ZAGROS STUDIES

Proceedings of the NINO Jubilee Conference and Other Research on the Zagros Region

edited by

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NEDERLANDS INSTITUUT VOOR HET NABIJE OOSTEN
LEIDEN

PEETERS
LEUVEN

2020

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Before and After the Flood. Archaeology on the Rania Plain Then and Now

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1. General Introduction

> "Despite the established potential for significant and often irreversible losses of cultural resources due to dam construction, cultural heritage management is still not adequately considered in the planning process. In Turkey, for example, only 25 of 298 existing dam projects have been surveyed for cultural heritage, and of these only five have had systematic rescue work conducted" (WCD report 2000: 117).

For decades construction of dams and other water-management systems have flooded thousands of archaeological heritage sites throughout the Greater Middle East. Prior to inundation local governments have occasionally organised what may be termed 'first-phase' archaeological salvage projects to document and excavate the most important sites in an international effort. One of the

Fig. 1. The Rania Plain. View north from Shemshara (May 2014).

* The 2014-15 surveys were assisted by J. Alassad, A. Ameen, I. Kisjes (UAV pilot, surveyor), E. Mariotti (surveyor), J. Orbons (geo-physicist), I. Svenson, V. Tuma, M. Uildriks (surveyor). Photos not otherwise credited were recorded by the author. The maps and excerpts from the Hunting aerial photos were prepared by the surveyors. For maps of Rania Plain sites see Maps 1 and 2 in the Introduction to this volume.

earliest salvage projects for dam flood zones was the Dokan Dam area (Solecki 1953), which is the focus for this article. In the 1960s construction of the Aswan High Dam on the Nile occasioned substantial international rescue efforts (Säve-Söderbergh 1987), and subsequently salvage projects have in many cases preceeded major dam construction. Notable examples include the GAP dams on the Turkish Euphrates (Shoup 2006; Tunca, Öztürk, Velibeyoğlu 2004), the Tabqa-Tishrin Dams downstream in Syria (e.g. Olmo Lete, Fenollos 1999), and the Haditha (e.g. Kepinski, Lecomte, Tenu 2006), Hamrin (e.g. Huot 1987), and Eski Mosul (e.g. Ball, Campbell 2003) dams in Iraq. In these and other projects national antiquities departments aided by a host of international teams strived valiantly to survey and excavate sites within the projected flood zones. In some cases excavation targeted sites actually beyond the final inundation zones, and could thus proceed after dam closures (e.g. Finkbeiner, Sakal 2010), which otherwise marked the supposed entombment of the affected heritage sites.

Even when extensive, first-phase salvage has rarely been comprehensive or complete, and many sites in projected salvage zones were thus never recorded or investigated. It is the more surprising, therefore, that there exists no real study of how heritage sites are actually affected by prolonged inundation. The issue is of obvious importance, not least in a Middle Eastern setting, where pre-modern settlement structures, often in multiple superimposed phases and levels, were built predominantly of earth (mud brick, rammed earth etc.). First-phase salvage has, at least implicitly, proceeded from the assumption that inundated sites were lost, while it has remained unclear – since unstudied – in what state the sites might potentially reappear from the water (Eidem 1999). It is therefore of considerable interest and importance to compile a clearer, concrete assessment of the potential flood damage to Middle East type heritage sites, to inform and guide future salvage and protective procedures. The NINO project on the Rania Plain aims at achieving this through close scrutiny of heritage loss in the probably earliest dam zone where pre-flood salvage survey and excavation was conducted, and where long-term damage assessment is thus feasible.

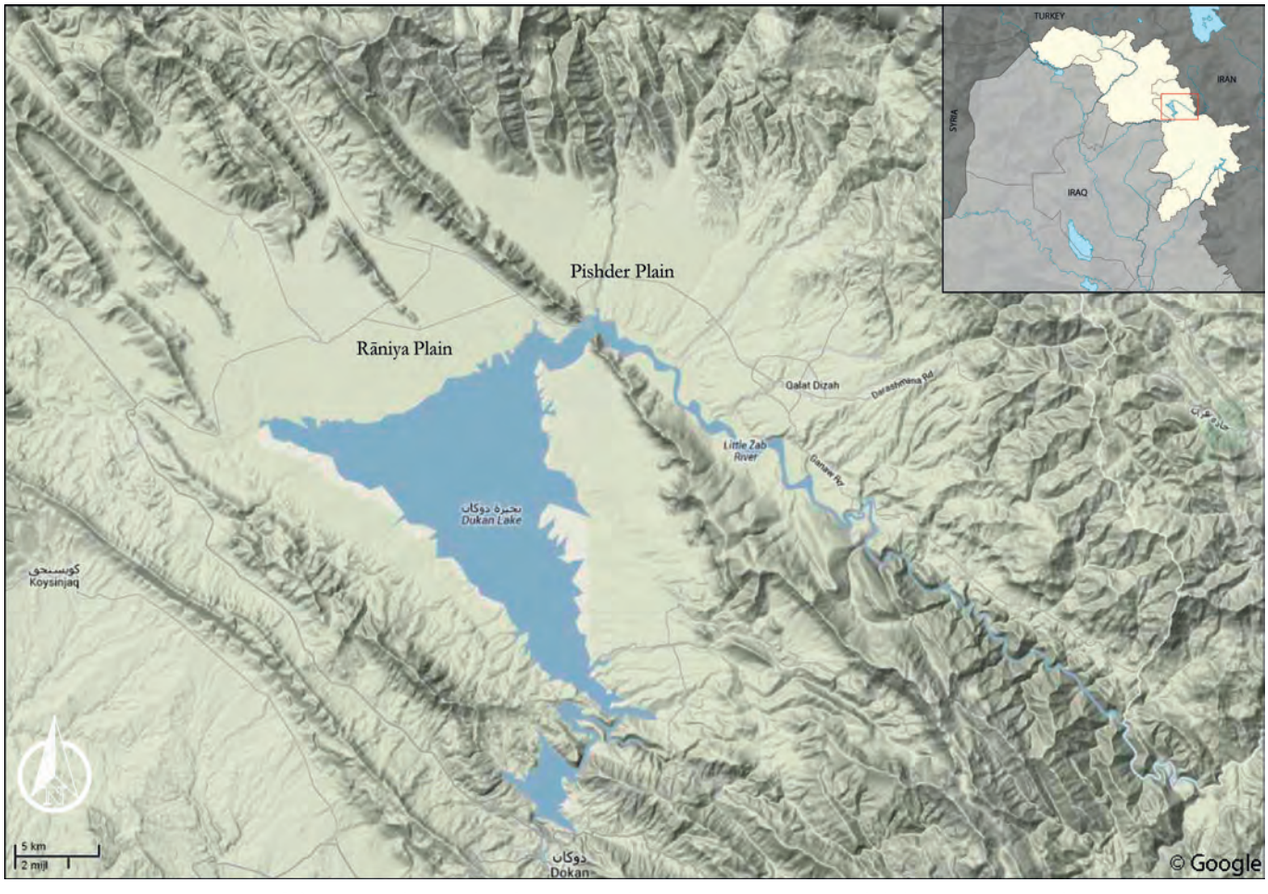

Fig. 2. Map of the Rania Plain and its location within Iraq (insert upper right) (drawn by M. Uildriks).

While new dams are constructed in many countries in the Middle East and beyond, the trend in Europe and North America is towards decommissioning of dams, often constructions reaching the end of their design life-span, no longer of use, or causing environmental damage (see, e.g., McCully n.d.). For many reasons a similar trend for Middle Eastern dams is unlikely to be imminent, but almost certain long term. In this perspective the seasonally inundated 'flood zone' of Lake Dokan provide glimpses of the state in which heritage sites will eventually re-appear. Preliminary results indicate that dam removal in this region must be accompanied by rapid measures to document and retrieve eroded remains before they are further damaged by exposure to natural or human action.

This article aims to provide an introduction and initial approach to its subject. The first part summarises pre-flood archaeological evidence from the Dokan Dam Salvage zone, supported by the appended Gazetteer (part 4), followed by a sample of the first results of the new NINO project on the Rania Plain obtained from pilot surveys conducted 2014-15. The NINO project proceeds in cooperation with a team from the University of Copenhagen (Skuldbøl and Colantoni, this volume), which focusses specifically on a sector of the Rania Plain around the sites of Bab-w-Kur, southwest of Shemshara, and with the overall archaeological survey of Sulaymania Governorate, organised by the IFPO (Erbil). It is yet too early to combine these efforts into coherent analyses of ancient settlement patterns on the Rania Plain, and in this context only some provisional observations in this direction will be made. The purpose here is merely to sum up the pre-flood evidence and illustrate the post-flood scenarios and potentials.[1]

2. Before the Flood

2.1. Introduction

The construction of a hydro-electric high dam on the Lower Zab at Dokan 1954-59 occasioned archaeological salvage work, as recommended by R. Solecki (1953), who referred to an unpublished survey report by S. Shukri. In September 1955 Iraqi archaeologists surveyed the Rania Plain, and in 1956 began salvage excavations, which came to a halt in 1959 (or 1960, see below 4.2, no. 8a), when the lake was impounded, and focus of salvage interest moved south to the Darbandikhan area (Altaweel *et al.* 2012: 18). Only one foreign expedition joined the salvage efforts on the Rania Plain, the Danish Dokan Expedition, organised and directed by J. Læssøe and H. Ingholt (see Eidem, this volume). This expedition managed to work one single season at the site of Shemshara in 1957, but the 1958 revolution prevented its return, and instead an Iraqi team continued work at Shemshara in 1958-59. Besides Shemshara the Iraqi teams managed to conduct major excavation in 4 other sites, and minor operations in 5 more. This according to the available sources, since results of the various operations were unevenly and scantily published. No doubt considerable additional information exists in the museums of Iraq, and will eventually be collected and communicated, but until that happens we must rely on a variety of sources to obtain at least a general overview of what archaeological evidence had been gathered on the Rania Plain before the new NINO-UC projects in the area were initiated in autumn 2012. I know of no official archaeological work in the area between 1961-2011.

2.2. The 'Hunting' photos

In the early 1950s the British firm 'Hunting Aerosurveys Ltd.' (London) acquired aerial photographs covering the Rania Plain and adjacent areas, as part of a larger contract with the Iraq Government Development Board.[2] Sets of these photos were no doubt used in preparations for the construction of the Dokan Dam, organized 1954-59 by the British company 'Binney, Deacon & Gourley, London', with the French contractors 'Dumez-Ballot' (Binnie *et al.* 1959). We knew of this photo acquisition because a single photo was illustrated in one of Læssøe's publications (1966: 53). Having made some preliminary inquiries about these photos, we discovered that a set covering much of the area was on file at the Dokan Dam, and with support of the Sulaymania Dpt. of Antiquities, the Director of the Dam very kindly allowed us to scan the complete set.[3] We are currently performing new remote sensing on the Hunting air photos which will clearly be

[1] For further detailed observations on flood loss in relation to Rania Plain sites see Uildriks, this volume.

[2] The contract was announced in the November 1951 issue of *Flight*, p. 572: "The aircraft – a Percival Survey Prince – and crew have already started on the photographic operations, which will take two years to complete. The expedition is in the charge of Capt. H. F. Warwick, D. F. C., and the photographic manager is Mr. J. D. L. Symington … An aircraft engineer and two ground photographers are also accompanying the expedition, which is a self-contained unit with its own processing equipment … The film will be developed at the company's expedition base in Iraq …"

[3] For an in-depth presentation of the Hunting photos see Uildriks, this volume.

of fundamental aid to evaluate the pre-flood landscape, especially for portions where in later satellite imagery much of the area is covered by Lake Dokan. Some examples of sites on the photo set will be presented below. Interestingly the Dokan Dam photo set was subject to tracings in blue ink, marking mountain ranges, other landscape features, villages, but in particular apparent archaeological *tell*-sites. We suspect that some of the tracings could have been done in preparation for the Iraqi survey – and the survey map presented by as-Soof (1970) – although it will require further in-depth study to ascertain this.

2.3. Published information on archaeological sites

We have been able to trace some information on a total of 49 mounded sites in the Rania Plain, in addition to some other features of archaeological interest. A mine of information on the region is the classic book by Edmonds (1957), who was posted as political officer to Darband (close to the Darband-i Ramkan pass into the Pishdar Plain) for a few months of 1922. Edmonds had a strong interest in history and in his book gives a list of earlier travellers who passed through or close to the region (Edmonds 1957: 22-28). He also discusses various ancient monuments and features, like the relief at Darband, potentially important, and perhaps from the early second millennium BC, but unfortunately almost worn away (*ibid*. 238-41, cf. Læssøe 1959a: 14f., Börker-Klähn 1982: 140f. (No. 34); Miglus 2016, Marf, forthcoming). Edmonds does not display much interest in the many mounded sites, *tells*, *girds*, or *tepes*, around him, and although he was aware of their nature and potential, he presumably felt that they were beyond his ken.

Another important discovery, made and described briefly by Wheildon Brown, assistant resident engineer at the Dokan Dam, is the line of stone fortifications on Khal-i Darband, the mountain ridge which separates the eastern Rania Plain from the Pishdar. The eastern slope of the ridge is much gentler than the western, and various features show that the fortifications were constructed to defend the Rania Plain against possible attacks from the east (Læssøe 1959a: 23 n. 29; Wheildon Brown 1958). Later visits seem to confirm that there is no clear evidence for dating these structures, resting on the bare cliff (A. Ameen, pers. comm.).

The early survey effort by Shukri (in 1950) is probably the source of the archaeological periods assigned to Rania (Uruk, Assyrian, Islamic), and Boskin (Hassuna, Uruk, Assyrian) on the *Map of Ancient sites* (1954 edition; cf. Læssøe 1959a: 13). The later survey by as-Soof *et al.* in 1955 was not published until 1970, when the author noted: "In the years that have elapsed since our work on the Rania plain, some essential plans and records have been mislaid" (as-Soof 1970: 65), and this applies, i.a., in the list of 40 sites surveyed, where nos. 20-27 are annotated: "no details available" (p. 66).

Other data from the survey, however, come from information communicated orally. For some sites/dates information can be found in notes made by J. Læssøe, from briefings by Fouad Safar and Mhm. Mustafa Ali in February 1957, prior to the Danish excavation later that year (Læssøe 1959a: 23). These notes are on two sheets of paper, typed and with hand-written annotations. I refer to this unpublished memo below as 'JL'.

Also the Danish archaeologist, P. Mortensen, when preparing publication of the Hassuna material from Shemshara, was given data on the early periods of some sites (Mortensen 1970: 121). This information is marked 'PM' below.

As-Soof himself communicated data on sites with Uruk material in articles published in 1964 and 1968, and incorporated in as-Soof 1985. These data are referred to as Soof 1985 below.

When salvage excavation was initiated in 1956, five prominent sites were investigated during the years 1956-1959. Evidence for dated levels comes from what reports are published, or from information provided by al-Haik (1968), where the following chronological division was used: 1. Paleolithic. 2. Jarmo. 3. Hassuna. 4. Halaf. 5. Ubaid. 6. Uruk. 7. Protoliterate. 8. Early Dynastic. 9. Akkadian-Ur 3. 10. Old Babylonian/Isin-Larsa. 11. Kassite – Old Assyrian. 12. Assyrian Empire. 13. Chaldean – Neo-Babylonian. 14. Achaemenid. 15. Seleucid. 16. Parthian. 17. Sassanian. 18. Arabic – Islamic. It may be assumed that al-Haik primarily used the evidence from the internal excavation reports filed in the archives of the Iraq Museum.

The total of all this information is summarised in the gazetteer in section 4., while various assesments follow directly below.

2.4. Logistics of the 1955 Survey

We know nothing about the procedures of this survey, or how long the fieldwork lasted, but as discussd above it may have been planned with the aid of information from the Hunting aerial photos, which presumably were available

at the Dam construction offices. According to as-Soof he accompanied two Iraqi colleagues, and judging from published photos (as-Soof 1970: Pl. V: 1 and 4) the survey proceded on horseback, which seems a sensible option, but would have limited, for instance, the ability to transport large amounts of sherds. Comparing the sequence of sites in as-Soof's list with his map, it seems possible to reconstruct three main sectors of the fieldwork:

A. Nos. 1-9 cluster in the south part of the valley. No. 10 (Mullah Shell) is on the west side of the Zab.

B. Nos. 11-19 cluster in the central portion of the projected lake, with Shemshara no. 15 and Qarashina no. 19. After the "missing" nos. 20-27 we find Serkhama (28) in the far west corner of the area, and then Boskin (29), near the east corner.

C. Then follows nos. 30-34, all on the Baselam, 35-36 (Mahmoud Abbas and Ghaznah) are not on the map, and the list ends with 37-38 on the west bank. No. 39 (Kirdel) is not marked on the map, and finally no. 40 (Qabr es-Shahaba) is sector A.

It would seem likely that the surveyors, probably lodging in local villages, spent a few days in each of these sectors – with a few additional outings. In any case it seems reasonable to assume that most or all of the 'missing' sites nos. 20-27 were among those marked on the map in the western end of sector B, the central part of the plain, where in fact there are more than 8 sites marked on the map missing in the list.

2.5. Dissemination and development of the information from the survey

As stated by as-Soof: "The five mounds dug on our recommendation were Kamarian, ed-Dem, Shemshara, Qarashina, and Basmusian" (1970: 65). Since all five mounds, except Shemshara, have since been almost permanently flooded by Lake Dokan, this was a very sensible plan, doubtless based also on the character of these sites. Several of the other sites likely to be completely inundated, like Haiz, Kamam, and Kundu, however, might also have been candidates, and whether Shemshara was really part of an original recommendation or was inserted because the Danes decided to work there is unknown.

The data collected by the 1955 survey team was no doubt described in a report, but information was also communicated informally, in oral form to colleagues like Læssøe, which means that it is difficult to estimate the veracity of each and every period 'claim' recorded. The survey data, necessarily full of uncertainties, also became further opaqued by the incidental mixing of original impressions (as presumably set down fairly quickly in a field report), subsequent opinions communicated orally, and new input from the actual excavations conducted, and further experience of involved scholars, working intensively in the region for several years. A good example of this evolving assessment is provided by the site of Shemshara. According to the original survey data the site consisted only of the high northern end of its Main Hill (as also marked in blue on Hunting air photos), and indeed the Danish expedition did not realise immediately that also the southern extension of Main Hill had ancient occupation (Ingholt 1970: 13). Evidently the Iraqi archaeologists, spending many months in their excavations on the Rania Plain during 1956-1959, would have revisited sites, equipped with a much better knowledge of the local ceramics, and thus may have revised dates for some sites before the project ended.

2.6. Results of the survey

Combining the survey and other data listed above we reach the image of ancient occupation in the Rania Plain presented in the graph Fig. 3, as extant before our recent investigations.[4]

The label "Prehistoric", in the survey report attached to rather many sites, can in some cases be replaced with more specific data, but 9 cases persist. Presumably the label denotes the presence of flints, hand-made and/or a variety of painted sherds. The very limited number of third millennium BC sites is conspicuous, and in fact remains relatively unexplained, but see the remarks below (section 3.1).

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[4] For previous assessments of the 1955 Rania Plain survey data see Kolinski 2001: 65 w. list p. 150, and Battini 2011 (espec. 121f. and Table N p. 137).
Due to the various discrepancies between data sets the number of sites in the graph here are indicative only. Several sites are listed in the survey as "twins", and the respective periods of occupation not specified. This concerns the following sites: 1. Kirdi Bur, 10. Mulla Shall, 12, Babu Kuran, 14. Tepe Gawran, 17. Parah Post. Since frequently closely adjacent monds would have had complementary occupation we have counted the listed periods as one occupation. Nos. 33-34. Northern and Southern Quralla, which are both rather curiously listed with the same periods, are also counted as one "site". Dugirdkan mounds I and II can be separated from the information in al-Haik (1968).

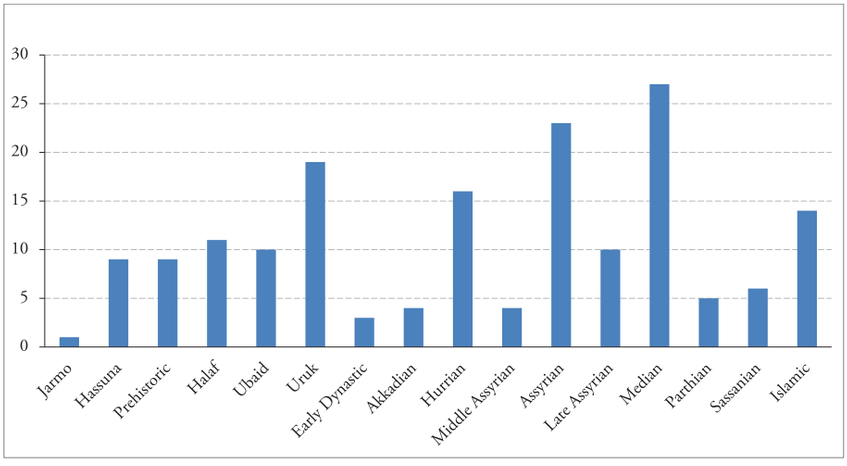

Fig. 3. Graph showing Rania Plain sites per period as based on pre-2012 data.

'Hurrian' is a rather unclear category of sites with occupation from the first half of the second millennium BC. In one instance, the survey data provided by as-Soof note the presence of 'painted' material (No. 4. Buatan), but otherwise it is opaque what dating criteria obtained. At Shemshara, in any case, painted early second millennium sherds are fairly rare (Eidem, this volume). The divisions made for 'Assyrian' material are also not clear. Middle Assyrian material, including tablets, were excavated at Basmusian (Læssøe 1959b), but what prompted a distinction 'Middle'/'Late Assyrian' in relation to just 'Assyrian' for many sites is unknown.

The large survey category 'Median' (27 sites) seems highly suspect. Some relevant examples excavated did not in fact produce 'Median' levels, like Kamarian, Qarashina, Basmusian, and Shemshara, while ed-Deim, not identified as 'Median' by the survey, had an important Achaemenid occupation. This problem should probably be viewed in conjunction with the relatively few 'Parthian' (5) and 'Sassanian' (6) period sites identified by the survey, and provisionally all these late occupations may be generally counted as 'post-Assyrian'. Our own recent investigations show extensive Sassanian occupation on the Rania Plain.

Islamic, Ottoman, and pre-modern occupation can hardly be assessed at all from the extant data. Many of the Rania Plain sites had villages on top of them or close by prior to the formation of the Dokan Lake, and would have had some range of pre-modern history, now complicated to reconstruct.

No doubt the Iraqi surveyors had problems dating many of the plain ware sherds they found, and this is not surprising given the current situation, where we face a similar difficulty. On the other hand, some of the apparent discrepancies between the Iraqi information and recent data is certainly also due to the damaging effect of the Lake, which has now brought different sherds from or to the surface.

The extent data serve to demonstrate how relatively poor information the survey provided, surely no surprise given particulars of this remote region, urgency, and modest resources and experience of the involved researchers. And it would be unfair to blame the Iraqi archaeologists for their performance. All considered it seems they strived rather bravely and conscientiously to do the best they could under challenging circumstances. Much information was in the end retrieved, and is useful in the present situation, when after decades of political turmoil the area can again be accessed, and 'second-phase' salvage performed.

3. After the Flood

3.1. Introduction

The first survey efforts 2014-15 enabled the NINO team to visit a large number of sites, and record a few in details to try out the chosen methods, which we can now evaluate and refine for future seasons (Eidem 2017). The combination of resistivity survey, UAV photography, topographic survey, and random sampling seems to yield good complementary results. The inclusive methodology of our survey on the Rania Plain predicts a relatively long perspective for conclusion. Together with the Copenhagen team we have now visited, at least briefly, a good deal of the sites not in the permanent core of Lake Dokan, but much work remains to be done, and some aspects are very much

dependent on season and conditions in individual years. Survey in spring-summer is largely useless, as high levels of both lake and vegetation prohibit adequate accessibility and visibility. Winter, when the lake is at its lowest, involves comparable difficulties of heavy rains and muddy roads. This leaves autumn, and our first season on the Rania Plain in September-October 2012 actually coincided with a relative 'low-lake-year' (1/11: 482,84 m a.m.s.l.). Preoccupied with initiation of major excavations at our base sites, however, only 'tourist' type survey was undertaken, and in autumn 2013 the lake was considerably higher (1/11: 488 m). The first serious survey effort by NINO was made in autumn 2014, a very favourable year (1/11: ca. 481 m), while autumn 2015 was somewhat less so (1/11: 483 m).

We calculate that within the next few autumns it will be possible to finish basic registration of sites within the permit area, but that of course is only the beginning. We are still unable to accurately date many of the plain ware sherds collected, and are only slowly building up the knowledge required to do so. The excavations at our base sites provide segments of the ceramic sequences, while one-period sites surveyed, as well as the small test excavations conducted across the plain, profile other segments. Surveys elsewhere in the Kurdish Region of Northern Iraq are facing similar problems in a relatively unexplored setting, and coordination with these projects and their data is of course another important source of information.[5]

On the Rania Plain we are currently surprised, e.g., at the relative paucity of evidence for fairly long time spans. True Halaf and Ubaid period materials do not seem frequent at the sites now available, and we suspect that the Iraqi surveyors, unfamiliar with such material, in some cases may have identified painted Ninevite 5 sherds, quite frequent on the plain, as especially Ubaid examples. One clear case where this may be hypothesised is Qarashina (see section 4, no. 19). Unfortunately a good deal of the supposed Halaf and Ubaid sites are now mostly inundated, and cannot easily be checked, but it seems entirely possible that occupation was fairly limited, especially in the northern part of the plain, close to the crucial passage at Darband. This in contrast to the widespread LC occupation (Skuldbøl and Colantoni, this volume), also in the Pishdar Plain (D'Agostino *et al.* 2016).

The early Ninevite 5 period (LC 5) occupation seems to have experienced an abrupt end, leaving an apparent 'void' for much of the third millennium BC. The pre-2012 exploration identified only two sites of "Protoliterate" date (al-Haik period 7), Dugirdkan I and II, with Bardastee and Dugirdkan I also having "Early Dynastic" (period 8), and 4 sites of Akkadian date (Kamarian, Deim, Basmusian, Dugirdkan I). The Protoliterate and Early Dynastic sites seem to represent sites with early Ninevite materials, now also identified on a number of other sites, but our recent work has not yet produced any clear profile for the later third millennium and the apparent lack of later, incised Ninevite 5 ceramics seems significant. A very provisional idea would be to speculate that the more or less contemporary spread of the Early Trans-Caucasian cultural horizon into the central Zagros, and simultaneous revival of Trans-Tigridian city-states, rendered border regions like the Rania Plain insecure and "marginal" for settled occupation.[6]

The early second millennium, apart from the sites of Shemshara itself, Basmusian, and Dugirdkan, also is not well represented on the sites now available and surveyed, contradicting the contemporary epigraphic evidence for seemingly robust occupation (Eidem 1992: 54-56). The same evidence, however, also documents a large-scale deportation of local residents (from the country of Utûm) by the mighty Shamshi-Adad I, following the rebellion which presumably caused the sack of Level V at Shemshara ca. 1780 BC.[7] This example is compelling, as it shows how precise historical events may have shaped fundamentally the occupational configuration of the Rania Plain, lodged as it was in a marginal position between Mesopotamian and Iranian polities. This may well have produced situations of political instability which limited sedentary occupation of the plain. Hopefully these issues will become clearer as our work proceeds.

Another specific aspect of our survey is that of salvage. The yearly degradation of sites in the Flood Risk Zone of Lake Dokan is rapidly erasing important historical information. Carefully targeted excavations in selected sites will serve to save important information, and the

[5] E. g. The Land of Nineveh Project (Morandi Bonacossi, Iamoni 2015; Gavagnin, Iamoni, Palermo 2016), The UGZAR Project (see http://archeo.amu.edu.pl/ugzar/indexen.htm), The Erbil Plain Project (Ur *et al.* 2013), The Upper Habur Survey (Pfälzner *et al.* 2016).

[6] For an overview of the ETC culture see e.g. Summers 2014. To my knowledge no ETC sherds have yet been identified on Rania Plain sites.

[7] Cf. the Mari letter A.562 (dated month vii), 12-18 (Charpin and Ziegler 2003: 121); Shamshi-Adad in Tupham meets Mashija who requests Jasmah-Addu's share of deportees, and Shamshi-Adad replies: "I will satisfy you(r claim) in Ekallatum. The men of Utûm who were deported to Qabra and Arraphum rebelled, (and) 4000 are prisoners in Ekallatum; from these I will satisfy you(r claim)".

choices faced may not be easy! By gradually documenting more sites, and evaluating their importance and risks of further erosion, we hope to identify the prime targets, and to sollicit sufficient support to perform "second Phase Salvage" on adequate scale – before it is too late…[8]

The archaeology of Iraqi Kurdistan is still, in a manner of speaking, in its infancy, earnest activity having only recently being resumed after decades of political instability and insecurity (for an overview of previous work see Mühl 2013). A comprehensive programme of surveys, covering most of the Kurdish Region, is under way, and a large number of excavation projects have been initiated in recent years (Kopanias, MacGinnis, Ur (eds.) 2015). In this context the Rania/Pishdar Plains Survey Project is concretely a small contribution, but characterised by some important perspectives.

As examples of our recent work we present here briefly 7 different sites, as yet explored with varying intensity, but all revealing new and promising evidence.[9]

3.2. Basmusian

The NINO team visited Basmusian by boat in October 2015. This is clearly a main site of the Rania Plain, located more or less in its center, some 9 ha in size, and with a long sequence of occupation (Fig. 4). Iraqi excavations 1956-58 exposed several phases of a Middle Bronze Age temple on the high summit in 1956, and in later seasons reached a level XVI (as-Soof 1970). The site is unfortunately mostly entirely inundated or an island in Lake Dokan (one exception was November 2010, when the lake was exceptionally low (ca. 478 m). Basmusian has suffered immensely from the passing water of the lake. The high summit has retained the squarish shape it had pre-flood, no doubt a shadow of the second millennium BC temple platform excavated there. The old report describes Temple 1 (Level III), with shallow foundations and built on top of the older Temple 2 (Level IV), founded on a "stepped mud-brick platform", 6-12 courses high. The report also mentions a sounding which revealed an even older temple.[10]

During our 2015 visit we noted what seem "walls" of baked bricks eroding out of the high summit (Fig. 5). It seems possible that these "walls" were the protective shells for another temple platform (of terra pisé or mud-brick), and perhaps that of a "Temple 3" – or even earlier monuments!

Elsewhere walls, foundations, baked bricks or features, ovens etc. are eroding out of the slopes in bewildering proportions. Our rather short visit was used to set up mapping points for UAV photography, and do a random collection of surface sherds. Many thousands of sherds have washed out of the site, and since been re-deposited by the lake in thick braids on its lower parts. The selection of sherds collected indeed represents many periods, and includes several examples of early painted Ninevite 5 sherds (Fig. 6).

Of particular interest are some clear Middle Assyrian sherds, from a period documented by excavation in 1956, where a few fragmentary tablets were found (Læssøe 1959b). Later finds of foundation inscriptions from the time of Tiglath-pileser I (11th cent. BC) on the Rania Plain are now sure to come from Basmusian (Eidem 2018). They record the (re-)building of the heavily fortified base of Pakute, only known from these sources, which can therefore be identified with Basmusian. It seems doubtful, however, that the ambitious construction scheme boasted in the foundation tablets was ever realised. Future examination of Basmusian – and not least the site reported on next – will hopefully serve to elucidate further Middle Assyrian presence on the Rania Plain.

3.3. Baiz Agha

This site was visited by boat (20/10, 2015). It is marked only as a village on the Iraqi survey map (as-Soof 1970), but clearly this was located on an ancient site. On the Hunting aerial photo (Fig. 9) the modern village occupation is clearly visible, but its remains now entirely erased. The 2015 photos (cf. Fig. 7) show the rather massive stone foundations of a large structure with a central courtyard, and which cannot be the remains of the modern village. The photos also show

[8] It must be noted, however, that heritage loss in the Rania Plain, outside the Flood Zone, has also been severe, following general parameters of modern land uses, like described for other areas of the Middle East (e.g. Cunliffe 2016). On the other hand heavy sedimentation at the bottom slope of the Dokan reservoir, close to the dam, may well have protected inundated sites here from severe erosion (see Hassan *et al.* 2016; and cf. the remarks about sites like Tell ed-Deim in Uildriks, this volume). This latter aspect is one which we hope to explore further in the near future.

[9] The assessments here are primarily archaeological. For topographic and geomorphological comments on some of these sites see Uildriks, this volume.

[10] For more details on the finds from the temples and their date see Eidem 2011. The outline of the excavated temples was still clearly visible in Corona images captured more than a decade later (cf. Uildriks, this volume).

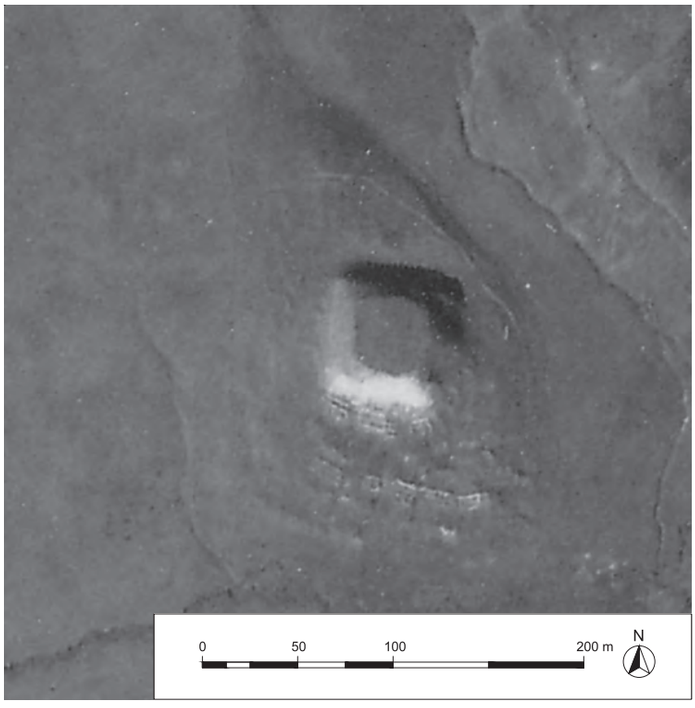

Fig. 4. Basmusian (Hunting 06527, 7/12, 1951). Note the regular shape of the high mound, and the modern village on the south slope.

Fig. 5. View from Basmusian towards Darband. Note the eroding retaining(?) walls of baked bricks (photo A. Ameen, October 2015).

Fig. 6. Selection of (mostly) early Ninevite 5 painted sherds from surface of Basmusian.

Fig. 7. Details of upper levels at Baiz Agha (UAV photo I. Kisjes)

Fig. 8. Selection of Middle Assyrian sherds from Baiz Agha.

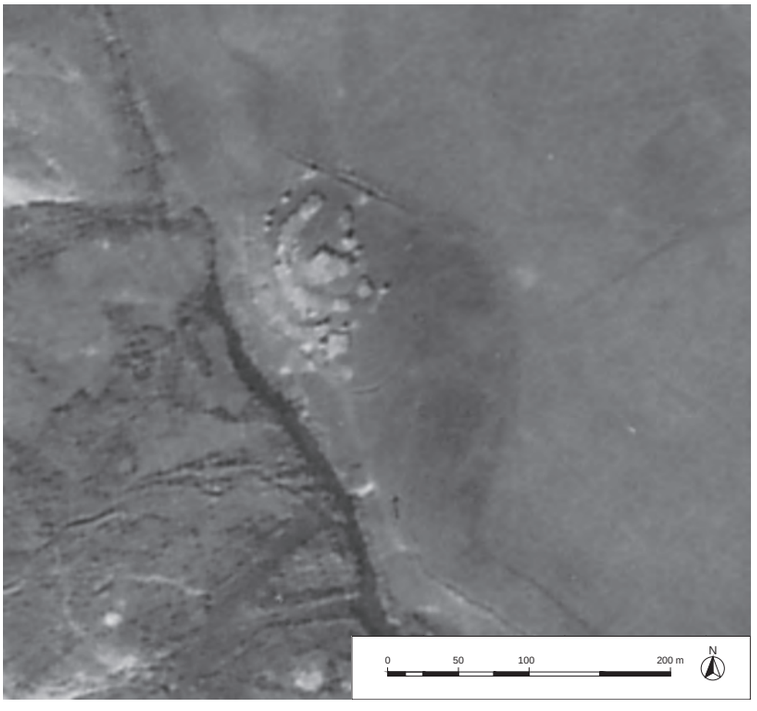

Fig. 9. Baiz Agha (Hunting 06527, 7/12, 1951). The core of the site is under the modern village.

traces of mud brick walls from an older level, and again of a fairly substantial structure. The sherds collected (randomly) during the rather short visit provide some clues to the history of the site. A fairly large segment of the sherds represents the clearest Middle Assyrian ceramic profile we have yet seen on the Rania Plain (Fig. 8), and may derive from the lower level of mud brick structures discernable on surface. For historical implications of this see above sub 'Basmusian' (3.2). It is surely of interest to note that the local antiquities' inspector has heard rumours of tablets ("at least 10 – some in envelopes") found at the site of Baiz Agha. Possibly these tablets derived from a Middle Assyrian level. Even more intriguing is a recent report of two further tablets from the site, one of them at least of Old Akkadian date (photo available to author), and thus the as yet earliest epigraphic evidence from the Rania district.

3.4. Araban

The site of Araban was visited and documented (mapping, UAV photos, geophysical prospection, systematic random sampling) in autumn 2014. It is located on the east bank of the Zab/Lake Dokan, and appears as a very low-contour extended area with scatters of surface sherds, mostly of Late Uruk and Early Ninevite 5 date. A small sondage revealed only very shallow remains of stone foundations associated with Uruk sherds, and the site seems almost exclusively to have survived sub-surface, represented by numerous, mostly circular trash pits and fireplaces along its west edge, close to the water of Lake Dokan. Already in 2014 it was clear that the site extended actually into the water and that many of the pits were being washed out. Large fragments of ceramic vessels, bones, and shells were visible, half buried in the extant pit-surfaces.

We decided to return to this site in 2015 to salvage some of the eroding pits, and on a first visit discovered that a number of the pits had been disturbed by casual visitors (fishermen, shepherds etc.), logically curious about the objects protruding from them. We also discovered that the site extended much further north along the edge of the Lake. These observations made it even more imperative to extend our investigations, and we therefore devoted 3 days (17-18, 20 October) to work at Araban. The 'new' portions of the site were mapped, and a small sondage opened in a very large pit in the northern part.

The general situation is shown on the map (Fig. 10): The topography, extended north ca. 100% in relation to 2014, is superimposed on a Quickbird image from November 2010, when the level of Lake Dokan was ca. 478,5 m (ca. 5 m less than in 2015). The site is represented by exposed pits and fireplaces (the latter predominantly in the southernmost part) close to the lake, and surface sherds extending inland to ca. the line of the old road (which led from Dokan to Qaladze), visible in the map sub-layer as a whitish line (of limestone pebbles). The northernmost promontory, recorded in 2014 as Araban II, also has pits with fourth millennium BC sherds eroding out at the lake edges, but on higher ground a cemetery. This feature is not visible in the Hunting aerial photograph (Fig. 11), which, however, shows the small village of Araban just north of the cemetery. Around the graves and scatters of stones from the graves are numerous baked bricks and some sherds of apparently later date, so that this hill probably also had post-Uruk occupation.[11] The promontory to the south is where the 2015 sampling took place (Fig. 12).

This sampling produced a pure Late Uruk horizon of sherds, many seemingly joining fragments of broken vessels or segments of vessels. All sherds retrieved have therefore been kept for later study/possible restoration. Fragments of bevelled-rim bowls, red slipped, and grey ware sherds are frequent (Fig. 13). The excavation produced a small collection of flints, but few other finds, and fewer animal bones than expected.

An unexpected feature, close to surface, was a complete upright jar and an adjacent small bowl (Fig. 14). Suspecting a possible grave excavation proceded carefully, but no cut or indeed any trace of a skeleton was found. Reinforcing the possibility of a burial, however, was the find of a bronze pin in adjacent fill. The jar has a vase-like shape with a high everted neck, and is decorated with rather crude red-painted bands on the shoulder and neck, interrupted by a row of triangles on the upper shoulder. The lip is decorated with red stripes. The small hemispherical bowl is crudely made and has a simple pointed rim. The painted jar can be dated in the early second millennium BC, and has, e.g., a very close parallel at Nuzi.[12] Although the scenario is somewhat puzzling, it would seem that a later burial (probably of an infant) was cut into the pit, but that the skeleton virtually disintegrated (smaller fragments may yet be identified among the bones collected).

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[11] This hill may be the site described by As-Soof (1970, no. 37): "Araban: Some 250 m. long and 20 m. high. Assyrian, Median, Islamic." On his map Araban is actually legended as a village. The main Araban site reported here was certainly never 20 m high, and at least today displays a different chronological profile.

[12] Cf. Starr 1937: Pl. 70b (I am grateful to D. Morandi Bonacossi for this reference). In a wider perspective the irregularly painted decoration may well fit the "Early Khabur Period" horizon defined by Kolinski (2014).

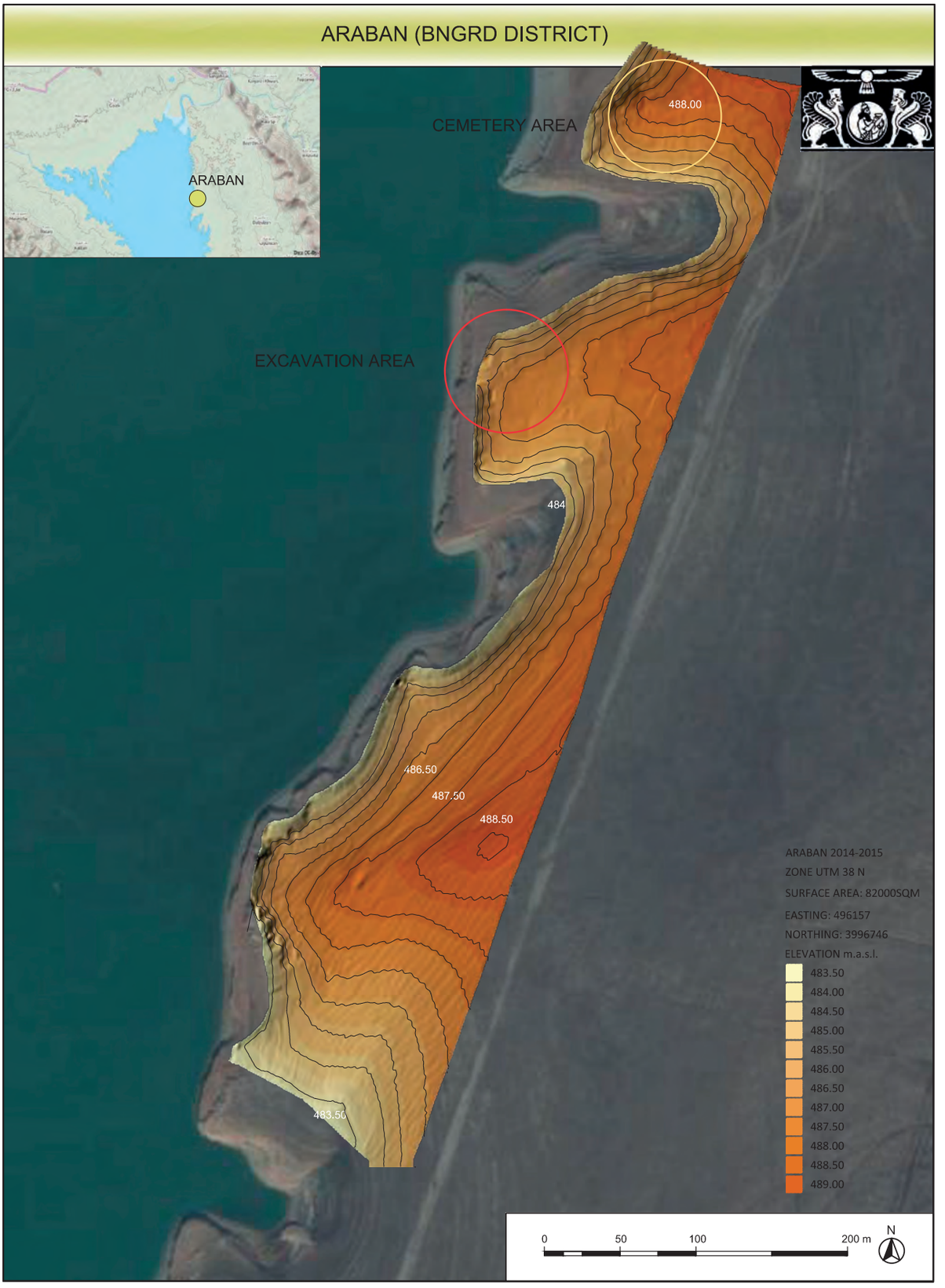

Fig. 10. Map of Araban overlaid 2010 satellite image.

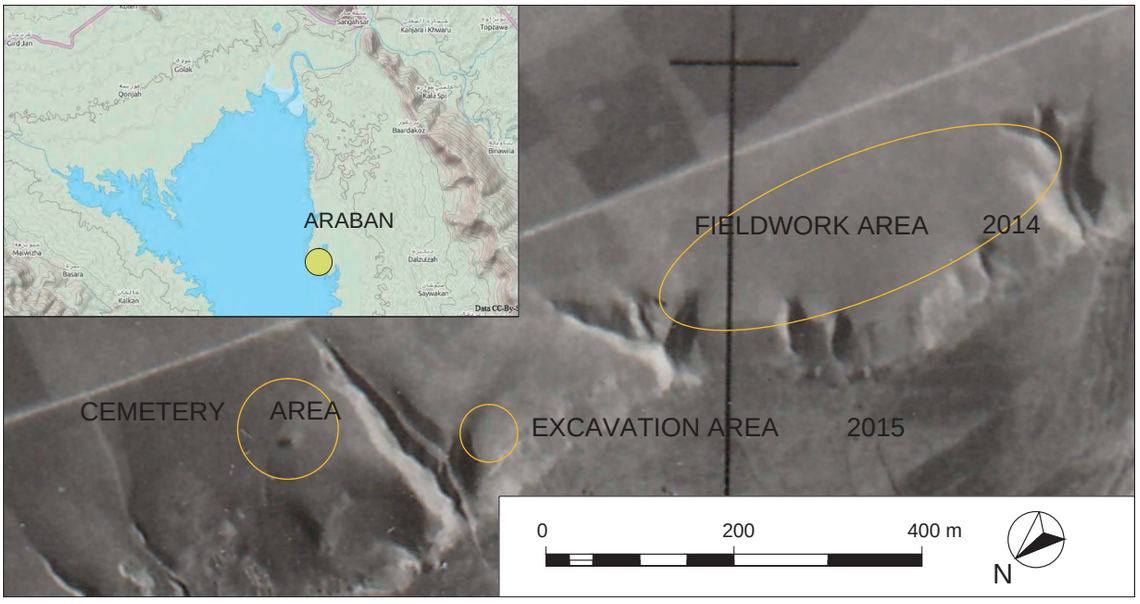

Fig. 11. Araban (Hunting 06527, 7/12, 1951).

Fig. 12. Araban, view from north end towards area with sampling operation (October 2015).

Fig. 13. Selection of Uruk sherds from pit at Araban.

Fig. 14. Painted jar (6014-2) and bowl (6014-1) from Araban.

In spite of this and other complications, subject to further study, the general situation of Araban I-II seems relatively clear. Based on the extent of the pits and surface sherds (the latter only a rough guide due to the passing water of the lake!) the area mapped is ca. 8 ha – making Araban one of the largest sites identified on the Rania Plain. It must have been a rather short-lived Late Uruk settlement, with some limited (to the southern part) occupation in the Early Ninevite 5 period. While many sites on the Rania Plain have contemporary occupation, they are much smaller or span a longer fourth millennium horizon. Hence our tentative suggestion to interpret Araban as a 'Habuba on the Zab', a planned 'colony' – a pied-à-terre to facilitate contacts between lower Mesopotamia, the Rania Plain, and not least areas further east, beyond the pass at Darband. The Araban site thus seems a crucial element in the history of the Rania Plain in the late fourth millennium BC.

3.5. Dugirdkan

The two mounds of Dugirdkan are located ca. 10 km southwest of Shemshara (Fig. 15). Dugirdkan I (and II?) was briefly excavated by Abd al-Qadir in 1959. According to al-Haik (1968: 67) the larger Dugirdkan I had multi-period occupation (Uruk to Islamic), while the smaller mound II, separated from the former by a small wadi, was prehistoric (Uruk to Proto-literate). An interesting aspect of this site is the remark by Læssøe about the find here (presumably on Mound I) of Ur III tablets dated to the reign of Ibbi-Sin.[13]

In autumn 2014 the NINO team mapped and provisionally sampled Dugirdkan I, and realising the potential of the site we returned in 2015, and spent 6 working days (10.-15. Oct.) doing further recording and some small test trenches.

Mound II was mapped and 32 randomly selected squares were collected, showing ceramic evidence for major occupation in the Hassuna-Samarra period, slight evidence for the Halaf and Ubaid periods, and sherds of Chalcolithic date (no bevelled rim bowl fragments were found!) (Fig. 18). A few sherds may belong to later periods, but could have been moved from Mound I by the passing water of the lake.

The modern surface of Mound I is covered by many, partly massive stone foundations. The initial mapping of these begun in 2014 was essentially completed in 2015, and they are shown on the map Fig. 16. The remains plotted are probably not all contemporary, but do seem to form a basically coherent pattern. An interesting feature is the apparent paved street/gateway in the southeast corner of the slope. The date of this system, however, is uncertain.

A first target for a small test trench presented itself by the discovery on the gentle eastern slope of a line of baked bricks in oblique position sticking out of the ground. Suspecting this to be the broken roof of an ancient tomb a salvage operation was clearly called for. Excavation did reveal a vaulted tomb, but completely empty, probably never used, and later disturbed by intruders (Trench C; Fig. 17). The construction, with a pitched vaulting of baked bricks leaning against a back wall of limestone blocks, closely resembles an early second Mill BC tomb excavated recently at Bakr Awa, which also has similar foundations of limestones and layers of horizontal bricks below the vaulting (Miglus *et al.* 2013: 56-62). The broken roof being a surface feature could indicate that our tomb belonged to the same occupation as the foundations on surface, but their date are as yet unclear. A small additional trench (Trench A, 2 × 2 m) adjacent to the tomb was excavated to a depth of ca. 1.2 m through consistent fill with very few sherds, and would seem a kind of platform for the level of the surface foundations. Some of the few sherds retrieved in Trenches A and C could suggest a date in the Iron Age, but this is not certain. An extensive surface collection in the same area, and across the eastern slope, in 72 squares 5 × 5 m, retrieved a large ceramic collection, much of it apparently first millennium BC, but mixed with both earlier and much later specimens.

Given the dramatic dispersal of soil and sherds by the lake caution is clearly warranted. Another small test trench (D) on the west slope of Mound I rather surprisingly exposed only modern lake deposits of sand and sherds to a depth of at least 2,8 m before it was halted. The thousands of sherds from this trench represent several periods. Conspicuous are examples of early painted Ninevite 5, and clear early Middle Bronze Age types. A nice find was the fragment of an early third millennium BC sealing. The thickness of the lake deposit on the western slope is remarkable, since the eastern slope is washed clean. The pre-flood terrain does not seem to feature a steep western slope, and we may have sampled a so-called *kolk* erosion depression (Turnbaugh 1978), which has served to trap lake deposition. The summit of Dugirdkan I is today at ca. 504 m (a.m.s.l.), so that the site is exposed to flood risk very similar to Shemshara, and probably the lake has removed some of the latest occupation(s).

[13] The find is mentioned in Læssøe 1963: 126 n. 1, and a memo among Læssøe's papers connects it with the site of Dugirdkan.

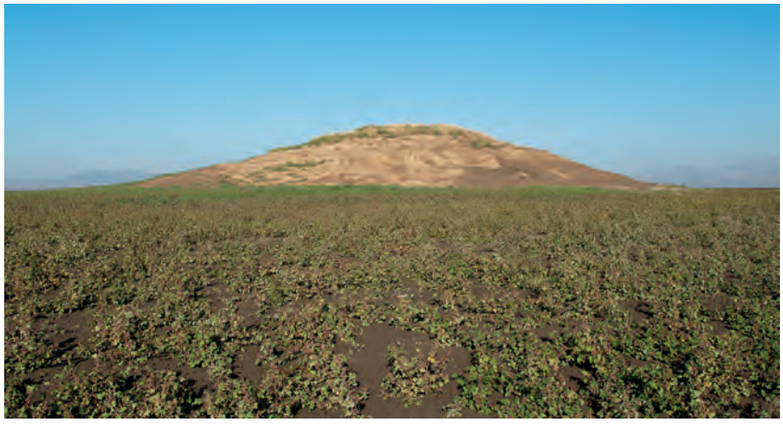

Fig. 15. Dugirdkan II (photo I. Kisjes).

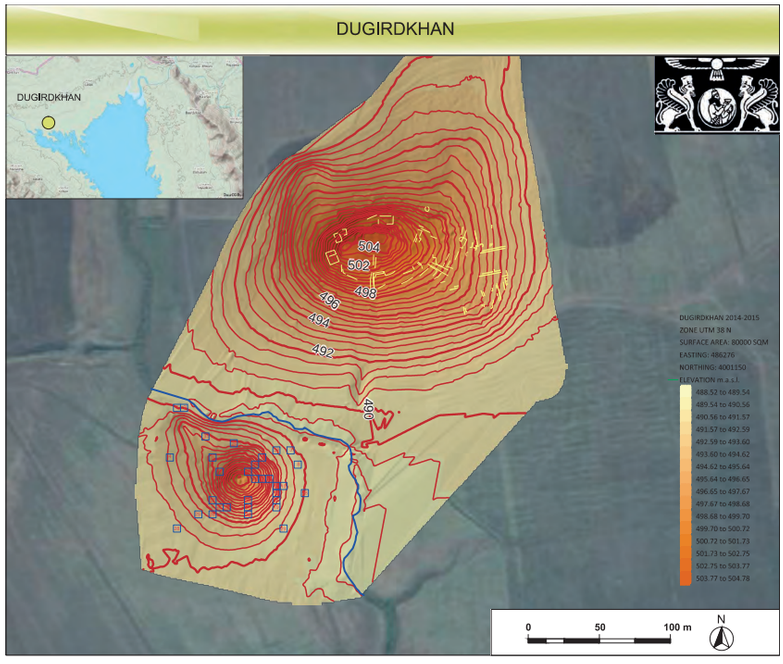

Fig. 16. Dugirdkan I (with surface foundations/ walls) and II (with random sampling grid).

Fig. 17. Dugirdkan I. Pitch vault tomb (trench C, view towards east).

Fig. 18. Selection of sherds from Dugirdkan II.

A fourth small test trench on the high summit of Mound I (Trench B, 3 × 2 m) did not contribute to a better comprehension of the site. One end seemed to feature a thick pisé wall, with abutting, consecutive *tannur* ovens, and the other end a large pit. Except numerous sherds from large storage vessels, in a layer under the wall, very few sherds were retrieved, and could not provide a firm date. Clearly we need to return and extend our efforts on Mound I in a future season.

3.6. Gird Mamand

The site of Gird Mamand was visited and documented (mapping, UAV photos, geophysical prospection, systematic random sampling) in autumn 2014, as detailed in our report for that season (Eidem (ed.) 2015: 20-26). Mamand is a fairly large, but very low-contour site on a small affluent a few kms south of the Shemshara Hills (Fig. 19). On the Hunting photos it is hardly visible, and our 2014 documentation also indicates that fairly little *in situ* remains seem preserved. Both resistivity survey and counts from our surface collection squares show two main areas of interest some 200 m apart, an eastern one close to the (October 2014) edge of the lake, and a western one inland (Fig. 20). Close to the edge of the lake are parts of a pre-modern cemetery, but also clear surface traces of mud-brick walls, and a small square stone enclosure/foundation. The eastern area has no clear surface features visible, but is heavily cultivated.

Surface sherds are predominantly of Sassanian date, and includes several specimens of stamped sherds showing animals like camels etc. (Fig. 21). Some limited excavation here to test remaining stratification, and potentially retrieve a fairly comprehensive profile of material from a short time span should be extremely useful for overall dating purposes.

3.7. Toba Kuran North

This site is located ca. midway between the Shemshara Hills and Kullak (as-Soof 1970: no. 16). It is not marked or described by as-Soof, but could possibly be identical with his site no. 14 (Tepe Gawran; see 4.1). The site is fairly extensive, but low, and divided by a small wadi – hence effectively two sites (Figs. 22-23). The oldest part would seem to be the elevation in its SE portion, where Hassuna incised and painted sherds were collected (Fig. 24). On the rest of the site were not very numerous sherds of Late Chalcolithic date (no bevelled-rim bowl fragments!), and later (Iron Age?) specimens. The relative close proximity to the Shemshara Hills is an intriguing aspect of this site, and we hope to extend our investigations there in a future season.

4. Gazetteer of Rania Plain Sites

This list gathers information available as of 2012, using the sources discussed above in section 2. For each site it provides the information from as-Soof (1970), followed by what additional information is extant, and ends with some selected notes based on recent observations. Sites visited by the NINO project (as of 2016) are marked with an asterisk. '1942 map' refers to the British quarter-inch map, '1955 map' to that presented in as-Soof 1970, Pl. I, while 'Hunting image' refers to the Hunting photo set described above 2.2. Many of the sites have even multiple names. To avoid confusion I have here retained those used in as-Soof 1970 and other published sources.

4.1. The sites listed in as-Soof 1970

*1. *Kirdi Bur*

Two mounds, 400 m apart, on either side of a seasonal stream; the northern is roughly circular, some 500 m in circumference, and 3 m high, and the southern, which lies on a natural hillock, is some 100 m across and 4 m high.

Pre-Uruk(?), Uruk, Hurrian, Late Assyrian. PM: Hassuna, Halaf.

Here, like for two other examples of 'twin' sites described in as-Soof's catalogue (nos. 10 and 17), it is not clear whether the proposed dates refer to both sites, both

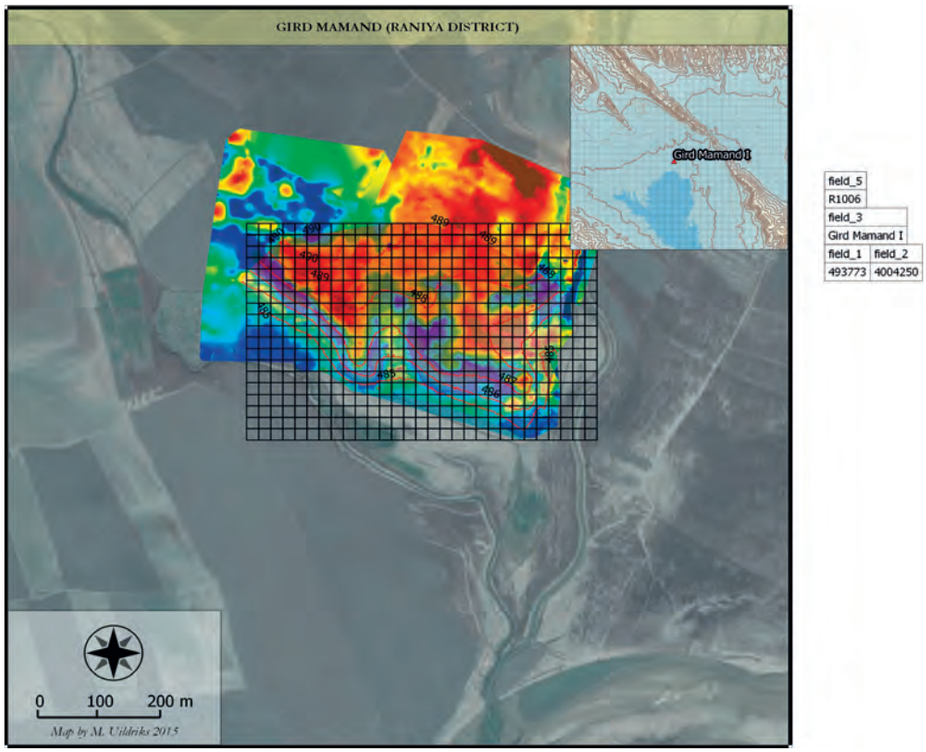

Fig. 19. Gird Mamand, resistivity survey and sampling grid overlaid 2010 satellite image.

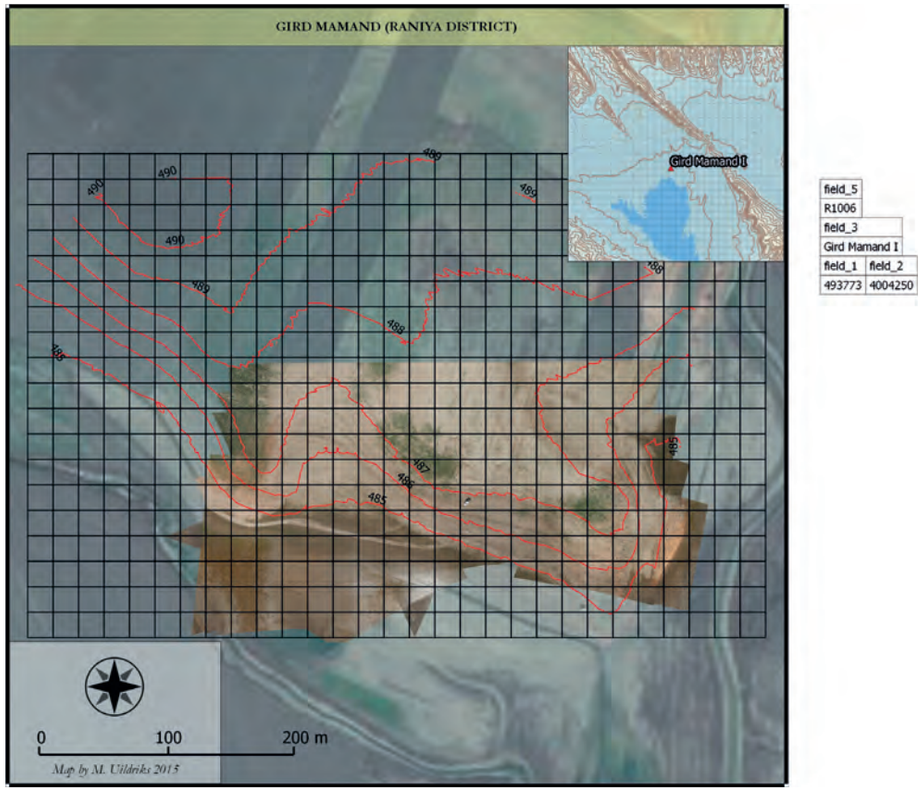

Fig. 20. Gird Mamand, close-up with partial overlay of UAV photo.

Fig. 21. Selected surface items from Gird Mamand.

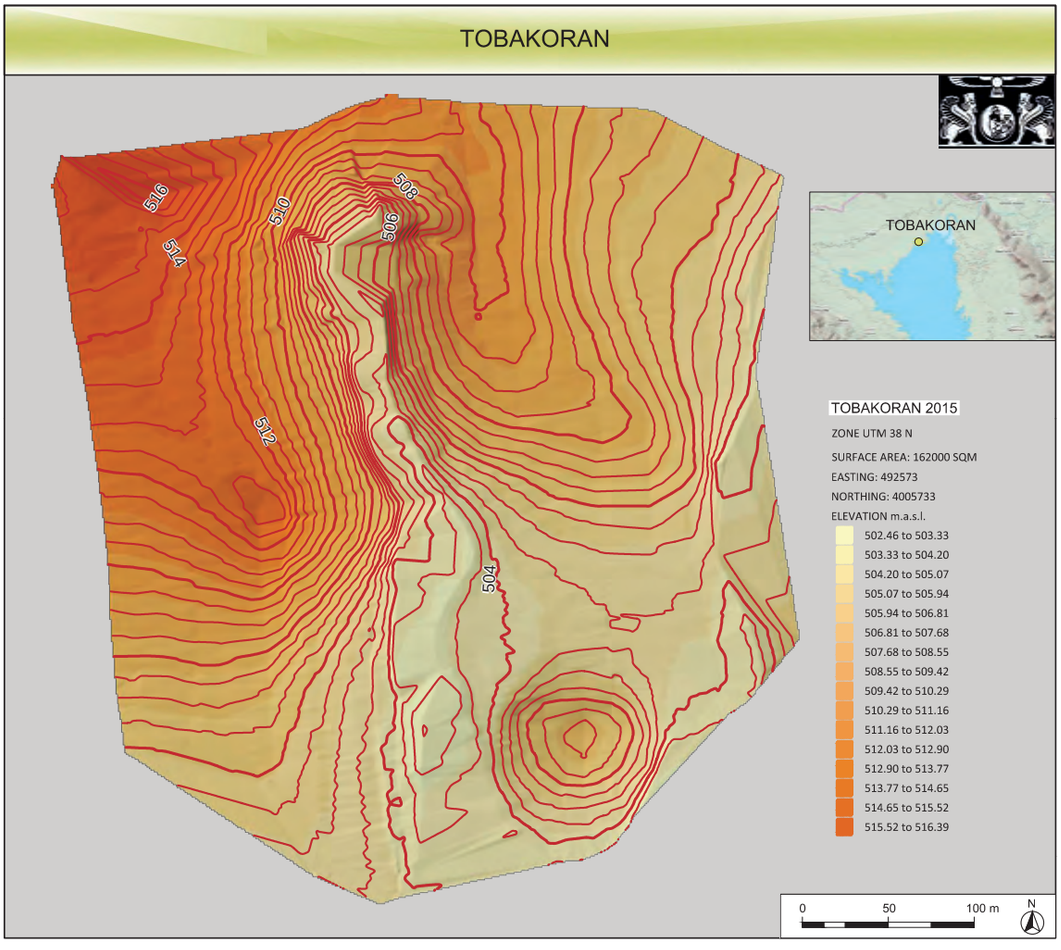

Fig. 22. Toba Kuran North topography.

Fig. 23. Toba Kuran North, view towards SE of site.

Fig. 24. Selection of surface sherds from Toba Kuran North.

sites 'in sum', or less likely, just one of them, with the other missing. The most logical solution is probably that such sites were described as topographically separate, but the periods represent surface sherds collected on both (so both sites 'in sum'), but this is of course not sure.

We located and briefly visited the two Bur hills in 2015 (8/10). They appeared as two ridges extending into the lake, and are both very eroded. Both have substantial surface covers of limestones. The smaller, southern, site is the most eroded, and has rather few surface sherds, while the larger, northern one, seems better preserved and has more surface sherds. The 1955 dates (in 'sum') seem largely confirmed. On the northern Bur we found a Neolithic incised sherd, while other sherds collected are mostly plain wares of second-first millennium BC date. One red-slipped piece could be Late Uruk.

2. *Mullah Umar*

Large circular mound on the western bank of the Zab; some 200 m in circumference and 15 m across at its top, where stone and juss foundations are visible.

Hurrian, Late Assyrian, Median, Parthian. JL adds: Uruk.

This name can be found on the 1942 map as a village, also clearly visible in the Hunting images, but not marked as such on the 1955 survey map, which shows the site in roughly the same spot. A hill fitting the description, however, is not clearly discernable in the vicinity of the village, and the image of the village itself does not fit the description of the site.

3. *Kamarian*

Conical mound, some 70 m in diameter and 12 m high.

Pre-Halaf(?), Ubaid, Uruk, Akkadian, Hurrian, Middle Assyrian, Median. JL adds: Hassuna (= Pre-Halaf). PM: Hassuna, Halaf.

Iraqi excavation 1956 directed by Abd al-Qadir (cf. al-Alusi 1959, and al-Haik 1968: 67). According to as-Soof (1985: 88f.) levels included Hassuna-Samarra, Ubaid, Uruk (for illustrations of Uruk vessels found see as-Soof 1985: 186), Akkadian, Isin-Larsa. No major structures were apparently excavated at this site, where the upper levels were disturbed "by deep, circular grain pits which had been sunk from the surface of the mound". Uruk sherds were found mixed with Akkadian and Isin-Larsa materials in the upper levels, and then predominated down to a Level X. Interestingly as-Soof mentions "a few examples of incised Ninevite V sherds" from Level IV.

As-Soof does not mention Halaf or Middle Assyrian. According to al-Haik (1968: 67) the site had evidence for periods 3-6 (Hassuna-Ubaid), 11-12 (Middle Assyrian-Neo Assyrian), 18 (Islamic).

Kamarian is apparent as a village in both maps (1942 and 1955), and in the Hunting image (Fig. 25) a small, tall hill, corresponding to the description given of the site, is visible on the northern edge of the village. It seems likely that the site actually was larger and extended perhaps under part of the village. This might also explain the discrepancies in the data given above: Especially Assyrian, Median, and Islamic material may have derived from a "lower town", surveyed, but not subsequently excavated.

4. *Buatan*

Large elongated mound beside the eastern bank of the Zab; some 150 (Læssøe: 120) m long, 70 m wide, and 6-8 m high.

Pre-Halaf, Halaf, painted Hurrian, Assyrian, Median.

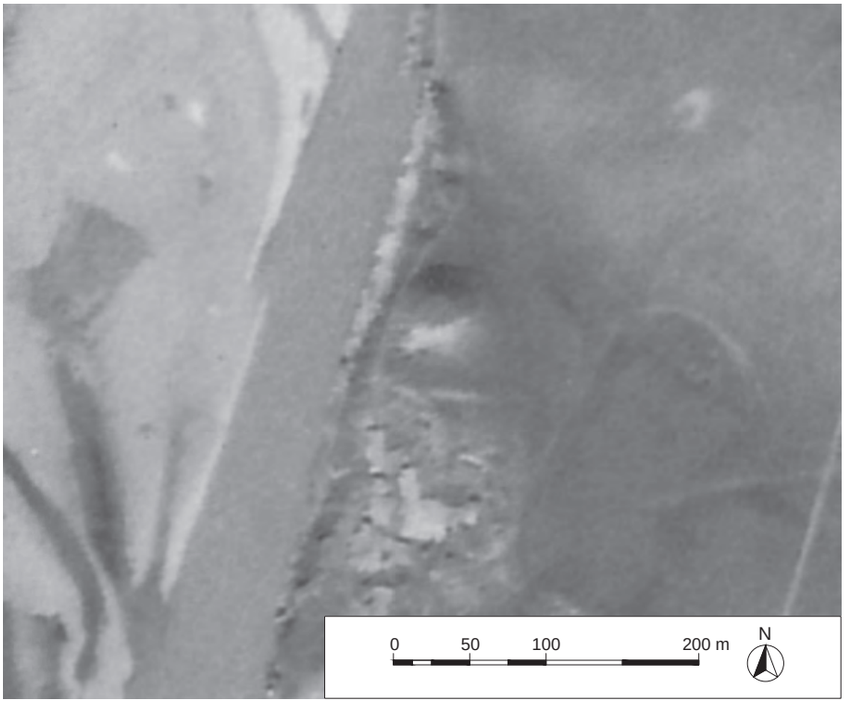

Fig. 25. Kamarian (Hunting 06099, 29/11, 1951).

Like Kamarian this site is marked as a village on both maps, but the site described is not easily identified in the Hunting images. Perhaps it is visible just north of the village.

5. *Ed-Dem*

Hemispherical mound, some 70 m in diameter and 12 m high. Many large pebbles on the surface.

Ubaid, Uruk, Akkadian, Assyrian, Hurrian, Median. PM: Hassuna, Halaf.

Iraqi excavation in 1956, directed by Abd al-Qadir (cf. Abd al-Qadir 1960 and Ayoub 1982: 10-11; for the Uruk levels VI-IX see as-Soof 1985: 89-90). The excavations here principally exposed an Achaemenid period residence on the top of the mound (see Curtis and al-Rawi 2016: 189f., and Mühl 2013: 203f.), and explored smaller areas of the early levels.

According to al-Haik (1968: 67) periods 3-6 (Hassuna-Ubaid), 10-12 (Old Babylonian-Neo Assyrian).

Ayoub (1982: 10f.) provides the following sequence: I. Achaemenid. II. Late Assyrian. (break). III. Ceramics comparable to that from Nuzi. IV. Isin-Larsa-late Ur III. V. Ur III or a bit earlier. VI (walls of small rooms) Uruk. VII (no structures) Uruk. VIII. (burnt floor) end of Ubaid, beg. of Uruk. IX (foundations + ovens) possible Uruk sherds. X. Clear Ubaid. XI. 2 Hassuna sherds.

This site, located ca. 2 km SE of Buatan, is identifiable on the Hunting images, see Uildriks, this vol.

6. *Kullah*

Ovoid mound, on eastern terrace of Zab; some 100 m long at its base, 70 m across on its top, and 20 m high.

Assyrian, Hurrian, Median, Parthian and early Islamic. JL adds: Halaf.

For a 1955 image of this site see as-Soof 1970: Pl. V: 2.

7. *Tankija*

Mound on hill; some 150 m long, 100 m wide, 3 m high.

Prehistoric, Assyrian, Median. JL adds: Hurrian?

*8. *Kullah Kawi*

Elongated (west-east) mound in the Si-Najian valley; some 200 m long, 70 m wide, and 7 m high.

Ubaid, Uruk, Assyrian, Hurrian, Median. JL adds: Parthian, Islamic.

It is easy to see why this mound, having a shape somewhat similar to the Main Hill of Shemshara, should

have attracted Læssøe. In spring of 1958 he applied for funds to conduct some soundings at Kulla Kawi, which he described as follows in his proposal: "Kulakawi is upstream of Torba Gorge, commanding a strategic position on the left bank of the Lesser Zab, at a distance of about 2 1/2 kms. from the River bank, near a village called Sinagian. Information collected on the basis of surface finds indicates the presence of prehistoric and second millennium (Hurrian) levels in the mound, and at least a test sounding appears highly desirable."

Læssøe's intention was to carry out this work himself in August-September 1958, so presumably while a planned second season of the Danish Dokan Expedition was to proceed. In the end both endeavours were aborted due to the Iraqi revolution in summer of 1958.

9. *Qara Qaj*

Large, low mound south of Kullah Kawi; some 250 m long and 100 m wide.

Late Assyrian, Median, local ware.

*10. *Mullah Shell*

Two mounds on a high cliff, overlooking the Zab on its eastern bank; the northern mound is some 150 m across and the southern 200 m.

Prehistoric, Assyrian, Median. JL adds: Jarmo, Hassuna-Samarra. PM: Hassuna, Halaf.

These mounds must be sought near the village marked 1942 as Mullah Yusif, and in the Hunting images a small village can be seen, located between several high ridges. The NINO team has visited and initiated investigations of this site, but discussion must be deferred to a future occasion.

11. *Haiz*

Large mound, some 150 m at its base and 15 m high.

Prehistoric, Hurrian, Assyrian, Median. Soof 1985: Uruk.

An interesting site located ca. between Basmusian and Qarashina, and an island in the lake in dry years. The Hunting images shows the site without a village and possibly with a more extensive area beyond the high mound. For a 1955 photo see as-Soof 1970: Pl. IV: 3.

12. *Babu Gawran (i.e. father and son)*

Two mounds 300 m apart; the larger is some 200 m at its base and 8 m high, the smaller 100 m long and 6 m high.

Both are prehistoric, Assyrian, and Median. JL adds: Parthian.

This twin site is currently being excavated by a team from the University of Copenhagen (Skuldbøl and Colantoni, this volume). For the additional site of Bab-w-Kur South see Uildriks, this volume, and Eidem (ed.) 2015: 38-43.

*13. *Mamand*

Large mound, some 150 m across at its base and 5 m high.

Prehistoric, Assyrian, Median. Soof 1985: Uruk.

The site described in section 3.6 seems not to be identical with this Mamand, which may be located further to the west.

14. *Tepe Gawran*

Two mounds, the lower is some 150 m long and 50 m wide, the other is 250 m long and 3 m high. The former shows traces on its summit of an Assyrian building with baked bricks.

Both are Late Assyrian, Median, Sassanian, and Islamic.

The 1955 survey map shows a site and village named Kuran, located ca. one km sw of Mamand. Kuran, however, is not found in the list of site descriptions, which instead features a place called 'Tepe Gawran', as no. 14. in the list, where no. 13 is Mamand, and no. 15. Shemshara. It thus seems likely that this is Kuran, but we have yet to identify the hills described by as-Soof. Presumably they are close to the village of Toba Kuran, marked on the 1942 map, but the location does not exactly fit the village visible south of Mamand on the Hunting image. See 3.7.

*15. *Shemshara*

Conical mound, some 50 m across at its base, 20 m across on top, and nearly 25 m high (50 m above the Zab).

Prehistoric, Assyrian, Median, Islamic. Soof 1985: Uruk.

Danish excavation 1957 (cf. Ingholt 1957 and 1970); Iraqi excavations directed by Abd al-Qadir 1958-59. According to al-Haik (1968: 67) periods 2-3, 10-11, 18.

The survey clearly missed a main period of occupation (early-to-mid second millennium BC), and mistakenly(?) identified Assyrian and Median material. In fairness, however, it must be noted that Shemshara at that time was fairly densely covered with vegetation (cf. e.g. photos in Ingholt 1970), and probably presented limited surface sherdage. Indeed the Danish expedition took some time to realise that also the southern extension of Main Hill had ancient occupation (Ingholt 1970: 13). For the possibility of Uruk occupation see Eidem, this volume.

This site is currently being re-investigated by the NINO team. See Eidem, this volume.

*16. *Kullak (Golak)*

Hemispherical mound, 100 m across at its base and 8 m high.

Prehistoric, Assyrian, Median, Islamic. JL adds Hurrian. PM: Halaf

According to al-Haik (1968: 67) Abd al-Qadir directed work here in summer 1958 (19/6-11/8), but during the same period work was also conducted at Basmusian (19/6-25/8) and Qarashina (19/6-25/8), so that the excavation at Golak may have been fairly limited. A possible 'scar' of the Iraqi operation(s) is visible on the NE slope, but no information has been published, nor does al-Haik provide any periods identified.

Golak is a fairly tall, and large, multi-period site just 4 kms southwest of Shemshara (Fig. 26). The Hunting photo shows the mound somewhat better preserved than today, and with a small modern occupation on the summit. Incidentally notes by Læssøe mention that one resident was a lawyer. Today the summit and the whole site is under plow. Our 2014 resistivity survey does not indicate the presense of any extensive occupation beyond the high mound and its immediate slopes, but sherds are found in a slightly wider area, perhaps spread by cultivation and erosion. Chalcolithic sherds (including numerous BRBs) are fairly plentiful, especially on the south/southwestern slopes of the site, but there is little or no trace of earlier material. We think to be able to identify some Early and Middle-to-Late Bronze Age types, but most of the higher stratification on the site would seem to belong to the Iron Age and later periods – especially the lowest southwestern slope has a good deal of glazed and fairly recent sherds.

Golak is on fairly high ground, and has only been touched by Lake Dokan when water level was exceptionally high, but it has clearly suffered quite some damage from intensive cultivation. It is the largest site close to Shemshara, and although not often affected by flooding some test excavation at Golak might be of importance to obtain well-stratified material from especially the first millennium BC.[14]

Fig. 26. High mound of Golak (UAV photo I. Kisjes, 2014).

17. *Parah Post*

Two small mounds, altogether 200 m long, 70 m wide, and 2-3 m high.

Prehistoric, Late Assyrian, Sassanian, Median.

Recent work by the UC team shows this site to be a small "cluster" of ancient occupations (Skuldbøl, Colantoni, this volume). In spring 2014 the local antiquities inspector showed us a number of objects reportedly collected at

[14] In autumn 2016 the Danish team conducted some trial excavations at Golak (see summary report at http://www.urbarch.tors.ku.dk/).

Parah Post, including five LC stamp seals and four cylinder seals. The best preserved cylinder seal is of post Akkadian date, and would indicate occupation during this period – if the reported origin is correct.

*18. *Basmusian*

as-Soof 1970: The surface sherds were described as prehistoric, Assyrian, Hurrian, Median, Sassanian, and Islamic. Soof 1985: Uruk. PM: Hassuna, Halaf.

Iraqi excavation 1956 directed by as-Soof (1970), and further Iraqi excavations 1957-58 directed by Abd al-Qadir (cf. as-Soof 1970: 69). See Mühl 2013: 223 w. further references (ibid. Pls. 82-84 with finds, and plan of Temple Pl. 116, 2).

According to al-Haik (1968: 67) periods 3-12. The excavations revealed a long sequence of occupation: "throughout most of the third millennium, and in the Uruk (as-Soof 1985: 88, and illustrations of ceramics pp. 186-187), and Halaf/Samarra periods" (Levels XVI-VI, as-Soof 1970: 69), followed by Middle Bronze, Middle Assyrian and Islamic levels, but no reports of the Median or Sassanian materials identified by the survey.

The English version of as-Soof's report (p. 68) omitted an interesting observation mentioned in the Arabic version, here in italics:

"Tell Basmusian, the largest site in the Rania Plain, lies about 12 km south of Rania. It covers an area some 1500 m in circumference, and is 23 m high; *from the northwestern side of the base of the tell there is a settlement not so high, it was settled in the periods much older than the upper levels of the tell itself*."[15]

This presumably means that the later occupation was limited to the upper tell.

With its ca. 9 ha extent and central location Basmusian is easily the most important site on the Rania Plain, and no doubt a local 'capital' for long periods. See above 3.2.

19. *Qarashina*

Some 70 m across at its base and 20 m high.

Prehistoric (especially Uruk), Assyrian, Median. JL adds: Ubaid, Hurrian, Islamic. PM: Halaf.

Iraqi excavations 1956 and 1958 directed by Abd al-Qadir. As-Soof (1985: 86) mentions that levels III-VI were of Uruk data (for a selection of illustrated ceramics cf. ibid., 185). A building labelled as 'temple' was excavated in level III, and the plan later published by Damerji (1987: p. 114, Fig. 113; reproduced in Mühl 2013: Taf. 103, 3). One problem regarding this building is the note published soon after the excavation: "As a result of the recent [1958] excavations, a small temple was discovered. Its walls are decorated with buttresses and recesses. Here also a large collection of painted pottery were discovered. These sherds helped in dating the period of the temple which proved to be of the Ubaid period. Several plans and photographs were made for this temple." (al-Alusi 1959: 50). Since level III cannot be of Ubaid date it would seem that the 'temple' contained quite substantial fill taken from an earlier (pre-VI) level at the site – or that the painted sherds in reality are of Ninevite 5 date (cf. above. 3.1).

This small, but tall site is clearly visible on the 1952 photo (Fig. 27; cf. the 1955 photo as-Soof 1970: Pl. IV: 2). Interestingly the vague contours of an enclosure, ca. 200 × 300 m, can be seen around the mound itself, which may then have been the 'citadel' for a ca. 6 ha site, most likely during a period contemporary with levels I-II (Hurrian, Assyrian, or later?).

The 1955 survey map shows two triangles next to the label "Qarashina", a northern one close to the village of that name, and another some 500 m to the SW. The latter is clearly the one excavated, while the 1952 image shows the small village on a kidney-shaped prominence. An open question is whether the later periods of occupation perhaps relate only(?) to the village site.

20-27: *No details available*

28. *Serkhomah*

Large mound in Baslan valley, some 200 m across at its base, 100 m across on top, and 20 m high.

Prehistoric, Assyrian. Soof 1985: Uruk.

*29. *Buskain*

Large mound, some 200 m at its base and 15 m high.

Prehistoric, Halaf, Ubaid, Uruk, Assyrian, Median. PM: Hassuna.

This is the tall mound now almost 'swallowed' by the village of Boskin, where our team has had its base. It is much destroyed by modern constructions etc. Compare the states 1952 – 2012 (Fig. 28).

[15] My thanks to Dlshad Marf for this observation and the English translation. The Arabic and English versions of the report were published in the same issue of *Sumer* (1970).

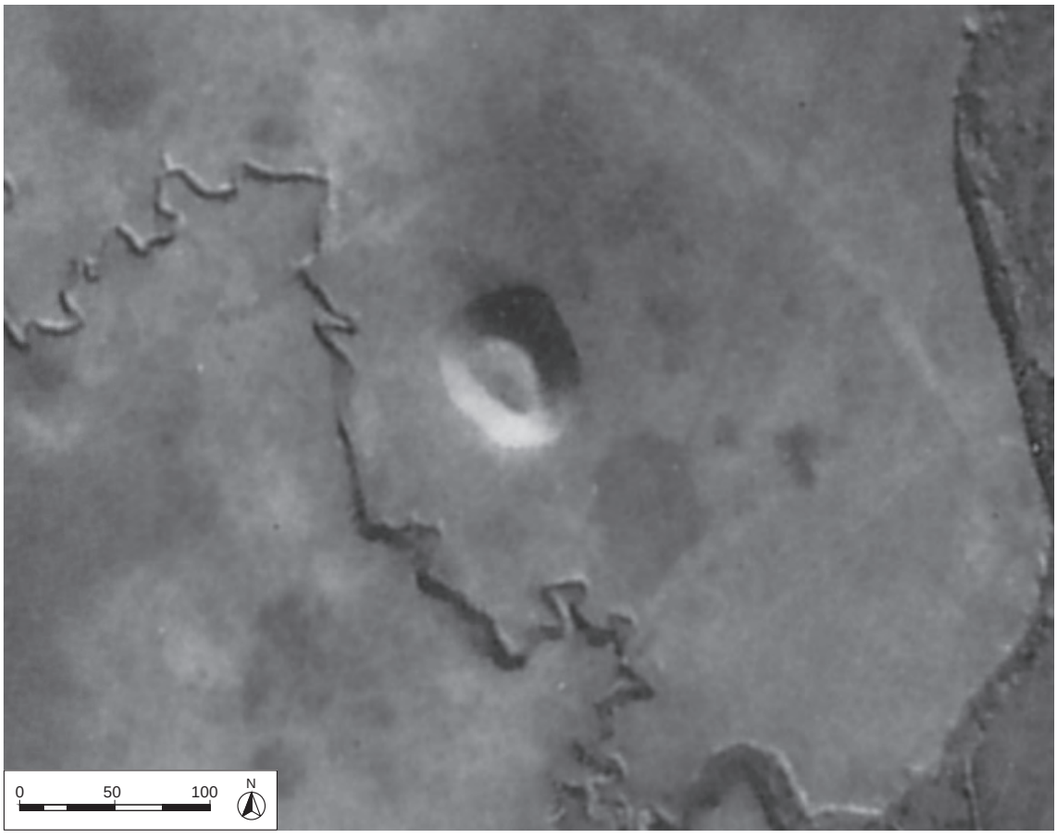

Fig. 27. Qarashina (Hunting 06527, 7/12, 1951).

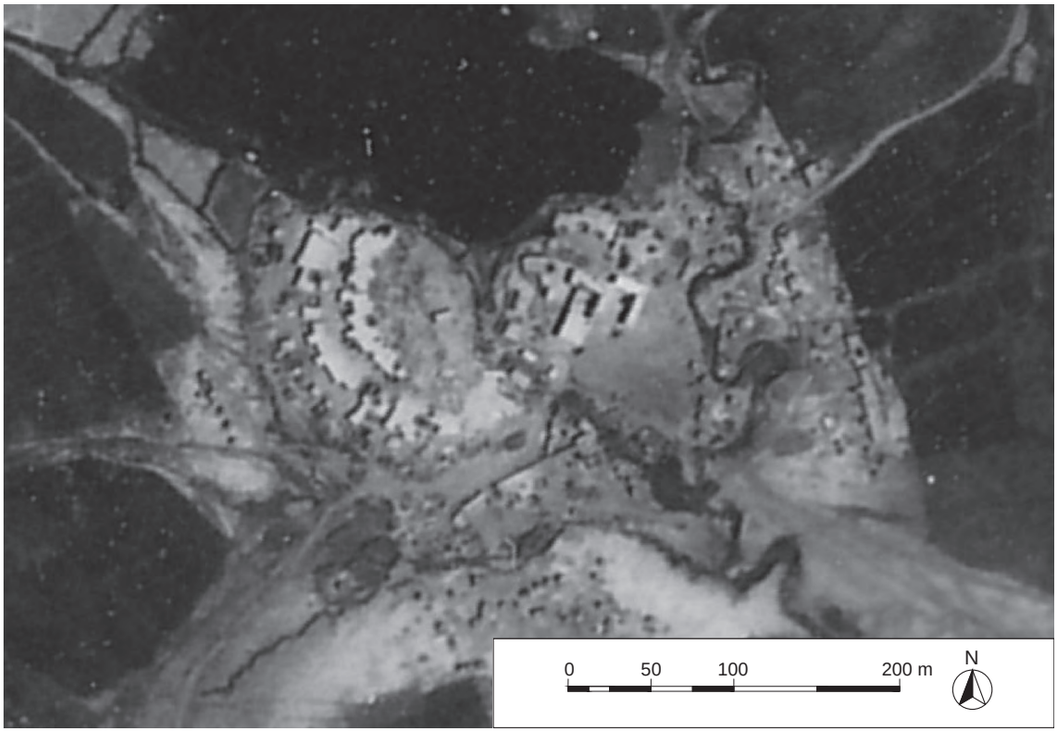

Fig. 28. Buskain (Hunting 19837, summer 1952).

*30. *Kullan*

Large mound, some 150 m long, 100 m wide, and 10 m high.

Samarra, Halaf, Ubaid, Late Assyrian, Median. Soof 1985: Uruk.

For a 1955 image of this site see as-Soof 1970: Pl. VI: 1.

The NINO team visited this site briefly in 2015. It is very eroded, and only the highest part seems to preserve actual stratification. Surface sherds observed included some clear Neolithic examples and many Iron Age types. The Rania antiquities' inspector has shown us a group of objects from the site, collected by locals. These objects include several Islamic coins and a late Iron Age ceramic cup.

*31. *Kamam*

Large hemispherical mound on hill; some 250 m long at its base, and 15 m high.

Prehistoric, Assyrian, Median, Sassanian, early Islamic.

Kamam was visited by boat (20/10, 2015) and then appeared as a small squarish island in the lake, dominated by a layer of limestone blocks, amidst which some wall foundations of probably a major structure could be discerned (Fig. 29). The true shape and size of the site, however, can be seen in the Hunting aerial photo (Fig. 30), which shows a small, squarish summit of a much more extensive site, perhaps even larger than described by the 1955 survey. Interestingly Læssøe notes that this site is: "small mound on hill, dm. 50 m., height 5 m; Islamic burials; prehistoric and late". The dimensions here seem to fit the high squarish summit (cf. 1955 photo as-Soof 1970: Pl. V: 4), while the description given by as-Soof fits the entire site. Since the source was the same, namely the 1955 survey, it would seem that the original field notes may have been subject to different summaries. In any case Fig. 30 shows modern houses and the outlines of graves on the lower part of the site, while the high summit seems reminiscent of Basmusian (cf. 3.2).

Only a few sherds could be collected on the 2015 "island". They included no painted specimens, but examples which may otherwise fit the information from 1955 quite well.

32. *Kundu*

Hemispherical mound, some 300 m in circumference and 12 m high.

Hassuna, Samarra, Ubaid, Assyrian, Hurrian, Median.

No further information available. The site is clearly significant, and also easily discernable on the Hunting image (Fig. 31). It is reachable in very dry years.

33. *Qurralla (north)*

Ovoid mound, some 200 m long, 50 m wide, and 10 m high.

Ubaid, Uruk, Assyrian, Median.

Note that both 33 and 34 have exactly the same periods represented. For a 1955 image of 33 cf. as-Soof 1970: Pl. V: 1.

34. *Qurralla (south)*

Large ovoid mound, some 250 m long, 100 m wide, and 20 m high.

Ubaid, Uruk, Assyrian, Median.

See note to no. 33.

35. *Mahmoud Abbas*

Large mound, some 200 m long and 10 m high.

Late Assyrian, Median, early Islamic.

Not marked on 1955 map, and location unknown.

36. *Ghaznah*

Large mound, some 200 m long and 21 m high.

Assyrian, Median, early Islamic.

Not marked on 1955 map, and location unknown. It should be noted that the periods listed are the same as for No. 35.

*37. *Araban*

Some 250 m long and 20 m high.

Assyrian, Median, Islamic.

See above 3.4.

*38. *Qara Tepe Kun*

(in Qaratepe village): some 300 m long and 15 m high.

Prehistoric, Middle and Late Assyrian, Sassanian, early Islamic.

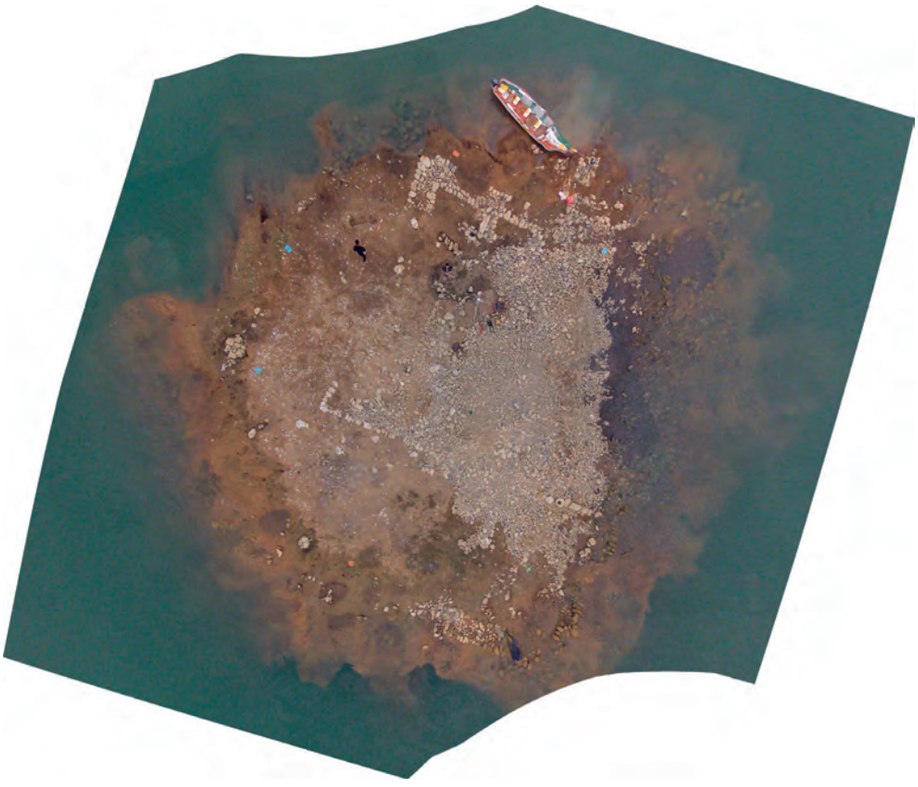

Fig. 29. Kamam (UAV photo I. Kisjes, October 2015).

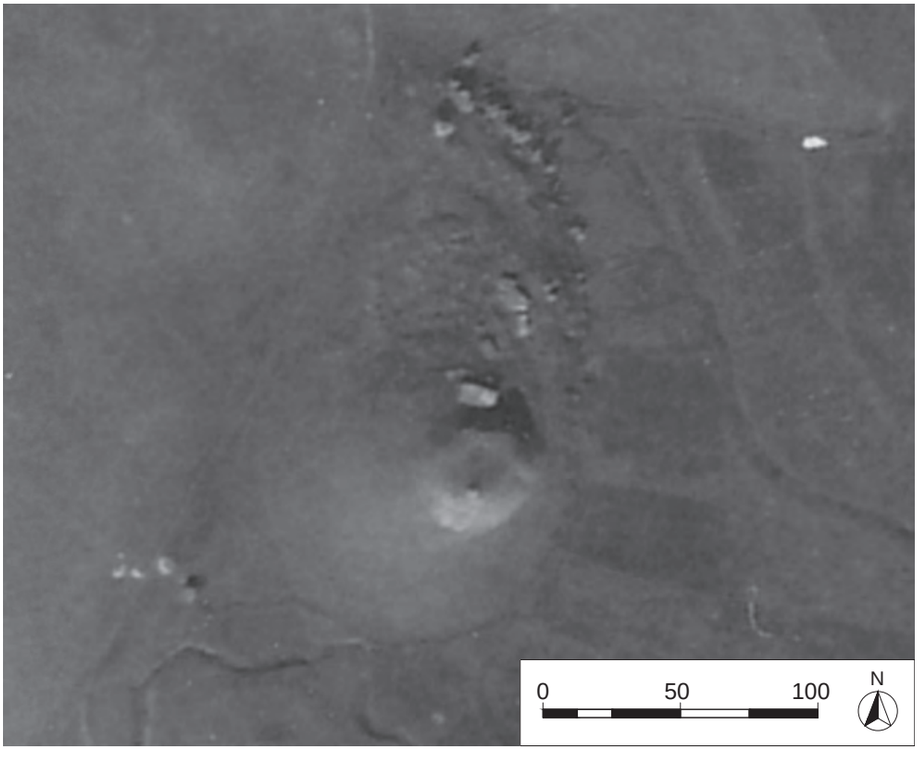

Fig. 30. Kamam (Hunting 06527, 7/12, 1951).

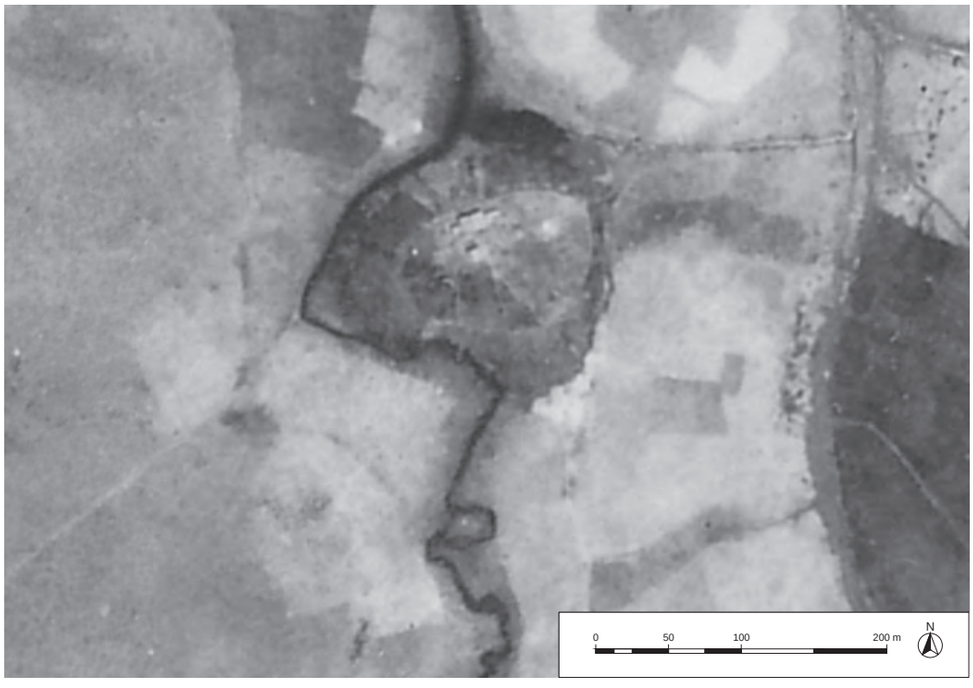

Fig. 31. Kundu (Hunting 16853, 9/7, 1952).

39. *Kirdel*

Some 200 m long and 10 m high.

Ubaid, Uruk, Assyrian, Median.

Not marked on 1955 map, and location unknown.

40. *Qabr es-Sahabah*

Mound near Mirza Rustam.

Prehistoric, Assyrian, Median.

No further information is available on this site. Mirza Rustam was a ferry point on the Zab. On the Hunting image the village is clearly visible, and what is almost certainly a fairly tall ancient mound can be seen at its west edge. It seems likely, however, that the site named Qabr es-Sahabah is another mound located outside the village, but a clear candidate cannot be identified.

4.2. Additional sites

1a. *Al Yawah*

Marked on 1955 map, but no description.

JL: "like Hiz, 6 m. high, gentle slope, Assyrian, Hurrian, (Prehistoric)". Soof 1985: Uruk.

For a 1955 photo of this site see as-Soof 1970: Pl. VI: 2.

*2a. *Baiz Agha*

Only marked as a village on 1955 map, and no description.

For this important site see section 3.3.

*3a. *Bardastee*

Not marked on 1955 map, and no description.

Iraqi excavation 1959 directed by Abd al-Qadir (cf. al-Haik 1968: 67, Mallowan 1964: 148). According to al-Haik period 8. This is since confirmed by the NINO investigation of Bardastee in spring 2013.

4a. *Blair*

Marked on 1955 map, but no description.

JL: "150 m, 30 m high, stone foundations + Assyrian sherds". Soof 1985: Uruk.

For a 1955 photo of this site see as-Soof 1970: Pl. V: 3.

*5a. *Du Kirdkan*

Marked on 1955 map, but no description.

JL: "Two mounds: N. 10 m. high, 100 m. wide; S. 6-8 m. high. Dm 50 m."

Iraqi excavation 1959 directed by Abd al-Qadir (cf. al-Haik 1968: 67). According to al-Haik periods 6-18 on Mound I, periods 6- 7 on Mound II.

See section 3.5.

6a. *Jwar Qurna*

Marked on 1955 map, but no description.

In autumn 2014 the NINO team made some effort to locate this site, but without success. The modern town now covers a very large area, within which there may well be several ancient sites, yet to be identified.

7a. *Kani Malkah*

Marked on 1955 map, but no description.

Soof 1985: Uruk.

*8a. *Kullah (= Girdi Gul, Qola)*

Marked on 1955 map, but no description.

Iraqi investigation by A. Mustafa the 3 last weeks of October 1960, according to al-Haik (1968: 66). No other information available.

This site is located just a few kms north of Shemshara. The lower part of the site is covered by a recent cemetery. We have not yet conducted systematic surface sampling, but the small, fairly high core seems multi-period. Identified sherds include Uruk and Islamic examples. This site is the closest 'high' mound to the Darband pass, and clearly merits further detailed investigation.

9a. *Khwāris*

Not marked on 1955 map, and no description.

Brief investigation 1957-1958 by Abd al-Qadir to salvage the mosaic floor published by Costa (1971); cf. al-Alusi 1959: 50. According to the information provided Khwāris was a small oval mound situated at the confluence of the Zab and Baselan, 100 m long, 80 m wide, and 4 m high. The Sassanian period mosaic probably came from "a rather large building" which stood alone on the top of the mound, and was revealed by a deep trench dug by "nearby dwellers in the course of their agricultural work".

10a. *Mamandawa*

Near Qaratepe Kun, marked and named on 1955 map close to a village, but no description.

11a. *Qal'at Rania*

In the Hunting image the ancient mound underlying Rania is clearly visible (Fig. 32), and it was here that Iraqi surveyors found surface sherds of Uruk (Soof 1985) and Assyrian date.

Rania in the early 1950s would not seem to have changed much during the ca. 30 years since Edmonds described it in 1922: "Ranya village itself, which was built partly on the side of an artificial mound about a mile from the base of the Kawarhesh and partly out on the flat, had at that time about sixty houses and was not much of a place, though the little market square with half a dozen shops, the mosque, and a copious spring welling up into a large masonry tank in the shade of spreading plane-trees made a pretty picture until the spring dried up at the end of summer." (Edmonds 1957: 237f.).

12a. *Qara Tepe*

Near Qaratepe Kun, marked and named on 1955 map close to a village, but no description.

13a. *Qorijah*

Marked on 1955 map, but no description.

JL: "8 m. high, Assyrian?"

*14a. *Shaiwazan*

Marked on 1955 map, but no description.

Soof 1985: Uruk

Visited by NINO team 2014. It appears as a small, fairly tall hill with a lower southern extension (Fig. 33). Much of the site is covered with a very dense capping of limestones, so dense in fact that it may reflect a deliberate work rather than mere erosion of standing structures. The small stone-built structures extending from the East/SE slope of site seem fairly certain to be modern or pre-modern enclosures, constructed from portions of the stone capping, and intended for animal pens and/or temporary shelters. Where the stone capping is absent, especially on the edges of the summit, outlines of mudbrick walls and pits are visible. Random sherds were collected from the summit and upper slopes and from the lower slopes of the site. Recognisable material is dominated by hand-made Neolithic sherds and Uruk period sherds, including BWBs. A couple of painted sherds from the lower slope seem likely to represent early Ninevite 5 occupation.

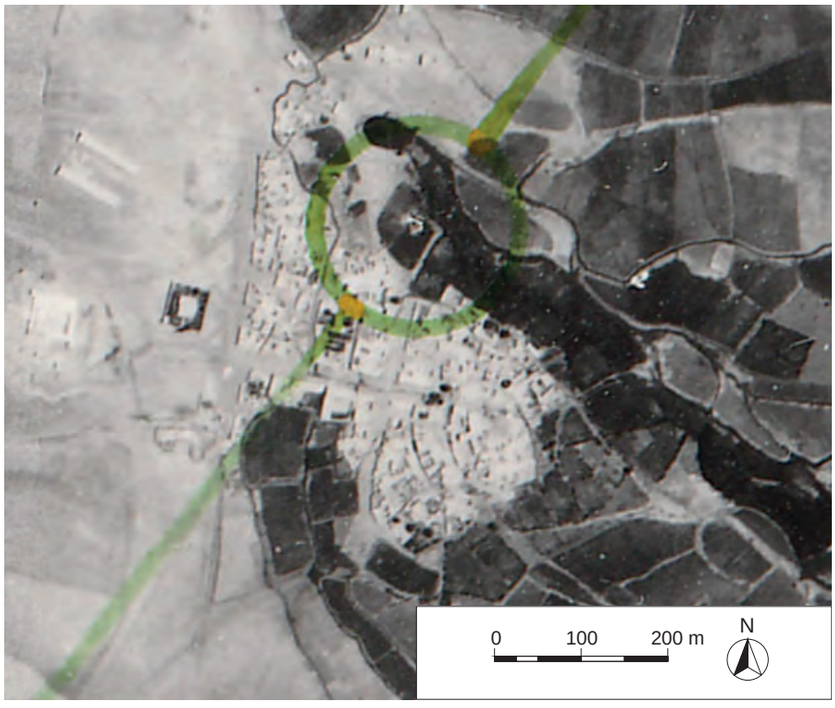

Fig. 32. Qal'at Rania (Hunting 19837, summer 1952).

Fig. 33. Shaiwazan (view north, October 2014).

15a. *Suffi Ibrahim*

Marked on 1955 map, but no description.

16a. *Surushab*

Marked on 1955 map, but no description.

17a. *Warankah*

Marked on 1955 map, but no description.

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