

# Design and technological features of early medieval ceramic ware using the example of the researched micro-complex Torčec in Podravina

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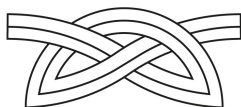
Sekelj Ivančan, Tajana

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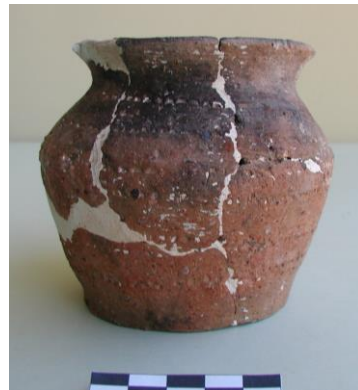
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10000 Zagreb, Republic of Croatia



# Oblikovne i tehnološke značajke ranosrednjovjekovnog keramičkog posuđa na primjeru istražene mikrocjeline Torčec u Podravini



*Design and technological features of early medieval ceramic ware using the example of the researched micro-complex Torčec in Podravina*

Split, November 7-11, 2023

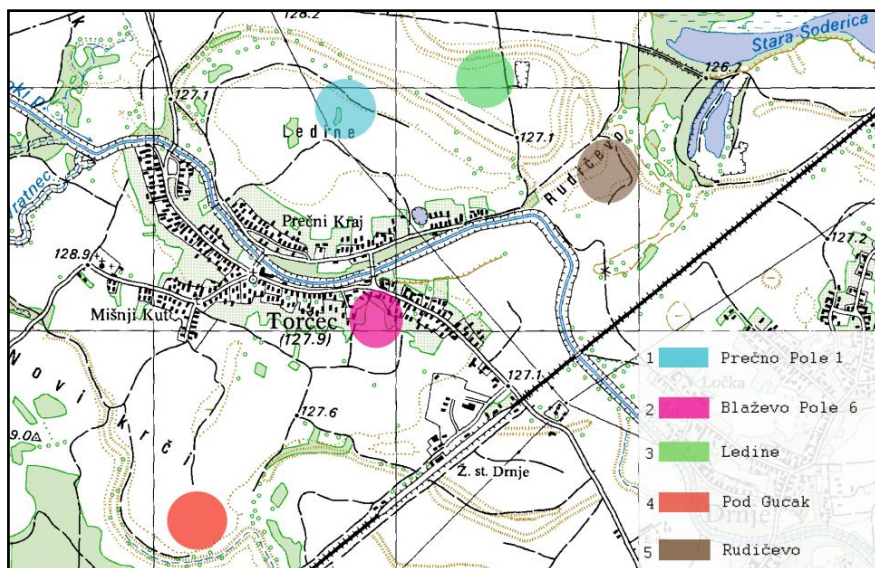
Museum of Croatian Archaeological Monuments  
Ivan Meštrović Promenade 18  
21000 Split, Republic of Croatia

In Gornja Podravina region, several locations in the vicinity of Torčec were archaeologically investigated, where settlement remains from the early and the high Middle Ages were found (2002-2008).



The Torčec microregion includes five (5) archaeological sites:

1. Prečno pole I (35 features)
2. Blaževo pole 6 (5 features)
3. Ledine (13 features)
4. Pod Gucak (10 features)
5. Rudičevo (8 features)



The remains of several houses, hearths and ovens, as well as waste pits (71 features), parts of open settlements of a scattered or dispersed type located along the old courses of the Drava River and its meanders are documented.

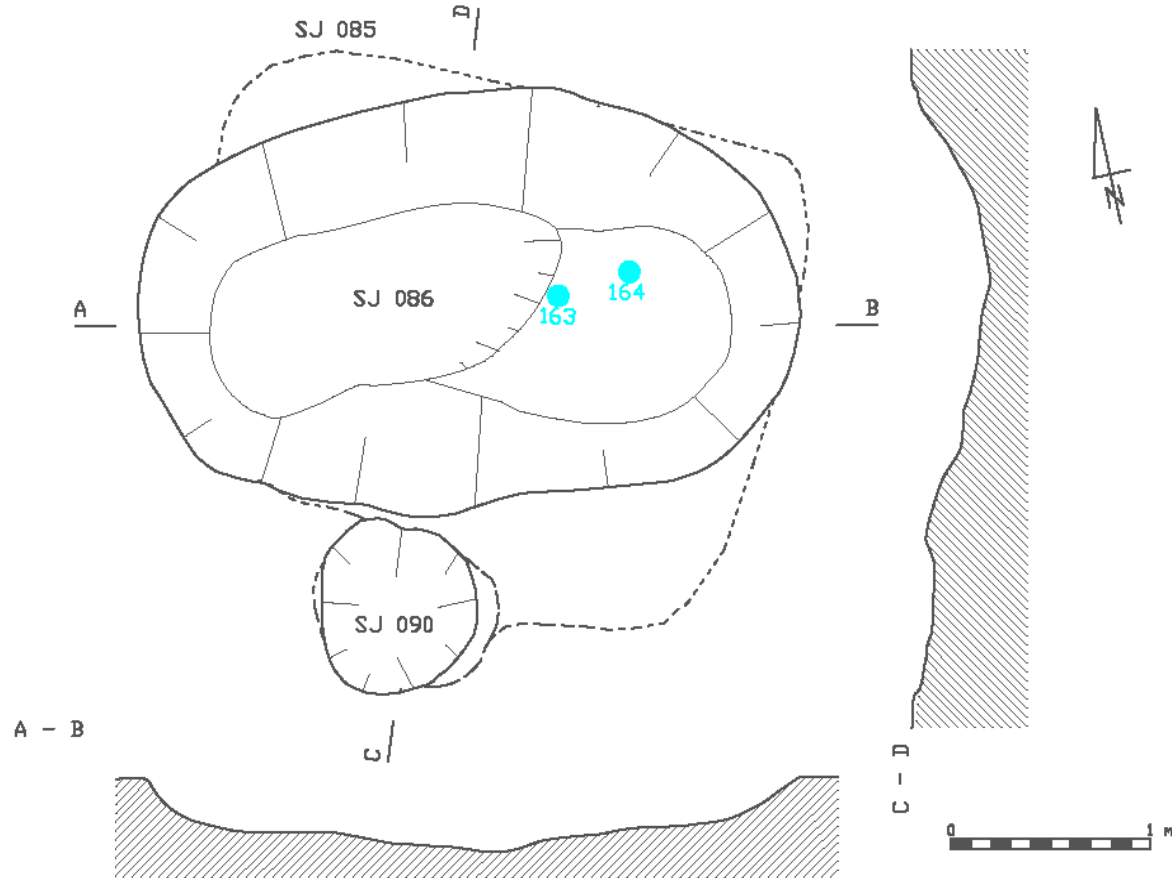


During the occupation of the Torčec microregion for several centuries in the Middle Ages, changes in the ground plan forms of the houses were observed (only 8 dwelling structures could be recognized)

Torčec I - end of the 6th and beginning of the 7th century (2 features)

**C14**

SU	Code	Radiocarbon Age	One Sigma Range	Two Sigma Range
085/2	KIA 37482	BP 1471 ± 19	<u>cal AD 571 - 614 (68.3 %)</u>	<u>cal AD 558 - 638 (95.4 %)</u>



The continuity of the settlement of this area is documented from the turn of the 6th and the beginning of the 7th century to the end of the 13th and the beginning of the 14th century.

In this period, different forms and technological characteristics of pots and other ceramic dishes were observed, which, based on a detailed analysis, were classified into five ceramic group (CG 1-5)

SU 85



159

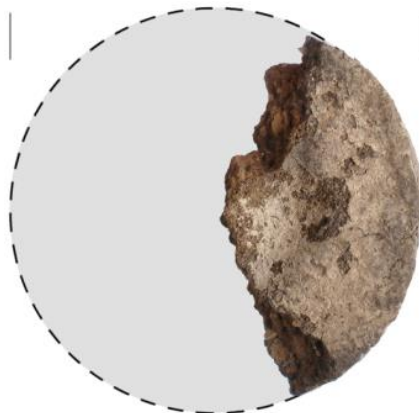


160

Ceramic group 1



156



157

Torčec I – the end of the 6th and the beginning of the 7th century

The differences between the defined ceramic groups were additionally supported by radiocarbon analyzes and divided into five phases (T I-V).



SU 85

During the entire observed period, **ordinary kitchen pots** are the most frequently represented, which in certain groups shows the same or similar features in the design of the rim and body, decoration motifs and the method of production.

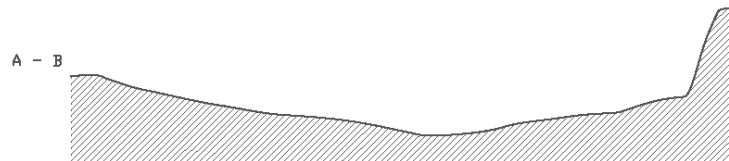
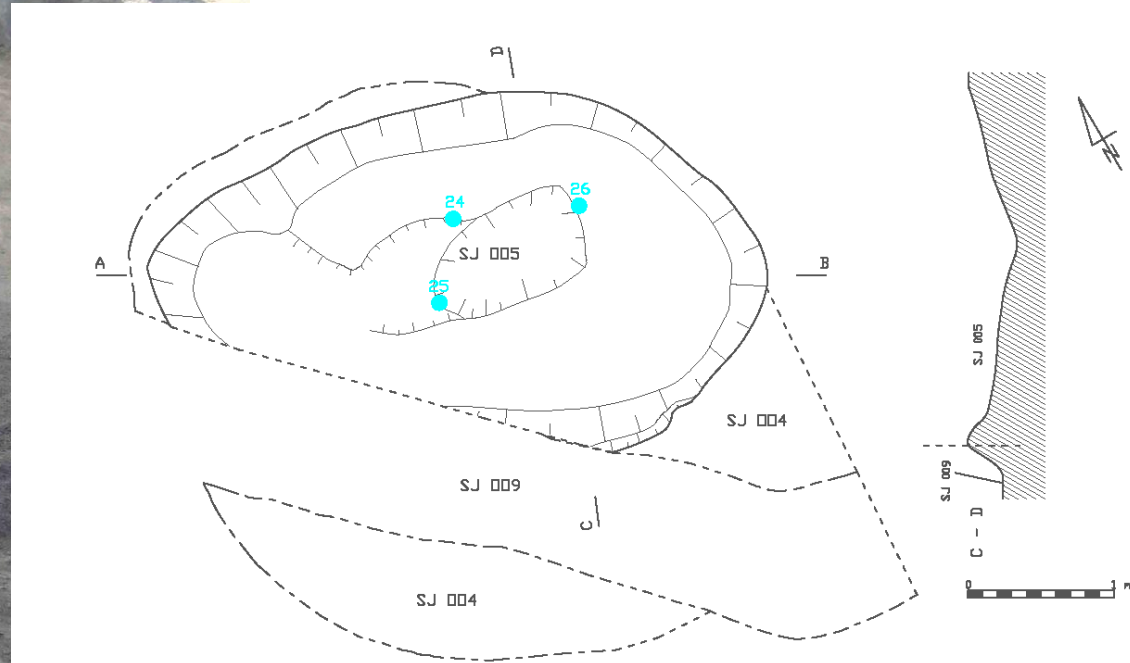
In the phase Torčec I – CG 1 pots are made by hand.

SU 6

# Torčec II - mid-7th to mid-8th century (9 features)

**C14**

SU	Code	Radiocarbon Age	One Sigma Range	Two Sigma Range
37	<b>KIA</b> 28648	<b>BP 1439 ± 22</b>	<b>cal AD 604 - 612 (12.3 %)</b> <b><u>cal AD 616 - 644 (56.0 %)</u></b>	<b>cal AD 564 - 574 (2.9 %)</b> <b>cal AD 577 - 589 (3.8 %)</b> <b><u>cal AD 597 - 657 (88.7 %)</u></b>





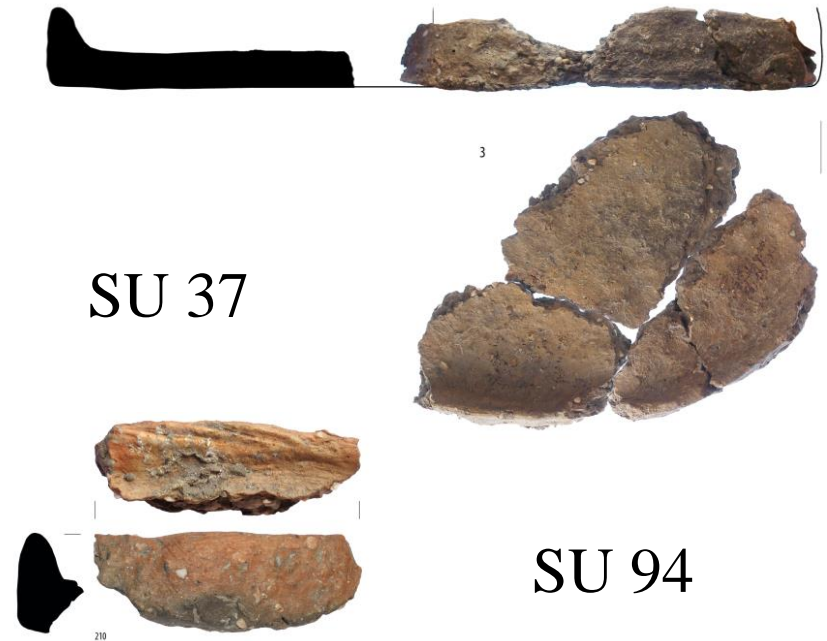
## Torčec II - mid-7th to mid-8th century

In addition to ordinary kitchen pots, in the Torčec II phase - **shallow platter** of circular form made by hand and used for baking bread appear



SU 14

In the Torčec II phase – CG 2 the pots are made on a hand potter's wheel.



SU 37

SU 94





Ceramic group 2



SU 37

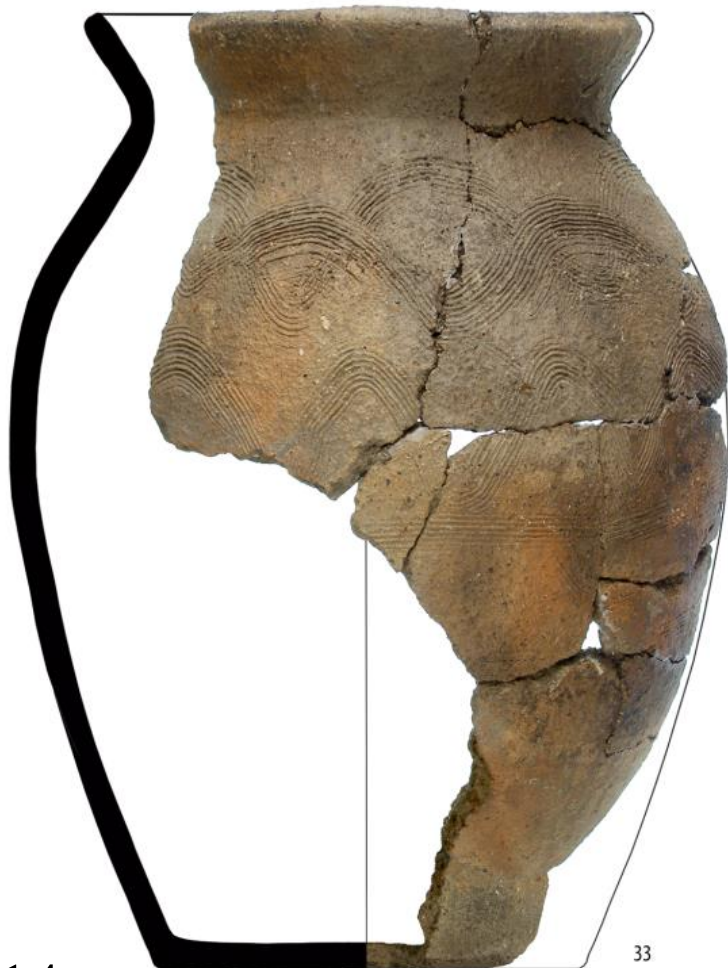
1

2

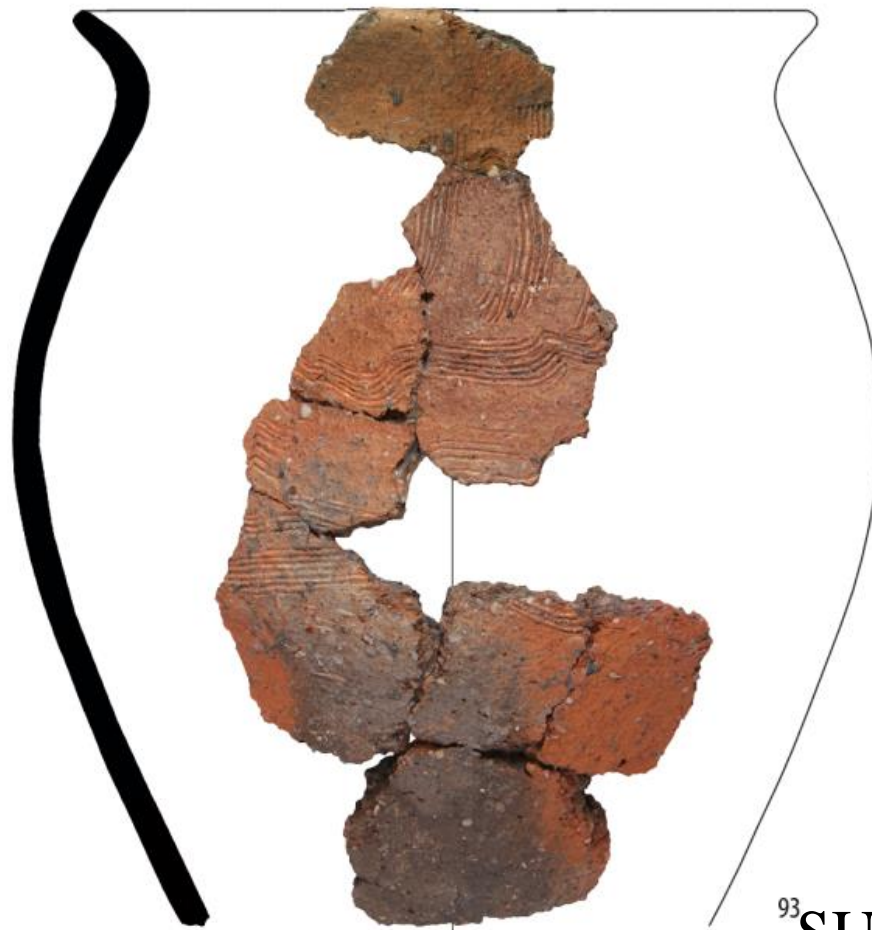
# Torčec II - mid-7th to mid-8th century

**C14 ?**

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
14	KIA 28646	BP 1234 ± 22	cal AD 777	cal AD 720 – 745 (21.2 %) cal AD 768 - 782 (13.0 %) cal AD 790 - 823 (23.9 %) cal AD 842 - 859 (10.2 %)	cal AD 691 - 702 (3.8 %) cal AD 712 - 750 (25.8 %) cal AD 762 - 784 (15.3 %) cal AD 786 - 883 (50.6 %)



33



<sup>93</sup>SU 42

SU 14

# Torčec II - mid-7th to mid-8th century

**C14**

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
094	KIA 41462	BP 1365 ± 21		<u>cal AD 650 - 665 (68.3 %)</u>	<u>cal AD 641 - 679 (95.4 %)</u>



Unutarnja strana ruba

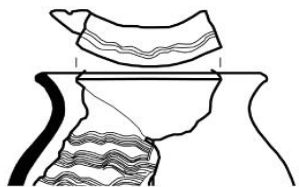
Unutarnja i vanjska strana ruba

Vanjska strana ruba

Decorations on the interior side of the rim

Decorations on the interior and exterior side of the rim

Decorations on the exterior side of the rim



5



7



12



94



196



199



200



8



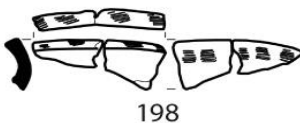
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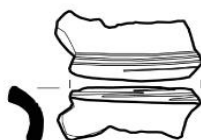
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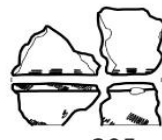
197



198



201



205



210



219



220



222



9



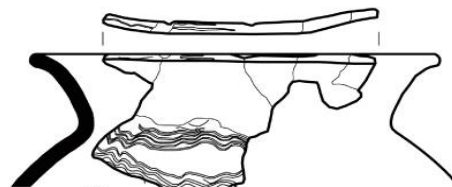
10



85



91



92



233

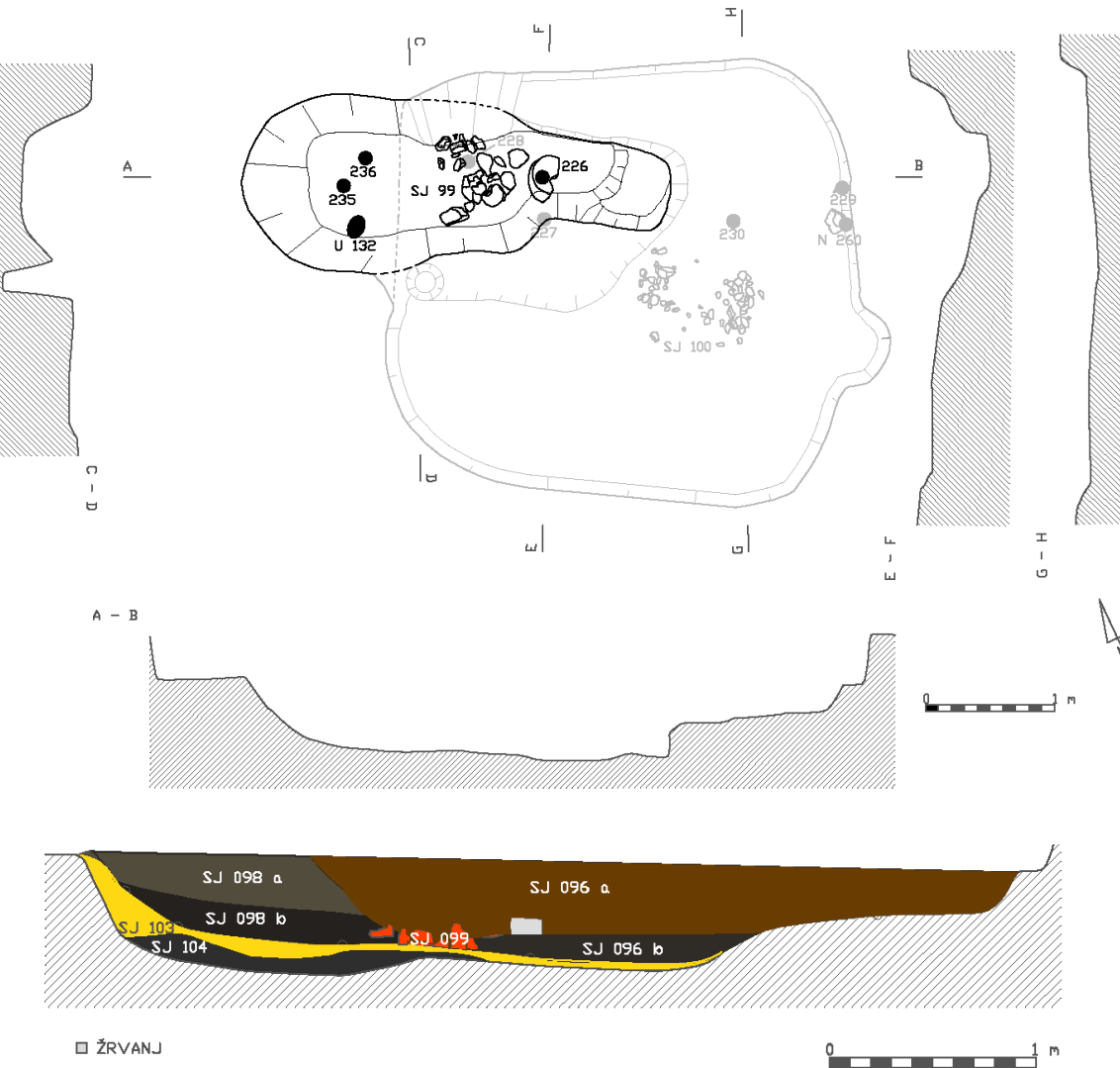


191

# Free-standing oven located next to one of the features (SU 94)

C14

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
096b	KIA 37484	BP 1465 ± 24		cal AD 575 - 623 (66.3 %) cal AD 629 - 630 (2.0 %)	<u>cal AD 558 - 643 (95.4 %)</u>
104	KIA 37483	BP 1433 ± 34		<u>cal AD 602 - 648 (68.3 %)</u>	<u>cal AD 567-658 (95.4 %)</u>



Torčec II - mid-7th to mid-8th century



1



2



3

SU 37 and SU 37/4



4



24

SU 42

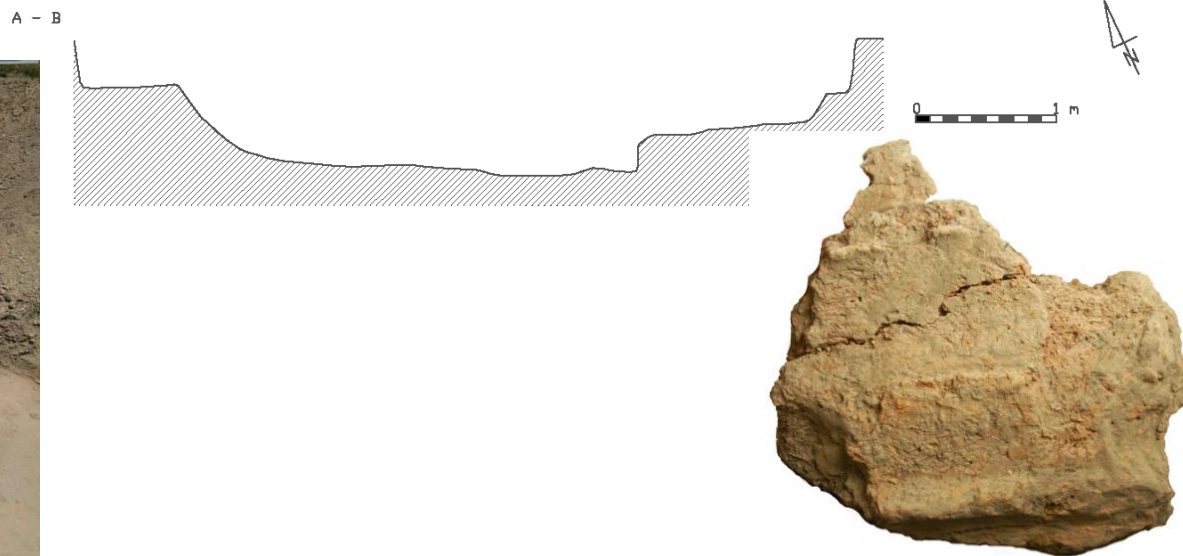
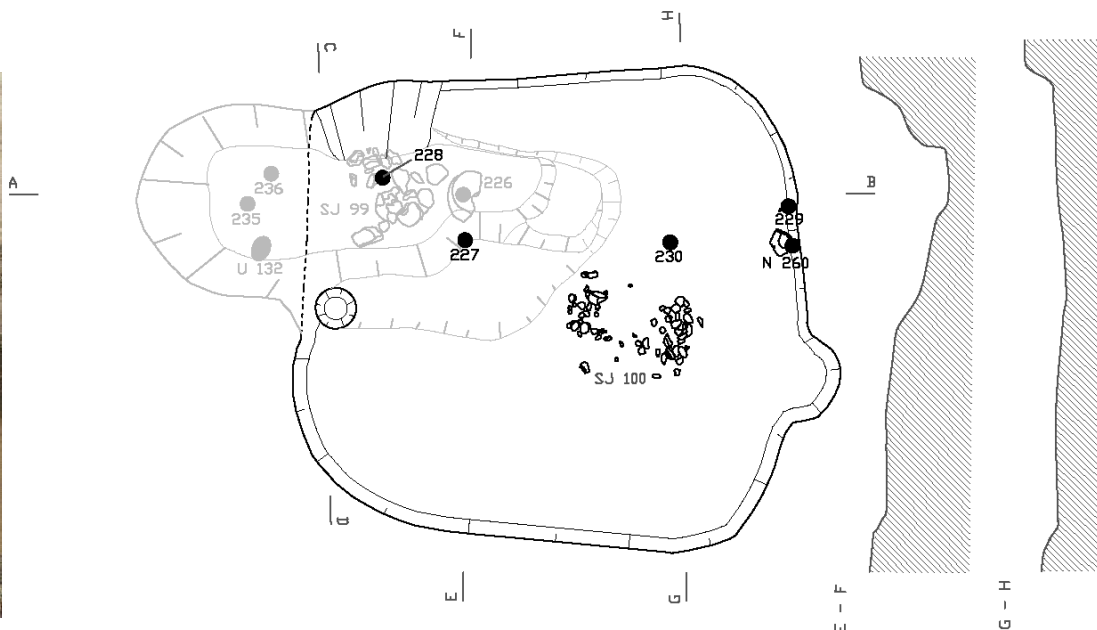


90

SU 40



# Torčec III – second half/end of the 8th to first half/mid. 10th century



# Torčec IIIa – second half/end of the 8th and 9th centuries (6PP + 2BP features)

C14

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
31	KIA 37481	BP 1206 ± 23		cal AD 778 - 823 (43.7 %) cal AD 838 - 867 (24.6 %)	cal AD 723 - 740 (43.7 %) <u>cal AD 770 - 889 (91.6 %)</u>



Reconstruction of the possible form of the house SU 31

# Torčec IIIa - second half/end of the 8th and 9th centuries



SU 87

In the Torčec III phase – CG 3a ceramic pots are made on a hand and foot potter's wheel.

# Torčec IIIa - second half/end of the 8th and 9th centuries

## Ceramic group 3a



SU 35



SU 31



214

SU 96a

Torčec III – second half/end of the 8th to first half/mid. 10th century



SU 87

185



227



230

SU 96a



118



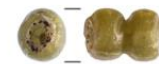
120

SU 70



228

SU 96a



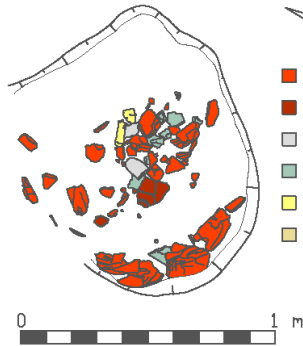
119

SU 59

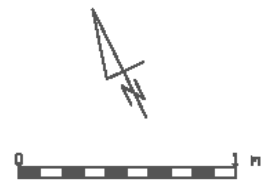
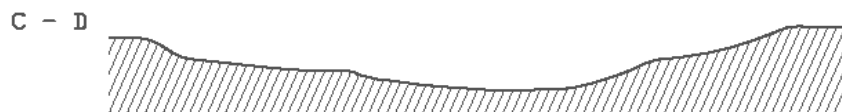
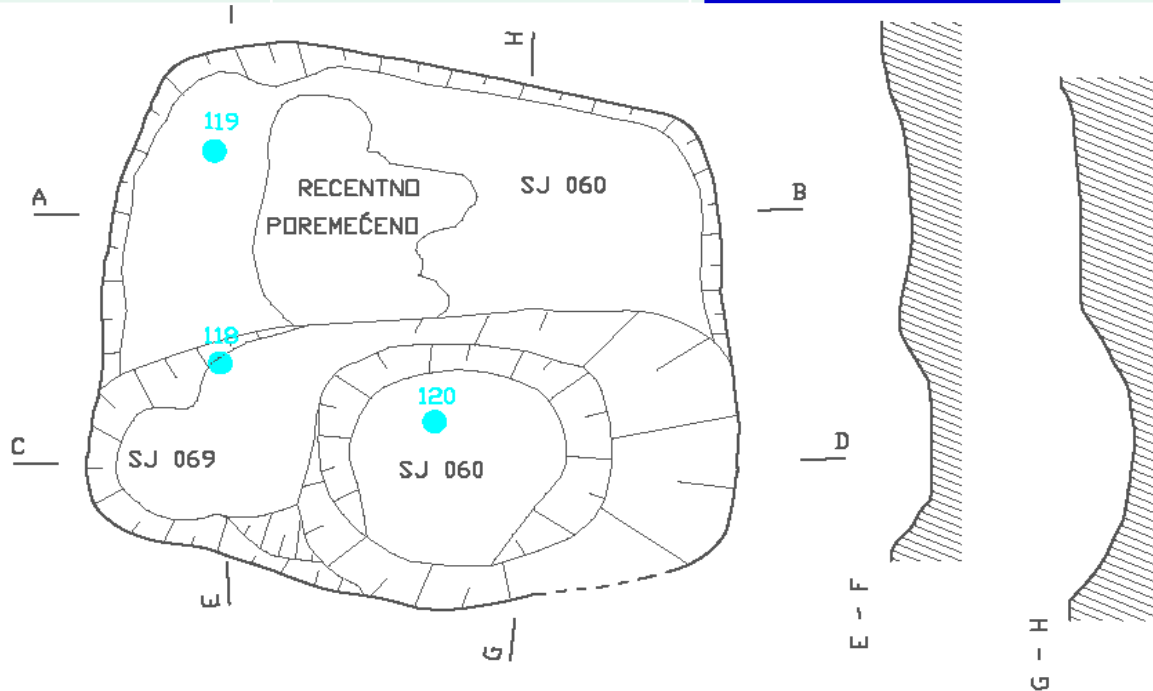
# Torčec IIIb – second half/end of 9th to first half/mid. 10th century (4 features)

C14

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
68	KIA 32250	BP 1172 ± 24		cal AD 782 - 789 (6.1 %) cal AD 810 - 848 (29.4 %) <u>cal AD 855 - 892 (32.8 %)</u>	cal AD 777 - 898 (86.8 %) cal AD 920 - 946 (8.6 %)
70	KIA 32249	BP 1095 ± 22	cal AD 978	cal AD 898 - 921 (30.1 %) cal AD 956 - 985 (38.2 %)	cal AD 894 - 925 (34.3 %) cal AD 926 - 931 (1.9 %) <u>cal AD 934 - 997 (59.1 %)</u>



- GORENI PJEŠČENJAK / LIJEP
- KERAMIKA
- VALUTICE
- LOMLJENE, GORENE VALUTICE
- KOSTI
- KAMEN OD ŽRVNJA

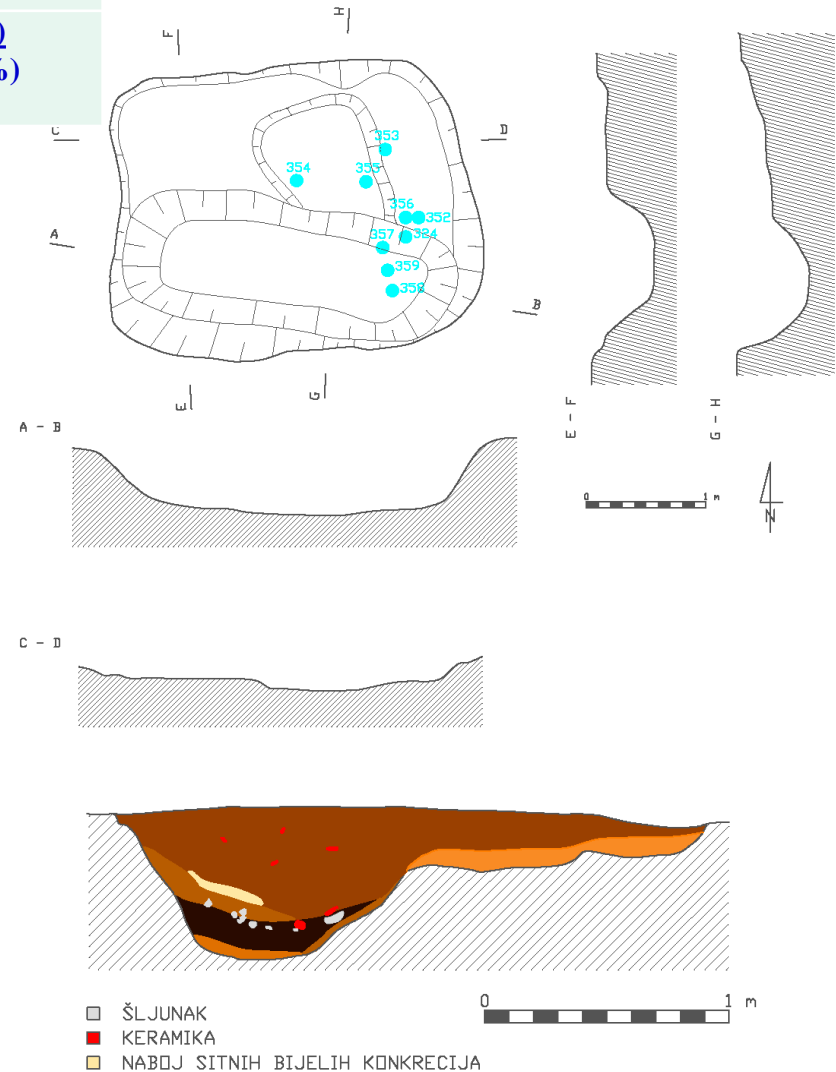


CG 3b – decoration with a wheeled appeared

# Torčec IVa – second half of the 10th to the end of the 11th centuries (3PP + 13L features)

C14

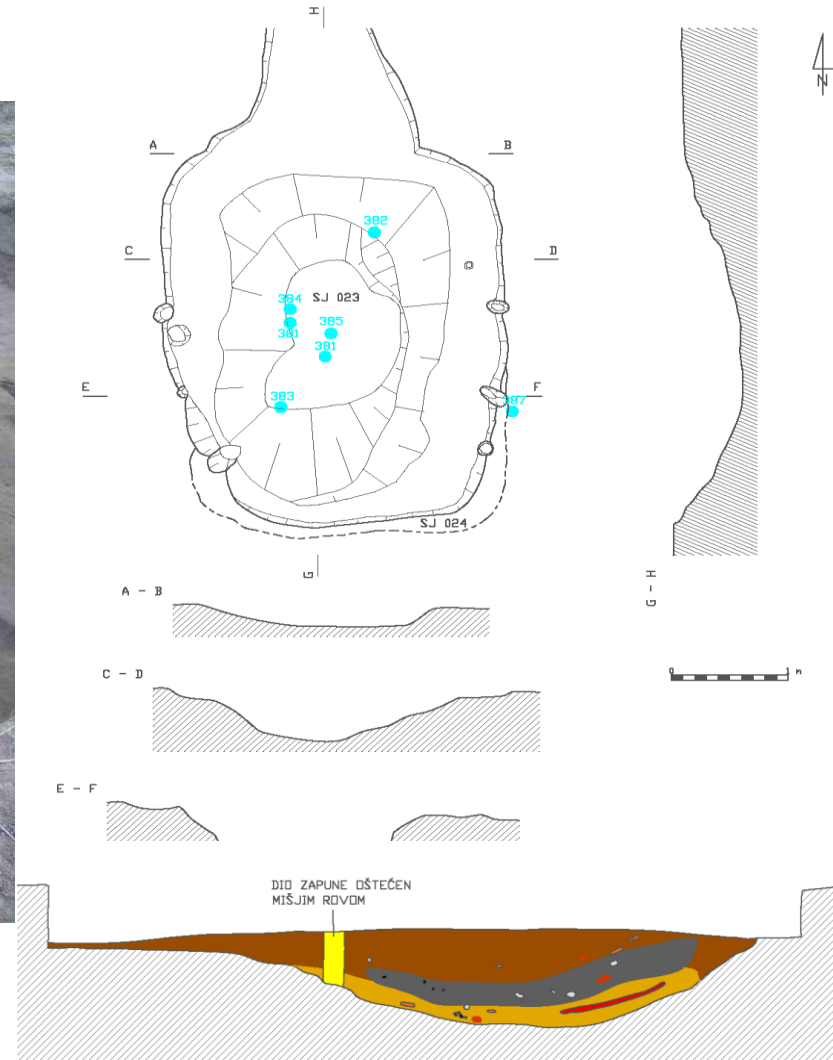
SU	Code	Radiocarbon Age	One Sigma Range
22	Z 3311	BP 985 ± 65	<u>cal AD 990-1070 (36.6 %)</u>
	Z 3310	BP 1150 ± 65	cal AD 1080-1160 (31.6 %)
			cal AD 810-980 (64.3 %)



# Torčec IVa – second half of the 10th to the end of the 11th centuries

C14

SU	Code	Radiocarbon Age	Calibrated Age	One Sigma Range	Two Sigma Range
24	KIA 26974	BP 989 ± 25	cal AD 1023	cal AD 1002 - 1012 (10.8 %) <u>cal AD 1016 - 1039 (45.3 %)</u> cal AD 1105 - 1109 (2.7 %) cal AD 1142 - 1150 (9.5 %)	<u>cal AD 995 - 1056 (63.9 %)</u> cal AD 1087 - 1122 (18.1 %) cal AD 1138 - 1156 (13.4 %)





Torčec IVa – second half of the 10th to the end of the 11th centuries –  
CG 4a



274



275



EOE



TEC



277

SU 14



294

SU 16

# Torčec IVa – second half of the 10th to the end of the 11th centuries

**C14**

SU	Code	Radiocarbon Age	One Sigma Range
16	Z 3167	BP 1115 ± 90	cal AD 810-1020 (65.7 %)

Ceramic group 4a – production on a fast potter's wheel



SU 14

280



SU 22



SU 16

309

Torčec IVa – second half of the 10th to the end of the 11th centuries –  
CG 4a



324

SU 22

# Torčec IVa – second half of the 10th to the end of the 11th centuries

A clearly stamped regular circle



361

A cross



360



312

A cross with thickened ends



290



288

A star



286

A star in a circle



287

A rayed star

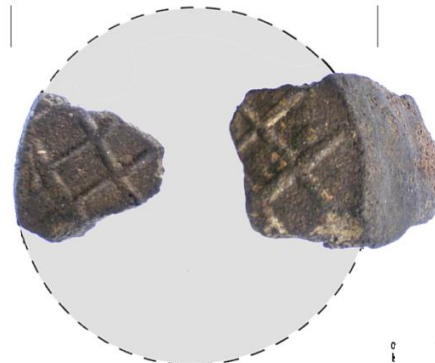


371

Web



364



349

CG 4a – various markings on the base of the vessel

Torčec IVa – second half of the 10th to the end of the 11th centuries

CG 4a – new forms of vessels: **jug with a massive handle**, a pot with a narrow, tall, cylindrical neck-**pot-like jug**, a **pot with a ribbed neck**, **bowls**



SU 14

281



SU 22



SU 28



351



375

SU 24

# Torčec IVa – second half of the 10th to the end of the 11th centuries

**C14**

SU	Code	Radiocarbon Age	One Sigma Range
9	Z 3164	BP 980 ± 80	cal AD 990-1160 (68,2 %)

SU 28



SU 9



SU 12



SU 22

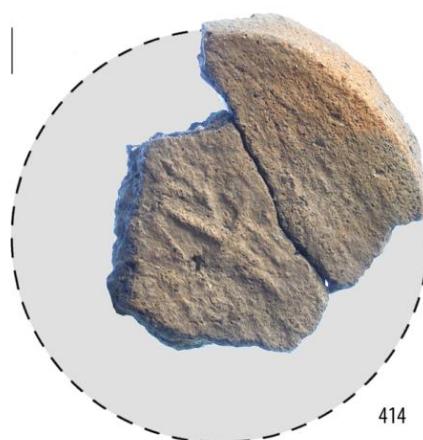


# Torčec IVb - the end of the 11th to the end of the 12th (10 features)

**C14**

SU	Code	Radiocarbon Age	One Sigma Range	Two Sigma Range
4	KIA 34852	BP 986 ± 20	cal AD 1017 - 1042 (58.1 %) cal AD 1107 - 1117 (10.2 %)	cal AD 996 - 1007 (1.9 %) cal AD 1011 - 1049 (63.6 %) cal AD 1086 - 1124 (24.1 %) cal AD 1137 - 1151 (5.8 %)
37	KIA 34853	BP 899 ± 20	cal AD 1049 - 1084 (36.2 %) cal AD 1123 - 1137 (10.9 %) cal AD 1151 - 1174 (21.2 %)	cal AD 1043 - 1103 (43.9 %) cal AD 1118 - 1210 (51.5 %)

SU 9

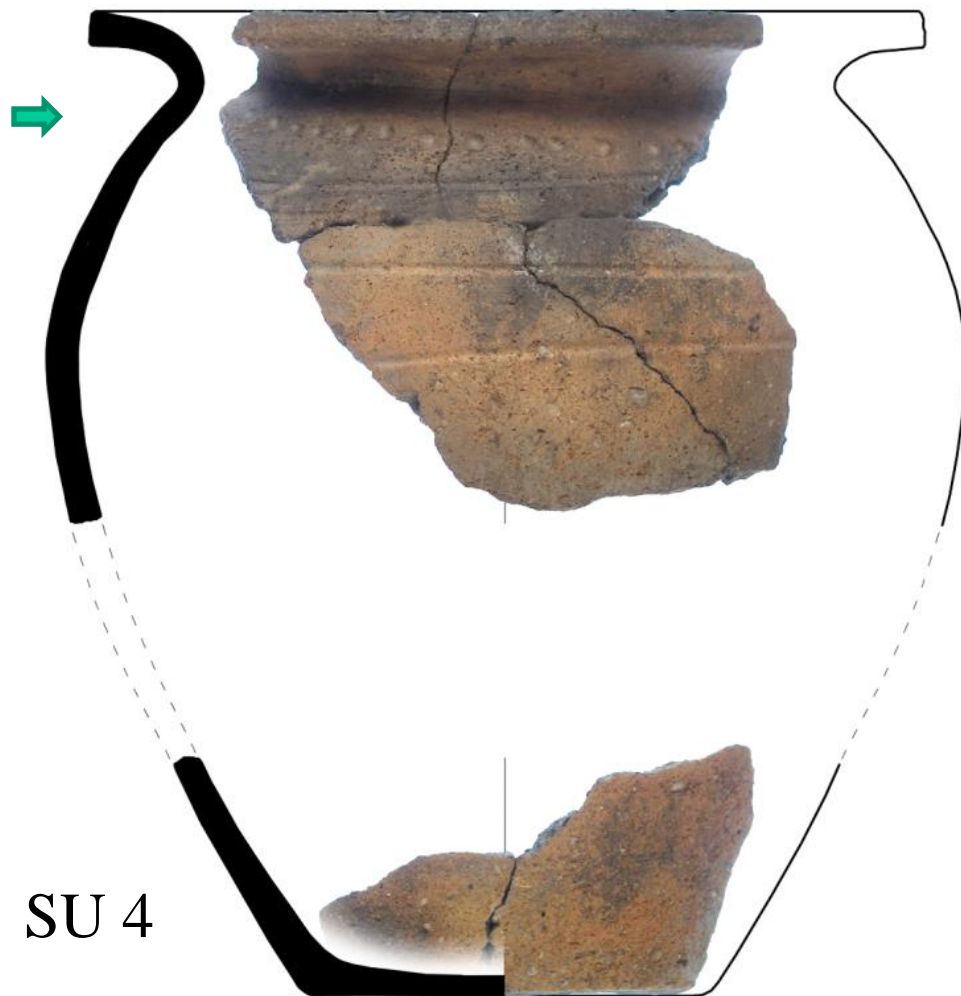


SU 4/8/12

Ceramic group 4b  
– production on a  
fast potter's wheel

Torčec IVb - the end of the 11th to the end of the 12th century

CG 4b - Specific decoration: droplet indentations on the shoulder combined with various decorations





Torčec IVb - the end of the 11th to the end of the 12th century

CG 4b – new form of vessels: **pot with small handles** / lugs on the rim, which served for preparing food on an open fire, **bowls**



446



435

SU 22



405

SU 4

SU 38

# Torčec IVb - the end of the 11<sup>th</sup> to the end of the 12th century



416



417

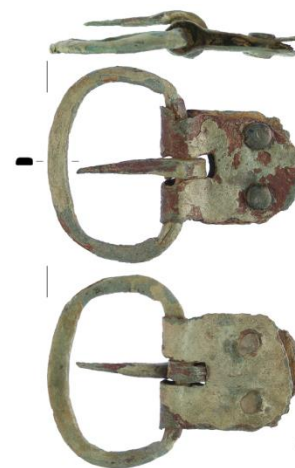


443

SU 26



418



428

Oven - SU 4

SU 6

# Torčec IV – second half of the 10th to the end of the 12th century



381



382



383



384



385



390



ewa colum bawlat

## Ledine – SU 24



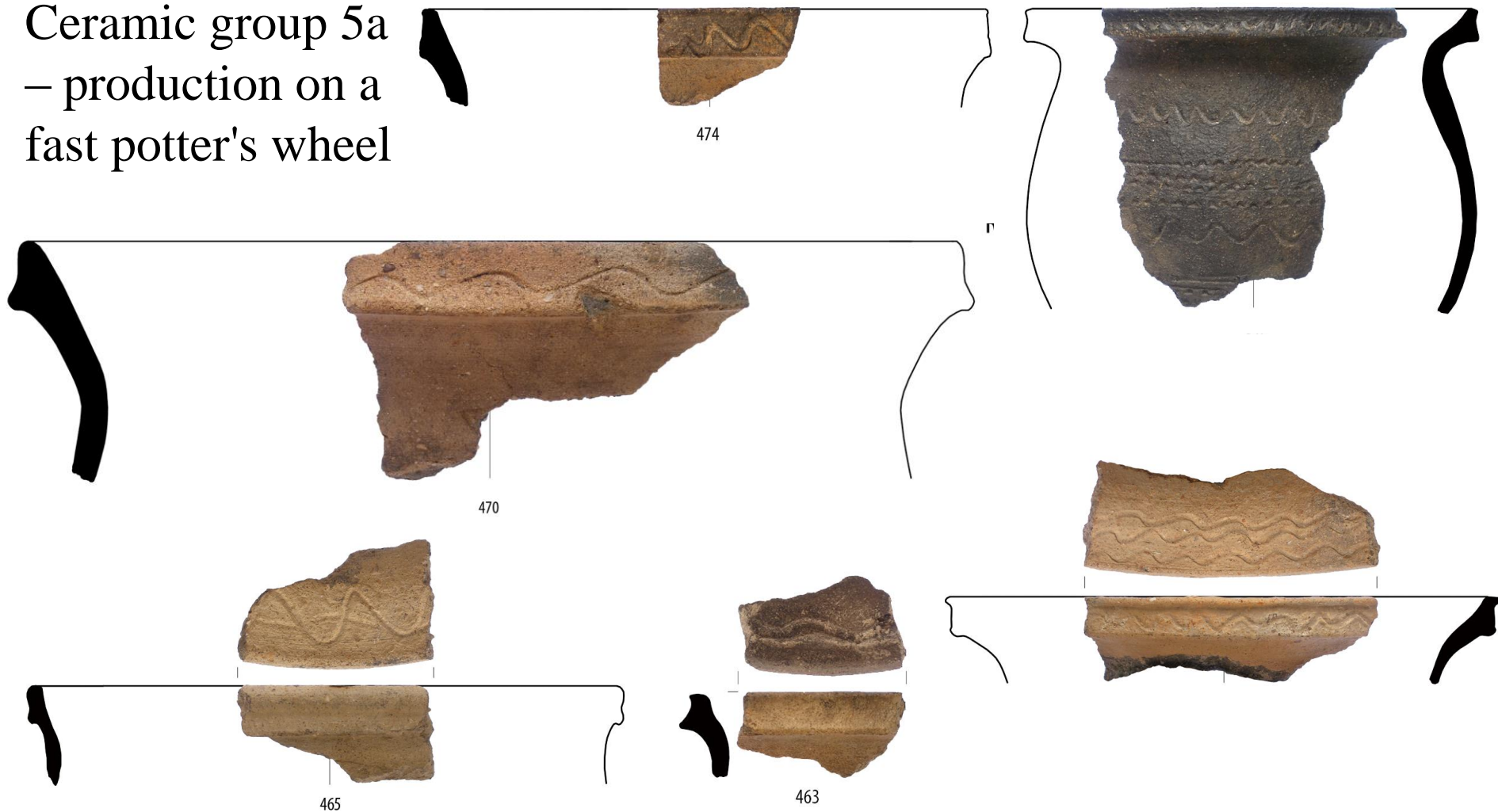
425

## Pod Gucak – SU 6

Torčec Va – middle of the 12th to first half of the 13th century  
(3PP + 1R features)

CG 5a – new decoration – single wavy line on the outside of the rim

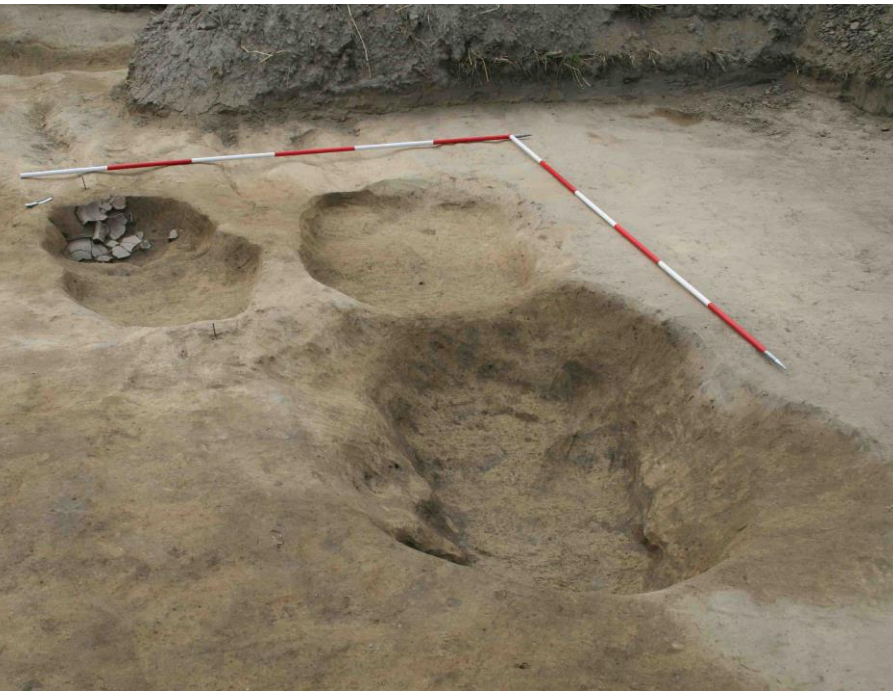
Ceramic group 5a  
– production on a  
fast potter's wheel



# Torčec Vb - second half of the 13th and beginning of the 14th century (2PP + 7R features)

**C14**

SU	Code	Radiocarbon Age	One Sigma Range	Two Sigma Range
14	KIA 32253	BP 667 ± 31	cal AD 1282 - 1305 (36.2 %) cal AD 1364 - 1384 (32.1 %)	cal AD 1275 - 1321 (50.6 %) cal AD 1349 - 1392 (44.8 %)
26	KIA 32254	BP 779 ± 21	cal AD 1227 - 1233 (13.0 %) cal AD 1239 - 1268 (55.3 %)	cal AD 1220 - 1274 (95.4 %)

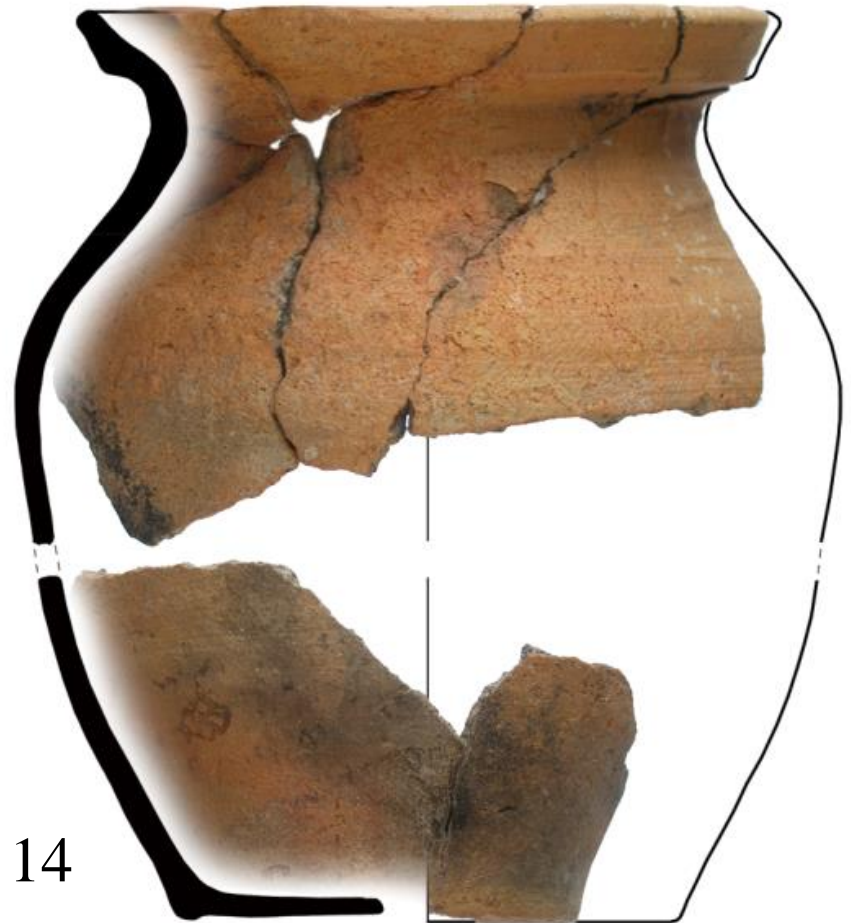


Torčec Vb – second half of the 13th and beginning of the 14th century

Ceramic group 5b – production on a fast potter's wheel with visible traces of rotation on the outer wall of the pot



490



SU 14

Torčec Vb – second half of the 13th and beginning of the 14th century



488



SU 14

Torčec Vb – second half of the 13th and beginning of the 14th century



SU 26



# Torčec V – second half of the 12th to first half of the 14th century

## CG 5 – a new form of vessels - **ceramic cups and plates**

S 1



455



472



516



478



498



S 2

# Torčec Vb – second half of the 13th and beginning of the 14th century

**C14**

SU	Code	Radiocarbon Age	One Sigma Range	Two Sigma Range
12	KIA 32252	BP 699 ± 25	<u>cal AD 1274 - 1295 (68.3 %)</u>	<u>cal AD 1266 - 1303 (82.0 %)</u> <u>cal AD 1366 - 1383 (13.4 %)</u>



SU 14

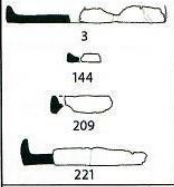
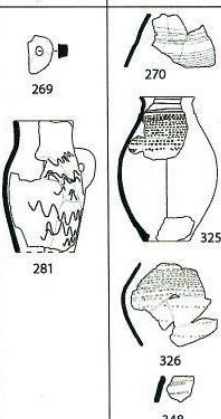

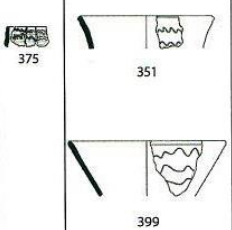
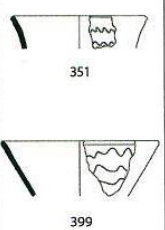
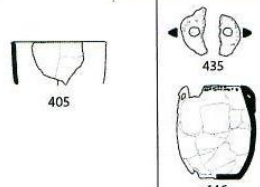
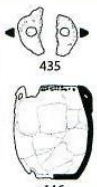

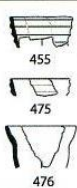



SU 26



SU 12



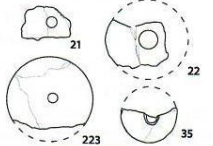

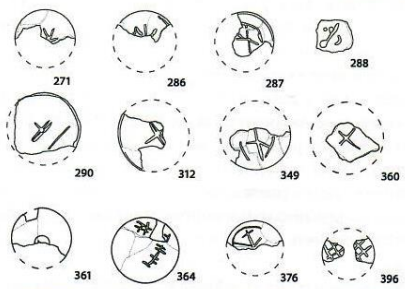
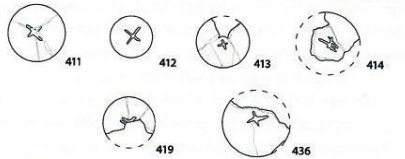

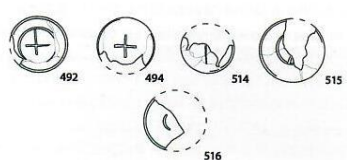
# Forms of vessels - phases Torčec I-V

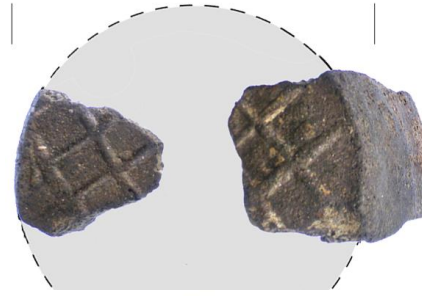
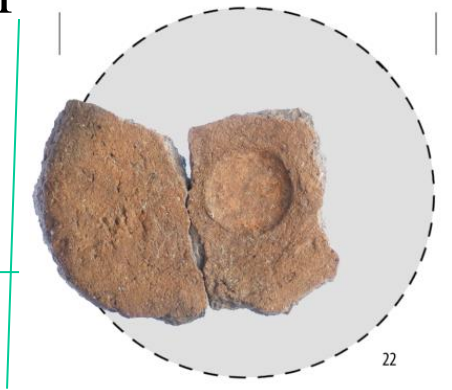
TORČEC faze	LOKALITET	Funkcionalni oblici posuda (B-J) po keramičkim skupinama/fazama									
		B	C	D	E	F	G	H	I	J	
I											
II	PREČNO POLE I	 3 144 209 221									
IIIa											
IIIb											
IVa	LEDINE	 269 270 281 325 326 348	 270 325 326 348	 375 399	 351 399						
IVb	POD GURČAK					 405 446	 435 446	 406			
Va	RUDIČEVO							 455 475 476			
Vb							 498 516				



# Signs on the bottom of the pots

# phases Torčec I-V

TORČEC faze		Znakovi na dnu posuda po keramičkim skupinama/fazama		
LOVALUTET		Rukom rađena keramika	Keramika rađena na sporom kolu	Keramika rađena na brzom kolu
I	PREPREČNO POLE I	 156		
II		 77		
IIIa			 177	
IIIb				
IVa	LEĐINE			
IVb		PODGUCKAK		
Va			 458	
Vb	RODIČEVO			



# Thank you for your attention



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