

## THE DISTRIBUTION OF PRE- AND PROTOHISTORIC HILLFORTS IN IRAN

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Surveys have been carried out in Iran since the beginning of archaeological research; suffice it to recall the fieldwork of Lehmann-Haupt (in the years 1898-99), de Morgan (in 1899-1902, 1909), Stein (years 1915-16) and Herzfeld (in 1925). In the Seventies, under Dr. F. Bagherzadeh's direction of the Iranian Archaeological Service, an unprecedented impulse was given to surveys. This kind of field research not only supplemented the data from excavations, but gave such important results that even now, thirty years after the end of that archaeological season, they still give rise to new studies. Many surveys concentrated on north-western Iran, among them being those led by G. Gropp (Gropp, Najmabadi 1970), S. Swiny (Swiny 1975), P. E. Pecorella and M. Salvini (Pecorella, Salvini eds. 1984). The most extensive and exhaustive were those led by W. Kleiss, then director of the Tehran section of the Deutsches Archäologisches Institut, which began in 1967 and continued until 1978. These last-mentioned surveys were mostly aimed at the localization and the study of the Urartian remains (fortifications, tepes, inscriptions etc) but Kleiss took into account all the structures present in the surveyed areas. He was, in any case, also interested in other types of monuments, so he included in his surveys other areas (Eastern Iran, Fars and so on). As we shall see this fact is of great importance for the present article.

Kleiss identified a significant class of monuments: pre- and proto-historic hillforts with stone-built walls, defined 'cyclopic fortresses'<sup>1</sup> in other parts of the world and hitherto little studied in Iran. Defence works of the same periods are well known all over the territory of present-day Iran but, in the great majority of cases, these are mudbrick structures generally built in or around tepes, therefore located on plains or valley floors and not stone hillforts. These two classes of fortifications are conceptually and culturally very different.

The aim of this paper is the study of the geographical distribution of hillforts preceding the Iron III period (fig. 1). The data at our disposition are mainly the

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<sup>1</sup> 'Cyclopic fortress' in most cases means fortifications built with irregular, very large stones, but the term is very loose and impressionistic and will therefore not be used further in this article. The word 'hillfort' is here used as a generic term, used to indicate forts, fortresses and fortified settlements built on hilltops or promontories. Fortresses and forts are military sites with large defence walls, located in naturally strong positions, the only difference between the two being their size (Biscione 2002: 352). In the appendix the sites are sometimes defined 'forts' or 'fortresses' when plans, sketches or descriptions give an idea of their size. The definition 'fortified settlement' was taken from the literature.

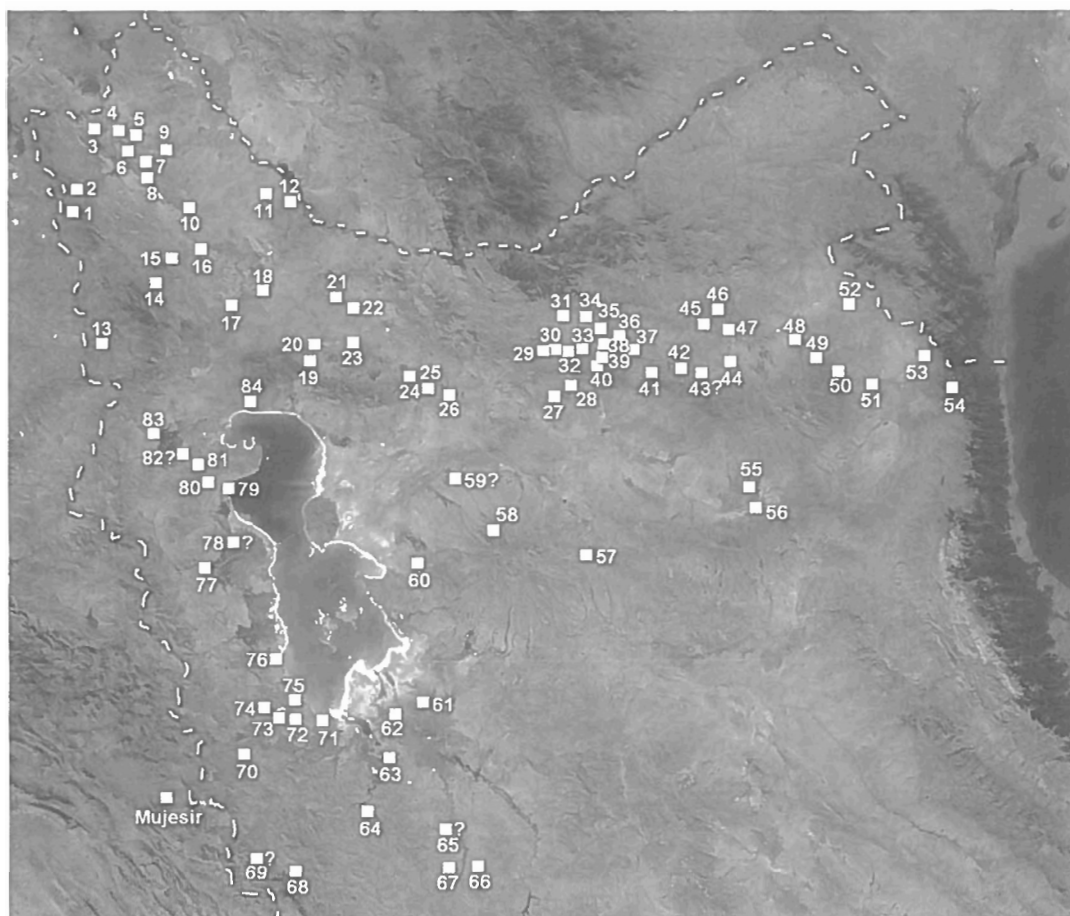


Fig. 1 – The distribution of the pre-Iron III hillforts in Iran. The numbers of the sites correspond to those reported in the appendix. Also the location of Muesir (square) is indicated (Image courtesy of NASA, Visible Earth).

result of Kleiss's surveys, supplemented by others carried out in the nineteen seventies and by field-trips of the last twenty years. The present attempt at a reconstruction is therefore based essentially on evidence gathered during fieldwork carried out before 1979<sup>2</sup>. This, of course, is not the soundest data base, but it is the only thing available at the moment. In the future new field research will doubtless enrich and make more precise our view of this class of monuments in Iran.

Drawing the distribution maps only the sites which were dated with certainty to a period earlier than Middle Iron Age/Iron III on the basis of architectural and/or pottery evidence were taken in consideration, therefore sites with unsure dating, e. g. 'Early-Middle Iron Age', 'Iron Age', '1<sup>st</sup> millennium' and the like were discarded.

<sup>2</sup> No report was published on Iranian surveys carried out after 1979, but according to the information gathered during recent sojourns in Iran no other fortification surely predating Iron III is known.

This of course eliminated some information, but the diffusion map thus obtained gives us a precise representation. Up to date 83 pre-Iron III/Middle Iron Age hillforts are known in literature, 73 of them datable with varying degrees of precision to specific periods and 10 more defined as 'prehistoric' or broadly dated (e.g. '2<sup>nd</sup> millennium'). These latter were mainly identified in the earliest surveys and were not re-studied or fully published in the following years. The site of Zinjir Qal'eh (n. 82) has a question mark not because its dating is unsure, but because probably it not a hillfort, see appendix. This site was not included into the calculations.

The distribution of the Pre-Iron III hillforts at present seems to be very well defined, because they have been identified only in a limited area of Azerbaijan. According to the available data these monuments can be found in the Iranian part of the Araxes basin and in the basin of Lake Urmia (fig. 1). At the moment only two exceptions to this distribution pattern are known: sites no. 68 and 69, in the upper reaches of the Little Zab, near Khaneh/Piranshahr, therefore in the Tigris basin. These are not far from the hillfort of Musesir in Iraq, probably to be identified with the "city" of Musasir of the Assyrian sources (Böhmer 1973, 1979; Böhmer, Fenner 1973). It is therefore possible that other monuments of this type are located in the areas not yet surveyed on both sides of the Northern Zagros watershed.

It is to be remarked that only two hillforts (nos. 11 and 12) are known in the Araxes valley proper, all the other ones are located in the valleys of tributaries. Furthermore no hillfort is reported from the lowland part of the Araxes basin, either in Iran or in Azerbaijan. It is therefore evident that this class of monument is clearly connected with the highland.

Surveys carried out by Kleiss and by other scholars in other areas of Iran (e. g. Kleiss 1969, 1970, 1971, 1972, 1973, 1975 c-d, 1977, 1978, 1982, 1995-96a-b; Gropp, Nadjmabadi 1970; Swiny 1975; Venco Ricciardi 1980) including North-eastern Iran, Fars, Gilan, Khorassan, Kurdistan, Hamadan and Teheran regions did not reveal any pre-Iron-III hillfort<sup>3</sup>, therefore these monuments can be considered a peculiar element of Azerbaijan. It is interesting to note that much of their distribution coincides with that of the Urartian fortifications (fig. 2) – i.e. with the regions of present-day Iran included in the Urartian kingdom – with the exception of the easternmost and southernmost hillforts, in areas that probably was not Urartian territory. This coincidence of distribution enables us to define the hillforts under study as 'pre-Urartian' rather than 'pre-Iron III'.

Naturally future fieldwork will enrich our perception of the distribution area of these monuments, but it is significant that even research conducted by Kleiss in other parts of Iran, presumably with the same methods and aims as in Azerbaijan,

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<sup>3</sup> Some sites outside this area are definitely hillforts, like for instance Ajalu near Sardasht (Kleiss 1973: 12-13, fig. 4), the fortification near Barm-e Delak, Fars (Kleiss 1977: 23-24, fig. 3, pl. 1.1-2), Qal'eh Anduradar between Qazvin and Lahijan (Kleiss 1989: 2-5, figs. 2-6, 14, pls. 2.3, 3.1-3), but in no case is the dating sure and they cannot be attributed to the pre-Iron III period with certainty. On the other hand the important site of Zendan-e Suleiman, that lies in the Urmia basin east of the farthest southern hillforts, although dated to the Early Iron Age is either a settlement or a religious site, not a fortification (Kroll 2005: 81; Thomalsky 2006: 224-25).

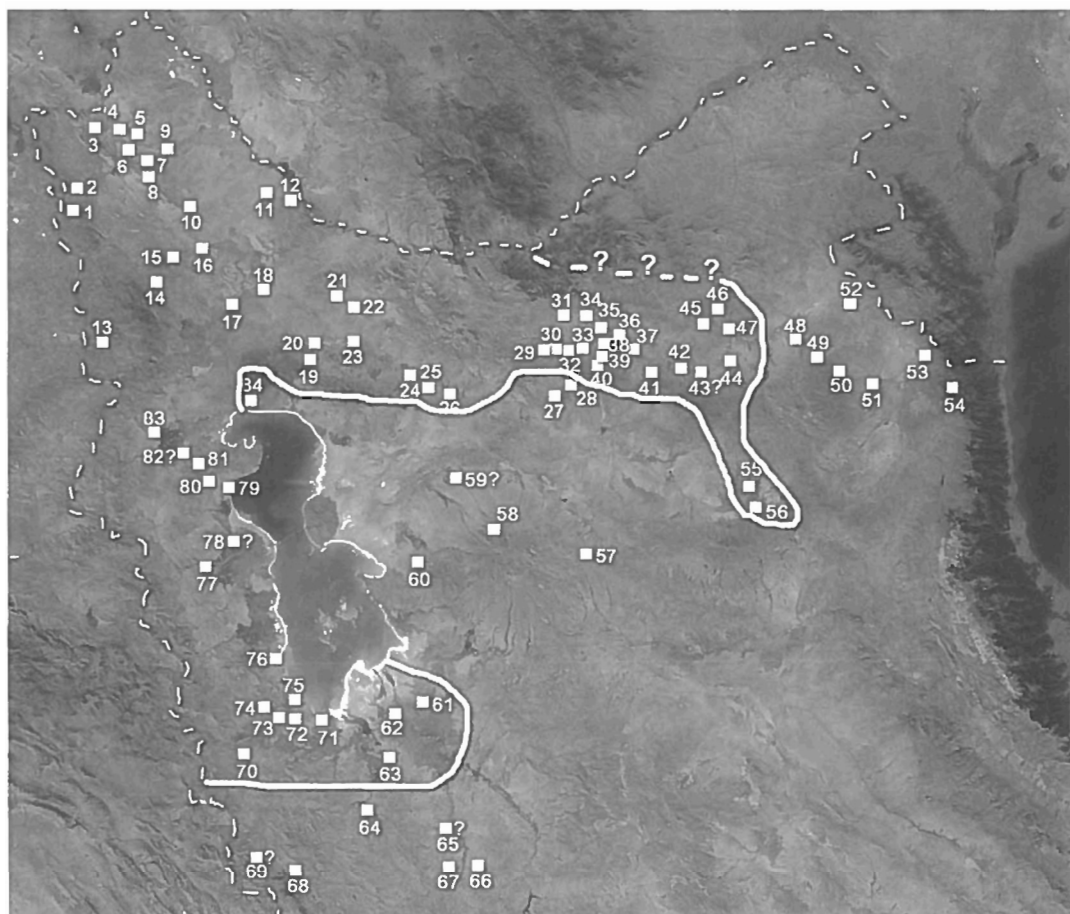


Fig. 2 – The distribution of the pre-Urartian hillforts and the probable borders of the Urartian kingdom in Iran (white line), determined on the distribution of the Urartian fortifications and inscriptions mentioning the presence of fortifications (Image courtesy of NASA, Visible Earth).

failed to reveal any pre-Iron III hillforts. It is therefore likely that even in future they will remain a peculiarity of north-western Azerbaijan.

It should, however, be noted that, according to the literature and to information gathered in Iran, the distribution of hillforts in Iron III and later periods expanded to include parts of Iran to the south and east of the area presented above.

Further information can be gathered by studying the fortifications by periods. It is to be remarked that in this case the sites are dated mostly on the basis of ceramic evidence, because no studies have been carried out on the architecture of the Iranian hillforts and consequently connections between architectural typologies and specific periods are not yet sure<sup>4</sup>. Again a certain number of monuments

<sup>4</sup> Sometimes the plan and/or building technique of given hillforts without a precise chronological attribution are very similar to those of well-dated fortifications of the Sevan Basin, the part of Southern Caucasia better known to the author. In these cases the date proposed for the Sevan hillforts was extended to the Iranian ones.

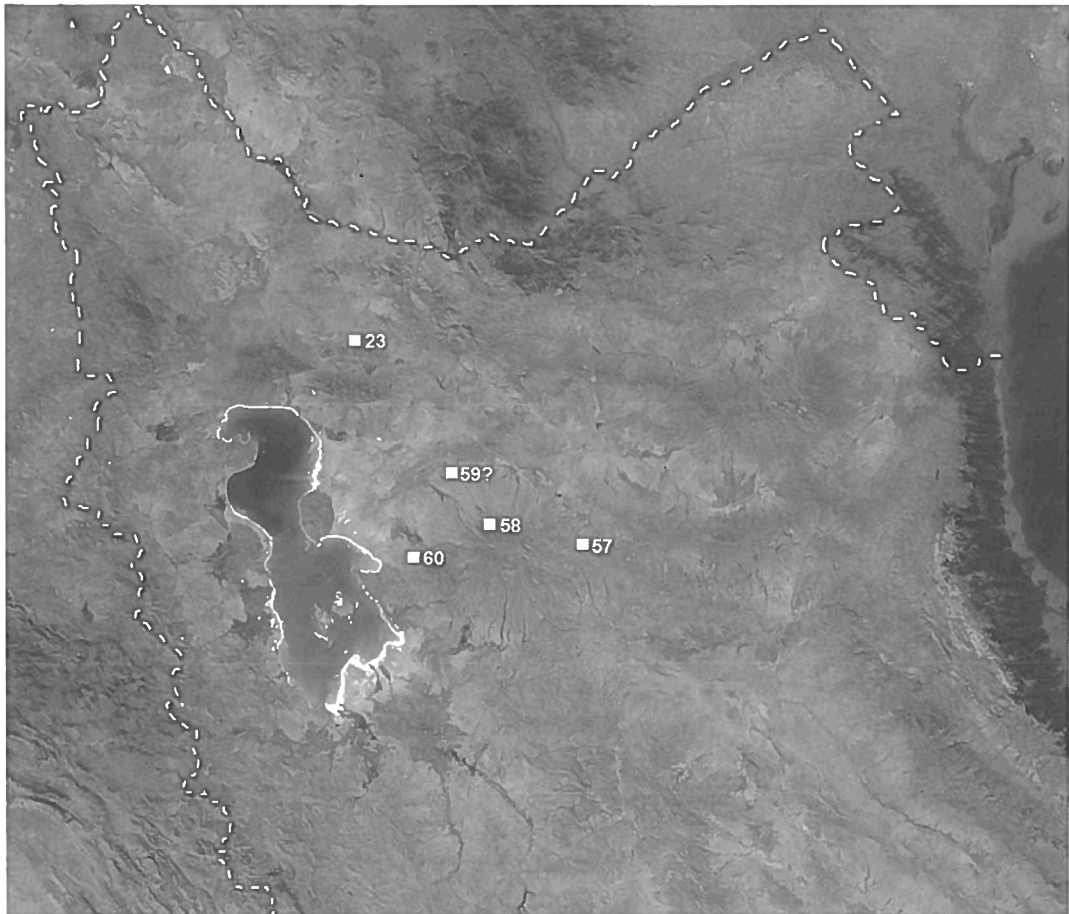


Fig. 3 – The distribution of the Chalcolithic hillforts. (Image courtesy of NASA, Visible Earth).

were not taken into account; e. g. the sites defined ‘prehistoric’ or ‘2<sup>nd</sup> millennium’ or ‘2<sup>nd</sup>-1<sup>st</sup> millennium’ were not included, because ‘prehistoric’ implies a very long time span and ‘2<sup>nd</sup> millennium’, in absence of other specifications, could include Middle Bronze (Haftavan VI, Urmia ware), Iron I (Hasanlu V) and the beginning of the Iron II (Hasanlu IV). The definition ‘3<sup>rd</sup> millennium’ clearly means Early Bronze (Kura-Araxes culture), so these sites were taken into consideration. A certain amount of data was thus eliminated, but what remains is reliable.

The earliest hillforts go back without doubt to the Chalcolithic period (fig. 3). Originally only sites n. 23, Livar, and 57, Bukene, were known; recently pottery of the Yanik Tepe chalcolithic (contemporary to Pisdeli of the Hasanlu sequence) has been found on two sites of the eastern Urmia basin, n. 58, B y k Qal’eh and n. 60, Qal’eh Tamasha (Biscione, Khatib-Shahidi 2006: 302-303, figs. 1, 3; Biscione, Khatib-Shahidi 2007: 28-29). All these sites did not show chalcolithic structures because the extant architecture is attributed to later periods, but the pottery is unmistakable. Furthermore the lay of the land (figs. 4 and 5) shows clearly that any settle-



Fig. 4 – The hill where the fortress of Böyük Qal'eh (n. 58) is located. Chalcolithic pottery was found only on and above the natural terrace surrounded by the Early Iron Age wall. The citadel wall, again going back to the Early Iron Age, runs around the top of the hill.

ment on these hills must necessarily have been a defended/defensive placement, whose function was clearly different from the usual chalcolithic tepes in the plain or in valley floors.

Chalcolithic pottery was also found on n. 59, Narin Qal'eh, but on the site no trace of fortification wall was found. Again, the lay of the ground suggests that it was possibly an hillfort, but in this case the presence is indicated as doubtful, with a question mark.

The three sure fortifications of the chalcolithic period represent 4.11% of the datable ones, and 3.61% of the total pre-Urartian fortifications. If we include also n. 59 the percentages rise respectively to 5.48% and to 4.82%.

It is to be remarked that only the fortification of Livar, n. 23, has a complete sequence from the Chalcolithic to the Early Iron Age and later.

Presently evidence of chalcolithic hillforts comes also from Eastern Anatolia (Özfiat 2006: 177, 182) but not from Southern Caucasia, where the first hillforts can be dated to the Early Bronze Age (e. g. Areshyan, Ghafadaryan 1996: 34, 44 quoted in Sanamyan 2002: 331; Kushnareva 1997: 55, 225). It is therefore clear that Iranian Azerbaijan, and perhaps the area around Mt. Sahend in particular, had a role in the origin and development of the hillforts on the Armenian Plateau.



Fig. 5 – The hill where the fort of Qal'eh Tamasha (n. 60) is located. Chalcolithic pottery was found mainly on the very top, inside the parthian-sasanian walls.

14 hillforts (fig. 6) can be attributed to the Early Bronze Age (Kura-Araxes culture), one of them (Ali Dashi, n. 41) dated on the basis of architectonical similarities with the Early Bronze fortifications of the Sevan Lake (Sanamyan 2002: 331). They represent 19.18% of the datable fortifications, i.e. 16.87% of the total of pre-Urartian fortifications. The greatest concentration of Early Bronze Age hillforts is in the north-westernmost part of Azerbaijan, with one thin southern bulge along the western shore of the Urmia lake (Girdagun, n. 74 and Kafir Qal'eh, 83) and another extending east of Tabriz (Qal'eh Baribar, n. 28; Ali Dashi, n. 41). There was a massive increase in the number of fortifications (about 3.5 times), but only the westernmost chalcolithic fortification (n. 23, Livar) continued into the Early Bronze Age. All the sites around Mt. Sahend were abandoned, possible evidence of some kind of disruption between Chalcolithic and Early Bronze<sup>5</sup>.

Ten hillforts are attributed to the Middle Bronze Age, Haftavan VI culture, plus three uncertain ones (fig. 7). These are Kuh-e Zamburan, n. 32 and Qiz Qal'eh n.

<sup>5</sup> This disruption is confirmed by the non-fortified sites north, east and southeast of the Urmia lake: on 10 tepes the chalcolithic period is not followed by the Early Bronze, only on 2 sites there is continuity (Biscione, Khatib-Shahidi 2006; Biscione-Khatib-Shahidi 2007).



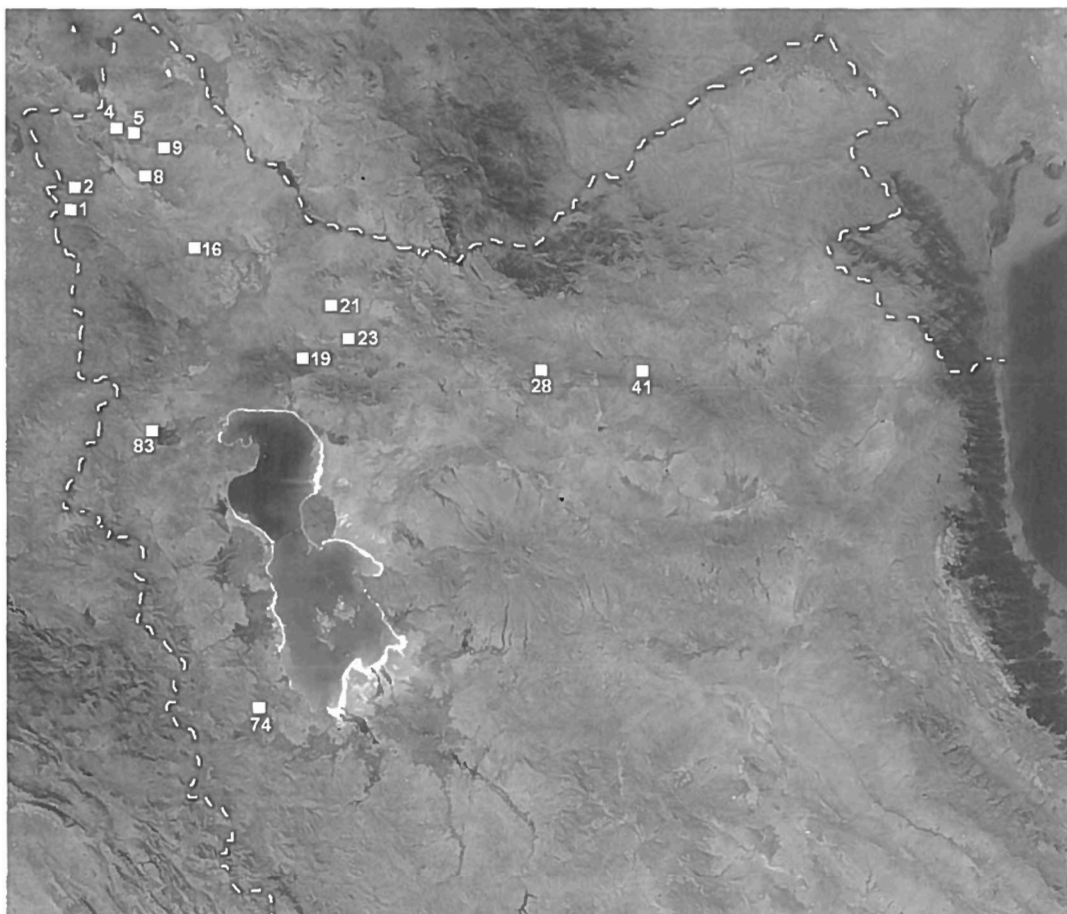


Fig. 6 – The distribution of the Early Bronze hillforts. (Image courtesy of NASA, Visible Earth).

78, both of them not surely settled, and Badinabad, n. 69, securely settled but unsure whether a fortification or not. The hillforts going back to the Middle Bronze make up 13.70% of the precisely datable fortifications and 12.05% of the pre-Urartian ones. If we take into account also the three not totally sure sites the percentages rise to 17.81% and 15.66% respectively. The area of distribution widens southwards, reaching Miyandoab (Arslan Qal'eh, n. 61) and perhaps the sources of the Smaller Zab (Badinabad? n. 69). Another uncertain fortification (Kuh-e Zamburan, n. 32) is located east of Tabriz.

The number of sites is very similar to that of the Early Bronze Age while in Armenia and Georgia their number diminishes (Kushnareva 1997: 81; Badalyan *et al.* 2003: 150), a fact that is often explained by the shift from an agricultural economy to a nomadic one. In Iran villages of this period are abundant, like the hillforts, so this could be an indirect evidence supporting the theory of the change of economic basis in Southern Caucasia. The great cultural break between Early and Middle Bronze Age, evidenced all over the Armenian Plateau by change in pottery and other elements of material culture, is reflected also by the hillforts. Only four



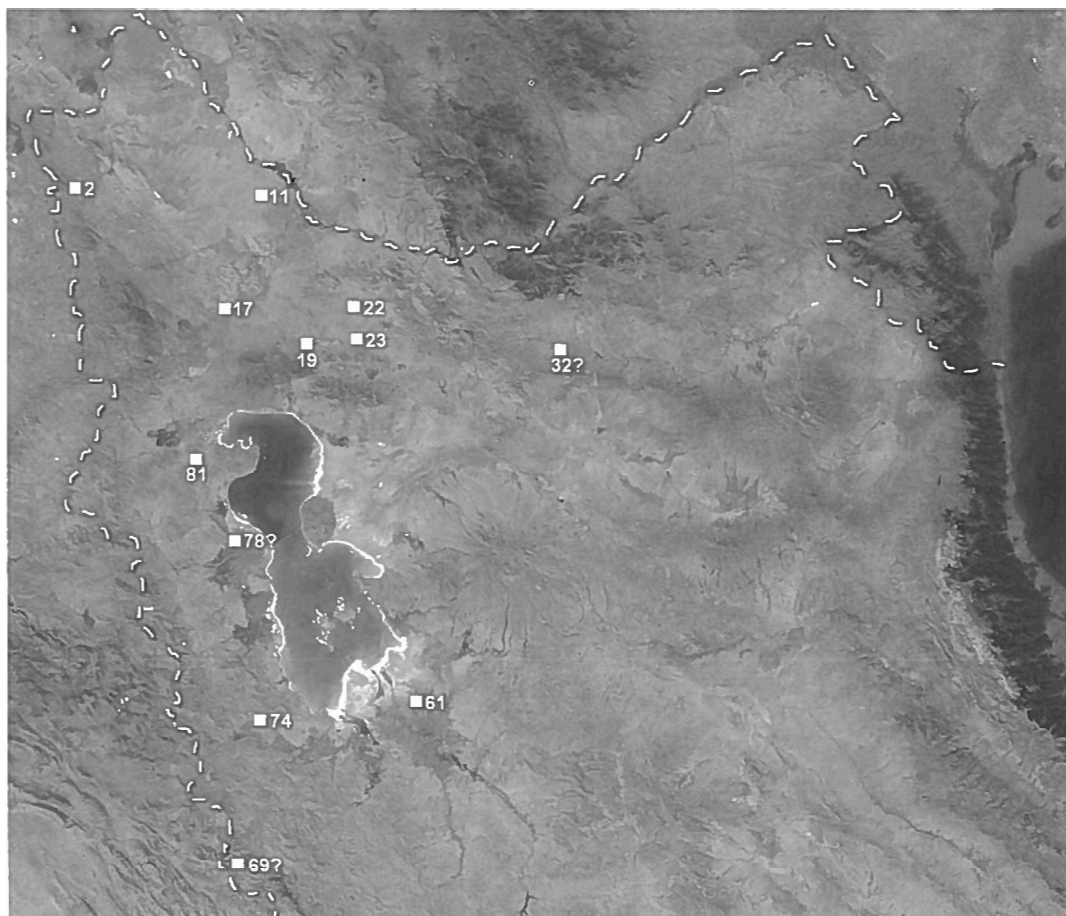


Fig. 7 – The distribution of the Middle Bronze hillforts. (Image courtesy of NASA, Visible Earth).

of the securely dated fortifications were founded in the Early Bronze Age (nos. 2, 19, 23, 74), the other six and all the uncertain ones were new foundations.

It is a well-known fact that, due to the strong cultural continuity, it is not easy to distinguish between the Iron I/ Hasanlu V and Iron II/ Hasanlu IV pottery, especially in the case of surface materials (e.g. Young 1975: 192; Kroll 1984: 16). Of course a number of diagnostic shapes can be safely referred to either period, but a great amount of pottery cannot be surely dated yet. This leads to the further difficulty that, because of this uncertainty, in surveys the number of Iron I sites is probably underestimated. For this reason it was deemed advisable to lump together the two periods under the definition “Early Iron” (see Kroll 2005: 65-66)<sup>6</sup>.

<sup>6</sup> A further element of confusion is the fact that in North-Western Iran it was preferred to stress the continuity, so period Hasanlu V was called ‘Iron I’ even if the use of Iron is not attested. According to the Eastern Anatolian and Southern Caucasian terminology Hasanlu V would be defined ‘Late Bronze’.

In Early Iron hillforts reach their apex both in number and in extension, being found in substantial numbers all over the distribution area (fig. 8), extending into the southern Urmia basin and reaching the sources of the Little Zab. 57 sites can be safely attributed to this period and possibly two more belong to it (nos. 43, 79)<sup>7</sup>. This dramatic increase happens also in the other areas of the Armenian Plateau.

The hillforts of the Early Iron Age represent 78.08% of the precisely datable sites and 68.67% of the total number of pre-Urartian hillforts; including also the not surely dated hillforts of Iran the percentages rise to 80.82% and 71.08%.

The continuity with Middle Bronze is strong, because 8 fortifications out of 10 securely settled in that period showed also Early Iron pottery, i.e. 80%. If we include also the three doubtful sites the percentage is lower, i.e. 69.73%. The continuity with Early Bronze, instead, is not strong because only 5 fortifications out of 14 (35.71%) were settled also in Early Iron Age. It is also to be remarked that the fortification of Böyük Qal'eh, n. 58, and the site of Narin Qal'eh, n. 59, were re-settled after a gap that went through Early and Middle Bronze.

In Armenia two, in some cases three, hierarchical levels of fortification were identified (see below p. 135). The small amount of plans or sketches to scale published for Iran does not allow to gather a number of sure measurements to draw a hierarchy of fortifications, like it was done in Armenia, but the mention in the literature of 'large fortresses' and 'small fortified sites' and the few data that can be gathered from the plans suggests that in Iran at least two hierarchical levels should exist (fig. 9). The fortresses were probably the capitals of polities with a certain degree of sociopolitical complexity.

The following period, about 800-600 BC, outside the scope of this article, is briefly treated for comparative purposes. This period is here defined 'Urartian' if literature or personal observation show that the fortification was clearly re-built or re-structured according to the Urartian architectural tradition and Urartian pottery is conspicuously present; it is defined Iron III if Urartian architecture is absent and Urartian pottery is not abundant. 20 hillforts continue after 800 BC and on 6 more a later settlement is not totally sure. The percentage of continuity is 35.08% if only the surely dated sites are taken into consideration and 44.07% if in the calculation includes also the fortifications in which the presence of Early Iron or of the later period is not sure. Such low percentages could suggest a disruption, possibly connected with the Urartian conquest of part of the region (see Biscione 2003: 173-174), but we should also consider the strong continuity of the pottery throughout the Iron Age. It is possible that many more sites survived into Iron III but our imperfect determination of the surface pottery does not allow us to realize this fact.

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<sup>7</sup> The site of Gundavileh/Gundakela (n. 73) was dated '2nd millennium' by Kleiss (1977: 27 fig. 8), but on the sketchplan irregular buttresses are visible, which are a typical characteristic of Early Iron in Armenia (Sanamyan 2002: 331). The site is here considered Early Iron. Agrab tepe is not included in the list because it is not a hillfort. The Urartian fortification was built on an earlier tepe, most probably undefended.

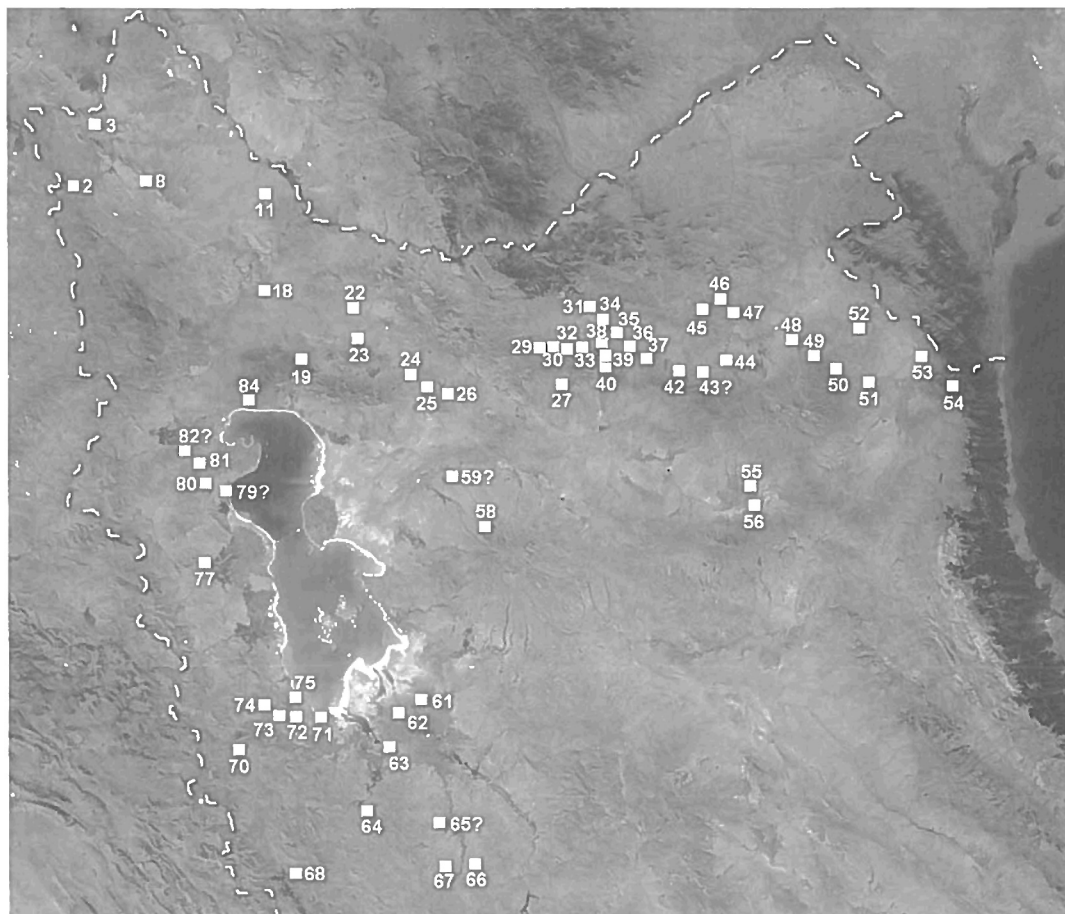


Fig. 8 – The distribution of the Early Iron (Iron I-II) hillforts. (Image courtesy of NASA, Visible Earth).

Hillforts, as already said, constitute one of the typical traits of the Armenian Plateau, being present also in Eastern Anatolia, in Southern Caucasia, especially in Georgia and Armenia, and probably in north-eastern Iraq. The region where this class of monuments is better known and studied is undoubtedly the Southern Caucasian highland, the mountainous parts of Georgia and Armenia. There hillforts have been carefully studied and typologies and chronologies have been elaborated (e.g. Smith 1996: 125-133, Smith, Kafadaryan 1996; Sanamyan 2002), which give a reliable background for a future study of the pre-Urartian hillforts of Iran.

Few plans and some sketches of the fortifications outside Southern Caucasia have been published, therefore it is not yet possible to study in detail this class of monuments, but the similarities with the published plans from Armenia and Georgia are strong, evidencing once more that the whole Armenian plateau is one cultural area.

In the highlands of Southern Caucasia the settlement pattern based on fortifications reached its peak. There already in the Early Bronze Age, the settlement

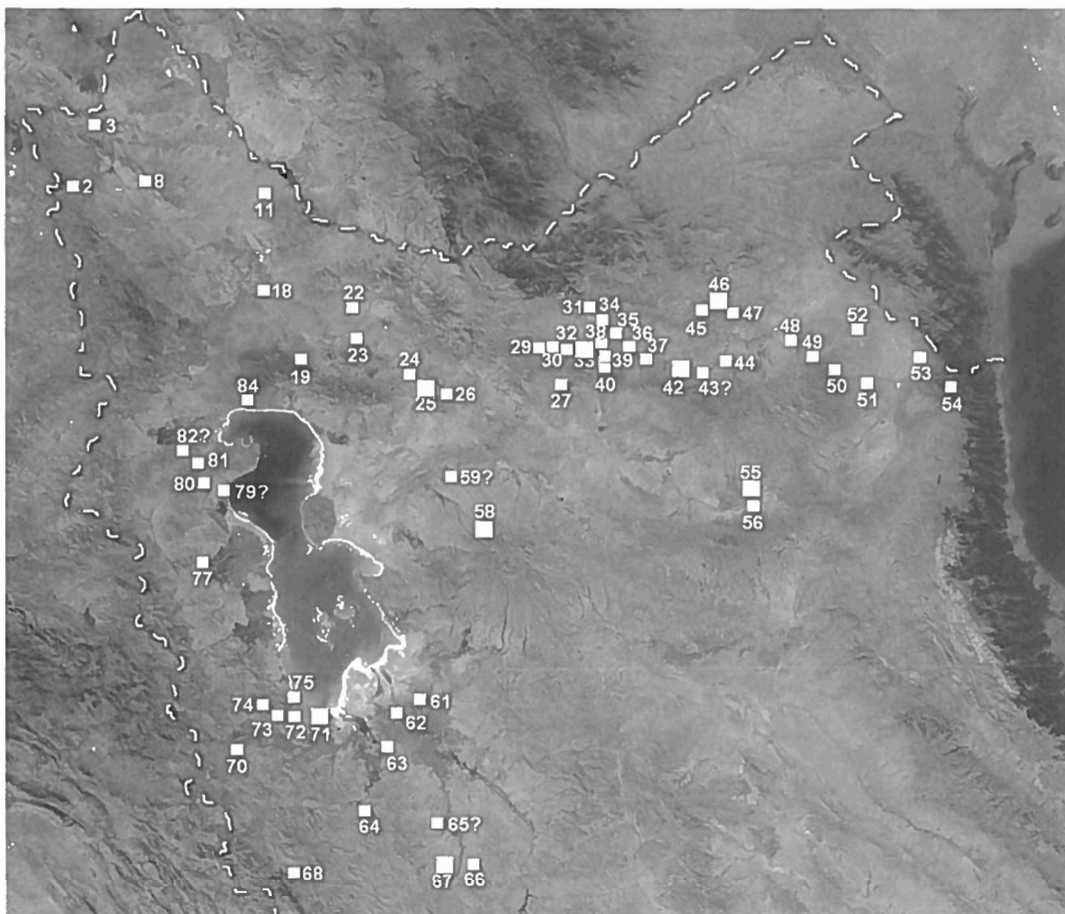


Fig. 9 – The distribution of the large Early Iron hillforts, defined ‘fortresses’ in the appendix, evidenced by large squares, in relation to the smaller ones. (Image courtesy of NASA, Visible Earth).

pattern was strongly characterized by hillforts, which soon became the most significant form of settlement. Hillforts were not associated with tepes, either undefended or with mudbrick walls, they were instead the only macroscopic form of settlement. Undefended sites did exist (e. g. Smith 1996: 134-136), but they seem to be scatters of pottery or sites with a very shallow archaeological deposit, evidence of settlements which were short-lived and/or with structures scattered over a wide surface. The settlement pattern based on fortifications, sometimes with evidence of dwellings around them (e.g. Badalyan *et al.* 2003: 159 fig. 7.5), climaxed in the Late Bronze/Early Iron Age with the greatest number of fortifications, the largest ones reaching the apex in terms of dimensions and complexity.

The Southern Caucasian fortresses of the Early Iron Age were not only defensive structures and the seat of the power, they also had all the functions of the larger settlements of other parts of the Near East: they had some degree of administrative functions (Smith 1996: 188; Smith 2009: 397), in some of them ritual buildings were discovered (Smith 1996: 186; Smith 2009: 398), they were the place where

craftsmen working for the ruling elites and for the population were located and organised (Smith 1996: 188; Biscione 2002: 359; Smith 2009: 398). Three hierarchical levels of fortifications have been determined in the southern part of the Sevan basin (Biscione 2002: 358), while in the other areas of the Sevan Basin only two are evident. The large fortresses were most probably the capitals of societies with a high degree of sociopolitical complexity, typical of the "Caucasian model of development" identified by Masson (1997). This model is characterized by non-urban, non-state societies with strong social differentiation and extremely unequal distribution of wealth, ruled by military aristocracies with a great capacity for accumulating wealth and organising labour and manpower (no less than that of Mesopotamia at the beginning of urbanization), with a hierarchy of large settlements and lesser ones (Masson 1997: 127-132). Both of them, in Southern Caucasian highlands, identified with fortifications.

According to Masson the Caucasian model did not develop into state organization, although it could have given birth to proto-urban organization. It must be noted that the Urartian kingdom, the first state of the Armenian Plateau, did not have cities similar to those of the lowlands of the Near East, but the fortresses, surrounded by 'lower cities' similar to the Southern Caucasian unfortified settlements or to the ones evidenced by the ArAGATS Project (Badalyan *et al.* 2003: 159 fig. 7.5; Smith, Greene 2009: 302, 314), had all the functions of cities without the concentration of population. Fortresses were the seat of the power, with administrative and religious functions, storerooms, public and monumental buildings and religious structures. It is evident that the Urartian kingdom, the first state of the Armenian Plateau, adapted the administrative and organizational techniques of urban Mesopotamia to the local non-urban tradition based on fortresses.

The north-westernmost part of Iran, both the region conquered by the Urartians and the areas outside the kingdom where the pre-Urartian hillforts are present, was part of the same world, but the presence of tepes differentiates it from Southern Caucasia, linking it with Eastern Anatolia (e. g. Özfirat 2006: 186, 189). The study and the interpretation of the Caucasian model of development, in both versions, is an important task for the future.

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## APPENDIX.

## List of the pre-Urartian hillforts in Iran

The dates of the sites are those proposed in the quoted literature. Sometimes in the last line of the description of each site there are details and information gathered from the literature and remarks by the author of this article. Frequentation of historical periods have not been listed, with the exception of the Urartian or Iron III period.

The sites listed in Kroll 1984 (nos. 19-23, 27-40, 43, 49-57), Kleiss, Kroll 1992 (nos. 24-26) and in Kroll 2005 (nos. 61-68, 70-72) have also Kroll's reference code, composed of two letters for the *farmandari* (e. g. AH = Ahar, MD = Marand etc.) and the number of the site.

C = Chalcolithic EB = Early Bronze MB = Middle Bronze EI = Early Iron, Iron I-II I3 = Iron III U = Urartian.

Name	Periods	Literature
1. Ravaz	EB	Kleiss 1971: 51, 53 fig.3, pl. 5,1; Kleiss, Kroll 1979: 31-34 figs. 5-7, 37-43 figs. 2-6.
2. Qal'eh Haidari - Khezerlu	EB, MB, EI, U	Kleiss 1976: 20-24, figs. 2-7, pls. 2.1-2.
3. Danalu	EI	Kleiss 1975b: 60-62 figs. 11-13, pl. 9.3-4; Kroll 1976: 34-36 fig. 9, 166.
4. No Name	3 <sup>rd</sup> millennium (EB)	Kleiss 1975a: 28-29 figs. 1-2, 4, pl. 4.2.
5. Yakhvali	EB	Kleiss 1973: 20 fig. 17, pl. 1.4; Kleiss, Kroll 1979: 27-31 figs. 2-4, 34-37 fig. 1.
6. Qyzyl Dagħ	Prehistoric	Kleiss 1969: 16 fig. 8, pl. 4.2.
7. No Name Fortified settlement.	Prehistoric	Kleiss 1969: 13-14, fig. 7, pls. 3.3, 4.1.
8. Duchgagi	EB, EI, U	Kleiss 1968: 13-17 fig. 9, pl. 4.1-2; Kleiss 1969: pl. 7.3; Kroll 1976: 45-47 fig. 15, 167; Kleiss, Kroll 1978: 36-41 figs. 14-16, 63-65 fig. 1.
9. Qal'eh Zarin Kuh 1 Composed of settlement (QZK 2) and <i>Fluchtburg</i> (QZK 1).	3 <sup>rd</sup> millennium	Kleiss 1975a: 29-30 figs.1-2, 5, pl. 4.3.
10. Mariyam Complex of structures and large walls, probably a fortified settlement.	Prehistoric	Kleiss 1970: 109-110 fig. 3, pls. 49.3, 50.1-2.
11. Qal'eh Oghlu	MB EI, U	Kleiss 1968: 20-21 fig. 11, pls. 5.3, 6.1-3; Kleiss 1969: 20-22 fig. 22, pl. 9.2; Kleiss 1972: 60, 62-64 figs. 56-58; Kleiss 1974: 93 fig. 13; Kroll 1976: 40-45 figs. 12-14, 157-159, 167.
12. Qal'eh-ye Dokhtar Very short description.	Pre - protohistoric	Kleiss 1968: 21.
13. Kotur	Prehistoric	Kleiss 1973: 9-10 fig. 3.

14. Kōshi/Keshish Qal'eh	3 <sup>rd</sup> – 2 <sup>nd</sup> millennium	Kleiss 1973: 16, fig. 13.
15. Kidir Ali	2 <sup>nd</sup> – 1 <sup>st</sup> millennium	Kleiss 1969: 15-16 fig. 9-10; Kleiss 1970: 109 fig. 2, pl. 49. 1.
16. Bolurabad 3	EB	Kleiss, Kroll 1975: 16-25 figs. 1-7, pl. 3.
17. Qiz Qal'eh Khoy	MB, U	Kleiss 1970: 113-115 figs. 5-6, pl. 52.1-3, 53.1-3; Kleiss 1974: 80-82 figs. 2-3, pl. 1.1-2; Kroll 1976: 57-59 fig. 20.
18. Qiz Qal'eh Evoghlu	EI, U	Kleiss 1970: 112-113 fig. 5, pl. 51.1; Kleiss 1974: 86; Kroll 1976: 52-57 figs. 18-19, 167.
19. Tepe Qalajug (MD 10) EB, MB, EI Probably fortified settlement.		Kroll 1984: 21 fig. 1, pl. 2.1.
20. Burunne (MD 9)	MB, U.	Kleiss 1975a: 30-32 figs. 1-2, 6, pl. 4.4; Kroll 1984: 21.
21. Qal'eh Chakmakhli (MD 24)EB		Kleiss 1975a: 27-28 figs. 2-3, pl. 4.1; Kroll 1984: 29.
22. Sheragayeh Amir – Cheraqah-e Amir (MD 19)	MB, EI, U	Kleiss 1975b: 58-60 figs. 1, 8-10, pl. 9.1-2; Kroll 1976: 68-70 fig. 26, 167; Kroll 1984: 28.
23. Livar (MD 14)	C, EB, MB, EI, U	Kleiss 1971: 56-58 fig. 8, pl. 6.1-3; Kroll 1976: 59-68 figs. 21-25. 167; Kleiss, Kroll 1977: 55-57 figs. 2-5, 84-89 fig. 1, pls. 10.1-3, 11.1-2, 12.1-3, 13.1-3; Kroll 1984: 22-23 fig. 2.
24. Kültepe (MD 29)	EI	Kleiss, Kroll 1992: 14 fig. 22, 38-39, 42, pl. 7.2.
25. Qal'eh Choran Chora (MD 27) EI Large fortress.		Kleiss, Kroll 1992: 14 figs. 20-21, 38-42 figs. 7-8, pl. 14.2.
26. Qal'eh Gohar (MD 28)	EI	Kleiss, Kroll 1992: 17, 19-20 fig. 22, 44-45 figs. 9-10, pls. 7.4, 8.1-3, 9.1-3, 14.3-4, 15.1.
27. Bōj – Qal'eh Borji (TA 4)	EI, U	Kleiss 1975b: 66-68 figs. 18-19, pls. 10.3, 11.1; Kroll 1976: 75, 168; Kroll 1984: 33 fig. 5.
28. Qal'eh Baribar (TA 3)	EB	Kleiss 1975b: 69 fig. 20, pl. 11.2; Kroll 1984: 32.
29. Varzeghan 2 (AH 33) Watchtower.	EI	Kroll 1984: 104-105 fig. 38.
30. Varzeghan 1 (AH 32) Watchtower.	EI	Kroll 1984: 104 fig. 37.
31. Kuh-e Qal'eh (AH 44) Fort.	EI	Kroll 1984: 113-114; Weisgerber, Kroll, Gropp, Hauptmann 1990: 87-88 figs. 1-2, 94, 96 fig. 7, pl. 15.1-3, 16.1-3.
32. Kuh-e Zamburan (AH 30) Fortified settlement.	MB? EI, U	Kleiss 1981: 15 figs. 7-8, 10; Kroll 1984: 101-103 fig. 36.
33. Seqindel 1 (AH 26) Fortress.	EI	Kleiss 1968: 43, fig. 32; Kleiss 1969: 25. pl. 11.3; Kleiss 1972: 145-146 figs. 18-19; Kroll 1976: 76; Kleiss-Kroll 1980: 21-27 figs 2-7, 34-46 figs. 1-6; Kroll 1984: 100.



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| 34. Qal'eh Nahar (AH 25)<br>Fort.  | EI      | Kleiss 1981: 13-14 figs. 5-6, pls. 1.1-3, 2.1-2;<br>Kroll 1984: 99-100 fig. 35.  |
| 35. Qal'eh Sang-e Molk (AH 23)   | EI, I3? | Kleiss 1981: 10 fig. 4; Kroll 1984: 96-99 figs. 32-33.   |
| According to Kleiss it was re-structured and settled by Urartians, according to Kroll there is no evidence of the fact. In Iron III it was probably settled by local people, without Urartian connections. |         |  |
| 36. Qal'eh Dizli (AH 18)<br>Fort.  | EI, I3? | Kroll 1984: 87-90 figs. 26-27, pls. 5.1-2  |
| 37. Ajar Qal'eh (AH 16)<br>Fort.   | EI I3?  | Kroll 1984: 84-86 figs. 23-24, pl. 6.1   |
| 38. Qal'eh Chassanaq (AH 22)<br>Fort.  | EI, U?  | Kroll 1984: 94-96 figs. 30-31.   |
| 39. Qal'eh Chaldagh (AH 10)  | EI, U?  | Kleiss 1981: 17-18 fig. 11, pl. 2.3; Kroll 1984: 81 fig. 22.   |
| 40. Qal'eh Bozorg Arvanj<br>(AH 19)  | EI, U   | Kleiss 1981: 9 figs. 2-3; Kroll 1984: 91-92 fig. 28.   |
| 41. Ali Dashi  | EB      | Biscione, Parmegiani 2002: 363.  |
| Scanty pottery, not datable; architectural characters are most probably Early Bronze.  |         |  |
| 42. Qarajalu 2.  | EI, I3  | Biscione, Parmegiani 2002: 361.  |
| Large fortress. Besides EI pottery also Toprakkale ware was found on surface, but the extant structures are definitely local and not Urartian. Therefore a I3 dating is suggested.                         |         |  |
| 43? Qal'eh Nowduz/Noqduz<br>(MKSR 36)  | EI? I3? | Kleiss 1969: 30-31; Kroll 1984: 60; Biscione, Parmegiani 2002: 361   |
| A few fragments of grey ware and Toprakkale ware were found.   |         |  |
| 44. MKSR 66<br>Fort.   | EI      | Ingraham, Summers 1979: 100, fig. 7: 10, 22.   |
| 45. Shirbit.   | EI, I3  | Bashash Khanzaq, Biscione, Hejebri-Nobari, Salvini 2000: 31.   |
| Fort. Toprakkale ware was found on the site, but the architectural characters do not suggest an Urartian re-structuration.   |         |  |
| 46. Qal'eh Shisheh   | EI      | Bashash Khanzaq, Biscione, Hejebri-Nobari, Salvini 2000: 26, 29.   |
| Large fortress, Urartian inscription.  |         |  |
| 47. Qal'eh Jaghur.<br>Watchtower.  | EI, I3  | Biscione, Salvini 2000: 317.   |
| 48. MKSR 1<br>Fort.  | EI      | Ingraham, Summers 1979: 88.  |
| 49. Chorbulak 1/Shorbulaq<br>(MKSR 57)   | EI      | Kleiss 1972: 138 fig. 6; Ingraham, Summers 1979: 57 figs. 9: 2, 14, 26-28, 10: 1, 4, 8, 12, 23, 26; Kroll 1984: 60-61. |
| 50. Qiz Qal'eh Ruyan<br>Duyah (MKSR 71)  | EI, I3  | Kleiss 1969: 19-20, figs. 18-19, pl. 6.1-3, 7.1; Kroll 1984: 66-68 fig. 15.  |
| 51. Javedar (AR 9)<br>Fortified settlement?  | EI, I3? | Kleiss 1972: 135 fig. 3; Kroll 1984: 49, 52.   |
| 52. Aq Qal'eh/ Ak Kale (MKSR 69)   | EI      | Kleiss 1972: 140 fig. 10, pl. 32.1.; Kroll 1984: 61-62 figs. 11-12.  |

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| 53. Namin/Ghaur Qalasi (AR 15)   | EI        | Kroll 1984: 53 with previous literature.  |
| 54. Chir Chir Pori (AR 25)   | EI        | Kroll 1984: 54 with previous literature.  |
| 55. Nashteban (SB 11)<br>Large fortress.   | EI        | Kleiss 1972: 144 fig. 17, pl. 34.1-2; Kroll 1984: 43, 46 fig. 7.  |
| 56. Khalian (SB 9)<br>Fortified settlement.  | EI        | Kleiss 1969: 16 fig. 13; Kroll 1984: 43.  |
| 57. Tepe Bukene (SK 4)<br>In the literature the extant architectural remains were not described nor dated, but presumably the site was in a strong position so, if the walls were built in the Sasanian or Islamic period, the site was fortified also during the Chalcolithic (see nos. 58-60). | C         | Kleiss 1977: 23 fig. 2; Kroll 1984: 39.   |
| 58. Böyük Qal'eh<br>Large fortress. The walls are most probably EI, but the location shows that any settlement on the site was fortified.  | C, EI     | Biscione, Khatib-Shahidi 2006: 302-303, figs. 1-2; Biscione, Khatib-Shahidi 2007: 28-29, figs 2-3.                                  |
| 59? Narin Qal'eh<br>No wall remains were found, but the location suggests that any settlement on the site was fortified.   | C, EI, I3 | Biscione, Khatib-Shahidi 2006: 302; Biscione, Khatib-Shahidi 2007: 28   |
| 60. Qal'eh Tamasha<br>The extant wall remains are later, but the location shows that any settlement on the site was fortified.   | C         | Biscione, Khatib-Shahidi 2006: 303 fig. 3; Biscione, Khatib-Shahidi 2007: 29, fig. 4  |
| 61. Arslan/Aslan Qal'eh (MY 4)<br>The Mediaeval fortress destroyed all the previous architecture, but the location shows that any settlement on the site was fortified. Also called Qiz Qal'eh or Qal'eh-ye Dokhtar.   | MB, EI, U | Kleiss 1973: 26-28 fig, 25, pls. 3.2-4, 4.1; Kroll 1976: 99; Kroll 2005: 77, fig. 10  |
| 62. Tepe Tazekand (MY 6)   | EI        | Kleiss 1975a: 36, figs. 1-2, 9. Kroll 2005: 78  |
| 63. Tashtepe (MY 2)  | EI, U     | Kleiss 1970: 119-120 fig. 9, pl. 58, 1; Kleiss 1974: 102-103; Kroll 2005: 76  |
| 64. No Name (MB 11)<br>Small fort.   | EI        | Kleiss 1977: 31, fig., 11, Pl. 3,1; Kroll 2005: 75  |
| 65? Dashband (MY 13)<br>No fortification wall is mentioned, but the short description of the location suggests that the settlement was fortified.  | EI        | Kroll 2005: 79  |
| 66. Topt Qal'eh (MY 20)<br>Small fort.   | EI        | Swiny 1975: 85; figs. 2, 8-9; 3, 5; Pl. 33; Kroll 2005: 80  |
| 67. Girdahrah/Girdashrah Qal'eh (MY 14)<br>Large fortress.   | EI        | Kleiss 1977: 29-30, fig. 10, Pl 2, 2-3; Kroll 2005: 79  |
| 68. No name (PR 30)<br>Fortified settlement.   | EI        | Kleiss 1977: 26 fig. 7; Kroll 2005: 73  |
| 69? Badinabad<br>Kleiss does not mention fortification walls, but judging from the sketch the site was probably fortified.   | MB        | Kleiss 1977: 26, 28 fig. 6.   |
| 70. Gerd-i Qisal (NQ 14)<br>Small fort. Other names Kaniki Zar, Shekan   | EI, U     | Kleiss 1976: 33-34; Kroll 1976: 110; Kleiss, Kroll 1979: 213-14, fig. 41; Belgiorno, Biscione, Pecorella 1984a: 174; Kroll 2005: 67 |

71. Kuh-i Chorblah (NQ 59) EI  
Fortress. Kleiss 1973: 29-30, fig. 26, ; Kleiss, Kroll 1977: 78, fig. 29; Kroll 2005: 69-71
72. Gerd-e Qalat (NQ 8) EI, U Kleiss, Kroll 1979: 213-214 fig. 41, 241-242. Kroll 2005: 67  
Fort. Plan and wall typology are typically EI, without tower-buttresses.
73. Gundavileh/Gundakela. EI Kleiss 1977: 27 fig. 8.  
Fort with irregular tower-buttresses. The plan shows that the fortification walls are EI.
74. Girdagun EB, MB, EI Kleiss 1977: 24-25 fig. 4.  
Fortified settlement.
75. Qal'eh Pir Chopan EI Kleiss, Kroll 1978: 46 fig. 22, 66.  
Fort.
76. Qal'eh Horaba 2<sup>nd</sup> millennium Kleiss 1973: 15 fig. 11, pl. 1.1.
77. Qal'eh Ismail Aqa EI, U Kleiss 1976: 26-30 figs, 10-14, pls. 5.1-3, 6.1-2, 7.1-3, 8.1-3, 9.1; Kroll 1976: 98-99 fig. 42, 169; Kleiss, Kroll 1977: 64-68 figs. 14-18, 98-109 figs. 4-6; Belgiorio, Pecorella 1984: 322-323; Belgiorio, Biscione, Pecorella 1984b; Silenzi 1984.  
The extant architecture is totally Urartian, but the presence of EI pottery shows that an earlier fortification existed.
- 78? Qiz Qal'eh 2<sup>nd</sup> millennium (?), U Kleiss 1971: 67 fig. 17; Kroll 1976: 87; Belgiorio, Biscione, Pecorella 1984a: 164
79. Gushchi Prehistoric, EI? Kleiss 1968: 42 fig. 31; Kleiss 1969: 16 fig. 14, pl. 5.2.  
The masonry of the walls, similar to that of the Zendan-i Sulaiman, suggests an EI date.
80. Tepe Akhudarreh Pre-U, U Kleiss 1975b: 65-66, fig. 17, pl. 10.2.
81. Qal'eh Vaziri MB, EI, U Kleiss 1968: 33 figs. 23-24, pls. 10.5, 11.1-2; Kleiss 1969: pl. 8.3; Kroll 1976: 84-85 fig. 34, 168.
- 82? Zinjir Qal'eh I EI, U Kleiss 1968: 40-41 fig. 30; Kleiss 1969: pl. 10.2; Kroll 1976: 86-87 fig. 35, 168, with previous bibliography.  
Terrace, possibly a temple. Listed as an Urartian fortress in Kroll 1976.
83. Kafir Qal'eh EB, U Kleiss 1968: 31-32 fig. 21; Kleiss 1969: 24 fig. 20, 10, 22; pl. 10.3; Kroll 1976: 81-82 fig. 32, 168; Kleiss, Kroll 1978: 28-34 figs. 2-7, 60-62.
84. Topchi EI, I3 Biscione, Khatib-Shahidi 2006: 302; Biscione, Khatib-Shahidi 2007: 27, 32 fig. 1.  
Fort. Toprakkale ware was found on a low hump attached to the site, but not on the main site itself. Architectural characters of the wall are certainly not Urartian, so the fort was defined Iron III and not Urartian.

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