The Latest Research on Bronze Age Hillforts in Istria

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The Bronze Age is the first epoch in the changeful history of the Mediterranean region in which larger areas along the shores of the sea and beyond became interconnected. One of these areas which has been overlooked in most research so far is Istria at the northern shore of the Adriatic Sea that belongs partly to Italy and Slovenia, but to the biggest extent to Croatia. Istria is characterized by a typical Mediterranean karst-landscape with numerous smaller hills. It has been assumed that the peninsula functioned as an interstation in the northern Adria for traders and seafarers in ancient times who were bound to the seasonality of the sea currents and winds. The Bronze Age research on Istria is in an ambivalent situation. The peninsula has been extensively surveyed resulting in the discovery of not less than 436 settlement sites that produced Bronze Age material, but excavations took place only in a few cases. Therefore, our knowledge of the characteristics of the Bronze Age occupation of the peninsula are extremely limited and merely based on single examples.

The most important and most extensively excavated site at the moment is Monkodonja in the western part of Istria close to the modern town of Rovinj.

The settlement is located on a hill with still visible Bronze Age remains such as a multi-parted fortification consisting of several circles of dry-stone walls. Compared to other sites in its vicinity Monkodonja stands out due to its remarkable size of 250 x 160 m enclosed by an outer fortification of approximately 800 m in circumference. The main occupation phase was according to radiocarbon analysis from 1850/1750 to 1500/1450 BC which correlates to the Middle Bronze Age. The excavation results and a meticulous artefact analysis revealed that the circles of dry-stone walls were subdividing the settlement in several functional zones. Particular areas, for instance along the main fortification, were used as storage, whilst other parts of the settlement were residential areas. In the outer circles the houses were small and built in rows. In the center, however, the buildings were bigger and partitioned in several rooms and courtyards. The distribution of finds such as pottery or faunal remain suggests that the architectonical division reflects among others the social division of the society. The features and artefacts provide also indicators for the role of Istria in the wider network of the Mediterranean at the Bronze Age. Artefacts such as pottery tripods can be directly traced to the eastern Mediterranean, for instance Cyprus. Even more compelling are archaeozoological results that show the occurrence of bones from fallow deers (cervus dama) which must have been imported from Greece suggesting a direct link between the Istrian Bronze Age culture and contemporary civilizations in the Aegean.

Based on the entirety of the excavation results, it has been assumed that the settlement of Monkodonja was the residence of a local elite group that controlled the area around the modern town of Rovinj. Moreover, this community was connected to other elite groups in the Mediterranean, particularly those of the Aegean area. It seems that the specific planning of the settlement with its functional and social division resembles the famous Bronze Age palace sites in Greece. Even though the excavation results of Monkodonja represent a significant increase of knowledge on the situation of the Bronze Age in Istria, a number of assumptions made by the excavators have to remain speculative or vague due to the lack of comparable data from other researched settlements. Therefore, a three-year research project funded by the National Research Foundation of Korea has been launched in order to examine Bronze Age settlement sites in the vicinity of Monkodonja and to get a better understanding of their relation. In the past years three settlements on the coast have been researched through survey and smaller excavations.

The first of these sites is Monbrodo, a small hill at the western coast of the peninsula in ca. 5 km linear distance from the southern edge of Rovinj. The hill has an almost oval shape at its base and a height of 30,6 m NN. The hilltop is a flat, slightly sloping plateau of ca. 5500 square meter with a drop-shaped outline. Around one third of the hill is on the western flank bordered by the Adriatic Sea. Aerial photographs of the hill show differences in the vegetation that suggest the existence of circular walls which was proven to be correct through surveys of the site that also revealed the existence of artificial terraces and of several radial wall sections. Based upon the research of the last years it turned out that the upper three circular walls can be connected to the prehistoric occupation, which dates in its oldest layer to the Bronze Age. Through comparison of artefacts, mainly pottery types, it is clear that the Bronze Age occupation of Monbrodo was at least partly synchronous with the settlement on Monkodonja. Although Monbrodo is not as big as Monkodonja, which could be taken as argument for the theory that Monbrodo was a satellite settlement of Monkodonja, the existence of a strong fortification wall emphasizes the independence of the site. The second settlement that has been examined in the project is Monvi which is similar to Monbrodo directly located at the shore of the Adriatic Sea. The distance between Monvi and Monbrodo is around 5 km and there is a direct line of sight between both places across the sea. Despite larger destructions of the archaeological layers on top of the hill due to modern construction work, it has been confirmed that the prehistoric settlement had three circular walls. Although the walls have been reused in modern times, their bases that consist of large and heavy limestone blocks, suggest a construction in the Bronze Age. Through excavation on the edge of one of these dry-stone walls, it was possible to observe an occupation layer with dislocated Bronze Age pottery which can be parallelized with the finds from Monkodonja and Monvi.

The last settlement site, just recently surveyed and excavated, is the hill of Muja that is located close to the Adriatic Sea around 2.5 km southeast of Rovinj. Muja has just one visible dry-stone wall that consists of several phases and it is characterized by a very even plateau. It is one of the smaller examples of a Bronze Age hillfort, but the finds retrieved from a thin occupation layer next to the wall suggest that Muja was settled at the same time as the other three mentioned sites.

The results of the last three years' research demonstrate that Bronze Age settlements in Istria, independently from their actual size, were fortified with at least one dry-stone wall. Although the erection of these walls is not a very

complicated process, their presence seems to contradict in some way the theory that Monkodonja was the central site that wielded its power over the region. It might be possible, however, that not all walls were intended as real fortifications, since there are a number of arguments that seem to hint to a symbolic meaning. Furthermore, other functions for the walls cannot be excluded at the current stage of research.

Although the excavation results of the project are extremely promising and a huge step forward to a better understanding of the settlement system in the region around Rovinj, it is clear that most of the known 436 locations cannot be examined in this way. In order to understand the available data in a better way and to gain more insights into the organization and function of the settlement system in the entire peninsula, a GIS based spatial analysis provides a number of useful insights. The distribution map of the Bronze Age settlements in Istria shows already an uneven distribution with a huge amount of sites in the region of the modern towns of Rovinj and Bale. Generally, this result could be a reflection of the real situation during the Bronze Age, but it needs to be taken into account that higher archaeological activities in this region can lead to a larger number of known sites. In this particular case both reasons might be true, whereas the high density of sites is explainable with the fertile soil in this area which played a significant role for the Bronze Age settlers. A heat map of the site distribution underlines the existence of particular areas with a high settlement density. This map also demonstrates that there are no isolated settlement areas in Istria. All places were more or less connected with each other.

Based upon the distribution of sites the area can be partitioned in voronoi or Thiessen-polygons. These polygons provide insights on the size of the possible catchment area for each settlement. In the densely populated part in the west of Istria the smallest cells are not larger than 2 square kilometers which might be, however, enough for producing the necessary food supplies for the settlement.

The viewshed and intervisibility analysis demonstrates the existence of distinct communication areas in Istria, but again without showing completely separated regions. If the areas with a high connection were also closer in terms of cultural affiliation etc. is a question that needs to be answered in future research projects.