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The rapier-sword of The Middle Bronze Age from Zayamchay (Azerbaijan)

Dmitriy A. Kirichenko[1]

Abstract: The paper deals with the bronze rapier-sword from barrow no. 2 from Zayamchay. Barrow no. 2 was placed on the right side of the Zayamchay River, near Duyerli village, in the Shamkir district of Azerbaijan. The bronze rapier was found during the construction of SCPX (The South Caucasian Pipeline Expansion project) in 2016, in the mound of the barrow. The rapier-sword from Zayamchay can be dated in the 18th-17th centuries BC and belongs to the Middle Bronze Age. The rapier is 99 cm long, has a 4.4 cm long tang with one rivet hole in the upper part (the tang is partly destroyed), wide shoulders (5 cm) and a high central rib, which results in a cross-shaped section. The Zayamchay blade has a lot of analogies among the South Caucasian bronze rapiers. To date, the rapier from barrow no. 2 from Zayamchay is the first sword from Azerbaijan, which dates back to the Middle Bronze Age.
Keywords: Azerbaijan, Zayamchay, Middle Bronze Age, kurgan, weapons, rapier-sword.

Sabia-rapieră din perioada mijlocie a epocii bronzului descoperită la Zayamchay (Azerbaidjan). În acest articol este descrisă sabia-rapieră din bronz descoperită în tumulul nr. 2 de la Zayamchay. Tumulul nr. 2 era amplasat pe partea dreaptă a râului Zayamchay, în apropierea satului Duyerli, în districtul Shamkir din Azerbaidjan. Rapiera din bronz a fost descoperită în momentul construcției SCPX (The South Caucasian Pipeline Expansion project/ Proiectul de Extindere a Conductelor în Sudul Caucazului) în anul 2016, în mantaua tumulului. Sabia-rapieră din Zayamchay se datează în secolele XVIII-XVII a. Chr. și a aparținut perioadei mijlocii a epocii bronzului. Rapiera are o lungime de 99 cm, un mâner care măsoară 4,4 cm, cu o gaură de nituire la capăt (o parte a tangajului este ruptă), umeri largi (5 cm) și o nervură înaltă, ceea ce duce la o secțiune în formă de cruce. Sabia de la Zayamchay își găsește analogii printre descoperirile din sudul Caucazului și este, în prezent, prima sabie din Azerbaidjan, care datează din epoca bronzului mijlociu.
Cuvinte cheie: Azerbaidjan, Zayamchay, epoca bronzului mijlociu, tumul, arme, sabie-rapier.

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In September 2016 during the construction of The South Caucasian Pipeline Expansion (SCPX project) a barrow has been disturbed accidentally. In the mound of the barrow a bronze rapier was found (**Fig. 1**). After this accident, the Expedition of Institute of Archaeology and Ethnography of Azerbaijan National Academy of Sciences, led by the author of the following article, has started the archaeological excavation of this burial mound.

The barrows of Zayamchay River valley were previously identified and contributed to the Register of archaeological monuments of Azerbaijan by Dr., Prof. N.A. Museibli at the beginning of the years 2000 (Müseyibli, Nəcəfov 2019).

During the SCPX project Azerbaijan archaeologists Sh. N. Najafov, V. A. Asadov (Najafov, Asadov 2018) and D. A. Kirichenko (Kirichenko 2017) in Zayamchay River valley excavated six barrows. Five of them belong to the Middle Bronze Age, and one to the Late Bronze Age – Early Iron Age.

Barrow no. 2 was located on the right side of the Zayamchay River near Duyerli village in the Shamkir district of Azerbaijan. Unfortunately, the upper part of the mound covering has been disturbed. After cleaning, an accumulation of stones of oblong oval form (sizes: N/S – 6.3 m, W/E – 9.1 m) was revealed. During the excavations, in the covering of mound were found fragments of ceramic, pink and yellow ochre, pieces of obsidian, pieces of chalk and fragments of animal bones. At a depth of 2.6 m, in the center of the kurgan, a quadrilateral burial chamber was discovered (dimensions: N/S – 2.5 m, W/E – 3 m). 15 ceramic vessels and ceramic melting pots and fragments of animal bones (bull or horse?) were discovered. In the north part of the burial chamber a dog skeleton was found in a crouching position on the left side (his length *in situ* was 1.25 m). The human skeleton was not found in the burial chamber.

Probably, here we are dealing with cremation on the side (this is evidenced by ashes and fragments of charred bones in the burial chamber and two separate vessels). The dog in the burial was supposedly put as a *totem*, a custodian of his owner or as escort to the afterworld.

The cases of burials with dogs have been excavated and researched in the territory of Azerbaijan by N. A. Museibli (Müseyibli 2007). Perhaps, during burial was also put into a «purgatorial» fire (as shown by ash traces, parts of chalk and fragments of ceramic vessels with traces of high temperature in the covering of the mound).

The samples of ceramic from Zayamchay barrow no. 2 belonged to houseware and, probably, ritual dishes. Part of the vessels is handmade; others have traces of the potter's wheel. Some ceramic vessels are slightly polished from the outside. They were ornamented with notches in a geometric style. Several pots have oval

knobs. Among the colors are pink, red-brick, pink-red-brick, gray-red-brick and black.

Analogies for the pottery from Zayamchay barrow no. 2 were found in burials and in the settlements of the Middle Bronze Age of the Ganja-Gazakh region of Azerbaijan.

The radiocarbon analysis of the bone samples from the barrow (**Fig. 2-3**) was made with the financial support of BP in the Beta laboratory in London. Zayamchay barrow no. 2 is dated in the 18th-17th centuries BC and consequently belongs to the Middle Bronze Age.

The rapier (**Fig. 1**) is 99 cm long, has a tang of 4.4 cm with one rivet hole in the upper part (the tang is partly broken), wide shoulders (5 cm) and a high midrib, which results in a cross-shaped section.

The first swords of rapier type in Azerbaijan were found during the excavations carried out at the end of the 19th century by brothers Jacques and Henri de Morgan in the Talysh region (Morgan 1896).

In 1941, in the burial ground near Uzuntepe (Jalilabad region) another bronze rapier was discovered (Mahmudov 2008, p. 84). This rapier does not differ morphologically from the rapiers from Khoja Daud Kepru, Jojikashe, Hovil and Veri (Mahmudov 2008, p. 86). The bronze rapiers were found in the burials of Diqedi and «Avrora» (Mahmudov 2008, p. 101).

Cl. Scheaffer dates the bronze rapier from Khoja Daud Kepru in the mid. 2nd millennium BC (1450-1350 BC) (Scheaffer 1948, p. 418-419).

M. Abramishvili notes that Talysh rapiers are earlier than the mid. 2nd millennium BC (Abramishvili 2018, p.143). Talysh rapiers could be even older than South Caucasian rapiers and, alternatively, could be simultaneous to the rapiers from Trialeti (Abramishvili 2018, p. 147).

F. R. Mahmudov suggests that the rapiers appear in the Talysh region in the 16th-15th centuries BC and became prototypes of local swords of the rapier type of the Late Bronze Age (Mahmudov 2008, p. 02).

M. V. Gorelik supposed that rapiers were an ideal weapon against cuirass with soft baseline strengthened with round plaques (Gorelik 1993, p. 30).

To date 18 rapiers of the Middle Bronze Age were discovered on the territory of South Caucasus (**Fig. 4-5**). A detailed summary of these findings was already made by M. Abramishvili (Abramishvili 2001; 2018) and Z. Sherazadishvili (Sherazadishvili 2015).

Georgia:

1. Samtavro, barrow no. 243 (Chubinishvili 1955);
2. Lilo, barrow no. 1 (Gogadze 1976, p. 223-229);

3. Dilicha, barrow no. 1 (Maharadze 1986);
4. Saduga, barrow no. 2 (Abramishvili 2001, p. 5);
5. Mravaltskali, barrow no. 12 (Abramishvili 2001, p. 4-5);
6. TetriKvebi, barrow no. 1 (Abramishvili 2001, p. 5);
7. TetriKvebi, barrow no. 3 (Abramishvili 2018);
8. Marneuli (Abramishvili 2018);
9. Gachiani (Sherazadishvili 2015).

Armenia:

1. Dzora-HES (Martirosyan 1964, p. 70);
2. Kachaghan, barrow no. 1 (Martirosyan 1964, p. 70);
3. Maisian, barrow no. 7 (Epoha bronzy Kavkaza i Sredney Azii 1994, p. 98);
4. Vorotna Berd (Epoha bronzy Kavkaza i Sredney Azii 1994, p. 98);
5. Angekhakot (Epoha bronzy Kavkaza i Sredney Azii 1994, p. 101);
6. NerkinNaver, barrow no. 3 (Simonyan 2011, p. 223; Simonyan 2019; Ryisin 2015, p. 388);
7. Lori-Berd, barrow no. 65 (Sagona 2017, p. 351);
8. Odzun (Areshian 2008).

One bronze rapier was found near the village Khushtada (Isakov 1966) in Dagestan (Russia), which dates to the 14th-13th centuries BC (Kotovich 1982, fig. 11.4).

There are different opinions and versions on the origin of rapiers. One part of the researchers suggests that the rapiers were adopted from the Aegean world, where these swords were known from the Middle Helladic period, other scholars suppose the independent appearance of the Caucasian rapiers (Ryisin 2014, p. 180).

Z. Sherazadishvili presented the detailed historiography of this issue, and suggests that the prototypes of Caucasian bronze rapiers were the long swords of the mid. 3rd millennium BC from Anatolia (Turkey) and the items from Alaca Höyük (Sherazadishvili 2015).

M. B. Rysin also notes that long swords from Anatolia and Syria could be treated as prototypes for Caucasian rapiers (Ryisin 2014, p. 180).

N. Sandars revealed the emergence of the first Aegean rapiers in Crete under the influence of Near Eastern prototypes (Sandars 1961).

The central rib characteristic for the Caucasian rapiers appears on the swords of the mid. 3rd millennium BC in Central Anatolia, Palestine, Syria and Cilicia (Ryisin 2014, p. 180).

M. Abramishvili suggests that the first piercing swords similar to rapiers were invented on the territory of South Caucasus and then spread to East Anatolia and the East Mediterranean region, to the basin of the Aegean Sea (Abramishvili 2018, p.144).

K. H. Kushnareva and M. B. Ryisin date Caucasian rapiers to the 22nd/19th-18th/17th centuries BC (Kushnareva, Ryisin 2001; Рысин 2014).

Radiocarbon dates are provided only for three barrows, where the bronze rapiers were discovered:

1. Tetri Kvebi, barrow no. 3: 21st-20th centuries BC (Abramishvili 2018);
2. Mravaltskali, barrow no. 12: 1960 ± 60 years BC (Abramishvili 2001);
3. Zayamchay, barrow no. 2: 18th-17th centuries BC.

Thus, based on the presented data, it could be assumed that the South Caucasian rapiers of the Middle Bronze Age should be dated within the 21st-17th centuries BC. The main area of their spread could be located in the middle part of South Caucasus.

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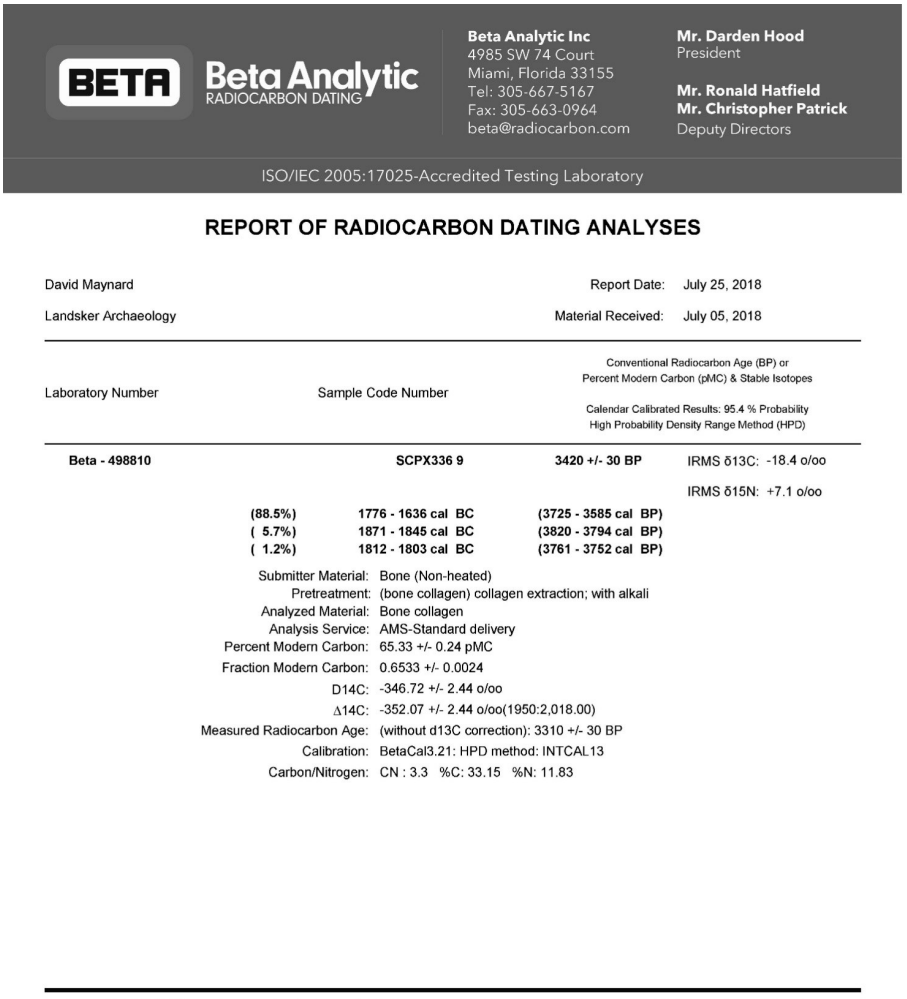
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Fig. 1. Bronze rapier from Zayamchay barrow no. 2: 1 - photo 2 - graphic picture.
Fig. 1. Rapieră din bronz din tumulul nr. 2 de la Zayamchay: 1 - foto; 2 - imagine grafică



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REPORT OF RADIOCARBON DATING ANALYSES

David Maynard — Report Date: July 25, 2018

Landsker Archaeology — Material Received: July 05, 2018

Laboratory Number	Sample Code Number	Conventional Radiocarbon Age (BP) or Percent Modern Carbon (pMC) & Stable Isotopes Calendar Calibrated Results: 95.4 % Probability High Probability Density Range Method (HPD)	
Beta - 498810	**SCPX336 9**	**3420 +/- 30 BP**	IRMS δ13C: -18.4 o/oo IRMS δ15N: +7.1 o/oo
(88.5%)	**1776 - 1636 cal BC**	**(3725 - 3585 cal BP)**	
(5.7%)	**1871 - 1845 cal BC**	**(3820 - 3794 cal BP)**	
(1.2%)	**1812 - 1803 cal BC**	**(3761 - 3752 cal BP)**	

Submitter Material: Bone (Non-heated)
Pretreatment: (bone collagen) collagen extraction; with alkali
Analyzed Material: Bone collagen
Analysis Service: AMS-Standard delivery
Percent Modern Carbon: 65.33 +/- 0.24 pMC
Fraction Modern Carbon: 0.6533 +/- 0.0024
D14C: -346.72 +/- 2.44 o/oo
Δ14C: -352.07 +/- 2.44 o/oo(1950:2,018.00)
Measured Radiocarbon Age: (without d13C correction): 3310 +/- 30 BP
Calibration: BetaCal3.21: HPD method: INTCAL13
Carbon/Nitrogen: CN : 3.3 %C: 33.15 %N: 11.83

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or student labor was used in the analyses. All work was done at Beta in 4 in-house NEC accelerator mass spectrometers and 4 Thermo IRMSs. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), is corrected for total isotopic fraction and was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP), "present" = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 95% the 14C signature of NIST SRM-4990C (oxalic acid). Quoted errors are 1 sigma counting statistics. Calculated sigmas less than 30 BP on the Conventional Radiocarbon Age are conservatively rounded up to 30. d13C values are on the material itself (not the AMS d13C). d13C and d15N values are relative to VPDB-1. References for calendar calibrations are cited at the bottom of calibration graph pages.

Fig. 2. Zayamchay barrow no. 2, radiocarbon data
Fig. 2. Tumulul nr. 2 de la Zayamchay, date radiocarbon

BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL13)

(Variables: d13C = -18.4 o/oo)

Laboratory number **Beta-498810**

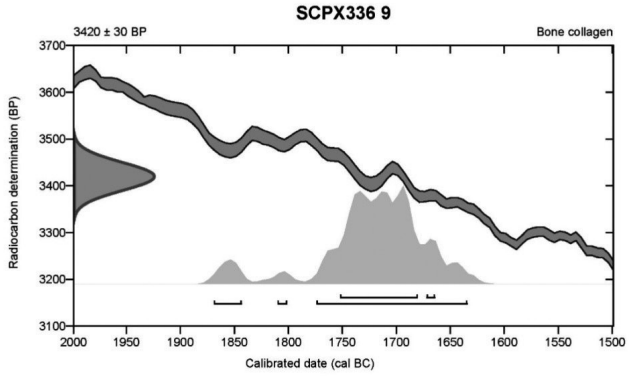
Conventional radiocarbon age **3420 ± 30 BP**

95.4% probability

(88.5%)	1776 - 1636 cal BC	(3725 - 3585 cal BP)
(5.7%)	1871 - 1845 cal BC	(3820 - 3794 cal BP)
(1.2%)	1812 - 1803 cal BC	(3761 - 3752 cal BP)

68.2% probability

(64.5%)	1754 - 1682 cal BC	(3703 - 3631 cal BP)
(3.7%)	1674 - 1666 cal BC	(3623 - 3615 cal BP)



Database used

INTCAL13

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL13

Reimer, et.al., 2013, Radiocarbon55(4).

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Fig. 3. Zayamchay barrow no. 2, radiocarbon data

Fig. 3. Tumulul nr. 2 de la Zayamchay, date radiocarbon

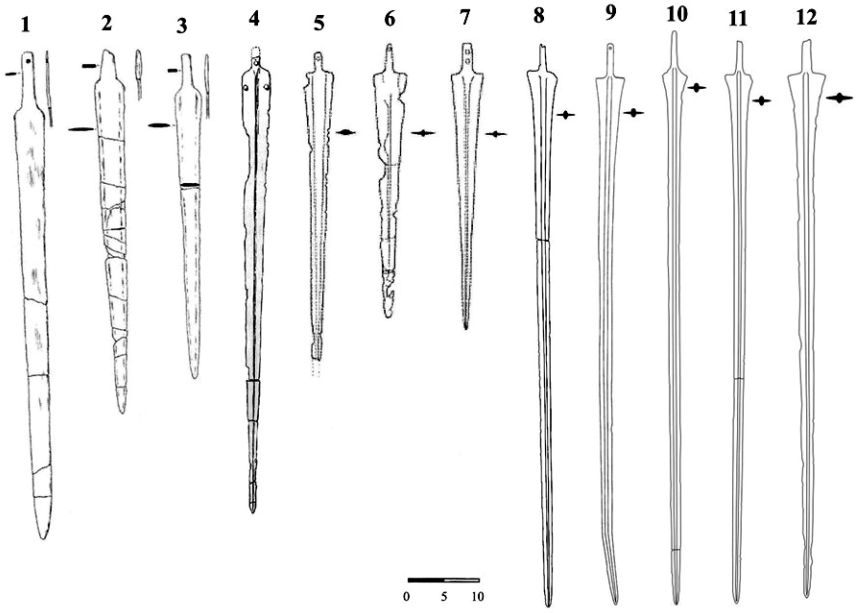


Fig. 4. Swords and rapiers (Turkey, Greece, Georgia, Azerbaijan). 1. Alaca Höyük, Tomb A, Turkey (Sherazadishvili 2015); 2. Alaca Höyük, Tomb 32, Turkey (Sherazadishvili 2015); 3. Alaca Höyük, Tomb S, Turkey (Sherazadishvili 2015); 4. Malia, Crete, Greece (Dall'Armellina 2017); 5. Marneuli, Georgia (Abramishvili 2018); 6. Saduga, Georgia (Abramishvili 2018); 7. Dilicha, Georgia (Abramishvili 2018); 8. Zayamchay, barrow no. 2, Azerbaijan (present publication); 9. Samtavro, barrow no. 243, Georgia (Abramishvili 2001); 10. Mravaltskali, barrow no. 12, Georgia (Abramishvili 2001); 11. Lilo, barrow no. 1, Georgia (Abramishvili 2001); 12. Tetri Kvebi, barrow no. 1, Georgia (Abramishvili 2001)

Fig. 4. Săbii și rapiere (Turcia, Grecia, Georgia, Azerbaidjan). 1. Alaca Höyük, Mormântul A, Turcia (Sherazadishvili 2015); 2. Alaca Höyük, Mormântul 32, Turcia (Sherazadishvili 2015); 3. Alaca Höyük, Mormântul S, Turcia (Sherazadishvili 2015); 4. Malia, Creta, Grecia (Dall'Armellina 2017); 5. Marneuli, Georgia (Abramishvili 2018); 6. Saduga, Georgia (Abramishvili 2018); 7. Dilicha, Georgia (Abramishvili 2018); 8. Zayamchay, tumulul nr. 2, Azerbaidjan (lucrarea de față); 9. Samtavro, tumulul nr. 243, Georgia (Abramishvili 2001); 10. Mravaltskali, tumulul nr. 12, Georgia (Abramishvili 2001); 11. Lilo, tumulul nr. 1, Georgia (Abramishvili,2001); 12. Tetri Kvebi, tumulul nr. 1, Georgia (Abramishvili 2001)

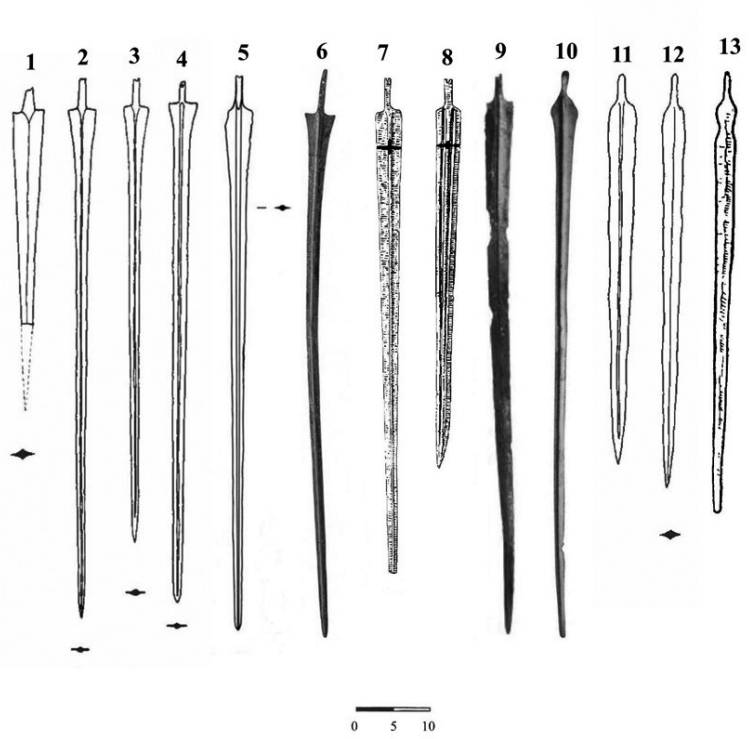


Fig. 5. Bronze rapiers from Caucasus. 1. Odzun, Armenia (Areshian 2008); 2. Maisian, barrow no. 7, Armenia (Areshian 2008); 3. Dzora-HES, Armenia (Areshian 2008); 4. Kachaghan, barrow no. 1, Armenia (Areshian 2008); 5. Lori-Berd, barrow no. 65, Armenia (Sagona 2017); 6. Nerkin Naver, barrow no. 3, Armenia (Simonyan 2019); 7. Vorotna Berd, Armenia (Epoha bronzyi Kavkazai Sredney Azii 1994); 8. Angekhakot, Armenia (Epoha bronzyi Kavkazai Sredney Azii 1994); 9. Tetri Kvebi, barrow no. 3, Georgia (Abramishvili 2018); 10. Gachiani, Georgia (Pachikashvili, Japaridze 2013); 11. Hovil, Azerbaijan (Areshian 2008); 12. Khoja Daud Kepru, Iran (Areshian 2008); 13. Khushtada, Dagestan, Russia (Istoriya Dagestana 1967)

Fig. 5. Rapiere de bronz din Caucaz. 1. Odzun, Armenia (Areshian 2008); 2. Maisian, tumulul nr. 7, Armenia (Areshian 2008); 3. Dzora-HES, Armenia (Areshian 2008); 4. Kachaghan, tumulul nr. 1, Armenia (Areshian 2008); 5. Lori-Berd, tumulul nr. 65, Armenia (Sagona 2017); 6. Nerkin Naver, tumulul nr. 3, Armenia (Simonyan 2019); 7. Vorotna Berd, Armenia (Epoha bronzyi Kavkazai Sredney Azii 1994); 8. Angekhakot, Armenia (Epoha bronzyi Kavkazai Sredney Azii 1994); 9. Tetri Kvebi, tumulul nr. 3, Georgia (Abramishvili 2018); 10. Gachiani, Georgia (Pachikashvili, Japaridze 2013); 11. Hovil, Azerbaidjan (Areshian 2008); 12. Khoja Daud Kepru, Iran (Areshian 2008); 13. Khushtada, Dagestan, Rusia (Istoriya Dagestana 1967)