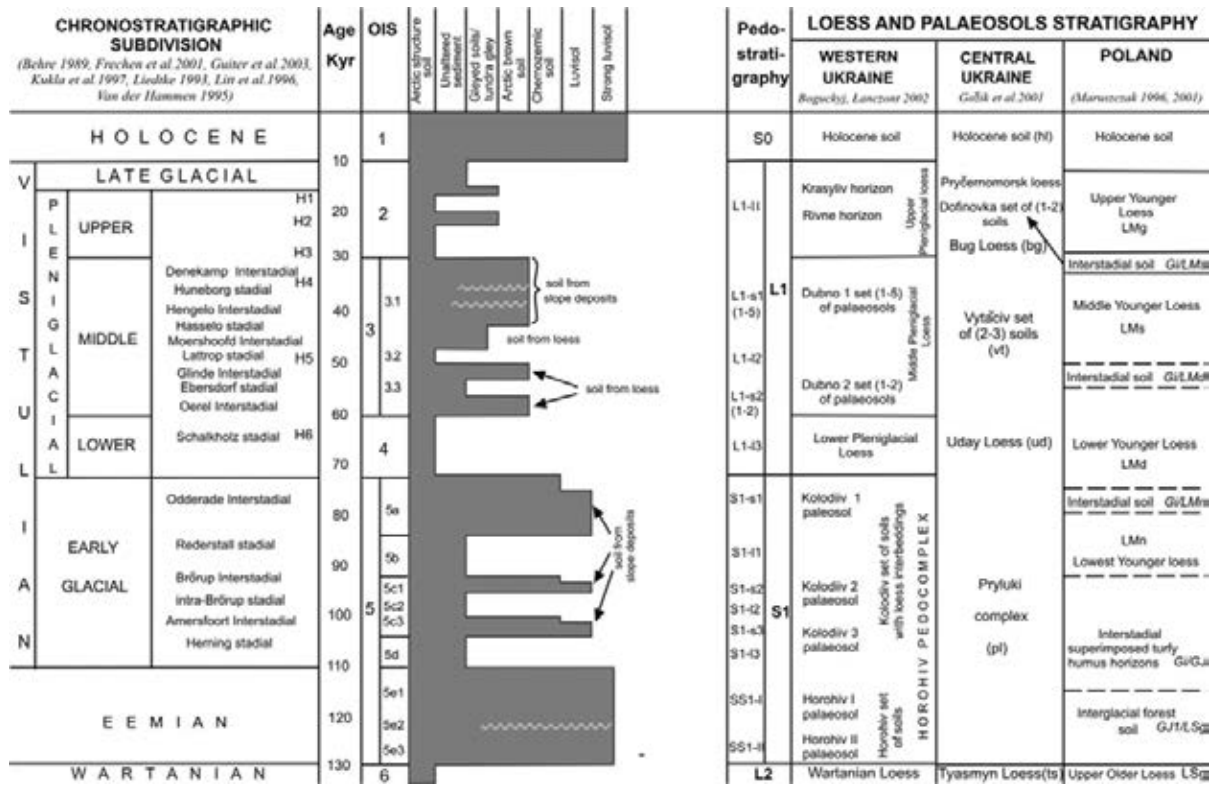
18.
(, 2010).
Fig. 18. K ulychivka. Result of calibration of radiocarbon date from the coal from level of cultural layer III (Pozna , 2010).

4, 5). (.15,

12,5×3,5×0,9

15 (

)



. 19.

Fig. 19. Comparative scheme of deposits of Upper Pleistocene of Ukraine and Poland with elements of climatic shifts.

(. 16, 1),
 (. 16, 3, 4)
 (. 16, 6),
 (. 16, 5, 7),
 (. 16, 8, 9),
 (. 15, 2),
 (?),
 (. 16, 2).

32

31-

1,4-1,5

0,3-0,5²

3-4

IV,

1984

2007].

02-2004

2010

2010

(1) 02-2004 (.17; 20):
0-0,9 (1,1).

0,3-0,6

(1)

10) .

0,6-0,7

2 10 1,5

2-2,5

(2) 0,9-1,45 ±0,1 ; (2) () .

0,5-0,6 1,0

10

1998 .

(3) 1,1-1,2 1. 16±2

1,45-2,0 ±0,1 ; ()

5-10

1,4-1,5 2. 28±4

1,7-1,8 3. 38±5

(4) 2,0-2,6 ±0,3 ;

2,25-2,35 4. 34±4

2,30-2,40 14 29700±500

(5) 2,6-3,3 () .

(0,3-0,4)

2,6-2,7 5. 66±9

1.

(,),

1

(, 01-2010)

	Lub-	/ TL (ka)
TL 1	4917	16 ± 2
TL 2	4918	28 ± 4
TL 3	4919	38 ± 5
TL 4	4920	34 ± 4
TL 5	4921	66 ± 9

(1) 16±2 . . . ,
 (2) 28±4 . . . -
 (3) 38±5 . . . (4)
 2,25-2,35 34±4 . . .
 (5) 66±9 . . . (22).

01-2010,

2012 .

() .

2

	L- , 2012 (ka)	¹⁴ C , 2010	¹⁴ C , 2012	¹⁴ C (1987, 1995)
	Lub-4918 28±4		Poz-51395 30980±280 BP 33962 BC 33111 BC	25 . .
	Lub-4920 34±4	Poz-38145 29700±500 BP 31742 BC 31157 BC	Poz-51432 33000±400 BP 36 261 BC 35 132 BC	31 . .

(.).

2,30-2,40

01-2010 ()
(23).

29700±500 BP (Poz-38145)

1983 . ()

(, ,).

() ().

(1982) – 30980±280 BP.
(1983) – 33000±400 BP.

L- **34±4**
29700±500 BP (Poz-38145) – **33000±400** BP (Poz-51432).

L- **28±4**
30980±280 BP (Poz-51395). **25**

(.7),

11–12

TL-

16±2 (Lub-4917).

1991 : –

. – 40 .

2007 //

. : – 29–34.

1974 //

. : – 143–148.

2001 //

. – 28. – 225–238.

1978 – – 435 .

1975

() // : – 44. – 52–68.

2004 ().

// 7. – 339–375.

2005 (1968–1989) // 8. –

. 237–264.

2006 //

. 9. – 179–192.

1959 - . - . - .

1984 // . - . - . 161-347
(. 173-175 198).

1975 - . - . - 136 .
1975 ()// . - : . - 44. - . 41-51.

1981 -
1981 // - .
1981 . - . - . 6-14.

1983 -
1982 . - . - 114 .
1984 -
1983 . - . - 160 .
1986 -
1984-1985 . - . - 160 .
1987
1986 . - . - 146 .
1989 - 1988 . - . - 122 .
1995 // . -
. 6. - . - . 22-31.

1998 - // .
. - . - . 7. - . 28-30.

2001 ():
// . " " /
. - . - . 12. - . 37-43.

2005
2004 .
, V, () . - . - 180 .

2007 // . - . - . 11. - . 180-215.

2010 : IV // . - . - . 14. -
. 16-75.

1987 V. // V. . -
.: . - . 7-93.

Haesaerts P., Borziak I., Chirica V., Danblon F., Koulakovska L., Plicht J.

2003 The East Carpathian loess record: a reference for the middle and late pleniglacial stratigraphy in Central Europe // *Quaternaire*. – Vol. 14 (3). – P. 163–188.

*Olexandr SYTNYK, Andriy BOGUCKI,
Ruslan KOROPETSKYI, Maria ŁANCZONT,
Teresa MADEYSKA, Jarosław KUSIAK*

NEW DATES FOR PALEOLITHIC LAYERS OF KOULYCHIVKA

This article deals with issue of stratigraphy of Koulychivka site in the light of latest absolute dating made for its cultural layers. Most of dates connected with cultural layer III of Koulychivka, which according to the TL data can be dated to 34 ± 4 kyr BP, and according to radiocarbon dating – 29700 ± 500 BP (Poz-38145) – 33000 ± 400 BP (Poz-51432). These dates do not conflict with technical and typological and with general cultural image of site.

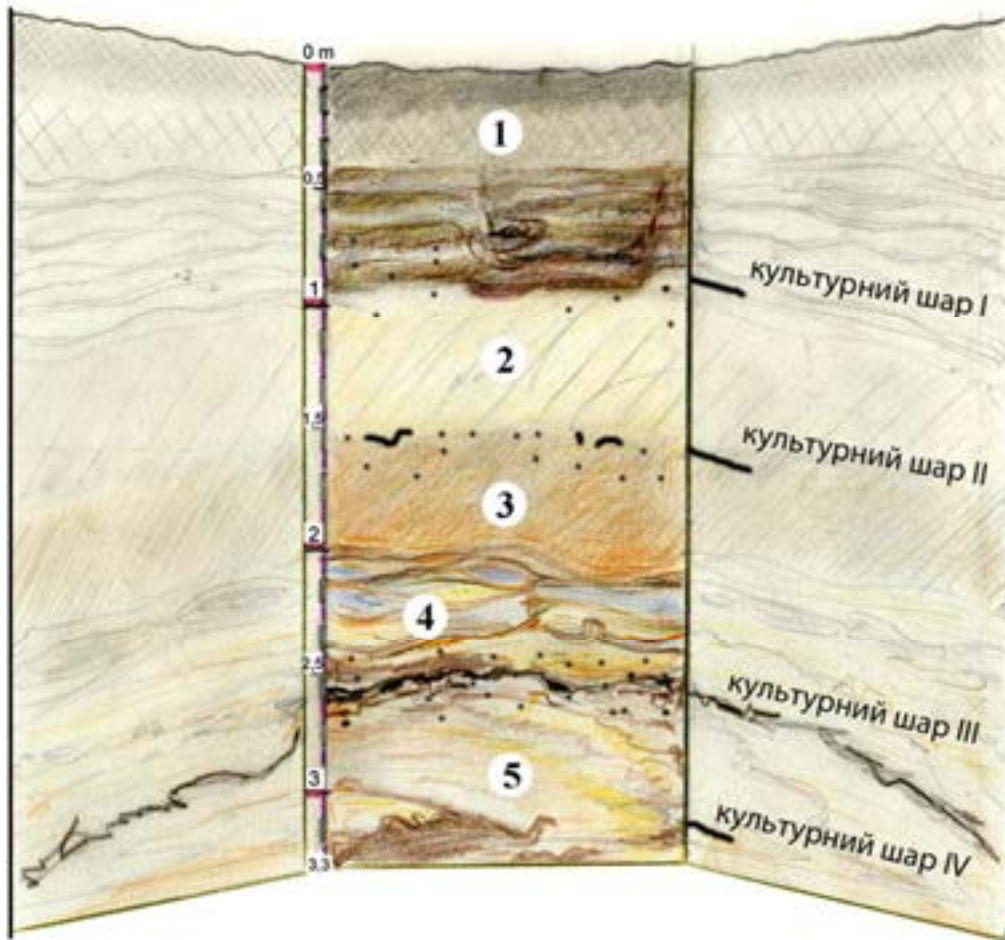
Cultural layer II according to TL-data has age 28 ± 4 kyr BP Radiocarbon age of this layer 30980 ± 280 BP (Poz-51395). V. Savych proposed date 25 kyr BP for this layer. Consequently, if the newest data is taken into account, there is a reason to assert that the absolute age for cultural horizons II and III is quite close. Putting an end to the issue of separate status of the second and third cultural horizons of Koulychivka site is still to early.

And finally, the cultural layer I which was situated, according to V. Savych, in wavy-stratified brownish-grey sediments under modern black soil, yet has no exact dating. According to I. Ivanova, the horizon corresponds to alerod and can be dated to 11–12 kyr BP. Cultural remains, situated in the horizon are heterogeneous. Some of them in fact are re-deposited artifacts from cultural layer II. Another part has intensive patina and may really belong to the final Palaeolithic and be associated with the upper horizon of the Upper Pleistocene loesses that dated for Koulychivka by TL-method to 16 ± 2 kyr BP (Lub-4917).



19*.

Photo 19. Location of Paleolithic site on Koulychivka mountain.



20.

2004

Photo 20. Koulychivka. Geological profile of survey pit from 2004. Explanation at the text.

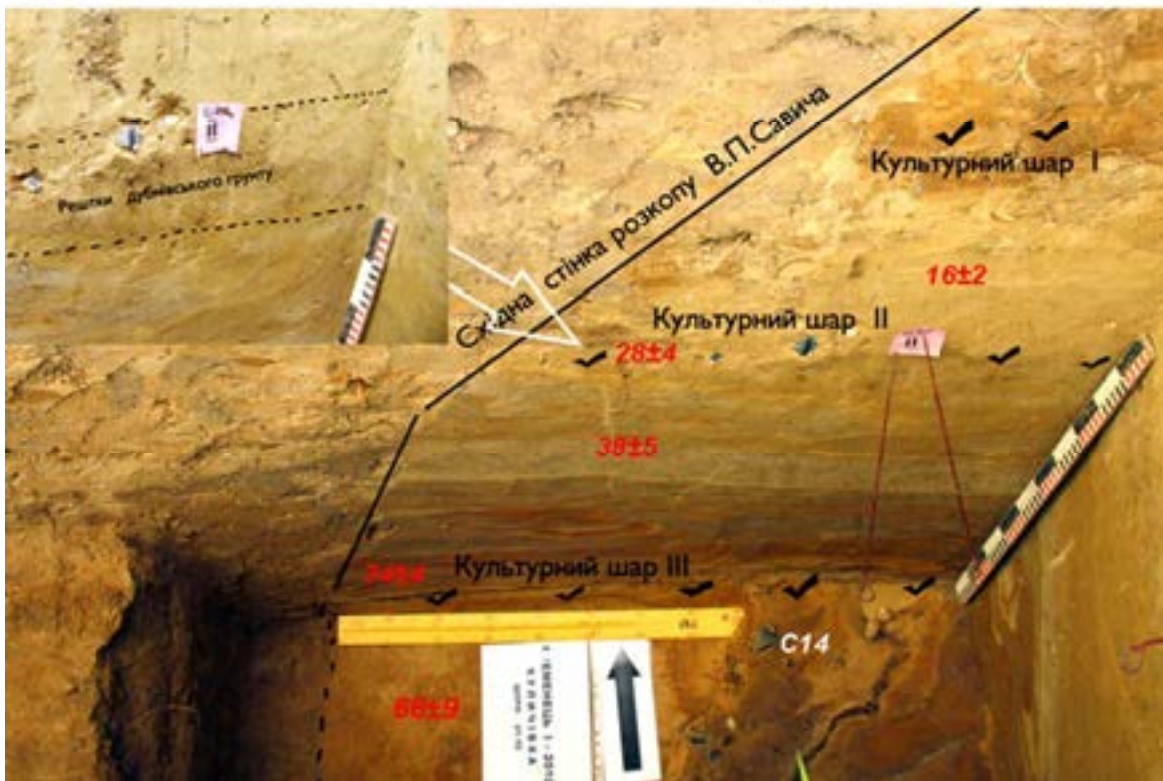
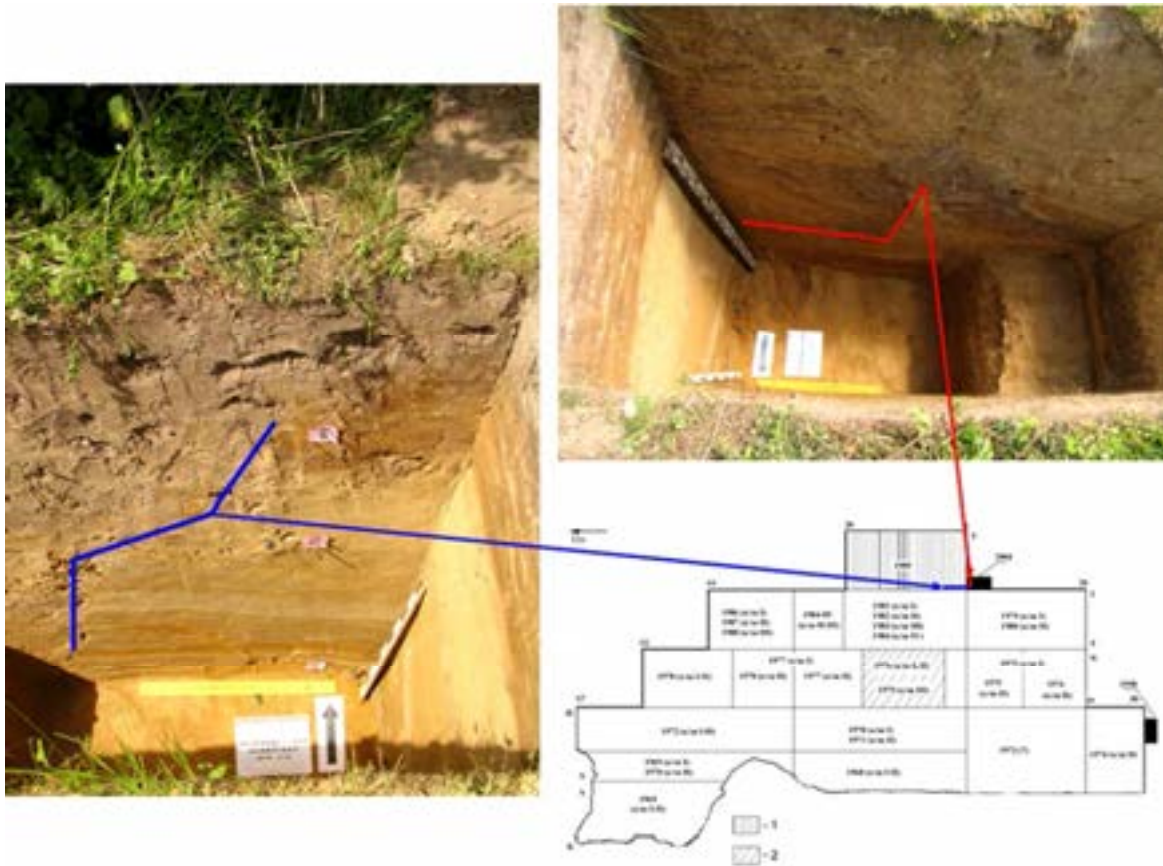
* 19-24

Photo 19-24 to article of O. Sytnyk et al.



21. 2004 ,

Photo 21. Koulychivka. Survey pit from 2004. Level of deposition of cultural layer III. Solifluctional horizon with visible thin layers of different sediments, remains of hearths and flint artifacts.



22. 2010 (. . .)

(ka BP) L-

Photo 22. Koulychivka. Survey pit from 2010. Levels of deposition of cultural layers. Place where sample of coal was taken for radiocarbon analysis. Red figures marked age (ka BP) sediments by TL-dating.



23. 2010 ()

Photo 23. Koulychivka. Survey pit from 2010. Cultural layer III. Place where sample of coal was taken for radiocarbon analysis and obtained date.



24. 2010 (1) (2-7)

Photo 24. Koulychivka. Survey pit from 2010. Cultural layer III. Core (1) and tools made of flint (2-7) from the same horizon as coal used for analysis at ^{14}C .