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TUMULUS OR CAIRN?
THE CASE OF THE CENTRAL DALMATIAN ISLANDS

Vedran BARBARIĆ*

ABSTRACT

Morphological features in the landscape of Dalmatia, the coastal region of Croatia, have been conducive to correct identification due to the fact that stone burial mounds are very hard to distinguish within the landscape from the cairns created through agricultural activities. To date, some of the stone mounds excavated contained Bronze Age burials but very often those excavated contained no traces of burial rites whatsoever.

The landscape of the Central Dalmatian Islands is covered with these monuments and it is crucial to find a way to distinguish them in order to be able to use the data in related spatial analyses.

Despite the lack of excavations, the relatively good existing data on spatial distribution, as well as the current condition of these monuments, offer an opportunity for their reclassification. Advances made in this manner can allow progress in our knowledge of the relationships between these monuments, communities, settlements and their territories during the Bronze Age period in Dalmatia.

Within the study of the BA period in Dalmatia, the coastal region of Croatia, interest in the burial mounds has always had a special place. As they are the most commonly found Bronze Age monuments within the landscape, they always draw the attention of scholars. Unlike tumuli from other areas, which are constructed mainly of soil, in Dalmatia they are composed of loose stones. Apart from just being constructed out of the most easily available material, in this case limestone, they are also the by-product of the continuous process of soil loss.[1] Their existence is, therefore, inevitable, whether just as heaps of cleared stone thrown on the borders of cultivated plots of land, as monuments to the dead or as some other mark of social importance for the communities that constructed them.

During the Bronze Age in Central Dalmatia, a variety of burial rites have been archaeologically confirmed. We have data on cave inhumation and incineration burials, and on incineration and inhumation within the stone tumuli.[2] Burying the dead under stone tumuli was definitely the most prominent and most widely spread burial custom to have been identified so far. The beginning of this custom in Central Dalmatia is recorded during Br A1, within the Cetina group area on the mainland.[3] According to the rites recorded, the deceased is laid out in the crouched position into a cist made out of stone slabs. Burials of parts of the body of the deceased are recorded too. Grave offerings are sometimes present but this does not represent

* University of Split, Croatia.

1. Chapman *et al*. 1996, p. 115-116, 261.
2. Marović 1999.
3. Marović, Čović 1983, p. 197; within this group both incineration and inhumation are recorded under the tumuli. Biritualism of this kind is not recorded on the Islands.

the rule. The cist is covered with a large amount of stones. Some form of inner elaborate construction, *i.e*. burial chamber, has not been recorded. Cairns formed in this way can vary in size between 4 and 40 metres in diameter. Traces of some outer construction are sometimes present, like the revetment or circle of vertically inserted slabs on the edge of the cairn.

According to general opinion, tumuli on the Central Dalmatian islands do not show the characteristics of contemporary Cetina culture tumuli found on the mainland of Central Dalmatia.[4] As a consequence of the lack of excavation, they are not yet assigned to any wider cultural phenomenon.

By the beginning of the Iron Age, tumulus burials in Central Dalmatia seem to disappear in favour of flat-grave burials.[5] One Iron Age burial beneath a tumulus is recorded on the Central Dalmatian Islands.[6] It is dated to the Early Iron Age, and may represent an example of some kind of a link towards the flat-grave burials. It is also important to stress that the flat graves are also very poorly documented in the area of our interest.

So far, the distribution, position and construction of tumuli in Dalmatia have not been studied in detail. The main reason for this was the absence of any systematic approach. Further significant problems arise when we take into consideration the nature of the landscape on the coastline and islands of Central Dalmatia. It is dominantly marked with the terracing walls, division walls and the vast number of cairns, all of these made using a very simple dry stone technique. The majority of these features are products of a variety of agricultural activities.

The field projects, Neothermal Dalmatia Project and Adriatic Islands Project, have shown that the first significant interventions in the landscape of Central and Northern Dalmatia occurred at the end of the Copper Age and the beginning of the Bronze Age period.[7] Climatic changes at the end of the Copper Age produced change in the value of the different land types for agriculture and pasture. A shift in agricultural interest in favour of the land on the hill slopes provoked an evolution in land management, and resulted in the emergence of some new landscape features. The process of terracing on hill slopes was one solution to the new problem of exceptionally intensive erosion. At the same time, the cultivation of the stony soils produced large quantities of stone. These were either used for building various dry stone structures or were dumped on the borders of agricultural areas, therefore forming simple cairns. In contrast other cairns were formed deliberately to hold a burial.[8]

The last major activities in the landscape of this region took place at the end of the 19th c. Due to large stress on the wine making industry in Europe, namely the epidemic affecting the vineyards of France and Italy, Dalmatia suddenly became one of the main suppliers of wine for western Europe. This provoked massive planting of new vineyards and changed the landscape of Central Dalmatia dramatically.[9] Cairns resulting from massive land clearance were made during this time and most of the older structures were removed or buried under the large new drystone structures.[10] This had a great impact on the remains of the Late Copper Age and Bronze Age landscape. Without doubt, some monuments were destroyed or buried under new structures during this process, while the others were all of a sudden surrounded with numerous features, which were very similar in shape and construction, but much younger in date (*fig. 2*).

Very few archaeological excavations of cairns have been performed on the islands so far. Out of the 672 recorded cairns on the islands of Brač, Hvar, Šolta, Vis and the southern part of the Makarska region on the mainland, only 29 have been excavated by archaeologists from the end of the 19th c. onwards and very few of these in the last 50 years (*fig. 1*). These excavations were not always fruitful, as some of the cairns contained no burials. In the literature these were very often treated as "cenotaphs", along with the prevailing opinion that all of the cairns represented burial monuments, but without any firm evidence in that direction.[11]

4. Marović 1985, p. 32; Čović 1983a, p. 161.
5. Čović 1983b, p. 820.
6. Gaffney 1992, p. 165.
7. Chapman *et al*. 1996, p. 260-261; 283-285.
8. Chapman *et al*. 1996, p. 115-116.
9. Stančić *et al*. 1999, p. 9.
10. Kirigin *et al*. 2006, p. 167; Stančić *et al*. 1999, p. 25; Gaffney *et al*. 1997, p. 34.
11. Gaffney 1992, p. 138; Marović 1976, p. 60; Gaffney *et al*. 2002, p. 35.

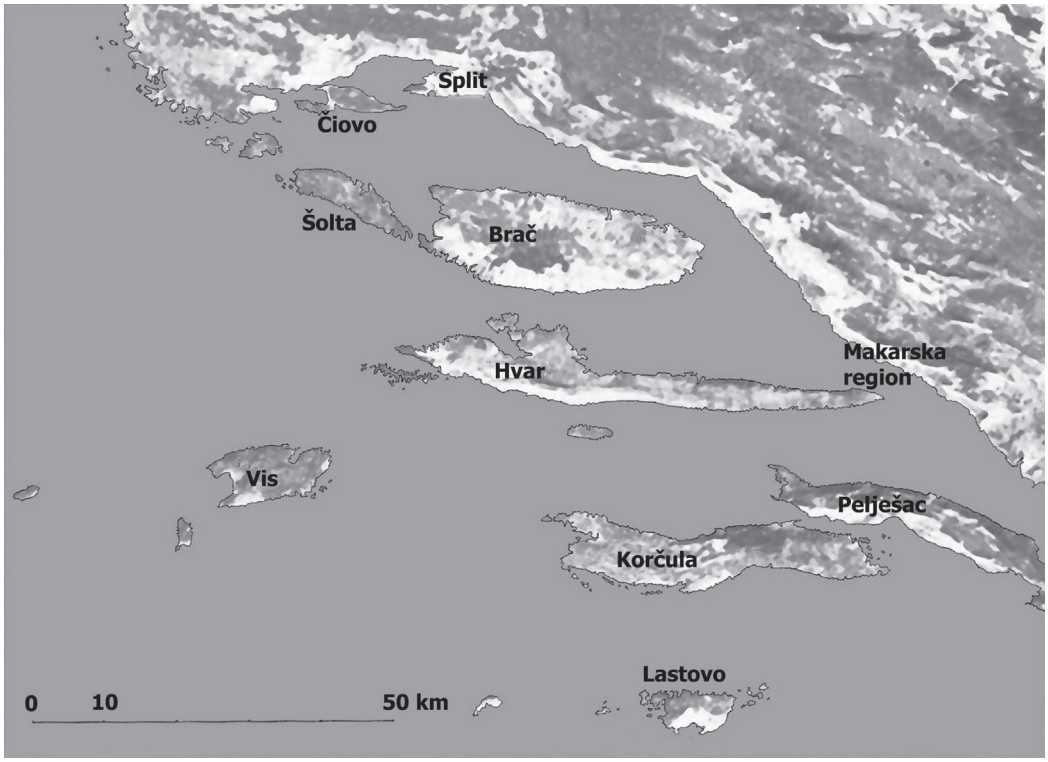

Fig. 1 – Map of Central Dalmatia, Croatia.

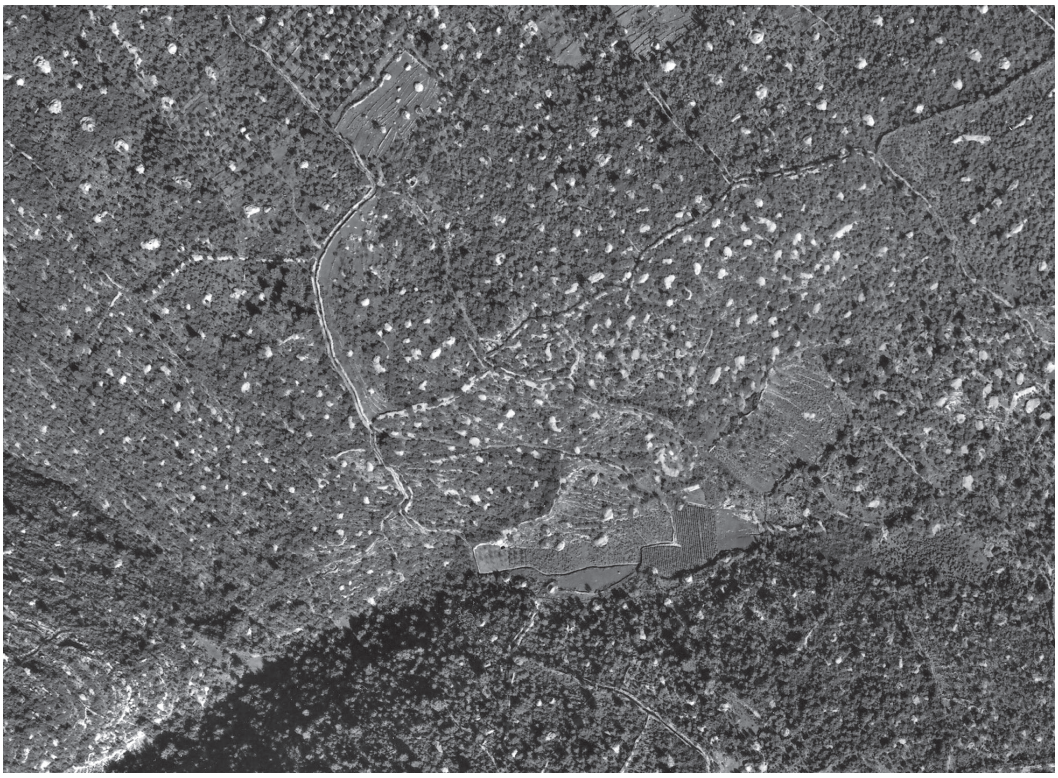

Fig. 2 – Aerial view of part of the surveyed area.

Some authors were considering cairns from the mainland neighbouring area in the wider, landscape-oriented perspective.[12] In this way, some of the cairns located at various strategic positions were concluded to be markers of territorial boundaries.

In the late 1980's, the results of the Neothermal Dalmatia Project have shown that the majority of cairns in the Northern Dalmatia should primarily be considered the results of stone clearance. It is thought that some of these had had a secondary use for burial purposes, suggesting that the agriculture, soil loss and ancestral cult activities were unified in some way.[13]

These conclusions can easily be employed in Central Dalmatia, as they were drawn from a landscape with the same characteristics.

In the 1990's, the Adriatic Islands Project collected data about all of the visible and known sites and monuments on the Central Dalmatian islands. The database that was thereby created provided the raw data for this study. Much information can be gained if we take into consideration some of the values that have not been used before. Some of the basic data in this direction would be:

– on the islands of Brač, Hvar, Šolta, Vis, and in the Makarska region on the mainland, 672 cairns have been recorded (*table 1*);
– out of these, 166 cairns contained burials. For the majority of these the only evidence was the existence of stone slabs. These were parts of the cists that once contained burials that were destroyed at an unknown date. These data have not been used so far;
– many cairns had been excavated by grave robbers at some point in time. Cairns that were badly damaged or excavated, and contained no traces of burial cists at the time they were recorded, could be assigned a value of *not-tumulus* for the statistical purposes. Others that have not been badly damaged are treated as non excavated (*table 2*).

Brač	Hvar	Šolta	Makarska region	Vis	**Total**
242	242	88	88	12	**672**

Table 1 – Number of cairns recorded on the Central Dalmatian Islands

	Contains grave	Multiple graves	Without grave	Unexcavated	No data
Brač	59	10	65	97	11
Hvar	44	3	51	128	16
Šolta	9	0	21	56	2
Makarska region	19	0	25	38	6
Vis	2	1	3	6	0
Total	**133**	**14**	**165**	**325**	**35**
	20%	**2%**	**25%**	**48%**	**5%**

Table 2 – Existence of graves within all of the known cairns on the Central Dalmatian Islands.

Furthermore, values have been assigned to the recorded characteristics of the cairns:

– position in the landscape;
– position on the different soil classes;
– size of the cairn;
– size of the stones used in construction;
– position within the groups of cairns;
– presence of some kind of outer construction;
– presence of pottery on the surface.

12. Babić 1984, p. 38-39.
13. Gaffney *et al*. 2002, p. 35-36.

By using these values in statistical analyses some patterns have appeared that could be of significance. These were compared with some of the current theories about tumuli and cairns in the area.

The greatest proportion of cairns is situated on the karst – 46% (*table 3*). Since the eroded karst represents the largest portion of all soils on the islands, this is not surprising. But we have to keep in mind the fact that the vast majority of the present karst area was stony land during the BA that eroded through time. In this way we come to the conclusion that these cairns are in fact positioned exactly at the sites of the most intensive BA agricultural activities.

Two of the islands do not seem to fit in this picture, the islands of Šolta and Vis. On the Island of Šolta some different patterns emerged out of the collected data. The majority of cairns on Šolta (73%) are situated on terraces. Since all the cairns on Šolta that had fragments of Roman pottery at the surface are situated on terraces (21 of 64), it is possible that our sample is contaminated with cairns that were created during the Roman period. A relatively large proportion of the cairns being on terraces is also noticeable on the Island of Hvar. They are of a different origin from the ones on Šolta, being without significant evidence in favour of allotting them to the Roman period. This can be confirmed by the relatively large proportion of recorded tumuli within excavated cairns from terraces (11/29). On the basis of this, it can be claimed that, on the Island of Hvar, the process of terracing during the late CA and the BA was more intensive than on the other Central Dalmatian Islands.

On the other hand, the island of Vis shows a completely different pattern. Although this island is almost twice the size of Šolta, only 12 cairns and/or tumuli are known. The reason for this has not yet been revealed.

	Karst	Stony soils	Terraces	Arable	No data
Brač	146	85	1	10	0
Hvar	130	0	61	18	34
Šolta	4	1	64	18	1
Makarska region	26	48	9	4	1
Vis	0	9	1	1	1
Total	**306**	**142**	**136**	**51**	**37**

Table 3 – Number of cairns on different soil classes.

According to the criteria mentioned above, only part of all excavated and/or destroyed cairns can be identified as tumuli (*table 4*). In the search for the characteristics which may be significant for their identification, a few interesting facts appeared.

	Brač	Hvar	Šolta	Makarska region	Vis
Tumuli/excavated cairns	51%	48%	30%	43%	50%
Tumuli/excavated cairns on karst	61%	50%	0%	67%	0%

Table 4 – Percentage of tumuli within all excavated cairns.

The greatest percentage of burials in cairns on all soil classes occurs just within the eroded karst (*table 4*). Due to the reasons cited above, this fact speaks in favour of the a link between soil loss, stone clearance and ancestral cult. Nevertheless, we have to be careful with the interpretation of the CA and BA clearance cairns as tumuli, as has already been emphasized.[14] Very few graves (2 cases on Hvar and 1 in the Makarska region) have been recorded within the cairns that consisted of small size stones, which are most frequently the by-product of land clearance. This also points to the danger of confusing more recent cairns

14. Gaffney *et al*. 2002, p. 35.

with the CA and BA ones. What assures us that the recording in the field is done the right way is the fact that on Hvar, where most of these cairns have been recorded, the majority (70%) is on the slopes on eroded karst (*table 5*). As already mentioned, this could have easily been the agricultural area during the BA, stony soils that degraded into the karst through erosion.

Arable	Stony	Karst	Terrace
13%	0%	70%	17%

Table 5 – Cairns composed out of small sized stones – percentage on different soil classes on Hvar.

One morphological feature of the cairns that has been recorded but not clarified as yet is the presence of some form of outer construction. Mostly it consists of stones inserted vertically close to the rim of the cairn. No significant explanations of this have been offered in the literature so far. The analyses have shown that the existence of such construction on the cairn does not imply that the grave exists within the cairn. Out of a total of 24 such cairns, 7 of 11 excavated ones contained a grave.

The same can be said in regard to the presence of fragments of prehistoric pottery on the surface of the cairns. This has been treated so far as a sign of some kind of funeral feast.[15] 55 of these were recorded, and 9 out of the 27 excavated contained graves. So, it is better to state that although these fragments show possible traces of ritual activities, it is anything but correct to treat these exclusively as traces of funeral feasts.

The size of the cairns was very often related to the supposed importance of the person buried within it. Once again, this conclusion was made only on the basis of the personal impression of the author, without any results of excavation to support it. This assumption included the premise that all, or at least the majority, of cairns were considered to be tumuli. It is, however, interesting to note that the cairns with more than 20m diameters contain a considerably smaller percentage of burials than the smallest cairns, with a diameter of less than 10 metres (*table 6*). Unfortunately, the smaller cairns today are in the worst condition of all. It seems that their smaller size has made them easier for plundering (*table 7*).

<10m	10-20m	>20m
55%	38%	31%

Table 6 – Percentage of burials within excavated cairns of different size classes.

Excavated: not tumulus	Excavated: Tumulus	Not excavated	No data
29%	35%	33%	3%

Table 7 – Cairns of size less than 10m in diameter.

Groups of cairns recorded on the Islands of Central Dalmatia have been treated so far as “tumuli cemeteries”. This is an assumption that has not been questioned so far. These groups usually consist of between 3 and 22 cairns. The average number of cairns in groups on Brač and in the Makarska region is 6, while on the islands of Hvar and Šolta it is 9. The cairns can vary in size. A significant proportion within groups on Brač and in the Makarska region hold small size cairns, while their proportion within groups on Hvar and Šolta is almost insignificant. Generally, looking at the studied sample, it can be said that on Brač and in the Makarska region these groups are much more consistent in their characteristics, while on Hvar and Šolta they tend to vary much more in number and size. When we look at the data on the proportion of tumuli within excavated cairns in groups, the difference between mentioned areas becomes even more visible (*table 8*).

15. Marović 1976, p. 62, 69.

	No. of excavated cairns within groups	No. of tumuli within groups	Tumuli/excavated cairns within groups
Brač	61	35	57%
Hvar	18	5	28%
Makarska region	18	11	61%
Šolta	22	8	36%

Table 8 – Groups of cairns – tumuli within groups. There are no groups of cairns on the Island of Vis.

It is clear from this data that the "tumuli cemetery" theory has to be approached with a great deal of caution. This is true of the areas with greater proportion of tumuli, while the other half of the sample is obviously influenced by other factors. The reasons for different patterns on Šolta and Hvar should be sought within the abovementioned facts concerning Roman evidence on Šolta and intensive terracing activities on Hvar. It is, therefore, possible that some of the cairns have been formed through later agricultural activities, while others increased in size through the same process.

It is certain that the methodology of this study has some limitations. An attempt was made to overcome these by carefully studying data and identifying potential biases. Nevertheless, some caution should be made while using these results for further studies. Some results undoubtedly cast a new light on this body of archaeological data, testing some old premises and raising some new questions. Hopefully, these may be resolved in the future by combining excavation with remote sensing activities.

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