

ON THE GUARD OF THE EASTERN BORDER OF THE GETIC WORLD: FORTIFIED SITES IN THE MIDDLE DNIESTER BASIN¹

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Abstract: As a result of the surveys, archaeological investigations and the geospatial researches carried out in the Middle Dniester region, an increased concentration of habitat sites in the 4th-3rd centuries BC was noted. As a result of their mapping, it can be stated that the majority (44 fortified sites and 70 open settlements) are located on the right bank and only five hillforts and two open settlements – on the left bank of the Dniester. Among the Thraco-Getic sites there is a large number of fortified settlements, which were built both on the high banks of the river and at a certain distance from the Dniester, on the banks of the right tributaries or on the sides of the ravines in the vicinity. Fortifications, in most cases, are grouped together with a different number of open settlements, constituting some “agglomerations” of sites. At present, these “agglomerations” in the Middle Dniester basin are concentrated in four micro-zones: Rudi-Tătărauca Nouă-Arionești, Nistru-Ciorna; Saharna and Horodiște-Țipova. Moreover, within each one there is a hillfort (Rudi “La Șanțuri”, Glinjeni “La Șanț, Saharna Mare, Horodiște “La Cot”), which at that time could hold the role of a central place/residential center.

A special place in the study of the history of the Thraco-Getae is the region of the Middle Dniester, which in the 4th-3rd centuries BC was the northeast periphery of these communities. Here, due to the archaeological investigations carried out since the late 1940s to the present, numerous settlement locations dating back to the 4th-3rd centuries BC have been identified, among which there was an increased number of fortifications in comparison with other territories (Fig. 1; Table 1).

The study area comprises the central and southern parts of the Middle Dniester region and is comprised between the villages of Arionești on the north and Țipova on the south. The territory of the right bank is part of the Dniester Plateau and the left bank area represents south-western outskirts of the Podolian Plateau. The Dniester Plateau in this region has a moderate relief with absolute heights of 250-347 m above sea level, broken by a system of narrow valleys and ravines (Fig. 2), sometimes in form of a gorge (density of fragmentation is 1.9-2.1 km/km²) (Rymbu 1982, p. 12, 14; Boboc 2009, p. 164).

The formation of contemporary landscape in the central region of the Dniester River basin began in Middle Pliocene, with the retreat of sea water caused by the general rise of the earth's crust in this area (about 5mm/year). During the same period there appeared alluvial networks and started vast accumulations of alluvium on relatively large surfaces. Subsequent lifting of land, without causing plicative or disjunctive tectonic structures, occurred impulsively on a regional scale, forming a series of alluvial terraces in major rivers. The rise of the land surface is confirmed by the

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morphological character of the valleys of the Ciorna River and the small rivers of Valea Rezina, Saharna, Jidauca and others, the right tributaries of the Dniester River. In the area of the lower reaches, near the Dniester River, these are represented by narrow canyons with depths of about 15-50 m. And as a result of the tectonic movements the right bank of the Dniester in the region became very steep. The Dniester terraces are shaped in the form of steps with a height of 5-10 m, where a process of selective erosion carved long horizontal caves and niches (Ciubotaru 2014, p. 11-12; Roșca, Delinschi 2010, p. 142-149). The hills and banks of the river valleys are covered with loamy soils, ashen-gray soils, and chernozem deposited on reef massifs – deposits of clay, sand, limestone, and other rocks. They were formed in steppe conditions under deciduous forests, characterized by the presence of oak, linden, maple, beech, etc. Gray soils contain about 10% humus and have grain structure. Chernozems, also formed under the trees, are cumulative, with high humus content, well structured and loose. These soils have a high level of fertility and represent the main natural resource of this area (Ursu 2006, p. 160-175; Begu *et alii* 2006, p. 112-130).

Due to physical-geographical conditions, the Middle Dniester region has been inhabited since ancient times, mainly by agricultural communities from the Copper Age and Iron Age. However, a real “population explosion” was observed in this area in the 4th-3rd centuries BC, when there were about 49 hillforts (Fig. 1; Table 1) and about 72 open settlements.

As a result of mapping of the Thraco-Getic sites of the 4th-3rd centuries BC, it was found that they were not evenly distributed in the study area, being usually grouped into “agglomerations” consisting of several hillforts and a variable number of open settlements. Such “agglomerations” can now be identified in the Rudi-Tătărauca Nouă-Arionești micro-zone, in the Dniester-Ciorna micro-zone, the Saharna micro-zone and in the Horodiște-Țipova micro-zone.

Rudi-Tătărauca Nouă-Arionești micro-zone

The Rudi-Tătărauca Nouă-Arionești micro-zone is a 4km wide strip of land, which extends along the right bank of the Dniester River for a distance of about 12 km between the villages of Unguri and Tătărauca Nouă. The river bank in this region is quite steep and has a relative altitude of about 120-140 m above the river bed. The micro-zone is segmented by three gorges (Arionești, Rudi, and Tătărauca Nouă), which come from the Dniester river-bed and continue inland for a distance of 2-5 km, forming several promontories favorable of hillfort location.

The first explorations in this region were carried out in the late 1950^s (Ketraru 1960), continuing in the following decades (Vlasenko, Sorokin 1982; Vlasenko 1985; Sava *et alii* 1995). As a result of these investigations, along with sites of other historical periods, 6 hillforts and 15 open settlements (Fig. 3/1) were found, which, with some reservations, were attributed to the Thraco-Getic communities (Sava *et alii* 1995, p. 281-357). Of the fortifications known at the moment, three (Rudi “La Șanțuri”, Rudi “La Trei Cruci”, Tătărauca Nouă VIII) are located on the high promontory formed by the Dniester confluence with the mentioned gorges. The other three (Rudi X, Rudi XI, Rudi XII) were built along the Tătărauca Nouă gorge, at a distance of 2.7 to 4.1 km from the river. Some open settlements were placed on the high bank of the Dniester, others at a distance of about 2.5-4.0 km, behind the fortifications. The fortification from Rudi “La Șanțuri” stands out among all the fortifications from this microzone by degree of research, by surface, and also by size. The site (Fig. 8/1), with an area of about 15 ha, is located on a triangular promontory with a relative altitude of approximately 120-130 m, bounded north-northeast by the steep bank of the Dniester and south-southeast by the Tătărauca Nouă gorge. On the accessible side (western) there were formed four defensive lines consisting of ramparts with adjacent ditches. In the north-west, in front of the outer rampart, opposite the entrance gate, a bastion was built. This, together

with the outer rampart, formed a „pincer gate” meant to monitoring the entrance to the hillfort². As a result of the archaeological investigations, it was found that the outer rampart represents the traces of a construction consisting of two parallel rows (at a distance of about 3m from each other) of beams dug vertically into the ground. The space between the wooden frames was filled with limestone and earth. A similar structure had the rest of the ramparts, but no stone was found in their fillings (Romanovskaia 1975b, p. 29-31; Romanovskaia *et alii* 1981, p. 121-122).

The visible area calculated³ for the fortified sites in the Rudi-Tătărauca Nouă-Arionești micro-zone covers entirely the terraces on which these are located, as well as the Dniester River. Based on the data obtained from the analysis of the inter-settlement visibility potential for the Rudi “La Șanțuri” and Rudi “La Trei Cruci” sites, it seems that there was no direct visibility between them because of a hilltop (Fig. 3/4). On the other hand, both sites are within the visibility of Tătărauca Nouă VIII⁴, which could be an intermediary node for them. In turn, the Rudi “La Șanțuri” hillfort ensured the connection with the rest of the fortified sites located on the side of the Tătărauca Nouă gorge (Fig. 3/5).

Thus, based on the archaeological data and on the results of the inter-settlement visibility analysis, at the present stage of research it can be assumed that the Rudi “La Șanțuri” hillfort was a *central place* for the entire Rudi-Tătărauca Nouă-Arionești micro-zone.

Dniester-Ciorna micro-zone

The Dniester-Ciorna micro-zone is an area of approximately 380 km², bounded to the east and north by the Dniester basin, to the south by the Ciorna basin (right tributary of the Dniester), and to the west by the conventional line between the villages of Jabca - Cunicea - Olișcani (fig. 4). In this micro-zone there was included a 2-3 km wide strip of land on the left bank of the Dniester River between Rașcov and Molochișul Mare. The territory to the right of the river has an absolute altitude of 50-100 m in the east, rising in the west up to 200-250 m. The area is fragmented by three gorges, formed by the rivers of Cușmirca, Ciorna, and a small nameless river flowing into the Dniester near the village of Curatura. These plots are in turn dismembered by the valleys and ravines, with steep and very steep slopes with a relative altitude of about 50-100 m. The basins of the mentioned rivers consist of limestone, covered with sandy clays and chernozem soils (Cazac *et alii* 2007, p. 102-103).

The left bank of the Dniester River, on the researched part, is quite steep and has a relative altitude of about 130-160 m. It is also crossed by several canyons with steep slopes that form promontories convenient for placing hillforts.

At present, 15 fortifications and 39 open settlements attributed to the Thraco-Getic communities of the 4th-3rd centuries BC are known in the Dniester-Ciorna micro-zone, of them four hillforts and two open settlements are located on the left bank of the Dniester. The repertory of the sites of this region has been possible thanks to the surface research carried out since the 1950^s (Fedorov 1952; Marchevich 1955; Hîncu 1993; Zanoci *et alii* 2017; etc.), and the archaeological

² Similar arrangements have been attested at other fortifications in the Middle Dniester region, such as the Saharna Mare, Saharna Mică, Glinjeni “La Șanțuri” etc. (Zanoci, Băț 2017, p. 10-17, figs. 6-13).

³ For the micro-zones analyzed in this study, the inter-visibility was calculated in the Global Mapper (v.18.0) on a digital terrain model at a resolution of 38 meters (SRTM Worldwide Elevation Data, 1-arc-second Resolution, SRTM Plus V3) using geostatistical analysis: Cumulative Viewshed Analysis and Line of Sight. For inter-settlement visibility and network patterns see: Brughmans *et alii* 2014; Brughmans *et alii* 2015; Brughmans, Brandes 2017; Băț, Asăndulesei 2018.

⁴ From this site, there is a possibility of visibility downstream the Dniester, to the hillfort of Cosăuți (Fig. 1, no. 7; Fig. 3/3).

investigations carried out at the hillforts of Mateuți (Zlatkovskaia 1965, p. 220-224), Glinjeni “La Șanț” (Gol’țeva 1995, p. 183-189; Goltseva, Kashuba 1995), Alcedar (Haheu 1998, p. 111-135) and the open settlements of Solonceni “Hlinaia” (Meliukova 1955, p. 51-70; Meliukova 1958, p. 76-80), Mateuți “La Bașnă” (Kashuba 1987; Kashuba 1988).

Of interest is the location of fortified sites in this micro-zone (Fig. 4). As a result of the mapping, it was observed that they were, as a rule, placed at the borders of the region. Thus, the Glinjeni “La Șanț”, Mihuleni X, Parcani “Zanova”, and Olișcani “Roata Turcilor” hillforts delimit the southern side of this area. The northeast border has the hillforts of Jabca and Curătura on the right bank of the Dniester River, and the hillforts of Rașcov, Caterinovca, Stroiștei, and Molochișul Mare on the left bank⁵. Only the fortified settlements of Alcedar “La Cordon”, Mateuți, and Glinjeni “La Lacuri” are located inside the micro-zone, in a region with a higher altitude than the right bank of the Dniester.

As a result of the visibility analysis, it was observed that all the sites known in the Dniester-Ciorna micro-zone, except for the site of Cunicea, are intervisible (Fig. 5/4). This concentration of sites has a considerable potential for visibility, which provided control over the Ciorna River meadows and terraces (Fig. 5/2), as well as the hills on both sides of the Dniester (Fig. 5/1). The site of Glinjeni “La Lacuri” located on a hill has the widest area of visibility within the micro-zone. The topography of the place gives the site a special strategic location decisive for the intervisibility analysis, suggesting that just through this point the visual connection between the sites in the Ciorna basin was carried out, through the points of Stroiștei and Molochișul Mare, with the hillforts on the Dniester (Fig. 5/3-4). By the way, the seven fortified settlements are located on both banks of the Dniester, a well-established relational pattern can be suggested in the location of each point within a more complex defensive system.

The hillforts, in addition to the defense role, had to observe the rules of visibility and control over the territory so that, despite the natural barriers, there would be no invisible areas (Fig. 5/4). An example in this regard is the location of the Climăuții de Jos hillfort, which completes the general picture of the areas of visibility in the micro-zone, connecting the points of Rașcov and Caterinovca. The visibility analysis at the point of Molochișul Mare shows that, in addition to the visible area to the west (Mateuți and Glinjeni “La Lacuri”), there is also a direct line of sight to the south, towards the Saharna micro-zone (through Stohnaia IV and Stohnaia III).

Among the hillforts known today in the Dniester-Ciorna micro-zone, the Glinjeni “La Șanț” site stands out for its dimensions and the size of the defensive system. It is located on a promontory (Fig. 8/2) with relative altitude of about 60m, formed by the Ciorna riverbed and a ravine. The trapezoidal site with an area of about 6ha is bounded on the North-east, south and southwest by the steep slopes of the headland and on the north-west – by an imposing defensive system. It consists of a “rampart” with a length of about 320 m, width at the base of about 20-25 m and height of about 3.0-3.5 m. In front of it is a ditch about 10-15 m wide and about 3 m deep. At a distance of about 100 m from the western edge of the promontory the “rampart” and the ditch are interrupted for a width of about 4 m, probably, access to the fortress. In the north-east of the “gate” is a mound with

⁵ The location of these hillforts on the left bank of the Dniester is probably dictated by the lack of favorable conditions on the right bank. In this region, the right bank of the Dniester has a lower altitude than the left bank. It is also noted the lack of gorges, which sides were the most preferred places for Thraco-Getic fortified settlements in the Dniester region. However, in this case such conditions are present on the left bank of the Dniester, which has a higher altitude, being crossed by several gorges (Fig. 4).

a diameter of about 25 m and about 3m high, surrounded by a small ditch, which can be interpreted as the remains of a “bastion” or an observation tower (Goltseva, Kashuba 1995, p. 5-6).

The archaeological investigations carried out in the enclosure resulted in a numerous finds of pottery, among which there are Greek imports: pieces of black-glazed ware and fragments of amphorae (Goltseva, Kashuba 1995, p. 41; Mateevici 2007, p. 96, no. 373).

Based on the current state of research and comparing the hillfort of Glinjeni “La Șanț” with other fortified settlements in the Dniester-Ciorna micro-zone, we can assume that this site played the role of *the central place* for the community in the mentioned area.

We also draw attention to the discovery on the territory of this micro-zone, near the village of Mateuți, of a hoard of jewelry (Fig. 10/2) consisting of two temple rings, a torc, two spiral bracelets, all made of silver, and a gold temple ring (Nudelman, Rikman 1956, p. 129-131, fig. 1). The presence of prestige-goods confirms the assumption of the existence of an “elite” in the Thraco-Getic society in the Dniester-Ciorna micro-zone.

Saharna micro-zone

The Saharna micro-zone is located about 5 km south of the Dniester-Ciorna micro-zone. It is a strip of land with a width of about 2.0-4.5 km, which extends along the right bank of the Dniester River for about 8.5 km, between the villages of Stohnaia (in the north) and Buciușca (in the south). The Dniester River bank in this region is rather steep and has a relative altitude of about 80-130 m from the riverbed. The micro-zone is segmented by three gorges, which go from the Dniester riverbed and continue towards the interior of the territory, thus forming a series of promontories favorable for the location of the hillforts.

The archaeological sites of this region have been known since the second half of the 1940^s (Smirnov 1949a). However, more extensive research has been carried out since 2001. Thus, several surveys, small-scale excavations and systematic archaeological investigations have been carried out here, the results of which have been published in a number of monographs and specialized studies (Niculiță *et alii* 2008; Niculiță *et alii* 2015, p. 21-46; Niculiță *et alii* 2016). As a result of the field investigations in the Saharna micro-zone (Fig. 6/1), 16 fortified sites and 14 open settlements of the 4th-3rd centuries BC were discovered (Niculiță *et alii* 2016, p. 388-396).

The mapping of the sites of this period in the Saharna micro-zone reports that from the topographic point of view most of the fortified sites were grouped on the sides of three gorges/canyons that connect the Dniester riverbed with the interior part of the territory, thus maintaining the connection between the river and the related territories (Fig. 6/1). In the central part of the Saharna micro-zone there is a deep canyon (*Valea Crac*), which bifurcates in its western part, forming a promontory on which the Saharna Mare Fortress was placed. On the southern side of the canyon, the fortified sites of Saharna “La Șanț”, Saharna “La Șanț” I and Saharna “La Șanț” II were built, and on the northern side there were Saharna Mică, Saharna “Dealul Grimidon” and Saharna “La Vile”.

At about 3.5 km to the north of the “Valea Crac”, on the southern outskirts of the Stohnaia village there is another canyon on whose sides the fortresses Stohnaia III, to the south, and Stohnaia IV, to the north, were located. And in the intermediate space between these two canyons the Saharna “La Revechin” and Saharna-Țiglău “Cetate” hillforts were built.

At about 4.5 km south of the *Valea Crac*, north of the Buciușca village, the third canyon is formed, on which sides there are the hillfort of Saharna “Hulboaca” (to the north) and Buciușca (to the south). In the space between these two canyons, at relatively equal distances, the fortifications of Saharna Nouă III and Saharna Nouă V are situated.

Thus, the right bank of the Dniester, in the area between the current villages of Stohnaia and Buciușca, on a stretch of about 8.5 km, was defended by means of 15 hillforts situated at a distance of 0.2-1.8 km from each other, to which is added the fortress of Ofatiți, located opposite, on the left bank of the river.

Open settlements in the Saharna micro-zone are usually located in the immediate vicinity of the fortresses, forming the so-called “extra-muros” area, or at a relatively small distance (0.2-0.8 km) from the fortified sites. The area of open settlements varies from 0.4 ha (Stohnaia V) to 9.2 ha (Saharna “Gura Hulboacei”), most of them having about 1-2 ha (Niculiță *et alii* 2016, p. 329-369).

Based on the results of the geo-spatial and field investigations, we can establish that most of the sites in the Saharna micro-zone, fortified and open, are concentrated in its central part, on the sides of the *Valea Crac* canyon.

There, a special position in terms of strategy occupies the Saharna Mare hillfort (Fig. 9/1), which is located on a more isolated place (about 1km west of the Dniester) less exposed to the direct attacks from the east.

Following the visibility analysis, it has been established that from Saharna Mare the possibilities to control the Dniester valley both upstream and downstream are reduced (Fig. 6/3). Instead, the hillforts of Saharna “La Vile and Ofatiți had better visibility to the river valley (Fig. 6/4), but they had no direct connection with the Saharna Mare site. Thus, the visual communication could be provided through the fortresses of Saharna “Dealul Grimidon”, Saharna Mică, Saharna “La Șanț” I, Saharna “La Șanț” II and Saharna “La Șanț”. Also, there can be observed the existence of visual contacts between the sites in the central part of the Saharna micro-zone and those on the north and south flanks. Thus, the connection between the hillforts of Stohnaia III and Stohnaia IV located in the northern part with those on the sides of the “Valea Crac” gorge was possible through the sites of Saharna “La Revechin” and Saharna-Țiglău “Cetate”, which occupied an intermediate position between them. And the connection between the fortifications in the southern part (Saharna “Hulboaca” and Buciușca) with the ones in the center was possible through the points of Saharna Nouă III and Saharna Nouă V.

However, a central role in the visual signaling networks of the Thraco-Getic sites in the Saharna micro-zone played the hillfort of Ofatiți. It has an impressive visibility potential, facilitated by the strategic position on the left bank of the Dniester in the proximity of the central area with the highest density of sites in the Saharna micro-zone (Fig. 6/4). Within its radius of visibility there are all the fortifications on the right bank of the Dniester at a distance of about 8.5 km, both to the north to the Stohnaia IV hillfort and to the south to the Buciușca hillfort (Fig. 6/4). They could directly receive alarms from the Ofatiți and the two hillforts from the “Valea Crac” gorge – Saharna “Dealul Grimidon” and Saharna Mică. Based on the visibility analysis, it appears that at the Ofatiți point there would, in theory, be an intermediary node, beyond the “limits” of the Saharna micro-zone, to the south, to the hillforts of Țipova IV and Buciușca II in the Horodiște-Țipova micro-zone.

The visibility analysis carried out for the entire Saharna micro-zone shows that from the fortresses described above it was possible to observe the territory from the east of the Dniester, about 6km from the river. The same way, the Dniester River basin was controlled not only on the section between the fortifications of Stohnaia IV (to the north) and Buciușca (to the south), but also about 15 km upstream and about 6km downstream.

Because of the inter-settlement visibility analysis, we can assume that the cross-alarmed guaranteed functionality and efficiency of the defensive system in the Saharna micro-zone,

probably intended to protect the “center” – Saharna Mare, which differs from the rest of the sites by the complexity of the defensive system and the richness of the discovered remains.

The fortification (Fig. 9/1) was equipped with a circular defensive system that surrounds an interior space with an area of about 6 ha. The fortifications on the west side had a length of about 385 m and consisted of a “rampart” with an adjacent ditch. Because of the archaeological investigations, it was established that the “rampart” had a width of about 5.6 m and was built of a wooden casing consisting of four frames, filled with earth, sand, gravel and stone. The ditch had a width of 15 m at the opening and 6m at the bottom and a depth of about 3.2 m (Niculiță *et alii* 2008, p. 89-92, pl. 7, photos 13-15). On the length of the “rampart”, three gaps were observed, one in the central part and two others at the flanks, which are probably former gateways. In front of each of these “gaps”, using the same construction technique as for the “wall” of the fortress, there were built a bastion with its own defensive ditch in front (Niculiță *et alii* 2008, p. 92-97, pls. 5-6, photos 16-26; Zanoci, Băț 2017, p. 12-13, figs. 10-12).

On the northern, eastern and southern sides, which are currently quite steep, the fortress was also defended with a “wall” which remains could be traced over a total length of about 650 m. On the east this “wall” is curled, forming eight bastions, grouped four at the northeast and southeast flanks. The bastions have a semi-round shape with a diameter of 9-11 m and are located at a distance of 5-6 m from each other, the distance between the groups of bastions being 34 m. The bastions were located in such a way as to defend both the flanks and the front of the fortress (Zanoci, Băț 2017, p. 18-20, figs. 14, 21). As a result of the archaeological investigations, it was established that in the process of construction of the “wall” and the bastions the same building technique was used: a wooden casing consisting of two frames, filled with earth and stone. The width of the “wall” varies from one portion to the next, but falls within the limits of 1.1-1.6 m (Niculiță *et alii* 2016, p. 156-171, figs. 103-114).

The “privileged” status of the Saharna Mare site is also confirmed by the discoveries within the fortress – surface dwellings, storage pits, places of worship, and numerous findings⁶. Among the prestige-goods in this site there are a fragment of scepter made of quartzite (Niculiță *et alii* 2008, p. 181, fig. 159/1), silver and amber objects (Fig. 10/1) (Niculiță *et alii* 2016, p. 216-220, figs. 150/6, 151/1-4, 11-27) and Greek pottery (Niculiță *et alii* 2008, fig. 142-144; Mateevici 2015; Niculiță *et alii* 2016, p. 235-241, fig. 166-168). Based on the foregoing, at the present stage of research we can assume a certain hierarchy of Getic sites in the Saharna micro-zone. Thus, the Saharna Mare Fortress can be considered as a central settlement (*central place*), which may have had economic, administrative, social, political and religious functions, at the same time representing a residential center of a ruler/“basileus”.

The small hillforts (0.4-0.9 ha), with an insignificant culture layer, but located on dominant places, with wide possibilities of surveillance of the surrounding area, played the role of outposts – Saharna “La Șanț” (the small fortress), Saharna “La Șanț” I, Saharna “La Șanț” II, Saharna “La Vile”, Saharna “Dealul Grimidon” etc. And the large fortresses – Stohnaia III (about 3.5 ha), Saharna “La Sânt” (the large fortress, about 7 ha), Buciușca (about 10 ha), where the cultural layer is missing or insignificant, can be considered as a place of refuge for communities from open

⁶ As a result of the archaeological research carried out within the hillfort of Saharna Mare, there were discovered traces of nine surface constructions, three hearths, over 160 domestic pits, nine cult places, and numerous and varied archeological findings, such as work tools, weapons, pieces of horse harness, ornaments, local and import pottery (Niculiță *et alii* 2008, p. 102-140, figs. 92-159; Niculiță *et alii* 2016, p. 171-241, figs. 115-168).

settlements. Attention is drawn to the fact that the large hillforts are located proportionally: one in the northern part of the Saharna micro-zone, the other in the center, and the third in the south.

The creation of such a defensive system was due to the need to ensure the security of the entire region. Through this system, both open settlements in the area and the water and land routes of communication and trade were controlled. All this could be done due to the existence of a numerous and well-organized community.

Horodiște-Țipova micro-zone

Another “agglomeration” of Getic sites of the 4th-3rd centuries BC was located about 5km south of the previous one, near the villages of Horodiște and Țipova. The micro-zone, with an area of about 6 km², occupies the right bank of the Dniester, which is quite steep in this region and rises about 100-130 m above the river bed. The territory is segmented by a deep gorge with steep slopes, which starts from the river and continues north-east on a distance of about 1.5 km. Near the village of Horodiște the gorge branches, forming a network of canyons, which shape a series of promontories. At the bottom of canyons the Valea Horodiștii and Blănărița streams flow and fall into the Jidauca stream. This river, crossing the Țipova gorge, flows into the Dniester.

At present, seven fortified sites and four open settlements are attested in the Horodiște-Țipova micro-zone (Fig. 7/1) (Niculiță *et alii* 2014, p. 235-252; Zanoci *et alii* 2015, p. 82-100). Most of the sites in this region were investigated by surface research, which resulted in the collection of hand-shaped pottery fragments, which, according to their characteristics, were dated the 4th-3rd centuries BC. The archaeological investigations were carried out only at two fortified sites: Horodiște “La Șanț” and Horodiște “La Cot”. As a result, the system of construction of the defensive elements was identified, as well as the time of their building – the 4th-3rd centuries BC (Zanoci *et alii* 2015, p. 82-88, figs. 4-6).

The hillforts, as a rule, are located on the opposite sides of the canyons, thus defending and controlling the access from the Dniester, which was easy through these canyons. At the same time the steep sides of the promontories provided additional protection to the fortified sites. The open settlements, with an area of approximately 3-4 ha, are located in the immediate vicinity of the fortresses or a few hundred meters from them.

Among the fortified settlements is one of Horodiște “La Cot” (Fig. 9/2), which differs from the others by a large area (about 28 ha) and the complexity of its defensive system. It was built on a promontory with a relative altitude of about 65 m above the surrounding area, bordered on three sides by gorges with relatively steep slopes. The fortress was fortified all around with a “rampart” with a total length of about 2.5 km, doubled on the west side by a ditch. On the eastern and southern sides the “rampart” is curled, forming a series of consecutive bastions. On the eastern side, 21 bastions could be traced, and on the southern side about 12 bastions. They have arched shape in plan, with an opening of about 10-12 m. The ruins of the bastions now are represented in the form of a wall of about 3 m width at the base and about 0.4m height. The archaeological investigations carried out at one of the bastions on the southern side provided information on the way of their construction. Thus, it was established that the wall of the bastions represented a structure with a width of approximately 1.0-1.2 m, consisting of two frames of wooden beams, filled with stones and earth (Zanoci *et alii* 2015, p. 86-88, fig. 6; Zanoci, Băț 2017, p. 25-26, fig. 20).

On the northern side, where the slope of the promontory is smoother, a rampart of a length of 108 m, width of about 4m at the base and a height of 0.3-0.5 m was discovered. On the northwest slope, also more gentle, another rampart with a length of 80 m, a width of 4 m and a height of 0.3-0.4 m was identified.

On the northwestern side, at the bottom of the ravine currently there is a spring whose waters flow into nearby stream (Valea Horodiștii). From this stream there goes uphill a wall of a length of 275 m, width at base of about 4 m and a height of 0.3 to 0.4 m, which rises to the vicinity of the wall of the fortress inner area, forming together a gateway of about 6m width. Presumably, this defensive structure was intended to protect the access to the water source.

The hillfort of Horodiște “La Cot” also differs from the rest due to its strategic position. It is located at a distance of about 1.8 km from the right bank of the Dniester, an access to it is possible only through the Țipova gorge, which is controlled at the entrance by the fortified sites of Buciușca II and Țipova IV. In addition, the site of Horodiște “La Cot” is protected from the north and northwest by the fortifications of Buciușca III, Horodiște “La Șanț” and Horodiște II, and from the south – by Țipova III. In contrast to the Horodiște “La Cot” site, which has an area of about 28 ha, the rest of the hillforts are smaller, ranging from 0.5 ha to 0.9 ha. Thus, it can be assumed that the fortress of “La Cot” had the function of the “center” (*central place*) for the community in this region, and the rest of the fortifications had the mission to defend and control the access to it and the territories populated by the community.

This assumption is also confirmed by the visibility analysis for this space. Thus, it was established that from the Horodiște “La Cot” the possibilities to supervise the left bank and the valley of the Dniester, both upstream and downstream, are low (Fig. 7/2). Instead, it had direct eye contact with all the fortifications located in the Horodiște-Țipova micro-zone. The same analysis showed that the mission to control territories in the east and the basin of the Dniester River belonged mainly to the sites located on the high bank of the river – Buciușca II and Țipova IV (Fig. 7/3). Also through these hillforts, it was possible to establish visual contact with the sites of Buciușca, Saharna “Hulboaca” and Ofatiși from the Saharna micro-zone (Fig. 7/4).

Conclusions

As a result of the surveys, archaeological investigations and the geospatial researches carried out in the Middle Dniester region, an increased concentration of habitat sites in the 4th-3rd centuries BC and the almost absence of cemeteries of this period were noted⁷. Because of their mapping, it can be stated that the majority (44 fortified sites and 70 open settlements) are located on the right bank and only five fortresses and two open settlements – on the left bank of the Dniester. Among the Thraco-Getic sites there is a large number of hillforts, which were built both on the high banks of the river and at a certain distance from the Dniester, on the banks of the right tributaries or on the sides of the ravines in the vicinity. It has also been established, that the fortifications are not evenly distributed in the middle course of the river, which would allow us to talk about an “organized” defense all over the Dniester – from Rudi in the north to Țipova in the south. At present, we notice that they are concentrated only in certain regions/micro-zones, which are at different distances from each other (Fig. 1). In turn, in each of these micro-zones there is a certain order in the placement of the hillforts, which is based primarily on the principle of intervisibility (Figs. 3/5, 5/4, 6/4, 7/5).

Moreover, in cases where the right bank of the Dniester does not provide favorable conditions for building the fortified settlements, they are located on the left bank (e.g. Rașcov, Caterinovca, and Stroiești). As it results from the visibility tests, the hillfort of Molochișul Mare on the left bank ensured the intervisibility of the fortifications in the Dniester-Ciorna micro-zone and also through this location it was possible to have connections with the hillforts in the Saharna

⁷ Exceptions are only two isolated cremation burials discovered at Poiana (Levinschi, Vlasenco 2013, p. 329-334) – on the right bank of the Dniester River and at Rascov (Lapushnian *et alii* 1974, p. 68) – on the left bank.

micro-zone located at a distance of about 5 km downstream the river. The same thing we observe in the case of the fortress of Ofatinți, which served as a point of connection between the fortifications in the Saharna micro-zone. At the same time through this site there was the communication with the fortified sites of the Horodiște-Țipova micro-zone located at a distance of about 5 km to the south. Along with these functions, the hillforts on the left bank of the Dniester served as outposts – the first defensive line in the case of an attack from the east.

At the same time, the hillforts in the Middle Dniester basin provided protection for access and trade routes that passed through this territory both by water (the Dniester and its tributaries) and by land.

The concentration of fortified sites and open settlements in so-called “agglomerations” is an organization model of prehistoric and, in particular, the Iron Age communities. Within these “agglomerations”, as a rule, there was a stronger hillfort with larger dimensions, within which remains of dwellings and places of worship are found. And the collected archaeological finds show the presence of external links, in our case with the Hellenistic world, and point to the hierarchy of society⁸. In the literature, these sites have been given the name of the *central place/Zentralort* (Nakoinz 2010; Nakoinz 2013) or *residential center/Fürstensitze* (Posluschny 2010) – the terms that can also be applied to the sites of Rudi “La Șanțuri”, Glinjeni “La Șanț”, Saharna Mare, and Horodiște “La Cot” in the Middle Dniester region.

A similar organization of sites in “agglomerations” is also attested in other regions populated by the Thraco-Getic communities of the 4th-3rd centuries BC (Niculiță 1987, p. 191; Zanoci 1998, p. 114-115). An example would be the “agglomeration” of sites in the lower course of the Răut River, where about 10 fortified sites and about 15 open settlements were discovered on an area of about 50 km² (Zanoci 2004, p. 45, fig. 1), having the Butuceni hillfort as the *central place* (Niculiță *et alii* 2002).

The concentration of such “agglomerations” of fortified sites, open settlements, and, in some cases, cemeteries must be linked to the centralization processes, which had place in the Iron Age both in South East Europe (Dular, Hvala 2007, p. 70-195) and in Central Europe (Chytráček *et alii* 2010; Posluschny 2010; Salač 2004; Schußmann 2012).

⁸ In the Middle Dniester region, the Mateuți hoard (Fig. 10/2) and the one discovered in the settlement of Saharna Mare (Fig. 10/1) can serve as examples.

Table 1. List of fortified settlements of the 4th-3rd centuries BC in the Middle Dniester region

Nr.	Name of the site	Grade of research*	Bibliography
1	Rudi „La Șanțuri”, raion Soroca	C	Ketraru 1960, p. 113; Zlatkovskaia, Polevoi 1969, p. 37; Romanovskaia 1971, p. 358-359; Romanovskaia 1973, p. 415; Romanovskaia 1975a, p. 446; Romanovskaia 1975b, p. 29-31; Romanovskaia 1976, p. 476; Romanovskaia <i>et alii</i> 1977, p. 459-460; Romanovskaia <i>et alii</i> 1981, p. 121-138; Sava <i>et alii</i> 1995, p. 284-285; Tcaciuc, Zasăpchin 2000, p. 101-112
2	Rudi „La Trei Cruci”, raion Soroca	B	Vlasenko 1985, p. 202-203; Hîncu 1993, p. 41-43; Sava <i>et alii</i> 1995, p. 287; Haheu 2008, p. 77-78
3	Rudi X, raion Soroca	A	Vlasenko, Sorokin 1982, p. 186; Sava <i>et alii</i> 1995, p. 286; Zanoci 1998, p. 148-149; Haheu 2008, p. 78
4	Rudi XI, raion Soroca	A	Vlasenko, Sorokin 1982, p. 187; Sava <i>et alii</i> 1995, p. 286; Zanoci 1998, p. 49; Haheu 2008, p. 78
5	Rudi XII, raion Soroca	A	Vlasenko, Sorokin 1982, p. 187; Sava <i>et alii</i> 1995, p. 286; Zanoci 1998, p. 149; Haheu 2008, p. 78
6	Tătărăuca Nouă VIII, raion Soroca	A	Sava <i>et alii</i> 1995, p. 289; Zanoci 1998, p. 155; Haheu 2008, p. 81
7	Cosăuți, raion Soroca	C	Hîncu 1993, p. 25; Munteanu 2004a, p. 81-96; Munteanu 2004b, p. 82-103; Munteanu 2007, p. 295-310
8	Temeleuți, raion Florești	A	Hîncu 1993, p. 25-26; Zanoci 1998, p. 155-156; Haheu 2008, p. 81
9	Vertiujeni, raion Florești	A	Hîncu 1993, p. 26-28; Zanoci 1998, p. 160; Haheu 2008, p. 82
10	Cunicea, raion Florești	A	Feodorov 1952, p. 71-74; Hîncu 1993, p. 19-20; Zanoci 1998, p. 129; Arnăut 2003, p. 209; Haheu 2008, p. 69
11	Japca, raion Florești	A	Hîncu 1993, p. 22; Zanoci 1998, p. 137; Arnăut 2003, p. 229; Haheu 2008, p. 73
12	Climăuții de Jos, raion Șoldănești	A	Information: I. Ciobanu, A. Corobcean **
13	Rașcov, raion Camenca	A	Fedorov 1952, p. 74-75; Zlatkovskaia, Polevoi 1969, p. 37; Lapushnian <i>et alii</i> 1974, p. 41; Hîncu 1993, p. 23, 24; Zanoci 1998, p. 147; Kașuba <i>et alii</i> 2000, p. 119; Kovalenko <i>et alii</i> 2006, 70-71; Fidelsky 2017, p. 52-53
14	Caterinovca, raion Camenca	A	Zlatkovskaia, Polevoi 1969, p. 37; Lapushnian <i>et alii</i> 1974, p. 41; Hîncu 1993, p. 17; Zanoci 1998, p. 124; Kașuba <i>et alii</i> 2000, p. 119; Arnăut 2003, p. 197; Kovalenko <i>et alii</i> 2006, s. 40; Fidelsky 2017, p. 53
15	Curătura, raion Șoldănești	B	Zlatkovskaia, Polevoi 1969, p. 27; Lapushnian <i>et alii</i> 1974, p. 41-42; Hîncu 1993, p. 126, 127; Zanoci 1998, p. 129, 130; Kașuba <i>et alii</i> 2000, p. 121; Arnăut 2003, p. 209
16	Stroiești, raion Râbnița	A	Hîncu 1993, p. 107-109; Zanoci 1998, p. 154; Kovalenko <i>et alii</i> 2008, p. 84-85; Fidelsky 2017, p. 53-56, fig. 3-4
17	Molochișul Mare, raion Râbnița	A	Fidelsky 2017, p. 57, fig. 5
18	Alcedar „La Cordon”, raion Șoldănești	C	Fedorov 1952, p. 16-17; Haheu 1998, p. 111-135; Kașuba <i>et alii</i> 2000, p. 49-64, 121; Kashuba <i>et alii</i> 2001-2002, p. 157-175

* A – surface research; B – archaeological surveys; C – archaeological excavations.

** We also thank our colleagues for the information provided.

19	Mateuți, raion Rezina	C	Zlatkovskaia 1965, p. 220-224; Zlatkovskaia, Polevoi 1969, p. 39; Lapushnian <i>et alii</i> 1974, p. 42; Kašuba <i>et alii</i> 2000, p. 69-75; Kashuba <i>et alii</i> 2001-2002, p. 181-186
20	Glinjeni „La Lacuri”, raion Șoldănești	A	Fedorov, Chebotarenko 1974, p. 85; Hîncu 1993, p. 127; Zanoci 1998, p. 133, 134; Kašuba <i>et alii</i> 2000, p. 122; Arnăuț 2003, p. 222, 223
21	Glinjeni „La Șant”, raion Șoldănești	C	Markevich 1955, p. 141; Fedorov, Chebotarenko 1974, p. 59, 87-88; Lapushnian <i>et alii</i> 1974, p. 42; Gol’țeva 1995, p. 183-189; Goltseva, Kashuba 1995; Kašuba <i>et alii</i> 2000, p. 21-33; Kashuba <i>et alii</i> 2001-2002, p. 128-142; Zanoci <i>et alii</i> 2017, p. 25-32, fig. 13-17
22	Mihuleni X, raion Șoldănești	A	Zanoci <i>et alii</i> 2017, p. 23-25, fig. 11-12
23	Parcani „Zanova”, raion Șoldănești	A	Markevich 1955, p. 141; Zlatkovskaia, Polevoi 1969, p. 45; Lapushnian <i>et alii</i> 1974, p. 42; Hîncu 1993, p. 130, 131; Zanoci 1998, p. 144; Kašuba, Haheu, Levițki 2000, p. 123
25	Olișcani „Roata Turcilor”, raion Șoldănești	A	Markevich 1955, p. 140; Zlatkovskaia, Polevoi 1969, p. 45; Lapushnian <i>et alii</i> 1974, p. 44; Hîncu 1993, p. 129-130, 131; Zanoci 1998, p. 142; Kašuba <i>et alii</i> 2000, p. 124
25	Rezina, raion Rezina	A	Smirnov 1949a, p. 193-194; Zlatkovskaia, Polevoi 1969, p. 45; Lapushnian <i>et alii</i> 1974, p. 43; Hîncu 1993, p. 93; Zanoci 1998, p. 147; Zanoci <i>et alii</i> 2016, p. 22
26	Țareuca, raion Rezina	A	Fedorov 1957, p. 294; Hîncu 1993, p. 104-105; Zanoci 1998, p. 158; Haheu 2008, p. 82; Zanoci <i>et alii</i> 2016, p. 22
27	Stohnaia IV, raion Rezina	A	Niculiță <i>et alii</i> 2015a, p. 158-159; Niculiță <i>et alii</i> 2016, p. 329, figs. 230-231
28	Stohnaia III, raion Rezina	B	Niculiță <i>et alii</i> 2015a, p. 155-158, fig. 3-6; Niculiță <i>et alii</i> 2016, p. 331-338, figs. 232-237
29	Saharna „Revechin”, raion Rezina	C	Smirnov 1949a, p. 194; Lapushnian <i>et alii</i> 1974, p. 43; Levinschi <i>et alii</i> 2000, p. 87-100; Levinschi 2001, p. 87-100; Levinschi <i>et alii</i> 2002, p. 41-48; Levinschi 2004, p. 64-80; Niculiță <i>et alii</i> 2016, p. 340
30	Saharna-Țiglău „Cetate”, raion Rezina	B	Niculiță <i>et alii</i> 2016, p. 344, fig. 241-242
31	Saharna „La Vile”, raion Rezina	B	Niculiță <i>et alii</i> 2015b, p. 35, fig. 12; Niculiță <i>et alii</i> 2016, p. 348-351, figs. 245-246
32	Saharna „Dealul Grimidon”, raion Rezina	B	Niculiță <i>et alii</i> 2015b, p. 34; Niculiță <i>et alii</i> 2016, p. 351-354, figs. 247-249
33	Saharna Mică, raion Rezina	C	Smirnov 1949a, p. 195; Lapushnian <i>et alii</i> 1974, p. 44; Kašuba <i>et alii</i> 2000, p. 84-87; Kashuba <i>et alii</i> 2001-2002, p. 196-199; Niculiță <i>et alii</i> 2007, p. 83-124; Niculiță <i>et alii</i> 2008, p. 13-50; Niculiță <i>et alii</i> 2010, p. 371-374; Niculiță <i>et alii</i> 2016, p. 249-304, figs. 169-211
34	Saharna Mare, raion Rezina	C	Smirnov 1949b, p. 93-96; Smirnov 1949a, p. 195; Lapushnian <i>et alii</i> 1974, p. 44; Arnăuț 2000, p. 93-104; Kašuba <i>et alii</i> 2000, p. 76-84; Kashuba, Haheu and Levitskii 2001-2002, p. 187-195; Niculiță, Nicic 2002, p. 66-84; Niculiță <i>et alii</i> 2003, p. 241-252; Niculiță, Zanoci 2004, p. 104-129; Niculiță <i>et alii</i> 2007, p. 27-62; Niculiță <i>et alii</i> 2008, p. 69-150; Niculiță <i>et alii</i> 2010, p. 360-371; Niculiță <i>et alii</i> 2011, p. 193-204; Niculiță <i>et alii</i> 2013, p. 219-292; Niculiță <i>et alii</i> 2016, p. 19-248, figs. 8-168
35	Saharna „La Șant”, raion Rezina	C	Zanoci and Moldovan 2004, p. 130-138; Zanoci and Băț 2007, p. 287-298; Zanoci and Băț 2008, p. 253-266; Niculiță, Zanoci and Arnăuț 2008, p. 151-169, fig. 160-173; Niculiță, Zanoci and Băț 2016, p. 305-328, fig. 212-229
36	Saharna „La Șant I”, raion Rezina	B	Niculiță <i>et alii</i> 2015b, p. 32-33, fig. 10/1,3; Niculiță <i>et alii</i> 2016, p. 354-358, figs. 250-253
37	Saharna „La Șant II”, raion Rezina	B	Niculiță <i>et alii</i> 2015b, p. 33-34, fig. 10/2; Niculiță <i>et alii</i> 2016, p. 358-361, figs. 254-255

38	Saharna Nouă III, raion Rezina	A	Niculiță <i>et alii</i> 2016, p. 365-367, fig. 260
39	Saharna Nouă V, raion Rezina	A	Niculiță <i>et alii</i> 2016, p. 367, fig. 261
40	Saharna „Hulboaca”, raion Rezina	A	Smirnov 1949a, p. 195; Zlatkovskaia and Polevoi 1969, p. 45; Lapushnian, Niculiță and Romanovskaia 1974, p. 44; Kašuba, Haheu and Levițki 2000, p. 127; Niculiță, Zanoci and Băț 2016, p. 368, fig. 263
41	Buciușca, raion Rezina	B	Niculiță <i>et alii</i> 2012, 17-19; Niculiță <i>et alii</i> 2016, p. 370-371, figs. 265-266
42	Ofatinți, raion Râbnîța	C	Meliukova 1954, p. 59-68; Meliukova 1955, p. 64-67; Meliukova 1958, p. 90; Lapushnian 1974, p. 44, 45; Kašuba <i>et alii</i> 2000, p. 41-48; Kashuba <i>et alii</i> 2001-2002, p. 150-157; Niculiță <i>et alii</i> 2016, p. 372-374, figs. 267-268; Fidelsky 2017, p. 57-63, figs. 6-7
43	Horodiște „La Cot”, raion Rezina	B	Niculiță <i>et alii</i> 2014, p. 235-237, fig. 3-4; Zanoci <i>et alii</i> 2015, p. 82-88, figs. 4-6.
44	Horodiște „La Șanț”, raion Rezina	B	Smirnov 1949a, p. 196; Zlatkovskaia, Polevoi 1969, s. 47; Lapushnian <i>et alii</i> 1974, p. 45; Hîncu 1993, p. 96-97; Zanoci 1998, p. 136; Kašuba <i>et alii</i> 2000, p. 127; Arnăuț 2003, p. 225-226; Niculiță <i>et alii</i> 2014, p. 240-246, figs. 5-12; Zanoci <i>et alii</i> 2015, p. 88-93, figs. 7-10
45	Horodiște II, raion Rezina	A	Kašuba <i>et alii</i> 2000, p. 127; Niculiță <i>et alii</i> 2014, p. 246, fig. 13; Zanoci <i>et alii</i> 2015, p. 93, fig. 11
46	Buciușca II, raion Rezina	A	Niculiță, Zanoci and Băț 2014, p. 246, fig. 13; Zanoci, Niculiță and Băț 2015, p. 93, fig. 12
47	Buciușca III, raion Rezina	A	Niculiță <i>et alii</i> 2014, p. 247, fig. 15; Zanoci <i>et alii</i> 2015, p. 94, fig. 13
48	Țipova III, raion Rezina	A	Niculiță <i>et alii</i> 2014, p. 247, 249, fig. 16; Zanoci <i>et alii</i> 2015, p. 94, fig. 14
49	Țipova IV, raion Rezina	A	Zanoci <i>et alii</i> 2015, p. 94, fig. 15

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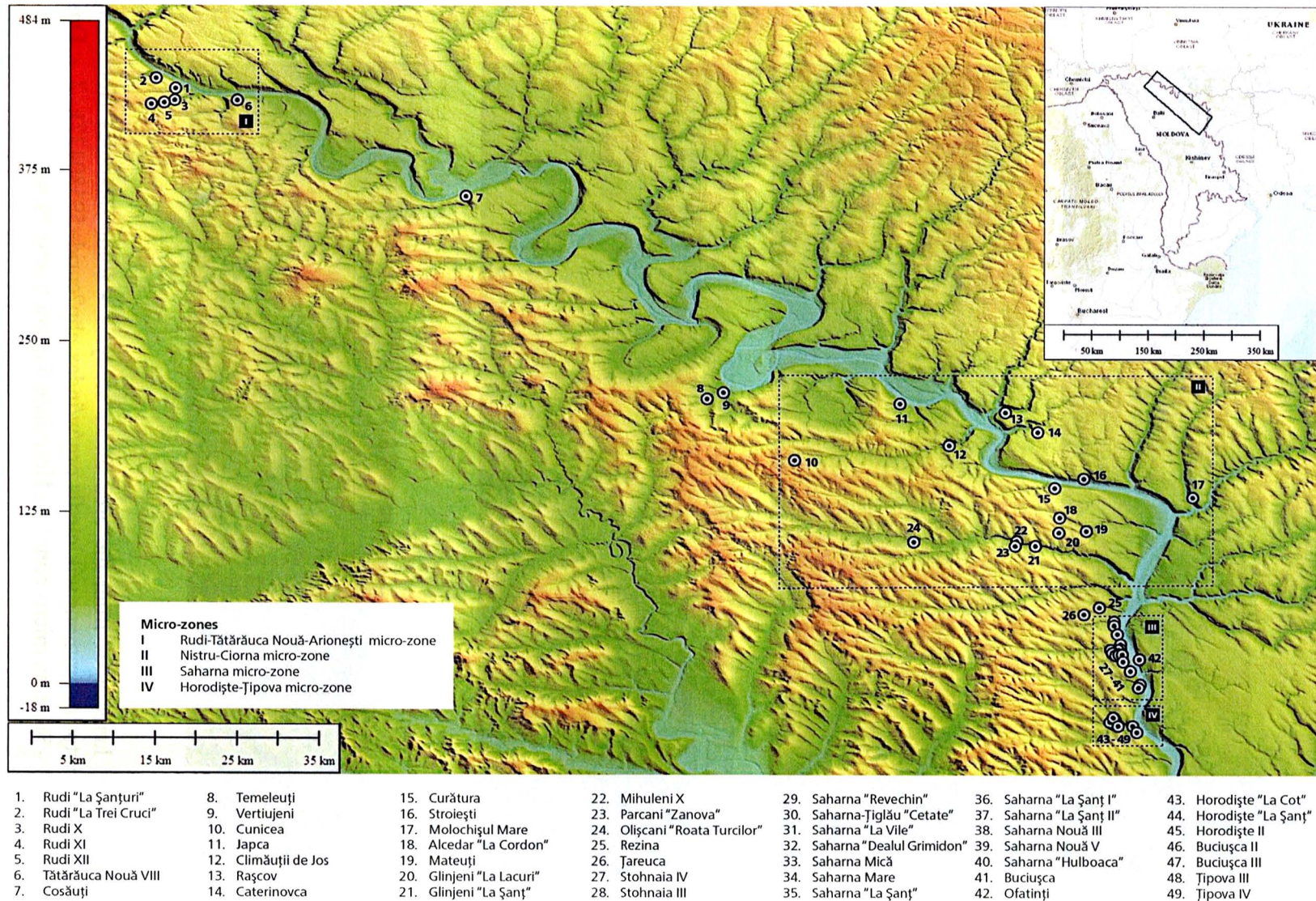


Fig. 1. Fortified sites in the area under study.



1



2



3



4

Fig. 2. Examples of landscapes from the area under study: 1 - Rudi-Tătărauca Nouă-Arionești micro-zone (after <https://commons.wikimedia.org/w/index.php?curid=59580477>); 2 - Dniester-Ciorna micro-zone; 3 - Saharna micro-zone; 4 - Horodiște-Țipova micro-zone.



Fortifications

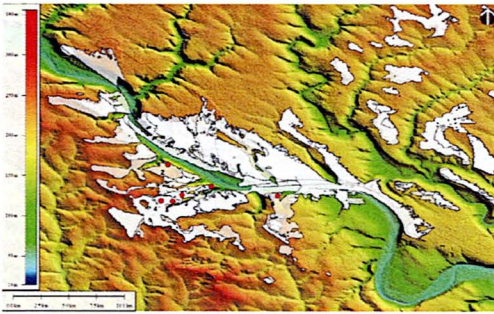
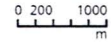
1. Rudi "La Șanțuri"
2. Rudi "La Trei Cruci"
3. Rudi X
4. Rudi XI
5. Rudi XII
6. Tătărauca Nouă VIII

Open settlements

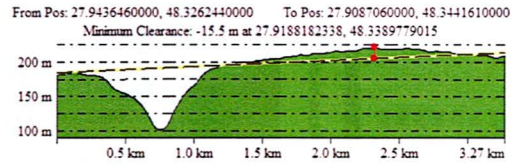
7. Arionești VII
8. Arionești VIII
9. Arionești IX
10. Pocrovca III
11. Pocrovca VII
12. Pocrovca VIII
13. Rudi II
14. Rudi IV
15. Rudi VI
16. Rudi XIII
17. Rudi XV
18. Rudi XVI
19. Tătărauca Nouă II
20. Tătărauca Nouă XI
21. Tolocănești III

1

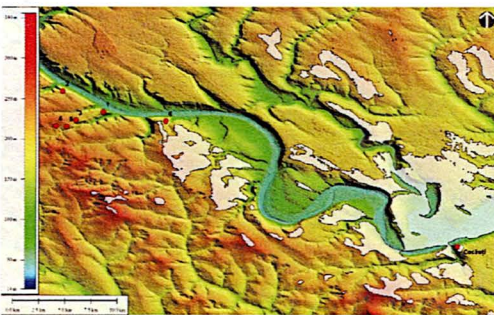
Legend: Rudi village hillfort open settlement



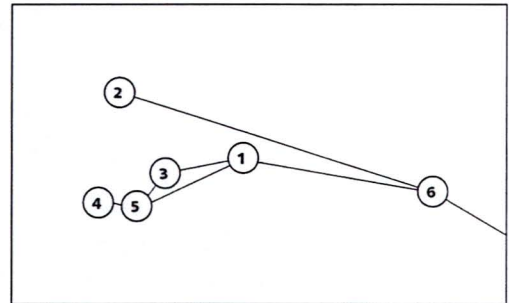
2



4



3



5

Fig. 3. Rudi-Tătărauca Nouă-Arionești micro-zone: 1 - Orthophotomap with sites (after Google Earth Pro); 2 - cumulative viewshed of the area under study; 3 - intervisibility between Tătărauca Nouă VIII and Cosăuți; 4 - line of sight between Rudi "La Șanțuri" and Rudi "La Trei Cruci"; 5 - visibility network.



- Fortifications**
1. Cuncea
 2. Japca
 3. Climăuții de Jos
 4. Rașcov
 5. Caterinovca
 6. Curățura
 7. Stroiești
 8. Molochișul Mare

9. Alcedar "La Cordon"
10. Mateuți
11. Glinjeni "La Lacuri"
12. Glinjeni "La Șanț"
13. Mihuleni X
14. Parcani "Zanova"
15. Olișcani "Roata Turcilor"

- Open settlements**
16. Alcedar III
 17. Alcedar IV
 18. Caterinovca
 19. Ciorna III
 20. Curățura IIIa
 21. Curățura IIIb
 22. Curățura IIIc
 23. Cușmirca I

24. Cușmirca II
25. Cușmirca III
26. Cușmirca IV
27. Glinjeni
28. Glinjeni V
29. Lipcenii IV
30. Lipcenii "Râpa Zanova"
31. Mateuți "La Bașnă"
32. Poiana III

33. Poiana IV
34. Poiana V
35. Poiana VI
36. Poiana VII
37. Poiana VIII
38. Mihuleni II
39. Mihuleni III
40. Mihuleni VII
41. Odaia

42. Olișcani II
43. Olișcani III
44. Parcani I
45. Parcani II
46. Parcani III
47. Păpăuți "Hlinaia"
48. Păpăuți I
49. Păpăuți II
50. Rașcov XI

51. Socola "Craina"
 52. Solonceni "Hlinaia"
 53. Șestaci
 54. Șipca
- Hoard**
55. Mateuți

Fig. 4. Dniester -Ciorna micro-zone. Ortophotomap with sites (after Google Earth Pro).

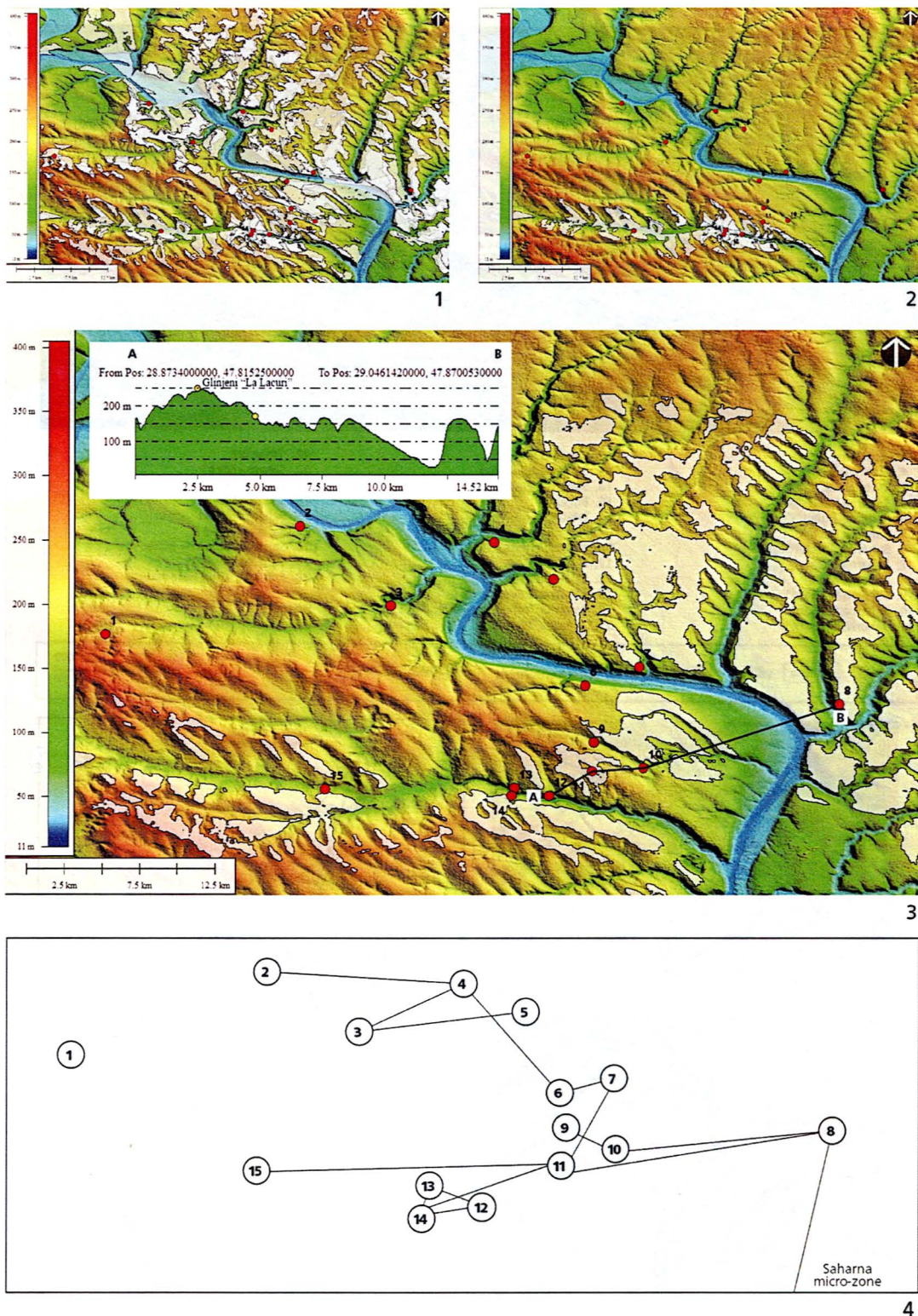
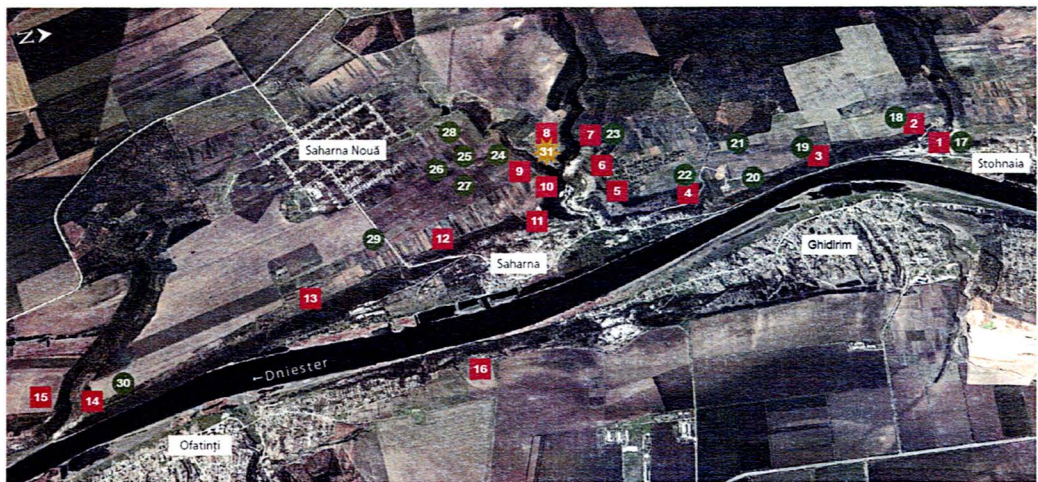


Fig. 5. Dniester -Ciorna micro-zone: 1 - Cumulative viewshed of the area under study; 3 - intervisibility in the Ciorna river basin; 4 - visibility relationship from Glinjeni “La Lacuri” and other sites; 4 - visibility network (numbers correspond to map in fig. 4).



Fortifications

1. Stohnaia IV
2. Stohnaia III
3. Saharna "Revechin"
4. Saharna-Țiglău "Cetate"
5. Saharna "La Vile"
6. Saharna "Dealul Grimidon"
7. Saharna Mică
8. Saharna Mare
9. Saharna "La Șanț"
10. Saharna "La Șanț I"
11. Saharna "La Șanț II"

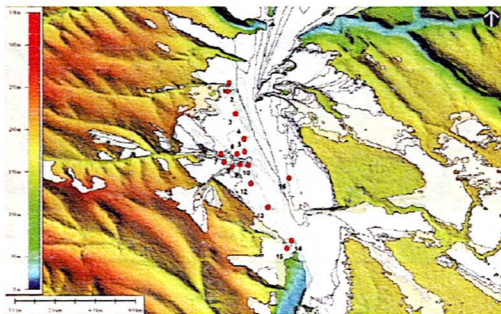
Open settlements

12. Saharna Nouă III
13. Saharna Nouă V(?)
14. Saharna "Hulboaca"
15. Buciușca
16. Ofatiinți
17. Stohnaia V
18. Stohnaia VI
19. Saharna "Revechin I"
20. Saharna "Valea Furnicar"
21. Saharna "Pădure"

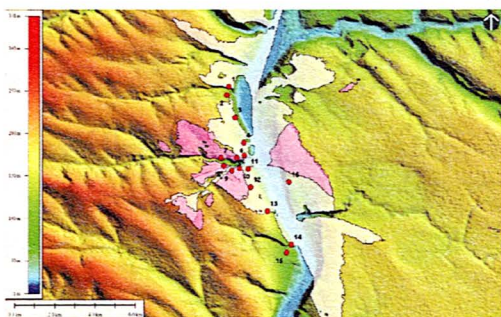
Hoard

22. Saharna I
23. Saharna Mică I
24. Saharna "Rude"
25. Saharna "Budei"
26. Saharna Nouă I
27. Saharna Nouă II
28. Saharna "Valea de Mijloc"
29. Saharna Nouă IV
30. Saharna "Gura Hulboacei"
31. Saharna Mare

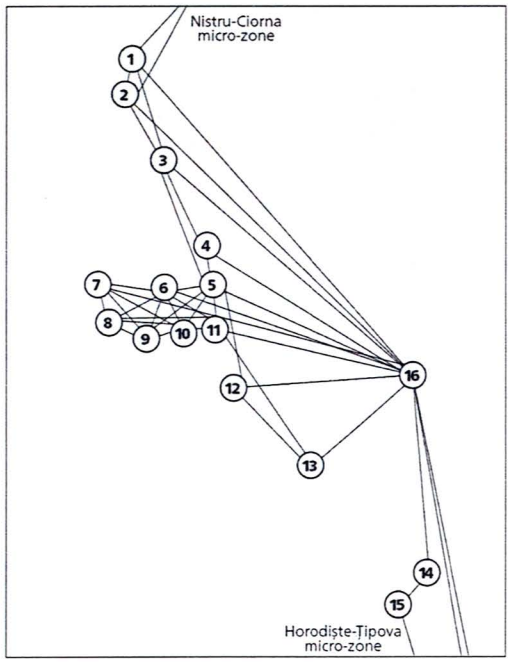
1



2



3



4

Fig. 6. Saharna micro-zone: 1 - Ortophotomap with sites (after Google Earth Pro); 2 - cumulative viewshed of the area under study; 3 - viewshed calculation for Saharna Mare (red) and Saharna "La Vile" (white); 4 - visibility network.



Fortifications

1. Horodiște "La Cot"
2. Horodiște "La Șanț"
3. Horodiște II
4. Buciușca II
5. Buciușca III
6. Țipova III
7. Țipova IV

Open settlements

8. Buciușca IV
9. Buciușca V
10. Horodiște
11. Țipova "Jidavca"

Legend: Țipova village

hillfort open settlement

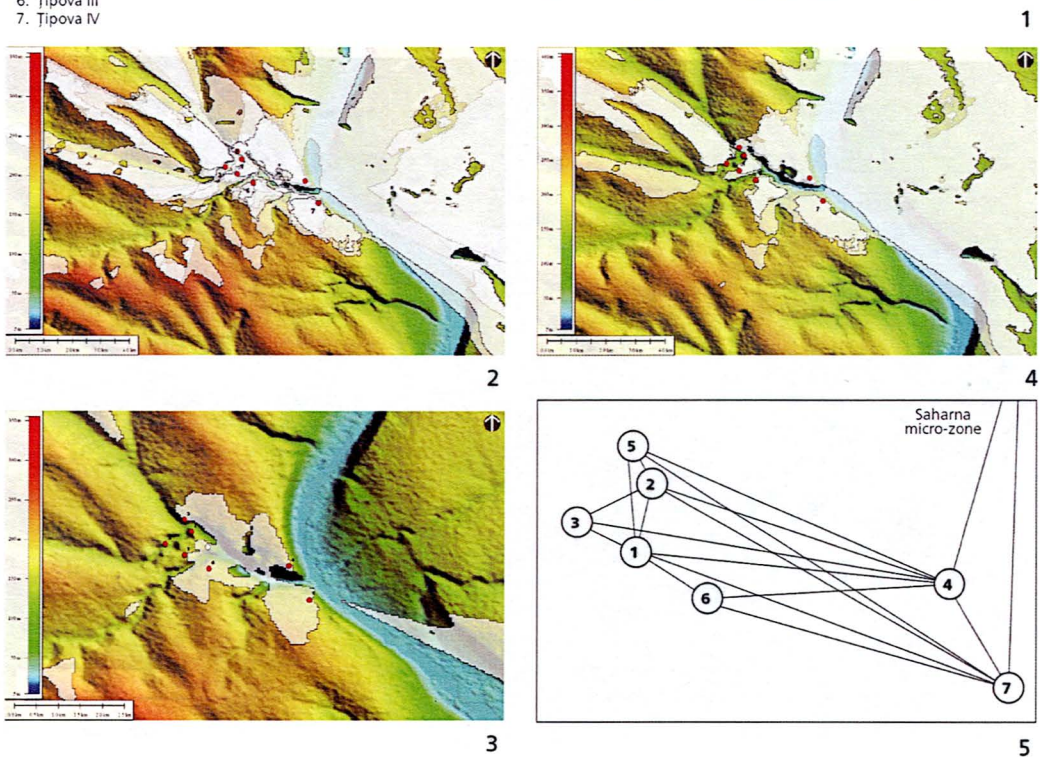
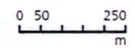


Fig. 7. Horodiște-Țipova micro-zone: 1 - Orthophotomap with sites (after Google Earth Pro); 2 - cumulative viewshed of the area under study; 3 - viewshed calculation for Horodiște "La Cot"; 4 - viewshed calculation for Buciușca II and Țipova IV; 5 - visibility network.

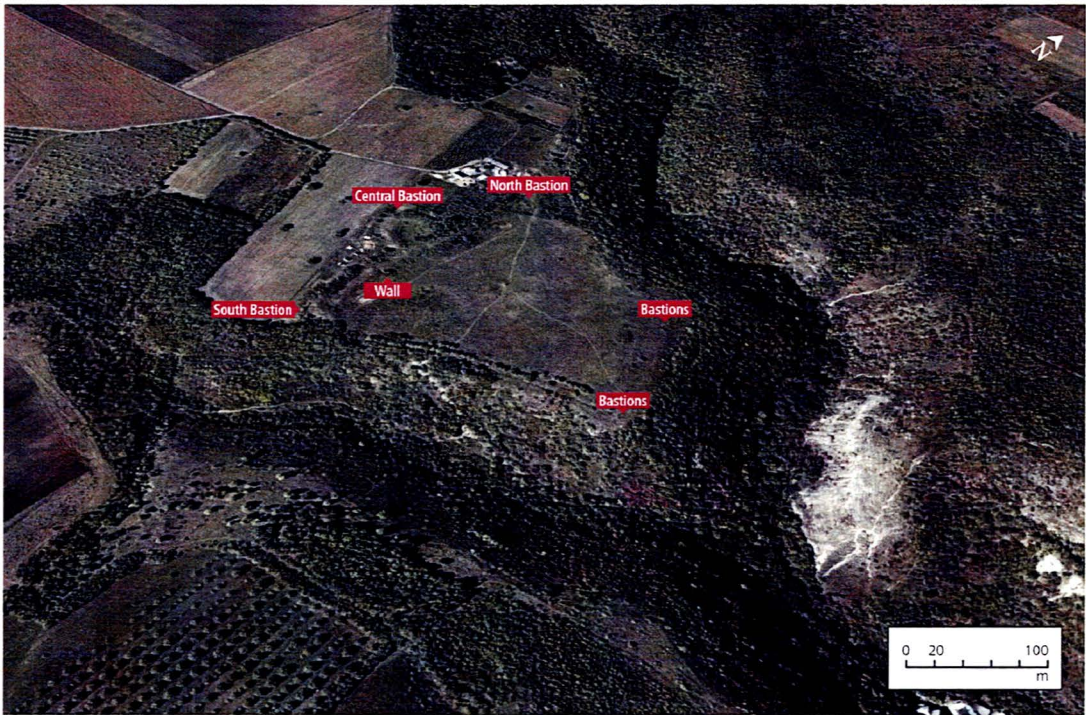


1

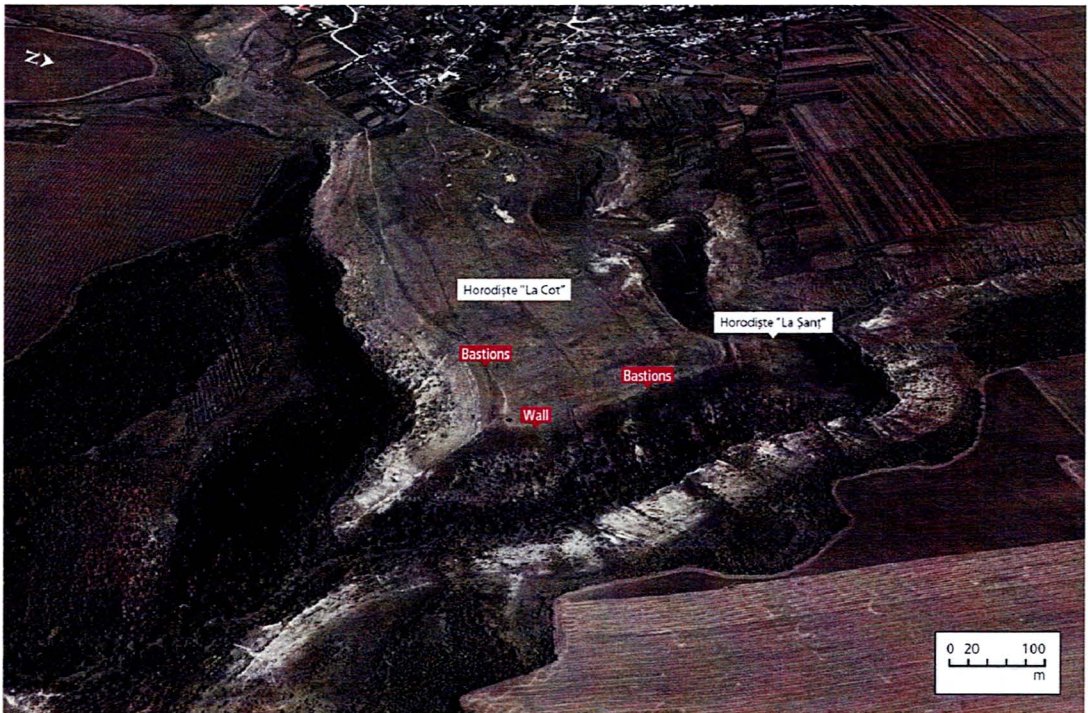


1

Fig. 8. Central places in the area under study: 1 - Rudi "La Șanțuri"; 2 - Glinjeni "La Șanțuri" (after Google Earth Pro).



1



2

Fig. 9. Central places in the area under study: 1 - Saharna Mare; 2 - Horodiște "La Cot" (after Google Earth Pro).



1



2

Fig. 10. Hoards: 1 - Saharna Mare; 2 - Mateuți (after Ursu 1993, p. 33-35).