

The bronze sword of Costâna
(Todirești commune, Suceava county)

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Keywords: *bronze sword, Hallstatt, Gáva-Holíhrady culture, Grănicești group*

In December 2010, Alois Raindel, inhabitant of Costâna village (Todirești commune, Suceava County) (Pl. 1), discovered a bronze sword in the water of Suceava river, during a fishing session. The item was lying on the riverbed, near the bank, at approximately 1-2 m from it, and at less than half a meter depth. The discoverer took over the item and unfortunately he polished most of its surface with an electric tool, thus removing the noble patina, preserved only on the guard and rod / the handle peduncle. This intervention resulted into the strong sharpening of the edge. Few days after the discovery, the sword was proposed for purchase to the *Bucovina Museum* by Mrs. Mariana Raindel, discoverer's wife.

Place and conditions of discovery

The sword was discovered on the right bank of Suceava river, several hundred meters downstream of the bridge who connect localities Dărmănești and Costâna; the spot is located at approximately 8 km NW of the city of Suceava, at approximately 500 m upward from the confluence of Ilișești brook to Suceava river (Pl. 2-5). Nearby there is *Dealul Mare*, with the altitude of 423.8 m, which dominates the Suceava valley, the relative altitude in relation thereto being of 130 m. It is important to note that in summer 2010 the Suceava county was seriously affected by floods, which caused in certain areas the modification along several kilometers of the minor riverbed of the Suceava. This is also the case of the area where the item we refer to was found: Suceava river strongly carved into the right bank (2-3 m high floodable meadow terrace), along a more than 1 km distance, in certain places with a lateral development of more than 50 meters. This situation determines us to appreciate the fact that the sword of Costâna was discovered in a *secondary position*, being brought by water from a spot up the river; we consider that the object was initially deposited in the meadow terrace of Suceava river, which, later on, was affected by the side erosion of the river¹. During 2011 and in spring 2012, our field researches undertaken along the two banks of Suceava river, starting from the Costâna area until up the locality of Părâuțu, did not lead to any other archeological discovery².

The description of the item: at the moment of the discovery, the sword was lacking its handle (Pl. 6, 8-9); probably, the item was preserved in relatively good conditions, if we judge from the condition of the noble patina on guard and rod of the handle. The sword was massively polished with an electric instrument (grinder), this intervention removing from the blade the dark greenish noble patina, which can still be noticed on small surfaces. The color of metal following the removal of the patina is golden. The blade was strongly affected already in old times, the longitudinal profile indicating blows that caused here and there deflects (Pl. 6); the blows also altered the integrity of the blade, on which there can be noticed rectangular notches, due to the contact with a tough (bronze ?) object (Pl. 7/1). The orifices for the guard rivets have larger dimensions than those on the handle rod and are strongly corroded; in exchange, the orifices on the rod are smaller and better preserved (Pl. 8-9). Probably the bronze handle became unfunctional already in the old times; the creation later on of two orifices for the attachment of the new handle is explained by the intrinsic value of the sword and by the capacity of using along a wider duration a useful item; another handle could have been made of bone, wood or horn. It is worth pointing out the presence, before the guard, of an area of the *ricasso* type (which was not sharpened in

¹ Logically, we cannot exclude that the item would have been deposited directly in the riverbed of the Suceava, but at least for our region, we cannot refer to analogies regarding bronze items deposited directly in water environments.

² Researches: B. P. Niculică, D. Davidel.

the old times) (Pl. 6, 8/1), generally specific to full handle swords³. The sword was cast in a bivalve mold and shows several casting defects in the form of *blowholes* (voids resulting from the casting process)⁴. The point is asymmetric in comparison to the longitudinal plan (possibly due to a long usage) and slightly bent. The blade section is rhomboidal-prolonged, and the one of the handle rod / peduncle is rectangular. The sword dimensions are: length = 638 mm; blade length = 573 mm; *ricasso* length = 31 mm; guard length = 31 mm; handle rod length = 34 mm; width = 40 mm in the middle area and 21 mm near the point; guard width = 47 mm; rod width = 18 mm at the basis (at the guard), respectively 20 mm at the end; middle zone width = 6.8 mm; width near the point = 3.4 mm; width at the guard = 7.5 mm; rod handle width = 2 mm; width at the contact between the guard – the handle rod = 6.4 mm; width at the end of the *ricasso* segment (towards the blade) = 7 mm. Diameters of rivet holes on the guard = 5 x 6 mm; diameters of the rivet holes on the handle rod = 4 mm. Weight = 570 gr.

Discussions

The discovery of the sword of Costâna is useful for the knowledge of the bronze metallurgy in the northeast Carpathian space, due to the special morphological characteristics. Regarding the conditions of the discovery, they are obviously discussable. Throughout the whole east-Carpathian space such swords are rare and usually the context of the discovery is not too well known⁵. In order to categorize the sword of Costâna from the cultural and historical point of view, several useful elements must be presented in our general analysis. Thus, we must take into account the nearest bronze deposits as well as discoveries of isolated items, flat and tumuli necropolises as well as the presence of fortified and unfortified settlements belonging to the first Iron Age of the central zone the Suceava Plateau.

In the northeast Carpathian regions, more precisely in the Suceava Plateau, there is a similar find to the one of Costâna, discovered at Măneuți (Frătăuții Vechi commune). The sword, of the tongue-hilted type – *Griffzungenschwert* (the Reutlingen type, Ighiu variant), was dated to the first Iron Age, in the Gáva-Holihrad culture, respectively in the Grănicești cultural group, specific to the black channeled pottery horizon of the Suceava Plateau⁶.

The careful study of the paper regarding the sword of Măneuți provides though several important pieces of information, which we consider that must be discussed in this context. Following the statements of the local inhabitant having found it, it is asserted that the item was „in a kind of stone case”, of rectangular shape and that it was imbedded, on half its length, in the river bed⁷. Still, we are of the opinion the sword could not have kept such position after three millennia have elapsed since its deposition, especially that the construction was found already destroyed which means, obviously, that the item was moved from its initial position. Equally less credible is the fact that someone had the idea of imbedding half the sword in the stony riverbed. There are indeed cases of swords imbedded in the ground⁸, but in the present case such hypothesis is very unlikely. From our point of view, we consider it would have been necessary to specify the following aspects of detail: relating the sword position and of the stone construction to the cardinal points; the sword positioning, according to the long and short sides of the so-called „box”; on which bank of Suceava river was the construction found; the dimensions

³ We would like to thank prof. Anthony Harding, PhD (Exeter, England), Carol Kacsó, PhD (Baia Mare, Romania) and Tiberius Bader, PhD (Hochdorf, Germany), for the suggestions provided regarding the morphological and typological analyses of the item.

⁴ We would also like to thank our colleague, eng. Ilie Cojocaru (Bucovina Museum, Suceava), for the macroscopic observations.

⁵ László 1994, 148-149. In general, the bronze deposits, including the depositions of one item only, are random discoveries, and are not found within systematic researches. For this reason, precious information regarding the discovery conditions cannot be recreated anymore. This situation has also been observed by C. Kacsó in his analysis regarding the bronze swords found in Maramureș (Kacsó 2000, 209-220). Here for instance bronze swords were discovered on a hill chain (Bogdan Vodă), on a brook bank (Călinești), on a high terrace to the left of Iza river (Oncești).

⁶ Batariuc 2003, 167-172.

⁷ Batariuc 2003, 167.

⁸ See the situation of Drăușeni (Brașov county): Goos 1876, 19 (the locality of Drăușeni is specified in Goos 1876 as Draas); Petrescu-Dimbovița 1977, 148; Bader, 1991, 169, no. 424; Soroceanu 1995, 64.

of the construction in which the sword of Măneuți was found. Thus, valuable information was lost, fact that prevents us from having a clear and convincing image of a unique discovery in the east-Carpathian space. Naturally, we ask ourselves whether it could have been a possible tomb, with dimensions similar to those encountered in the case of other constructions of the *cista* type (as those appearing within the *globular amphora* and *Komariv* cultures in the Suceava Plateau⁹) or a construction with smaller dimensions, especially created, where only the bronze sword would have been deposited. We can also note the fact that the photograph at page 171 of the study discussed here, although lacking clarity, shows that we are in the area of the eroded bank of Suceava river. Our point of view is that the respective stone construction, where the sword of Măneuți was discovered, was achieved in the meadow terrace of Suceava river. Therefore, the „case” was not built in the river, and the sword could not have been imbedded in the riverbed. This archaeological complex was brought to light by the side erosion of Suceava river, situation which we appreciate as being closer to reality. The observation that the place of discovery of the sword of Măneuți is at about 300m upwards at the confluence of Pozen brook to Suceava river still remains valid¹⁰.

Together with the swords of Costâna and Măneuți, we also need to specify a fragment of sword blade, discovered in the site of Botoșana (Botoșana commune, Suceava county), in the basin of Soloneț river, at 15 km west of Costâna. During the archeological excavations undertaken there, ceramic materials belonging to Komariv, Noua and Early Hallstatt (Grănicești group) were discovered¹¹.

Another discovery in Moldavia draws our attention: the cup-hilted bronze sword – *Schalenknaufschwert* – of Marvila – *Dealul Cantonului* (Corbasca commune, Bacău County), dated in the interval Ha A₂-Ha B₂¹². This sword also shows a *ricasso*, like the sword of Costâna.

In the northeastern Carpathian space, there is an interesting concentration of bronze items in the Chernovtsy region (Ukraine), especially in Hliboca district, where there were signaled several fortifications, in which pottery of the Gáva-Holihady type was pointed out¹³. Such is the case of the bronze deposit of Voloca (composed of a bronze cauldron in which seven celts had been laid), dated to Ha B-C, as well as several isolated items, among which two swords¹⁴. A discovery we need to take into account in our analysis is represented by the bronze sword handle of the *Liptau* type, belonging to the famous fighting knife with iron blade of Corni (Liteni commune, Suceava County)¹⁵.

In 1956, at Todirești – *Halta CFR* (Todirești commune, Suceava County) – spot situated at only a few kilometers westwards of the place where the sword of Costâna was found – a bronze deposit with special features was found. The deposit was made of 12 hooked sickles, six bigger and six smaller¹⁶. As analogy, we can quote here the deposit of Dersca, Botoșani County, also composed of 12 hooked sickles¹⁷.

Another deposit, dated to Hallstatt A, is the one discovered at the beginning of the 20th century, near Suceava¹⁸; in our view, the deposit was probably found in the area Șcheia – *Siliște* (Șcheia com.), situated in the western end of the city of Suceava¹⁹.

The celt of Părâuți (Todirești commune, Suceava County), discovered in the neighborhood of Părâuți village²⁰, represents the closest discovery of a bronze item in relation to the Costâna area. This

⁹ Dumitroaia 2000, 68-81, 127-156; Niculică 2005, 61-68; Niculică et al. 2005, 69-86.

¹⁰ Batariuc 2003, 167.

¹¹ Teodor 1980, 45-60, fig. 8/2 for the sword fragment; Bader 1991, 165, no. 393, Taf. 56/393; Ignat 2000, 69, no. 36/2, fig. 22/36/2.

¹² Căpitanu/ Vulpe 1985, 497-502; László 1994, 148.

¹³ Maleev 1987, 86-101; Andronic 2008, 162-163; Zancu 2011, 117-152; Niculică 2011, 390.

¹⁴ Vojnarovskij/ Smirnova 1993, 183-190, fig. 1, 4; Andronic 2008, 174 and Pl. 15 for bronze discoveries in the region of Chernovtsy.

¹⁵ Ignat 1981, 139-140, no. 2, fig. 4; Bader 1991, p. 138-139, no. 332, Taf. 35/332; Taf. 36/332; Ignat 2000, 102, no. 67, fig. 30.

¹⁶ Ignat 1981, 142, no. 12, fig. 7/4-5; Andronic 1997, 37, no. 21 C; Ignat 2000, 68, no. 34, fig. 21/34.

¹⁷ Petrescu-Dimbovița 1977, 153, fig. 366/3.

¹⁸ Hänsel 2005, 285-299.

¹⁹ Research undertaken by B. P. Niculică at the Suceava County Direction of National Archives, 2011.

²⁰ With the occasion of the excavation of a cellar, in the village core of Părâuți, a habitation level of Grănicești type was discovered, as containing several ceramic fragments, a spindle whorl and a head of clay stick. Cf. Niculică/ Ignătescu/ Boghian 1999, 40, no. 5, fig. V/3, 6.

celt, with very flared edge and wave-shaped ornamentation, is dated to Ha B²¹. Also in Hallstatt B is dated the celt discovered between the two World Wars on the surface of the Early Hallstatt settlement of Vârvata – *Cetățuie* (Pârteștii de Jos commune, Suceava county)²². On the right bank of Suceava, downwards of Costâna, at Mihoveni-*Cahla Morii*, where the Hallstatt pottery was found²³, a bronze sickle of the hooked type was also identified²⁴.

In the hydrographic basin of Soloneț river about 40 settlements belonging to the black channeled pottery horizon (Grănicești cultural group) were identified during surface researches, and among them a fortified settlement. M. Andronic, the author of the field researches in the specified areal, identified not less than 20 grouped and isolated tumuli, some of which could belong to the first Iron Age²⁵. In the hydrographic basin of Ilișești brook, right-hand affluent of Suceava river, six Hallstatt settlements and four groups of tumuli are known²⁶. For the Grănicești group in Suceava Plateau, A. László recorded, at the level of year 1994, not less than 25 discoveries, in which he also included bronze objects. On the contrary, in 2008, M. Andronic showed that there were inventoried more than 100 spots throughout historical Bucovina province²⁷. In Suceava County, close to Costâna, there were researched several archeological sites which also produced pottery dated to the Early Hallstatt, out of which mention should be made of: Mihoveni-*Cahla Morii* (Șcheia commune)²⁸, Todirești-*La Nuci* (Todirești commune)²⁹ and Vârvata-*Cetățuie* (Pârteștii de Jos commune)³⁰. The pottery in these settlements belongs to the Grănicești cultural group, as defined by Professor Attila László³¹. All the above settlements, together with the bronze discoveries known so far, provide us with a more vigorous and nuanced view on the habitation dynamics of the first Iron Age in the Suceava Plateau.

Analogies, dating

Regarding the chronological and typological attribution of the sword of Costâna we should take into account the elements that show us the relation to other discoveries: *ricasso*, the shape of the handle guard, the shape of the blade and the cross-sections, and also the lack of *rand* from the rod / peduncle of the handle. In T. Bader's monographic study on the bronze swords of Romania, there are several swords showing similitudes to our item. The most adequate analogies are those found within full handle sword group (*Vollgriffschwerter*) more precisely the types Liptau and cup-hilted³². In our view, the item of Costâna is morphologically close to the sword of Liptau type discovered at Odorheiu Secuiesc (Harghita county) which shows several incised lines on the blade³³ and the fragment of Liptau sword of Șimleul Silvaniei (Sălaj county)³⁴. Among the cup-hilted swords, mention should be made of the one of Turda (Cluj county)³⁵. We showed above that in the Suceava Plateau, at Corni (Liteni commune, Suceava county), on the right bank of Siret river, there was discovered a handle of a sword of the Liptau type³⁶; thus, we have a starting point in our dating, meaning that in the northeast of Romania the existence of this type of sword is demonstrated. Also, in northwestern Ukraine (Galicia), Liptau swords or cup-hilted

²¹ Ignat 1981, 141, no. 8, fig. 5/5; Andronic 1997, 29; Ignat 2000, 64, no. 28, fig. 20/28.

²² Dressler 1960, 13-18; Ignat 1993, 375, no. 2, fig. 1/6; Andronic 1997, 59, no. 94; Ignat 2000, 62, no. 26 fig. 20/26; Andronic 2008, 162, Pl. 13/18; Niculică 2011, 389, 397.

²³ Ursulescu/ Batariuc 1978, 89-91, fig. 9/7.

²⁴ Niculică 1999, 215-220.

²⁵ Andronic 1997, *passim*.

²⁶ Andronic 2010, 192-195.

²⁷ Andronic 2008, 160.

²⁸ Ursulescu/ Batariuc 1978.

²⁹ Andronic 2011.

³⁰ Dressler 1960, 16-18; Niculică 2011.

³¹ László 1976b, 57-75; László 1983-1984, 65-84; László 1994, 48-104.

³² Bader 1991, 128-129, no. 318, Taf. 32/318, 33/318; 130-131, no. 322, Taf. 34/322, 35/322; 143, no. 340, Taf. 38/340, 39/340.

³³ Bader 1991, 128-129, no. 318, Taf. 32/318, 33/318.

³⁴ Bader 1991, 130-131, no. 322, Taf. 34/322, 35/322.

³⁵ Bader 1991, 143, no. 340, Taf. 38/340, 39/340.

³⁶ Ignat 1981, 139-140, no. 2, fig. 4; Bader 1991, p. 138-139, no. 332, Taf. 35/332; Taf. 36/332; Ignat 2000, 102, nr. 67, fig. 30.

swords were discovered, as published by K. Zurowski and which show similitudes with the sword of Costâna³⁷.

Conclusions

The sword of Costâna is rather difficult to classify precisely, due to the lack of the handle. Still, the morphological features presented above: *ricasso*, the shape of the guard, the shape of the blade and the sections hereof, the absence of rand along the rod of the handle (specific to the tongue-hilted swords), suggest the inclusion in one of the types *Vollgriffschwert*: Liptau or cup-hilted (*Schalenknaufschwert*), naturally with the error margin that we assume. Thus, we propose as dating the interval Ha A-Ha B. The sword was probably deposited in the meadow terrace of Suceava river; during the floods, the river waters drag further into the banks and determined the fracture hereof, involving also this object.

For the Costâna area, geomorphological studies indicate the presence of low meadow terraces³⁸; Suceava valley, including the 2-3 m terraces was also researched in spring 2012 (Pl. 10)³⁹. Naturally, along the millennia, Suceava river modified its course, which varied, periodically moving towards northeast and southeast. At a certain moment, as terraces indicate, Suceava River ran in the immediate neighborhood of *Dealul Mare*, including the confluence of Ilișești brook with Suceava River, existing at a certain distance upwards in comparison to the current location. If at the beginning of the Early Hallstatt, at the level of *Subboreal/Subatlantic*⁴⁰, the riverbed of the Suceava was probably at an absolute altitude higher than the current position, it means that the meadow terraces visible nowadays represented the limit of the riverbed of those times. Such modifications of the course of Suceava river can also be followed in the last 100 years (Pl. 10), on the basis of the analysis of the physic-geographical and topographical maps. The observations pertaining to the modification of the course of Suceava river are also valid in the case described above characterizing the discovery of Măneuți⁴¹.

In our view, if the deposition was done in the *meadow terrace* of Suceava river (of 2-3 m), we cannot speak of proper deposition in the aquatic environment (*Flußfund*), in the classic meaning of the word, that is direct deposition in a water (in the present case Suceava river). On the other hand, we point out the fact that the deposition took place near the water source: Suceava river; we should also add here that it may not be a coincidence the fact that both the sword of Costâna and the one of Măneuți were found near confluences. The sword was deposited after a certain time interval, in which it was intensively used, as proved by the traces on the blade/edge and the asymmetric aspect of the edge. It is possible that we are in front of a deposition of a single item (*Einzelstückdeponierung*), that is a deposition belonging to a single functional category (*clean deposition*)⁴². We consider that the production, repairing and re-usage of the item can be connected to the population of Grănicești cultural group of the Gáva-Holíhrady culture, which developed in the northeastern Carpathian area. The sword of Costâna, together with the items of Măneuți and those of Voloca may be items imported from the original production areas of the Gáva culture (Slovakia, northeast Hungary). But, at the same time, one should not neglect the hypothesis that in a certain phase of the historical development of the communities of the Grănicești type, bronze objects might have been locally produced in the northeast Carpathian area⁴³.

³⁷ Zurowski 1949, pl. XXXII/6 – Pidnistriani, Židaciv'skij district, reg. L'viv; pl. XXXIII/2 – Kariv, Sokals'kij district, reg. L'viv; Pl. XXXIII/5 – Komarniki, Turkiv'skij district, reg. L'viv.

³⁸ Martiniuc/ Băcăuanu 1960, 377-378

³⁹ Research undertaken by associate professor Dinu Oprea-Gancevici PhD („Ștefan cel Mare” University of Suceava, Faculty of Geography), whom we thank for the collaboration.

⁴⁰ Donisă 1993, 242-246

⁴¹ Research by B. P. Niculică, 2011.

⁴² In this context mention can also be made of the bronze sword of Lăpuș (Maramureș County), recently published, which represents another deposition of a sole item: Kacsó 2009, 48 and notes 23-26, with the indication of a bibliography pertaining to this subject. For the characteristics of sword depositions between the Middle Danube and the Dniestr see: Bratu 2009, 41-59. The author analyses inter alia the tongue hilted swords with three nervures on the disk and the antenna swords and the relation to the environment. See also: Hansen 2002, 91-97.

⁴³ Ignat 1993, 377; Ignat 2000, 19-23, 95-96, 108, 123.

As for the votive character of the one item-depositions in the case of the swords of Costâna and Măneuți, this cannot be doubted⁴⁴. In our view, these two cases represent *depositions of bronze items in the 2-3 m meadow terrace of Suceava river*. Although, obviously, one cannot speak of intentional depositions in water (*Flußfund*), they are topographically close to the *humid environment*⁴⁵. Consequently, taking into account the discovery conditions of the items of Măneuți and Costâna, we consider that these two discoveries must be understood and interpreted also considering the vicinity of the aquatic environment.

Geomorphologically, the swords of Costâna and Măneuți were discovered in the *floodplain of Suceava river* (Pl. 10); they represent a modality of deposition of bronze items intentionally undertaken by the people of the Grănicești cultural group, in direct connection with the natural environment: *dry environment*. Still, we do not exclude the possibility that from a certain point of view there might be an *intentional relation to the aquatic environment* too (the vicinity of water, the frequent flooding of the meadow levels during flashfloods, the presence of confluences). Consequently, we could consider we are in front of two bronze items that were deposited in an *intermediary environment*, represented by the *floodplain of a river*. As topographic position, one can easily notice the difference between a *land deposition of bronze items* (on a height or on a hill slope) and a deposition situated in a low land, such as the floodplain of a river.

On the other side, we are interested whether the positioning of the bronze deposits in the northeastern Carpathian space, in the area of certain confluences, has a certain meaning. The recent mapping of 14 bronze deposits on the territory of historical Bucovina province, belonging to the Gáva-Holihrad culture, clearly shows us this characteristic⁴⁶. If we take into account, with the due prudence, what was told during our field research in north of Bucovina, in the spring of 2011, by the inhabitants of the Voloca village (Hliboca district, Chernovtsy region), it seems that along the years, certain bronze items were found in the waters of Derelui, right-hand affluent of the Prut⁴⁷.

The northeastern Carpathian region, especially the Suceava Plateau, represents a peripheral space, but of very powerful manifestation of the Gáva-Holihrad culture; we use the term peripheral thinking only to the geographic space, not to the cultural „quality” or „consistency”, under the aspect of the various and complex daily manifestations. More precisely, it is here that one should find the southeastern „frontier” of the culture, area for which we could enumerate sufficient fortified centers: Preutești⁴⁸, Siret⁴⁹, Suceveni, Vârvata, Voloca, Volovăț⁵⁰ etc., tumuli necropolises⁵¹, as well as a considerable number of unfortified sites. Maybe in some of these centers, or in their vicinity, some of the bronze items we know now in the northeastern Carpathian spaces were produced, this affirmation being sustained by a series of discoveries⁵². We do not exclude the possibility that the association and concentration of an important number of fortified and unfortified settlements and of deposits of bronze items would represent the

⁴⁴ Within the Suceava County there were discovered in total four bronze swords: Costâna (Todirești commune), Măneuți (Frătăuții Vechi commune) (whole items), Botoșana (Botoșana commune) (blade fragment) and Siliștea Nouă (Dolhasca commune). This last item is earlier, being associated to the Noua culture (Bader 1991, 56-57, nr. 32, Taf. 8/32).

⁴⁵ See also: Torbrügge 1970-1971, 1-146; Soroceanu 1995, 15-80; Hansen 1997, 29-34; Bratu 2009, 126-133.

⁴⁶ Niculică 2011a.

⁴⁷ We would like to thank prof. S. Pivovarov PhD and PhD student Mikola Il'kiv (Jurij Fedkovici University, Chernivitsi), as well as PhD student Nicolai Bodnariuc, for the support provided to our researches.

⁴⁸ Ursulescu/ Manea 1981, 171-172, 175; Popovici/ Ursulescu 1981, 54-57; Popovici/ Ursulescu 1982, 23-27; Popovici/ Ursulescu 1983, 25-32; Ursulescu/ Popovici 1984, 81-84; Ursulescu/ Popovici 1986, 37-41; Ursulescu/ Popovici 1997, 52-57, with previous bibliography (notes 10 and 16 of page 52) and sq.

⁴⁹ Ursulescu/ Andronic/ Hău 1988, 90-92, nr. XIII; László/ Mareș/ Niculică 1999, 107-108; László et al 2002, 289-291; László et al 2003, 293-295; László et al 2004, 311-312; László et al 2005, 348-350; Mareș et al 2008, 81-112.

⁵⁰ Niculică 2011, 390; Niculică 2013.

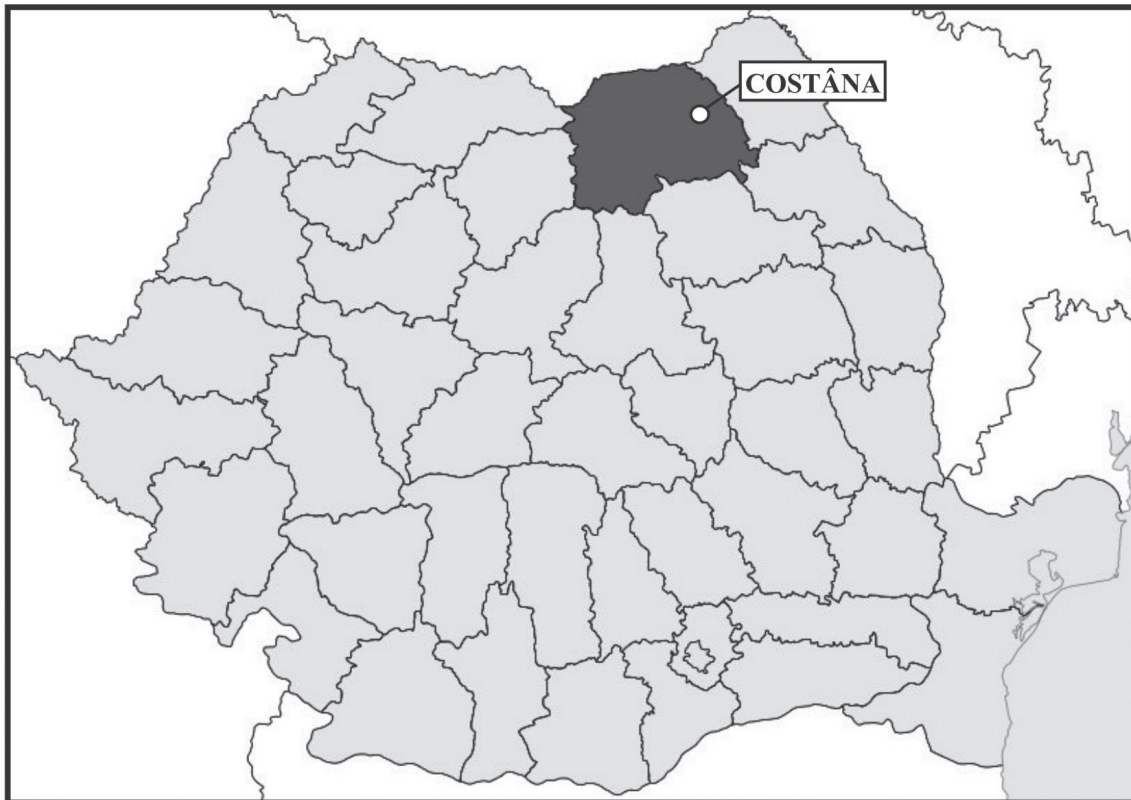
⁵¹ Ignat 1978, 107-140.

⁵² Mention should be made of a mold for casting small earless celts, casting drops, celts, a bronze link, fragments of knife blades, discovered in the fortification of Siret-Dealul Ruina (Suceava county) and the surroundings (Ignat 2000, 19-21; 60, no. 23, 30; 64, no. 30). A spoon for casting the metal was discovered in the eponymous settlement of Grănicești (Suceava County) (László 1994, 143, fig. 13/1; Ignat 2000, 21).

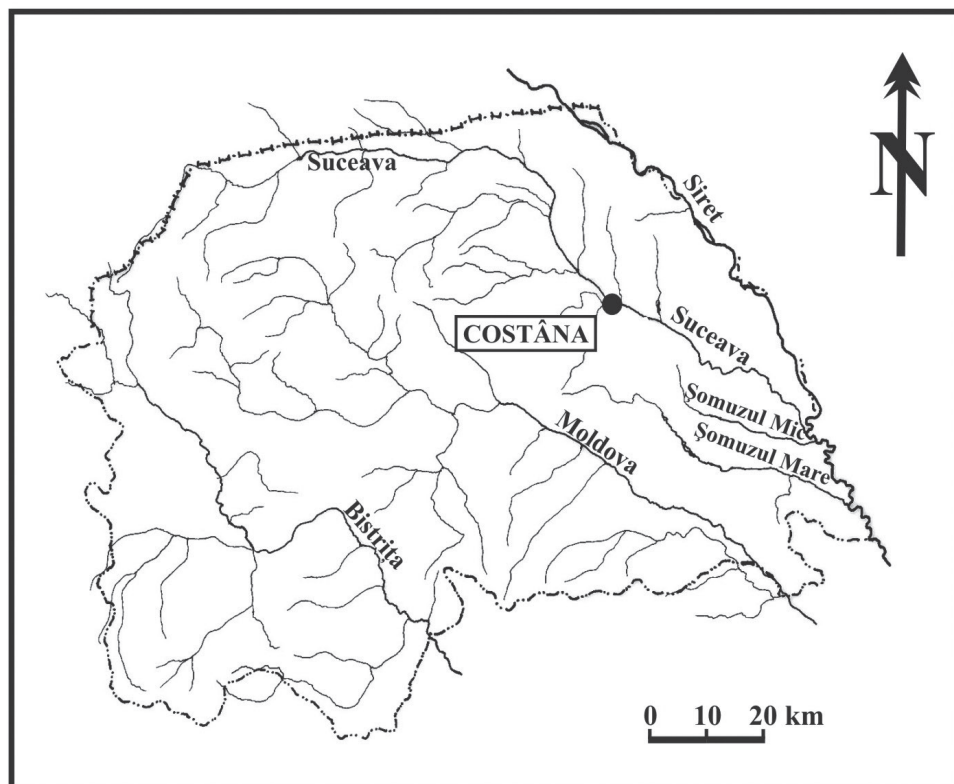
The bronze sword of Costâna (Todirești commune, Suceava county)

expression of a strong political, military and economic center of the Gáva-Holihrad culture in the northeastern Carpathian space.

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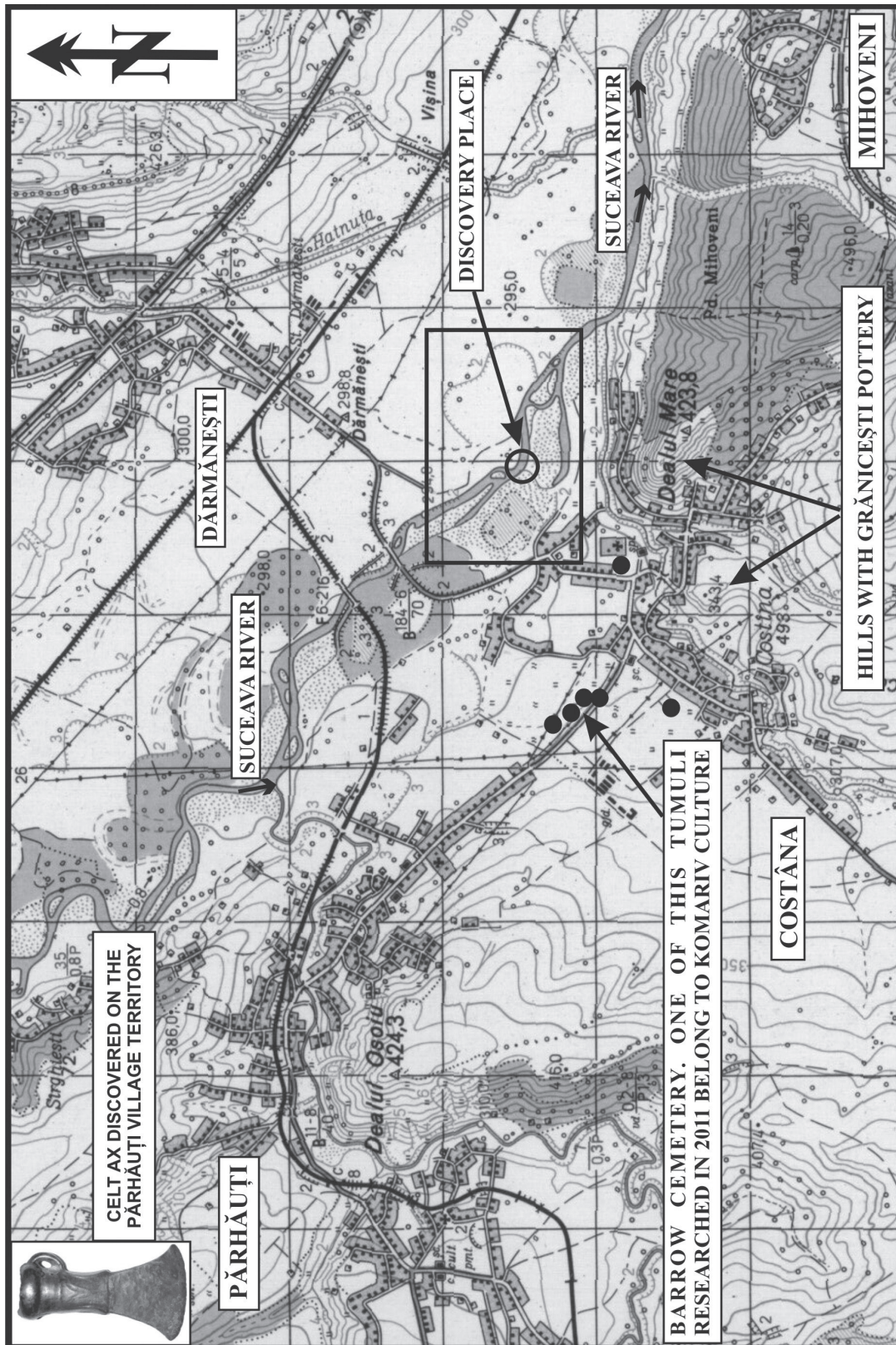


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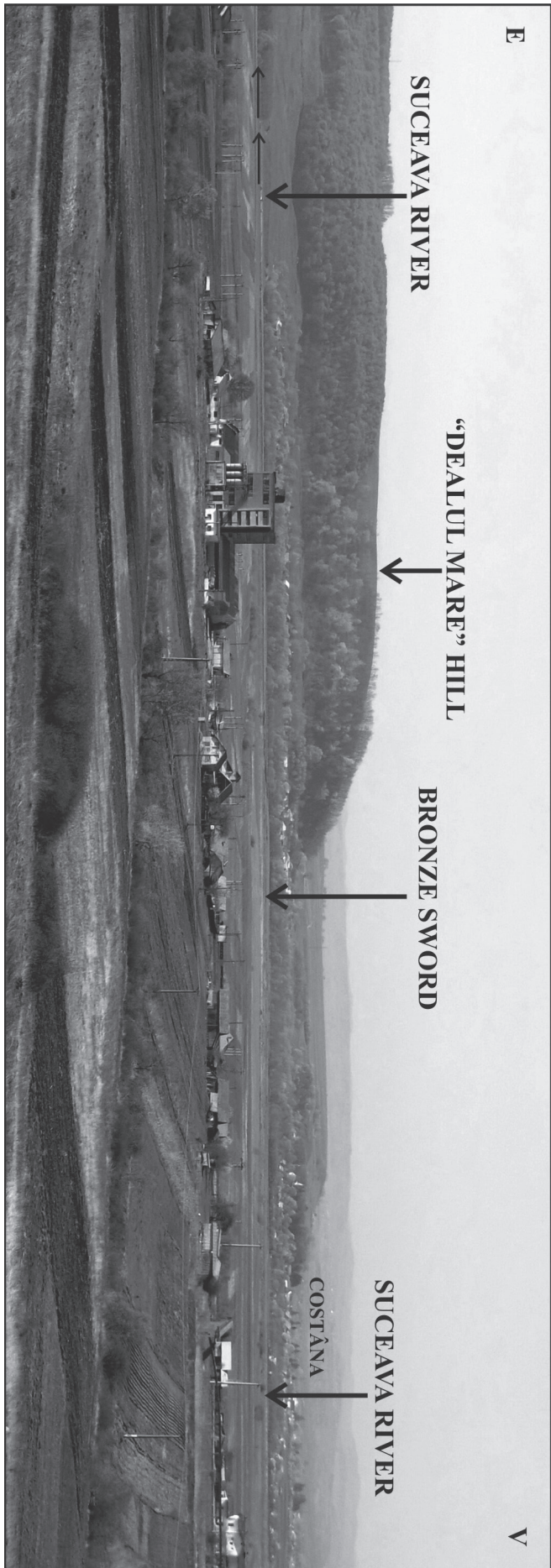


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Pl. 1. Costâna, Suceava county. Discovery position of the bronze sword.

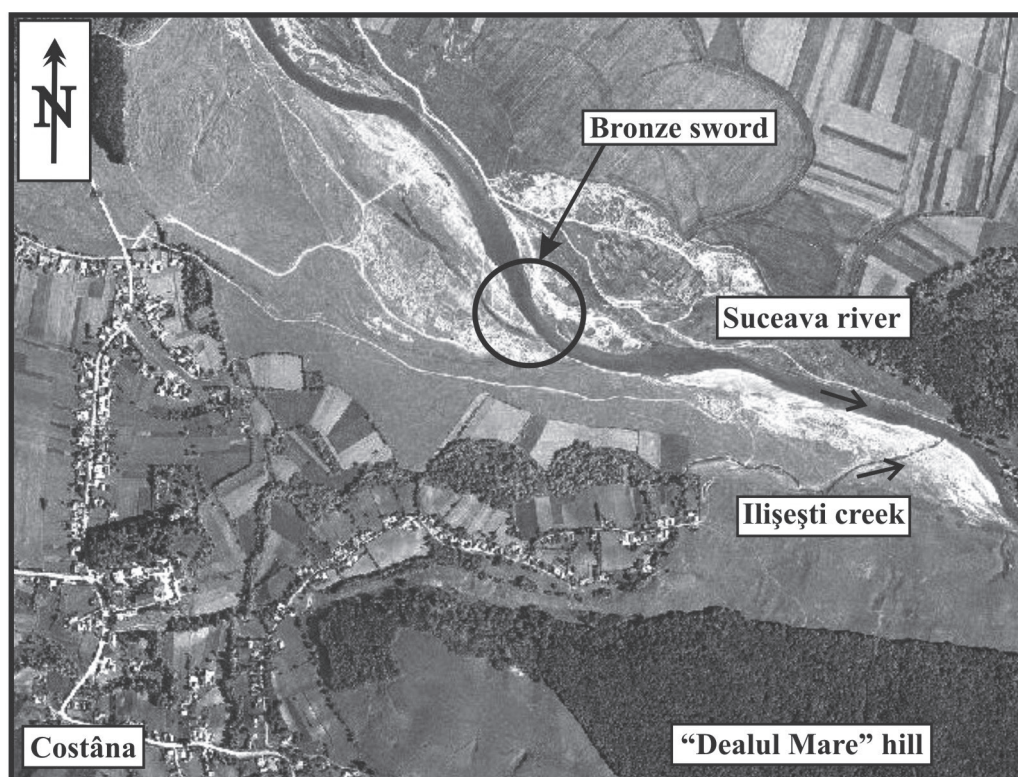


Pl. 2. Costâna, geographical microzone and the sword discovery place.

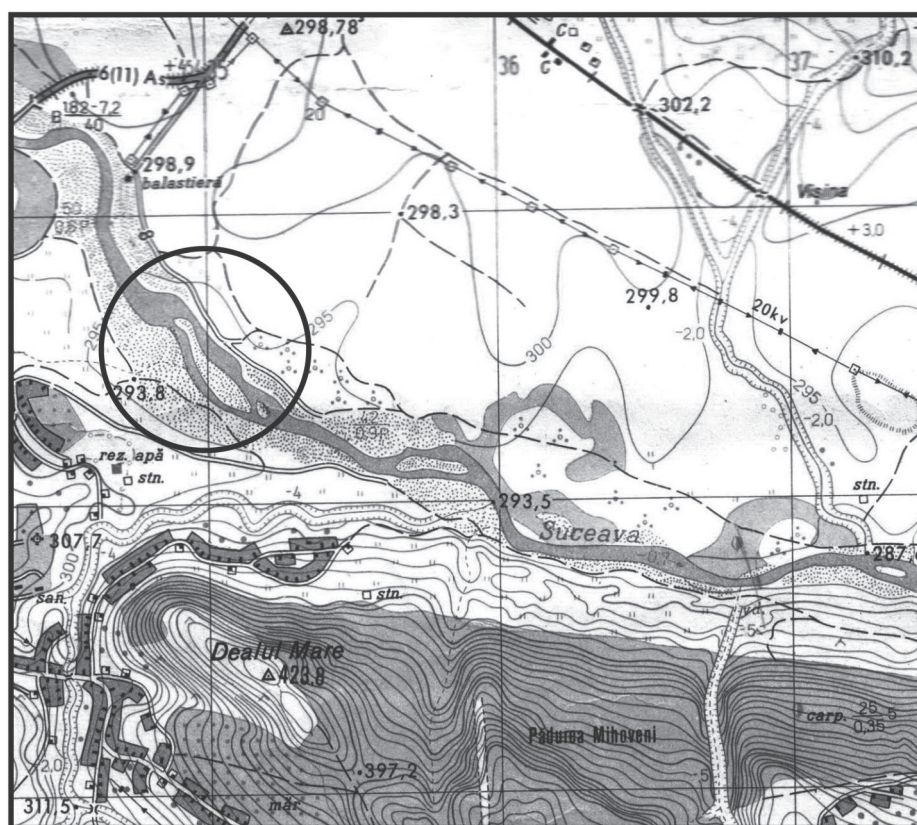


Pl. 3. The place where the bronze sword was discovered, in the Suceava river valley. Photo B. P. Niculică 2012.

The bronze sword of Costâna (Todirești commune, Suceava county)



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Pl. 4. 1. Discovers place of the bronze sword from Costâna, ortophotoplan (www.ancpi.ro 2011).
2. Topographical map of Costâna microzone with the position of the discovery.

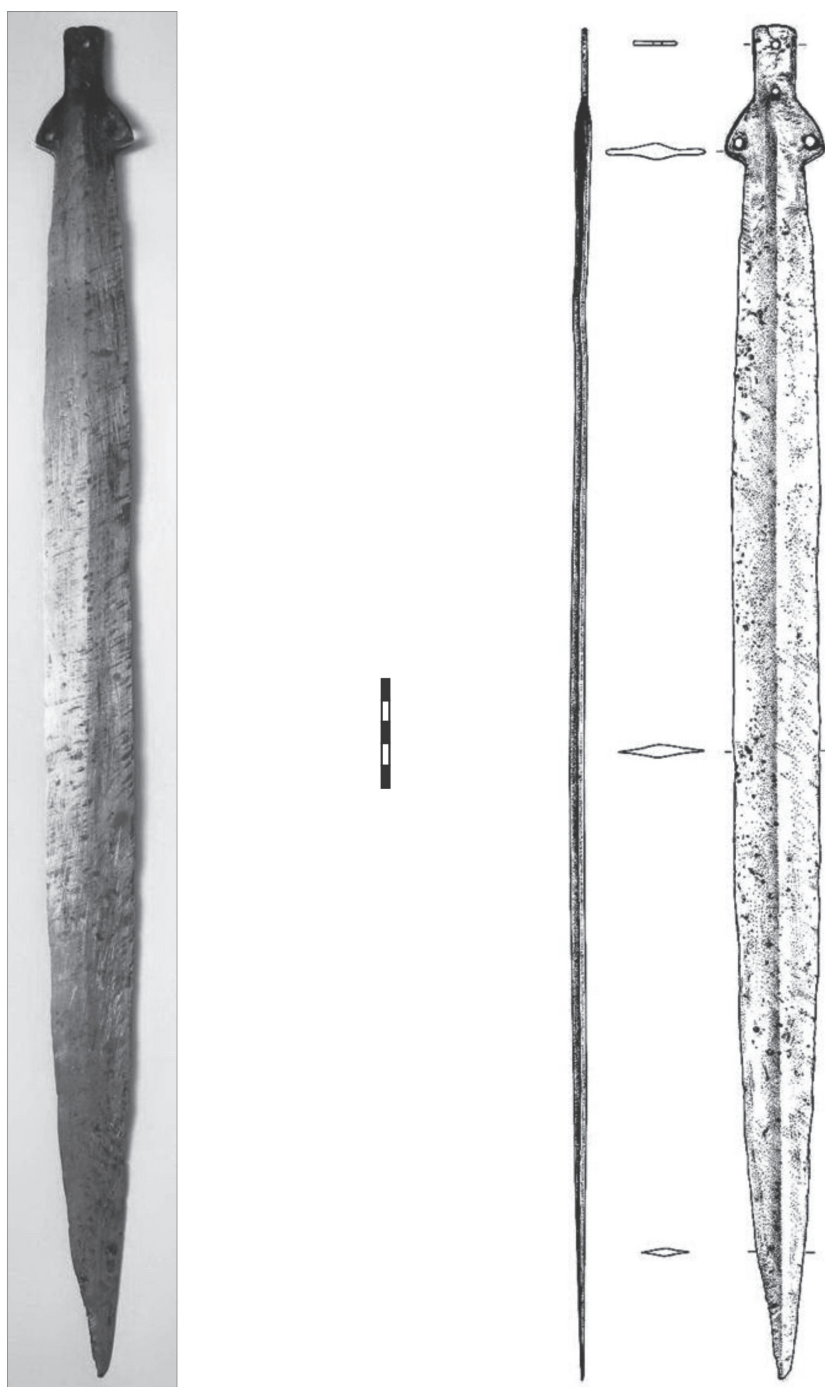


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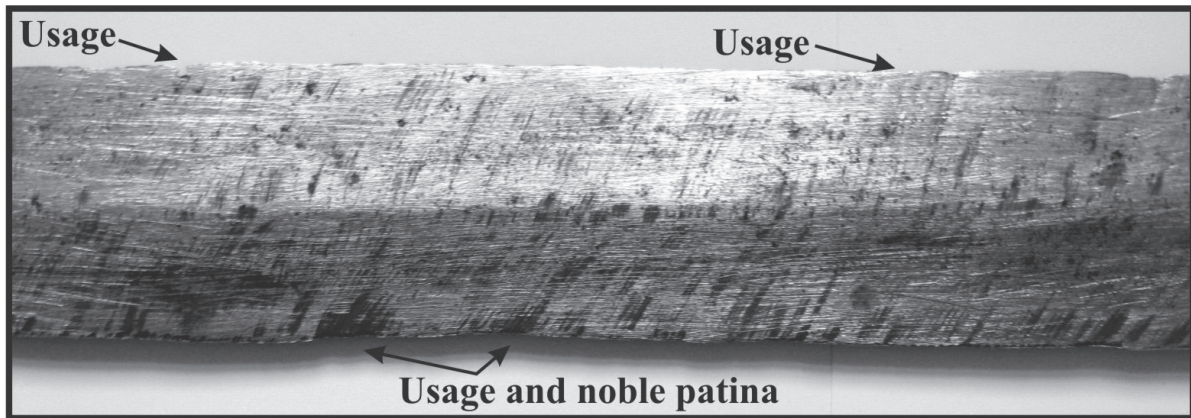


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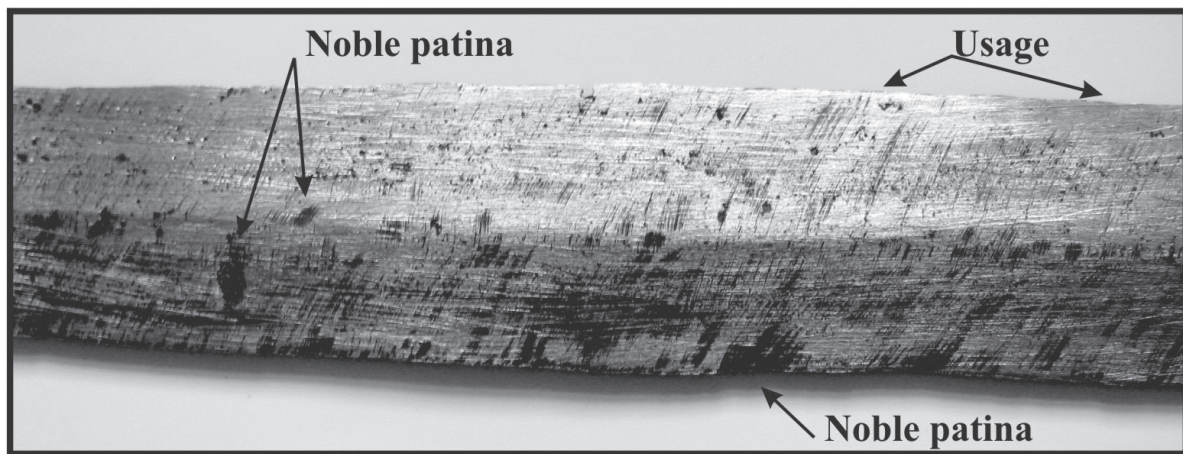
Pl. 5. 1. Map of Costăna microzone in the year 1778 (apud Iosep/ Ursu/ Pagheanu 2011, Sectio 52).
2. Map of Costăna microzone in the year 1916, following drawings from 1984 (apud Übersichtsblatt der Spezialkarte der Österreichisch-Ungarischen Monarchie: 1:75000 und der im Maßstabe vorhandenen Auslandsblätter, K. und K. Militärgeographisches Institut, 1916).



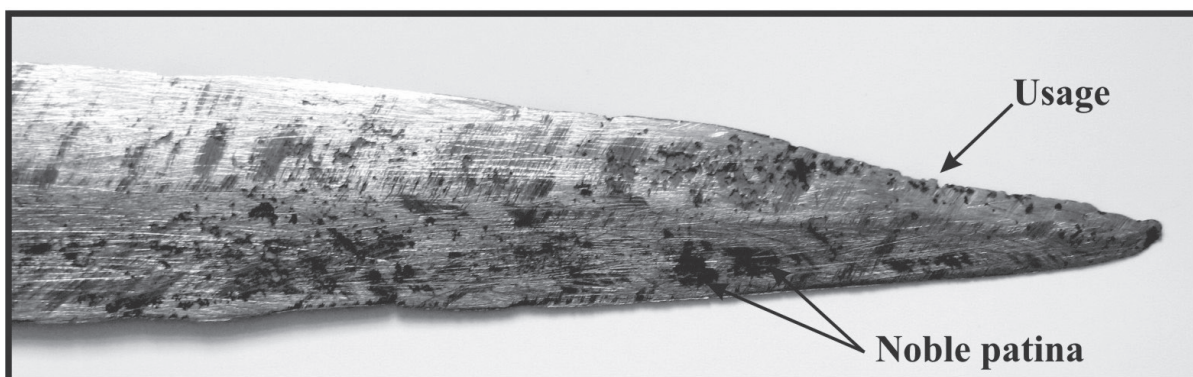
Pl. 6. The bronze sword from Costâna, Suceava county. Photo B. P. Niculică 2011.



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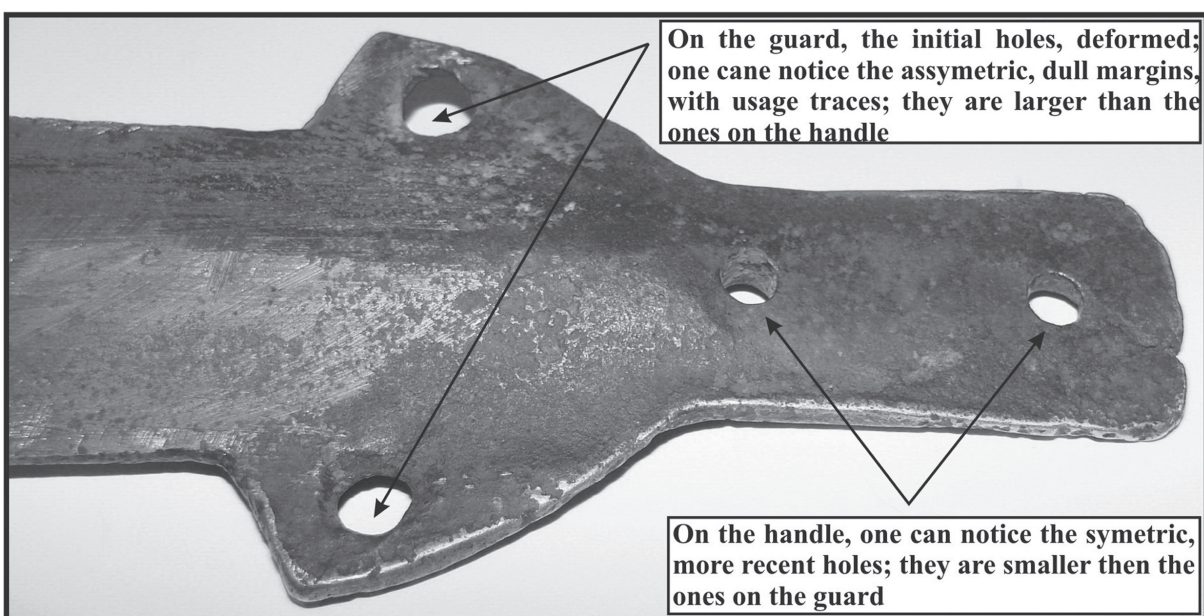


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Pl. 7. The bronze sword from Costâna, Blade, edge, head. Noble patina, usage. Details.
Photos: B. P. Niculică 2011.

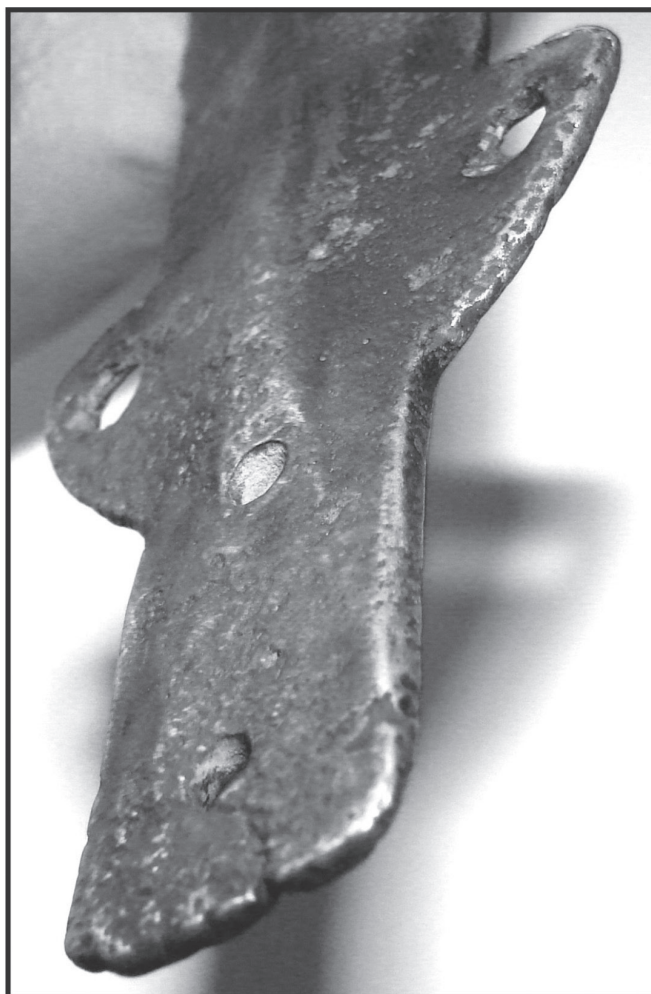


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Pl. 8. The bronze sword from Costâna. Details. Photos: B. P. Niculică 2011.

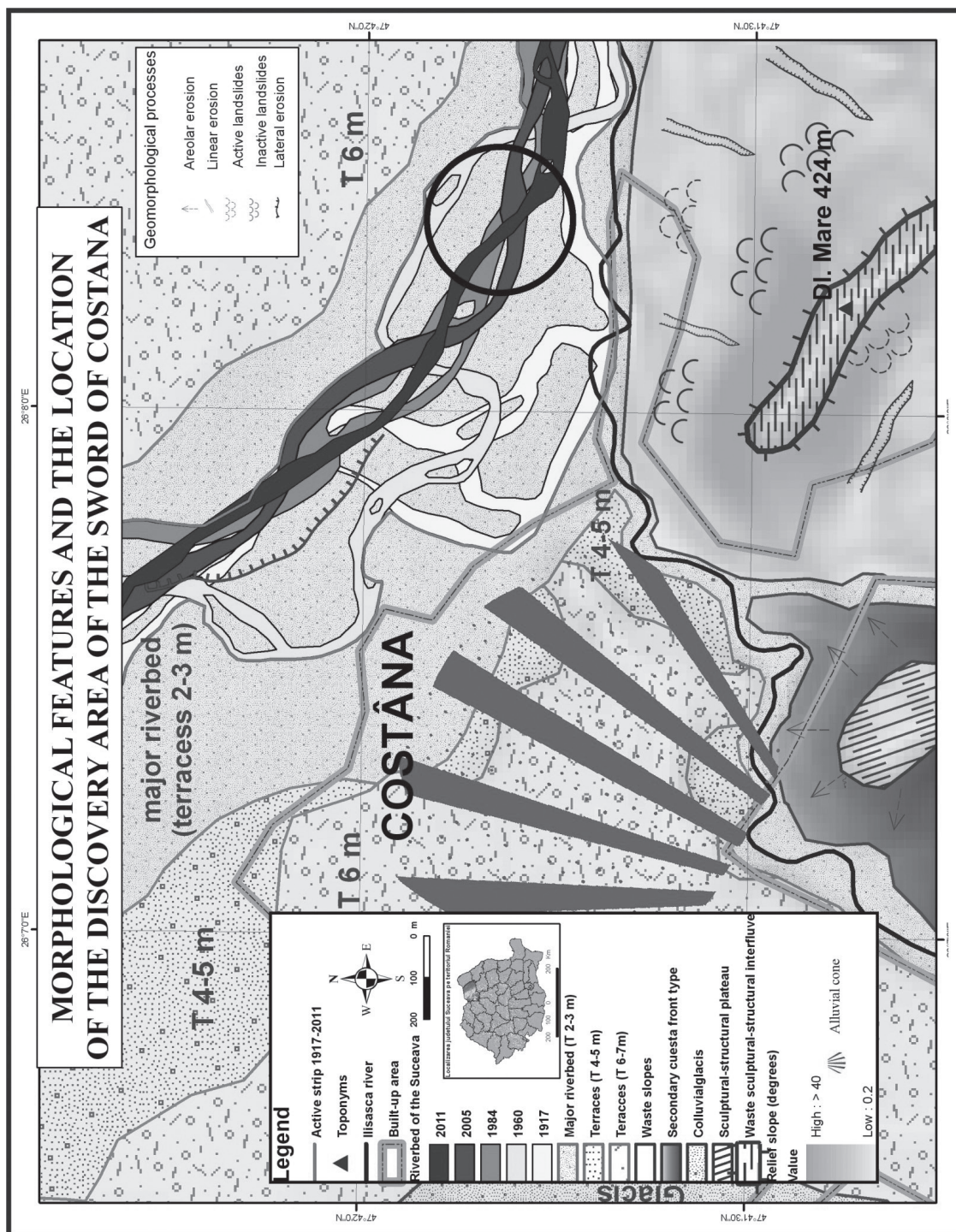


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Pl. 9. Guard and handle. Details. Photos: B. P. Niculică 2011.



Pl. 10. Geomorphological map, realised by D. Oprea-Gancevici, 2012.