

Daniel Neumann

On the Fringes of the Mountain Ridge – New Research on Late Bronze Age Hillforts between the Taunus and the Vogelsberg

Introduction

Although researching hillforts has already a long tradition, the knowledge on fortified settlements from the Bronze Age is restricted and in many ways still very limited. This situation is true for many regions in Europe, and the case of the Central European Mountain Range is no exception in this regard. Henceforth research within the LOEWE initiative “Prehistoric Conflict Research – Bronze Age Hillforts between Taunus and Carpathian Mountains”¹ has been challenging this situation since 2016. Within the framework of this initiative two projects examining hillforts in the federal state of Hesse have been established² and will be complemented by an investigation of the past landscape.³ In the following a preliminary insight into the first year’s research on the Late Bronze Age hilltop sites between the mountain ranges Vogelsberg and Taunus will be given.⁴

History of research

The area of research is confined by two mountain ranges: the Taunus and the Vogelsberg (Figs. 1–2). Whilst the Taunus is part of the Rhenish Slate Mountains, the Vogelsberg is by contrast of volcanic origin. The two ranges frame a highly fertile plain, which is called the Wetterau⁵ and which drains southwards into the river Main. On the foothills of the mountains framing the Wetterau a large number of hillforts from different peri-



Fig. 1 Location of the area of research within the federal state of Hesse and the Federal Republic of Germany (made with Natural Earth)

ods of time is known. Thereby the density of sites on the slopes of the Taunus is remarkable (Fig. 2). In view of excavations, collected artefacts or the specifics of the ramparts most of these sites are usually dated to the Iron Ages.⁶

Researching hillforts of the mountain ranges in the federal state of Hesse has a rather prominent history. During the course of the 19th century and the first years of the 20th century a kind of archaeological “gold rush” in examining hillforts could be observed. At that time pioneering excavations were undertaken in particular sites on the slopes of the Taunus, which were mainly led by A. von Cohausen, who in the last quarter of the 19th century was

¹ See Hansen/Krause in this volume.

² Besides the work which is presented here, see Blitte/Verse in this volume for the research in the eastern parts of Hesse.

³ See Bringemeier/Stobbe in this volume.

⁴ See also Neumann *et al.* 2016.

⁵ For a summary of the insights into the palaeoenvironment see Stobbe 2008.

⁶ For a collocation see Gensen 1999.

appointed as conservator of Hessen-Nassau, as well as by the architect C. L. Thomas. These excavations lay the groundwork in many ways for the knowledge about fortifications of the Iron Age.⁷ At the forefront of these initial examinations during the 19th century, these sites were mainly attributed to Roman times and were seen in the context of the Roman conquest. When comparing the location of the Limes and its adjacent military sites with the prehistoric hillforts, this first impression may seem quite comprehensible. In the future it will certainly be of interest whether or not there are indeed structural similarities in the location between prehistoric hillforts, Roman military camps and medieval castles concerning the geomorphological situation of the sites, on the one hand, and their proximity to known routes, on the other hand, keeping in mind the gaps and pitfalls of diachronic comparisons.

Research on the hillforts of the Taunus has a history of almost around 150 years. But when taking a closer look at the extent of fieldwork that was conducted in specific sites, a shifting intensity and a spatial density of fieldwork are revealing. During the first peak of research at the turn from the 19th to the 20th century numerous sites (Fig. 3) were analysed to a diverse extent.⁸ However, during and after the First World War archaeological fieldwork stopped entirely until the 1930ies and since then the excavations have focussed especially on the Glauberg plateau, which is the most prominent site of the area.⁹ With the Second World War fieldwork came to an end and stopped entirely until the 1970ies, when a rescue excavation was conducted on top of the Dünsberg.¹⁰ Since then excavations of an even larger extent were conducted almost only at these two remarkable sites.¹¹ Fieldwork was resumed during the 1980ies and 1990ies on the Glauberg¹² and subsequently was started again in the late 1990ies on the Dünsberg, where research has still been carried out to a varying extent.¹³ Apart from the information that could be gained from an ex-

amination of a selection of stratified finds from the excavations of the Glauberg,¹⁴ the current state of research on the Late Bronze Age occupation of the hillforts between Taunus and Vogelsberg is sparse and still matches to great extent that was outlined some decades ago by A. Jockenhövel.¹⁵

Aims and research design

Research within the project “Late Bronze Age Hillforts between Taunus and Vogelsberg” is organised in three main modules: identification and evaluation, detail analysis and contextualisation, and is conducted in close cooperation with the hessenARCHÄOLOGIE and the University of Frankfurt am Main. The general aim of the project is to challenge the present status quo by combining already existing data with new collected data from specific hilltop sites. The results of these investigations will be set in the larger context of conflict research within LOEWE itself and beyond. Using different scales of comparison and interpretation enables us to discuss similarities and differences in the phenomenon of fortified sites during the Late Bronze Age in Europe.

The first module – which is presented here to a larger extent – is devoted to the identification and evaluation of the Bronze Age occupation of already known hilltop sites. The main objective is to gain an actual overview of the sites that may be dated to the Late Bronze Age. This will be achieved, on one hand, through the evaluation of existing archaeological data, while, on the other hand, the approach is complemented by surveys and remote sensing. Subsequently more detailed investigations in a selection of sites will follow as well as the contextualisation of these sites within their natural and archaeological landscape.

Archive studies

Although the methods of archaeological excavations have dramatically improved since the beginnings of the research of hilltop sites, analysing the material assemblages from the Late Bronze Age will be a significant addendum, as they hitherto have not been thoroughly studied. Although

⁷ Baitinger/Kresten 2012.

⁸ For example, at the sites Bleibeskopf (Thomas 1910), Gickelsburg (Thomas 1912) or Altkönig (Thomas 1907/1908).

⁹ Baitinger 2010.

¹⁰ Fundberichte aus Hessen 15, 1975, 432. 479. 504–510.

¹¹ An exception was the Schiffenberg near Gießen (Blechs Schmidt/Herrmann 1975).

¹² Baitinger 2010

¹³ Rittershofer 2004; Nickel 2008/2009; Schulze-Forster 2015, 11–25 especially 16 Fig. 9.

¹⁴ Baitinger 2007; Herrmann 2008; Baitinger 2010, 40–43.

¹⁵ Jockenhövel 1974; 1980.

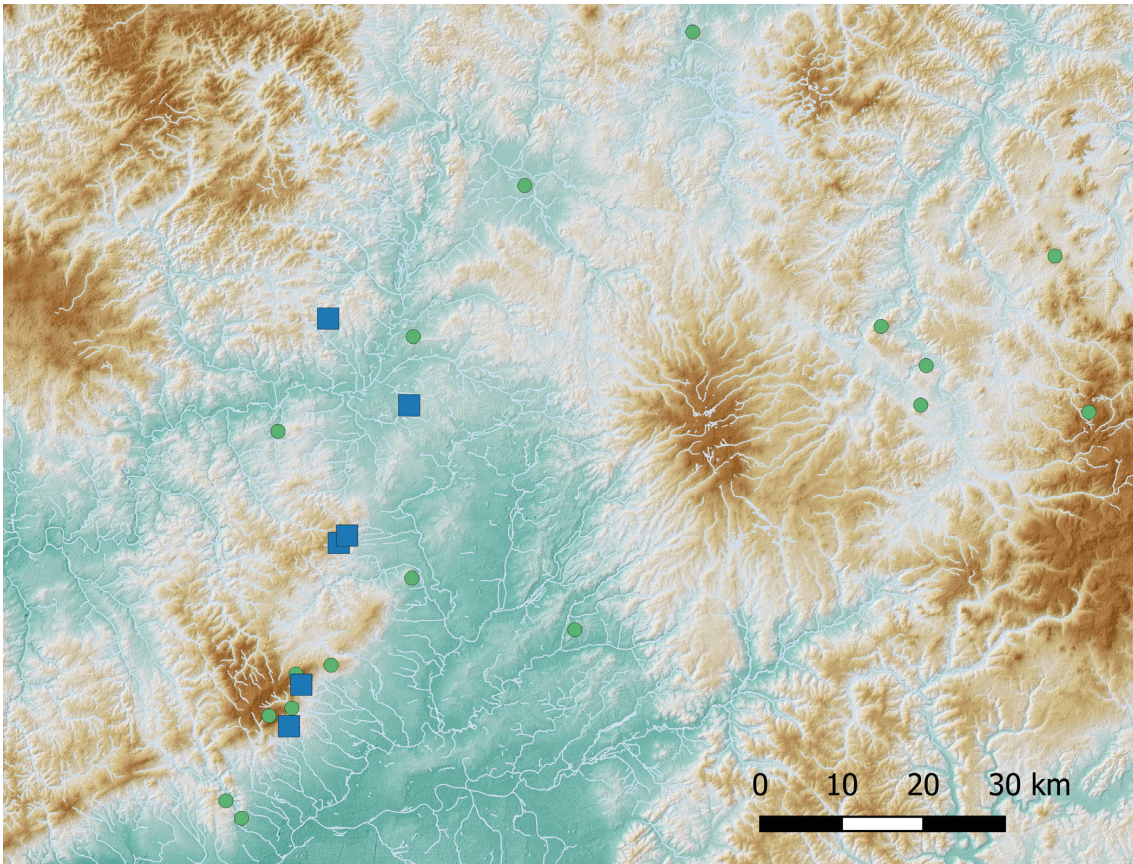


Fig. 2 Landscape features and hillforts between Taunus and Vogelsberg. Sites that were investigated during 2016 are labelled (European Digital Elevation Model (EU-DEM), Version 1.1 borders of Hesse by Natural Earth)



Fig. 3 Bleibeskopf. View of the possible entrance in excavations of Thomas (Archive RGK; Ch. L. Thomas)

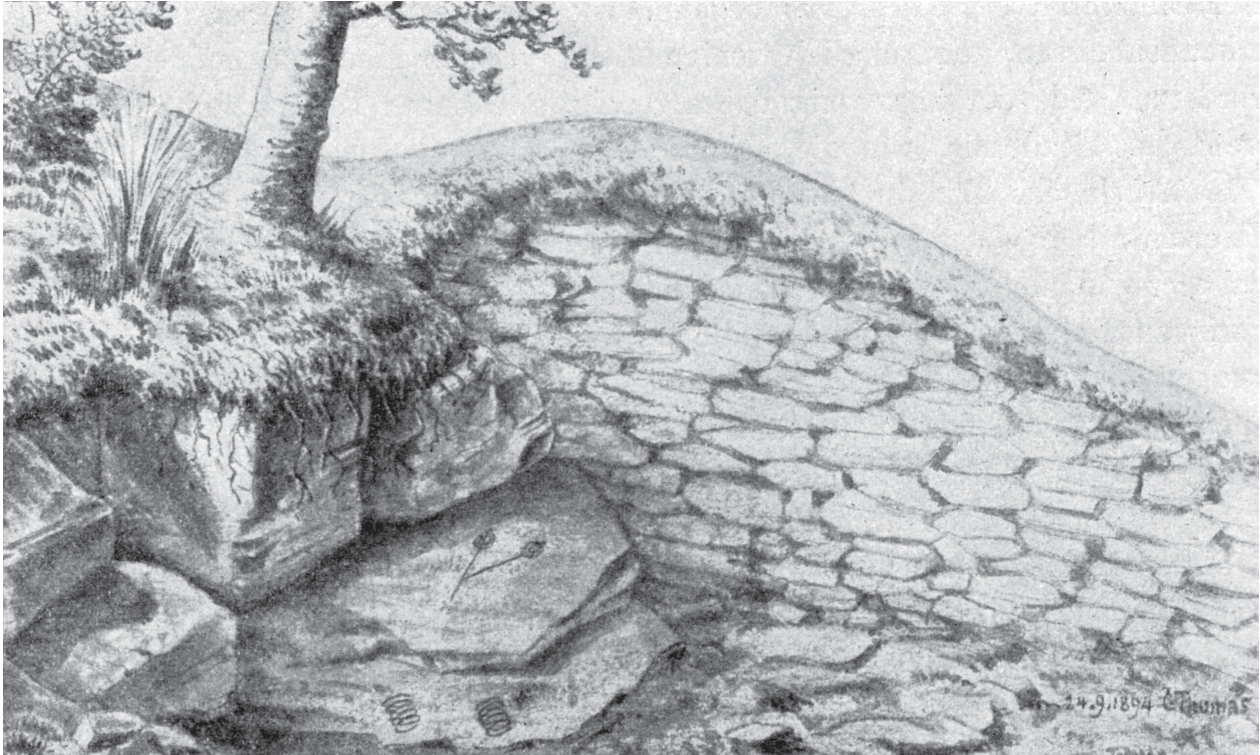


Fig. 4 Goldgrube. Picture showing the idealized find context of the Middle Bronze Age objects (after Thomas 1906, 234 Fig. 8)

generally attributed to the Iron Age or the Middle Ages, some of the many hillfort sites in the area between Taunus and Vogelsberg show first traces of a permanent occupation and fortification during the Neolithic Michelsberg culture.¹⁶ After that episode only little evidence for a use of the hilltops during the Middle Bronze Age is known from a few sites, basing on objects attributed to the Tumulus culture (Fig. 4). As the reports of the contexts of these objects are mostly unknown or at least imprecisely recorded, the collection of artefacts suggests remains of funerals or deposited objects. After these scarce sources many sites yield Late Bronze Age assemblages.¹⁷ The dating of these collections contradicts in many cases the prevailing dating of the ramparts of the specific sites. In view of their proven occupation during many periods, the small degree of archaeological preservation due to erosion, chronological assessments and differentiation of specific features of a hillfort are certainly a challenge. The site of Hünenberg near Kronberg is an example, where ramparts were partially excavated during the late 19th and early 20th century, and as a consequence the site was mainly attributed to the Middle Ages.¹⁸

On the plateau a significant amount of Late Bronze Age objects was found using metal detectors during the 20th century (Fig. 5).¹⁹ The spectrum of finds proves a Late Bronze Age occupation of the Hünenberg and can be well compared to bronze objects coming from settlement contexts rather than depositions (Fig. 6). Therefore and although no information on the find context is known, a permanent settlement on the hilltop seems definitely plausible. Nonetheless, there are still no indications that parts of the ramparts might be contemporaneous. Apart from the finds from the Hünenberg the analysis of other assemblages will be integrated into the course of the research project. The archaeological material that was obtained during a rescue excavation, which was conducted in the year 1974 on top of the Dünsberg in the forefront of the construction of a telecommunication tower (Fig. 7), will be in the centre of interest. Although the excavation in a partially steep terrain was rather hasty, it revealed archaeologically significant features. A Late Bronze Age dating of the first permanent settlement on top of

¹⁶ Gronenborn 2010, 243 Fig.; 2013.

¹⁷ Jockenhövel 1974; 1980.

¹⁸ Herrmann 1985.

¹⁹ Our sincere thanks to Harro Junk of the Arbeitskreis Vor- und Frühgeschichte and the Vortaunusmuseum Oberursel for the opportunity to study the objects and for providing extensive information.

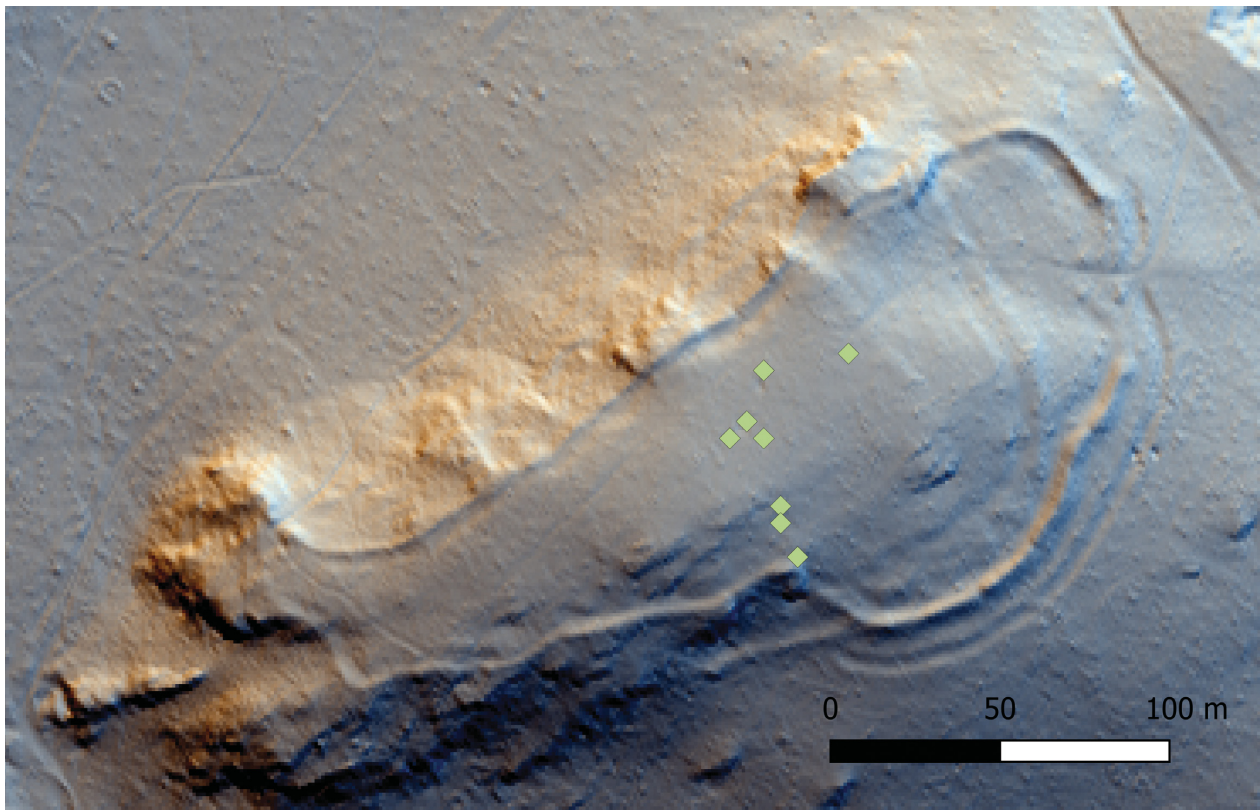


Fig. 5 Hünerberg. Findspots of Late Bronze Age objects (data provided by H. Junk, Arbeitskreis Vor- und Frühgeschichte Oberursel). Mapped above a hillshading from multiple directions made with Relief Visualization Toolbox (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing: D. Neumann, RGK)



Fig. 6 Hünerberg. Late Bronze Age knife (Arbeitskreis Vor- und Frühgeschichte Oberursel/ Vortaunusmuseum; picture D. Neumann, RGK)

the Dünsberg corresponding with the innermost rampart was frequently assumed.²⁰ In contrast to the metal objects of the Late Iron Age (Latène),²¹ which were retrieved in the course of the excavation, the other material culture remained fully unpublished. During the excavation more than 1200 objects were retrieved, of which around 300 ceramic fragments may be indicative for the purpose of dating. In contrast to the ceramic assem-

blages, which have been published so far from the Dünsberg,²² the assemblage from 1974 contains a prominent percentage of indicative shards for the Late Bronze Age. This ratio suggests a relevant occupation on the Dünsberg during that time.

Within the discussion about the social and economic significance of the hillforts, crafts and especially metalworking gained importance.²³

²⁰ Heeb *et al.* 2014, 23–24.

²¹ Jacobi 1977.

²² Schulze-Forster 2015, 140–148.

²³ Jockenhövel 1986a;1986b; Bachmann *et al.* 2002/2003.

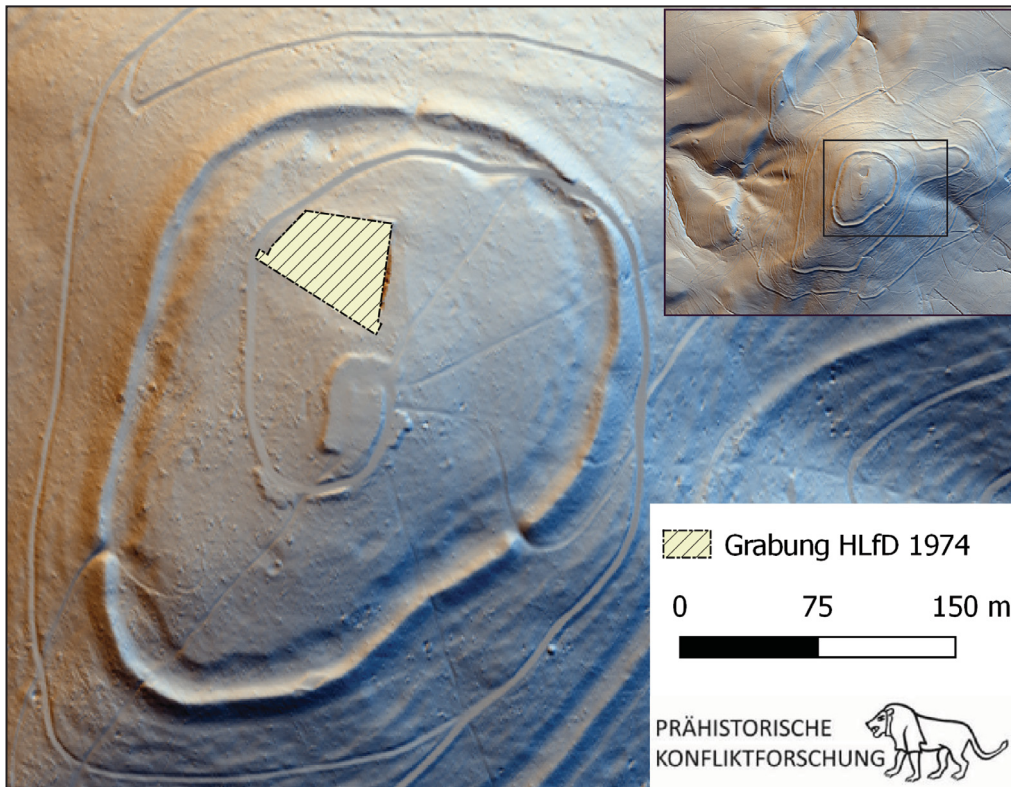


Fig. 7 Dünsberg. Excavation area 1974. Mapped above a hillshading from multiple directions made with Relief Visualization Toolbox (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

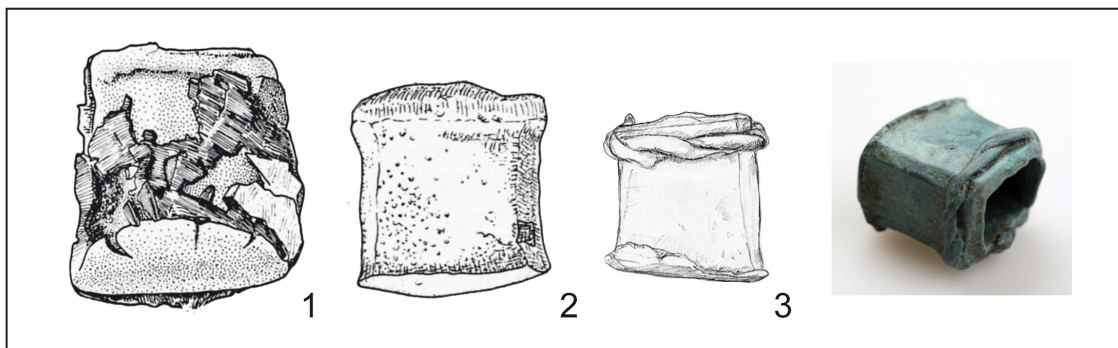


Fig. 8 Hammers from the Dünsberg (1–2 after Jacobi 1977 Taf. 1; 3 drawing and picture D. Neumann, RGK)

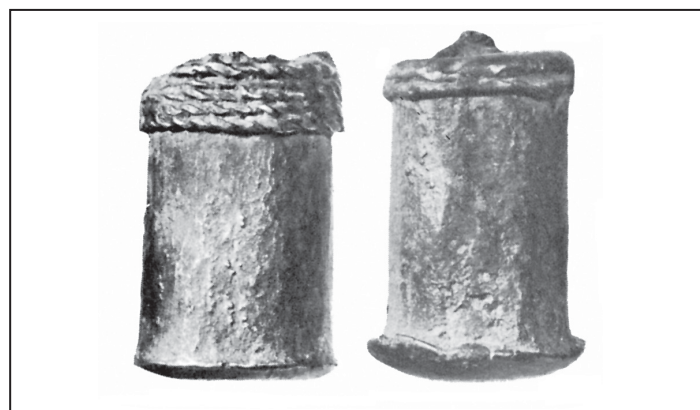


Fig. 9 Hammers from the hoard of Březovice (after Hralová/Hrala 1971)

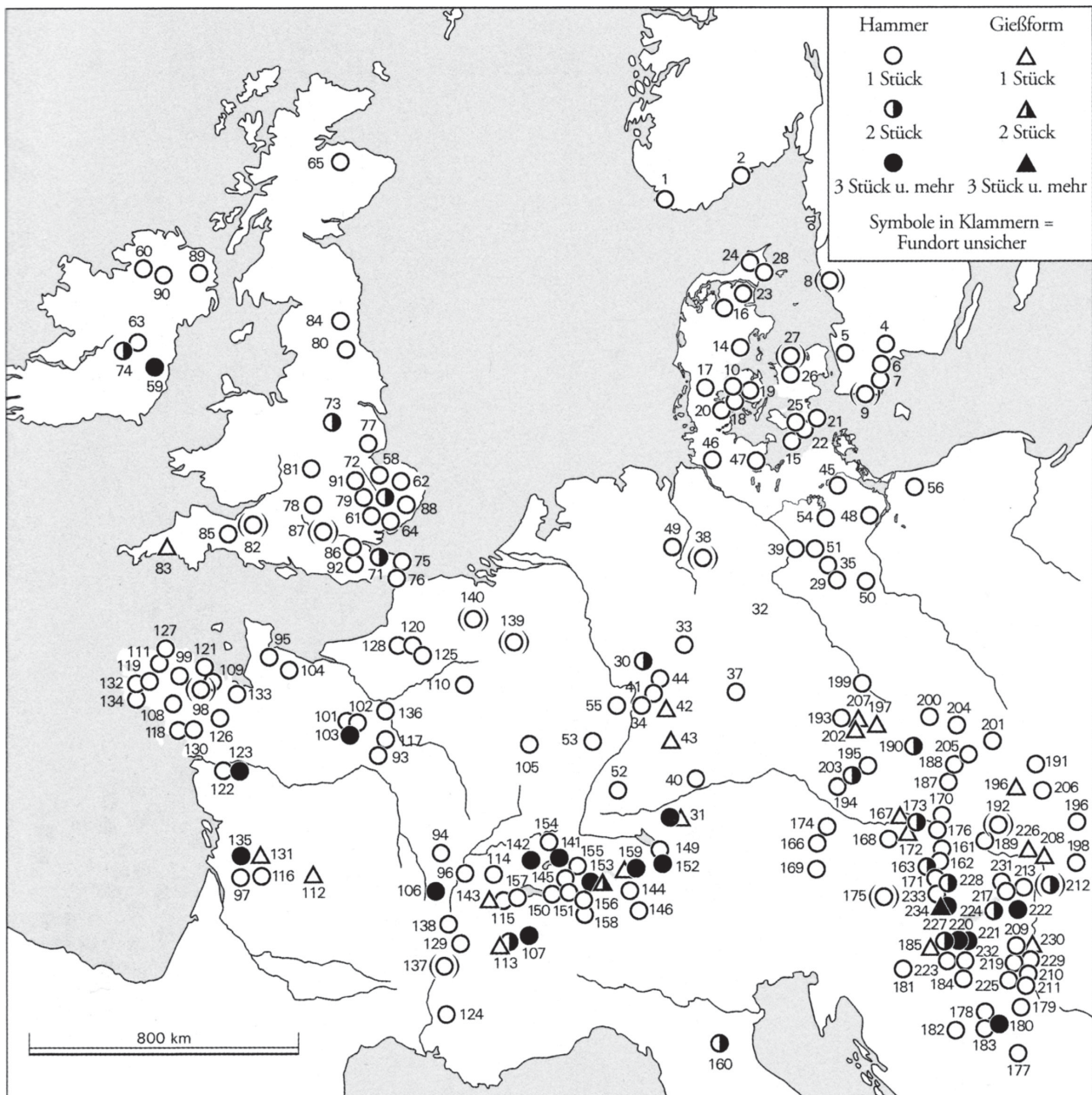


Fig. 10 Distribution of copper and bronze hammers and moulds of hammers (after Jantzen 2008 Pl. 121)

Whilst in-situ sources are still rare,²⁴ this debate is especially based on contextual evidence and spatial distribution of bronze objects with a focus on tools and raw materials.²⁵ In the course of the excavation of the 1974 on top of the Dünsberg, two Late Bronze Age socketed hammers were found using a metal detector.²⁶ Furthermore, a third hammer (Fig. 8) was allegedly found in the 1970ies on the Dünsberg and is currently kept at the Vortaunusmuseum.²⁷ The hammer itself has a

distinctive decoration on the socket, which emulates a cord and has its best parallels in pieces from Wasserburg Bad Buchau, Elfershausen and in two hammers from the hoard of Březovice (Fig. 9). As was discussed elsewhere, these kinds of hammers were certainly used for a variety of striking tasks,²⁸ but especially the driving of thin bronze sheets was surely one of the main purposes. According to only small transformations in the course of time, there are no possibilities for a chronological differentiation between several types of socketed

²⁴ E.g. Runder Berg bei Urach (Pauli 1994, 22–23).

²⁵ Jockenhövel 1986a; 1986b; Bachmann *et al.* 2002/2003.

²⁶ Jacobi 1977, 4–5.

²⁷ Our gratitude to Harro Junk of the Arbeitskreis Vor-

und Frühgeschichte Oberursel for providing this information and for the opportunity to study this object.

²⁸ Nessel 2008.

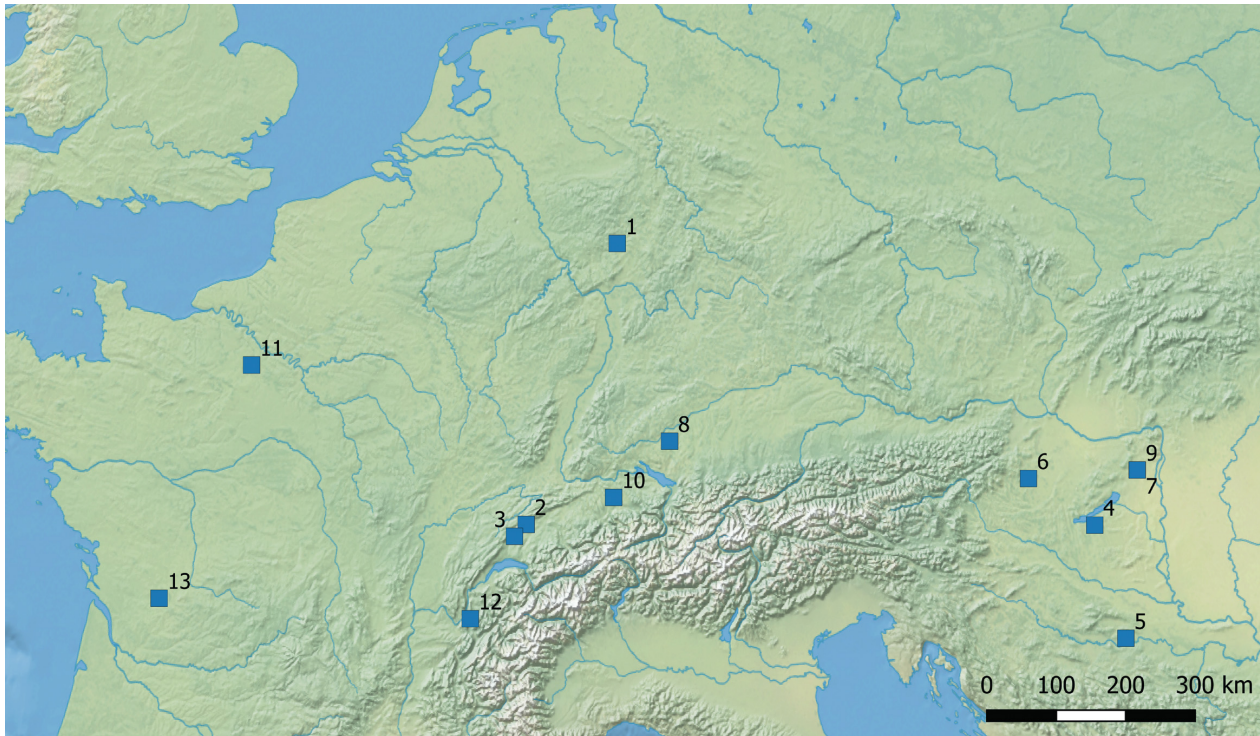


Fig. 11 Sites with more than two hammers: 1 Dünsberg; 2 Auvernier; 3 Corcelettes; 4 Lengyeltóti; 5 Brodski Varoš; 6 Velem St. Vid; 7 Lovasberény; 8 Wasserburg Buchau; 9 Mörißen; 10 Wollishofen-Haumesser; 11 Fort Harrouard; 12 Gresine; 13 Saint-Yriex (according to Jantzen 2008 Pl. 121 and List 3; map made with Natural Earth)

hammers within the Late Bronze Age.²⁹ Due to the fact that already the Bronze hammers from the Dünsberg were initially published the third one will be included in the ongoing studies as well although the circumstances of its discovery are not entirely beyond any doubt. The Dünsberg has been condemnably the target of severe looting. This given situation is a challenge for any research concerning this distinct site which also hinders a well-balanced approach. The known distribution of these tools³⁰ is remarkably irregular throughout Central and Western Europe (**Fig. 10**), and the site of Dünsberg lies in a minor concentration of hammers in Western Germany. The presence of three socketed hammers is quite remarkable; comparable quantities are especially found in large fortified hilltop sites, on the one hand, and lakeside dwellings, on the other hand (**Fig. 11**). This situation underlines the concentration of diverse crafts practiced in the hillforts and highly organized lakeside settlements of the Western Alps.

Remote sensing and geophysics

Assessing the present material culture is indeed an important step, but only the first step in holistically assessing the sources on the prehistoric use of the known hilltop sites between the Taunus mountains and the Vogelsberg. In a second step, different remote sensing techniques have been applied for investigating specific sites. The rugged and wooded terrain in which most of the hillforts are situated is a challenge for archaeological surveys. Nonetheless, the digital evolution enables us to get a better impression of the extent of the sites by using different arrays of remote sensing techniques. With the use of airborne LiDAR (light detection and ranging) scanning it has become possible to create digital terrain models after masking the vegetation. This helps in getting a more accurate overview of the outline of the hillforts. As a consequence, by detecting minor differences of the given relief it becomes possible to complement existing topographic plans, which were based on features only apparent on the surface. The tremendous opportunities of this technique will be demonstrated by the two sites

²⁹ Hralová/Hrala 1971.

³⁰ According to the compilation in Jantzen 2008.

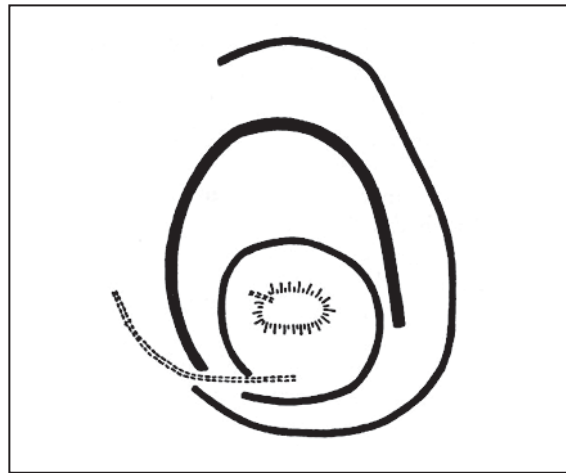


Fig. 12 Hausberg. Sketch of the walls after A. von Cohausen (after Herrmann 1969, 60 Fig. 1)

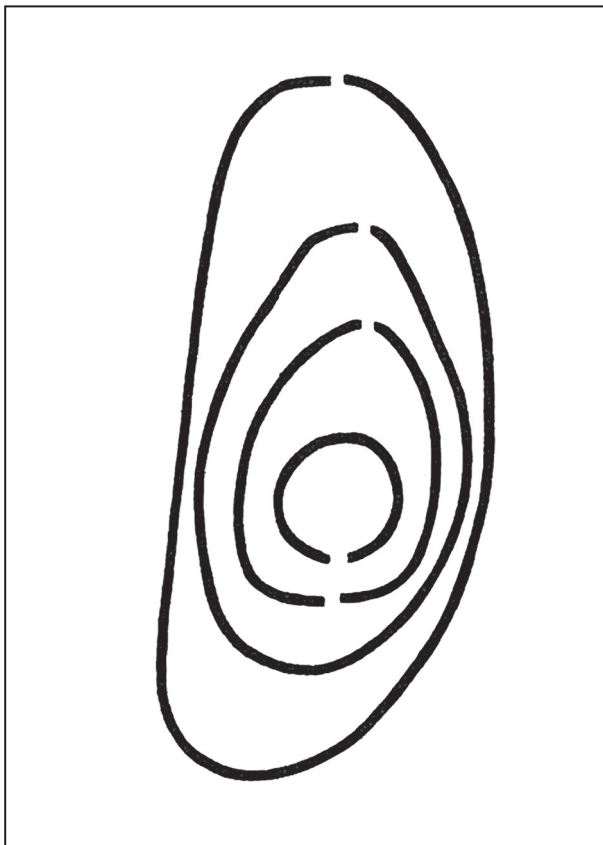


Fig. 13 Hausberg. Sketch of the walls after Schumacher (after Herrmann 1969, 61 Fig. 2)



Fig. 14 Hausberg. Topographic plan (after Herrmann 1969, 63 Fig. 3)

of Dünsberg and Hausberg near Butzbach.³¹ The hillforts are mainly attributed to the Iron Age, but the published material culture suggests an occupation already during the Late Bronze Age. Besides determining the extent of each hillfort itself, agricultural features and larger disturbances can be easily detected with the help of LiDAR. The fortifi-

cations of the Hausberg were topographically surveyed several times during the last 120 years. The plans thereby have evolved from rather sketches (Figs. 12–13) and an accurate topographical survey from the 1970ies (Fig. 14). Considering the digital terrain model derived from LiDAR-scanning, it is suggested that the fortification system was even more complex, although the dating and character must remain unknown without further

³¹ Kutsch 1912; Herrmann 1969.



Fig. 15 Hausberg. Hillshading from multiple directions (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

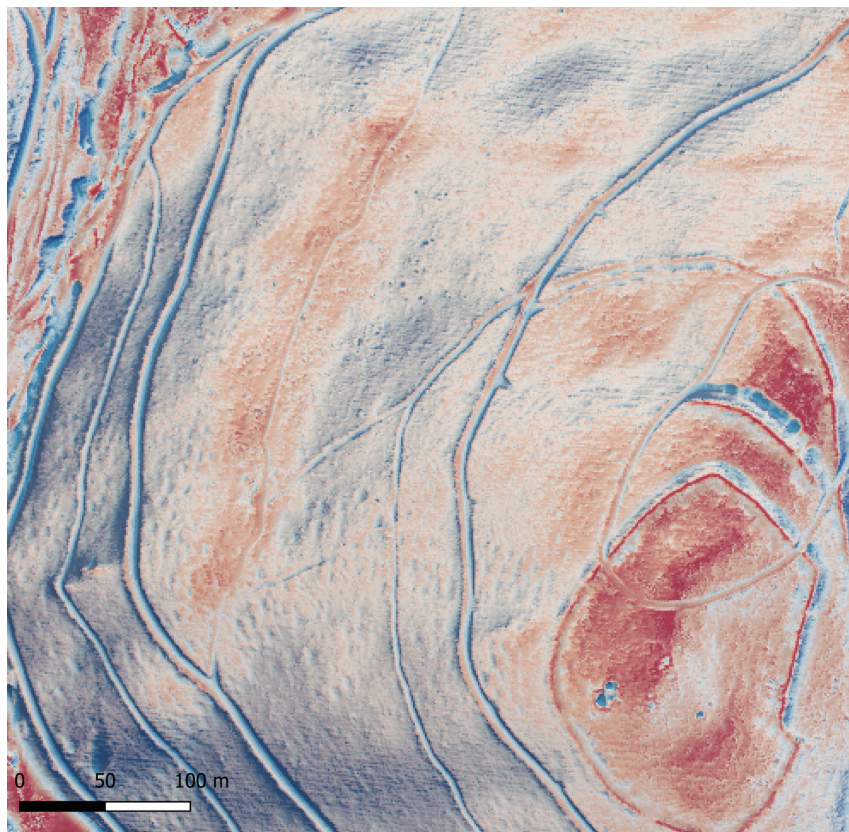


Fig. 16 Potential “Wohnpodien” on the slopes of the Brüler Berg. Combination of Sky View Factor and Slope made with Relief Visualization Toolbox (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

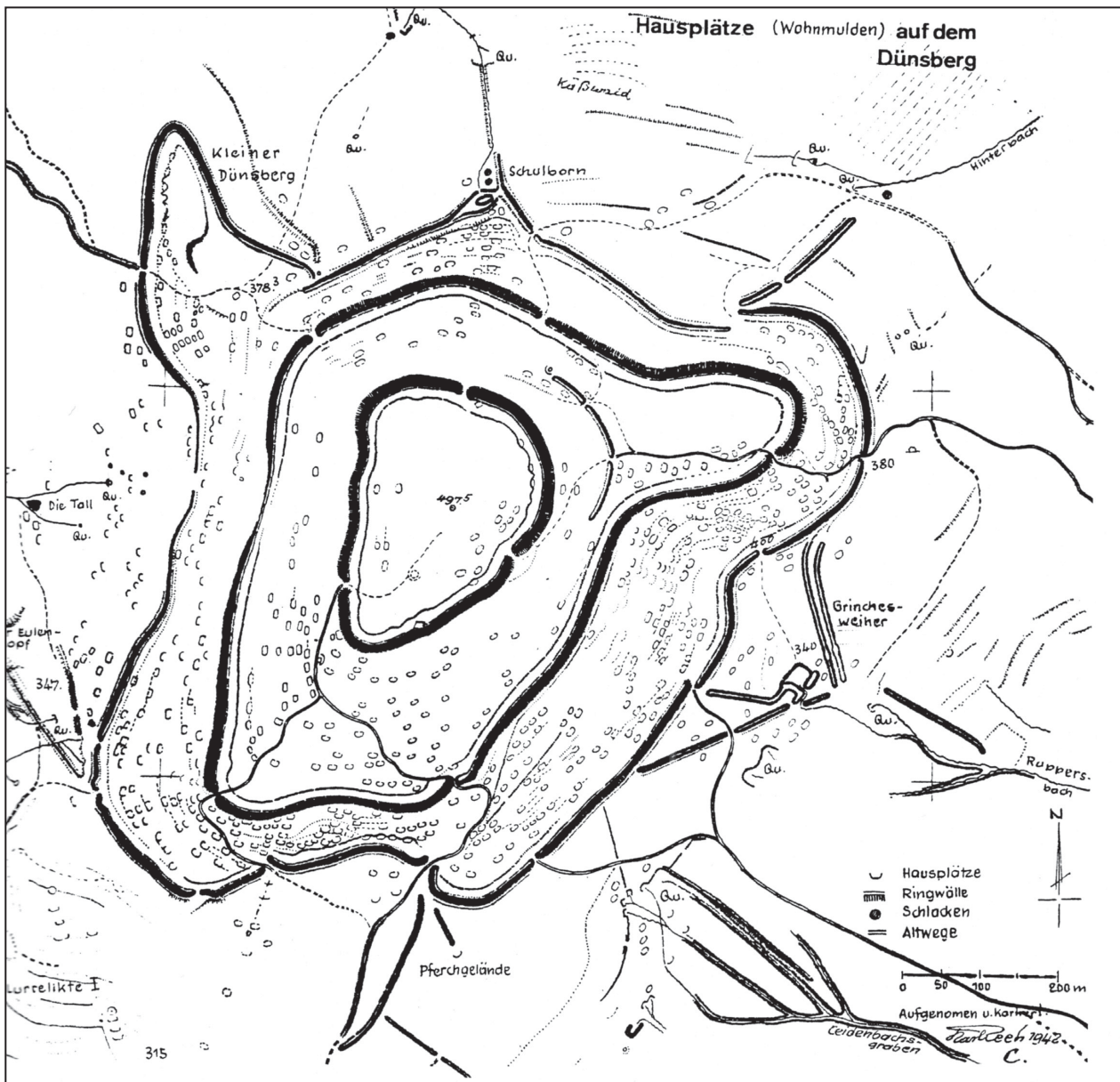


Fig. 17 “Wohnpodien” on the slopes of the Dünsberg results of topographic surveying (after Reeh 2001 Fig. 13)

investigations (Fig. 15). In the immediate vicinity of the Hausberg and on the same elevation is the hillfort Brüler Berg.³² Besides linear structures also depressed sunken structures become obvious according to the terrain model (Fig. 16). These structures seem to parallel features, which are known from other hilltop sites and which since the initial investigations on the slopes of the oppidum of Heidetränk³³ are designated as dwelling platforms (*Wohnpodien*). This kind of dwelling seems to have been documented at many other sites elsewhere in the mountain range of Hesse

(e.g. Altkönig³⁴). Through topographic surveying, this kind of structure is suggested for the slopes of the Dünsberg as well (Fig. 17). The digital terrain model corresponds with that fact, because many flattened areas on the slopes of the site become obvious (Fig. 18). Based on the known archaeological record and the results from remote sensing, a range of sites with a high potential for further investigations has been defined. In close cooperation with the hessenARCHÄOLOGIE and the Posselt & Zickgraf Prospektionen GbR these will be surveyed applying various geophysical methods. With the information obtained by remote sensing the archaeological features and their

³² Baatz 1973.

³³ Thomas 1906.

³⁴ Thomas 1907/1908.

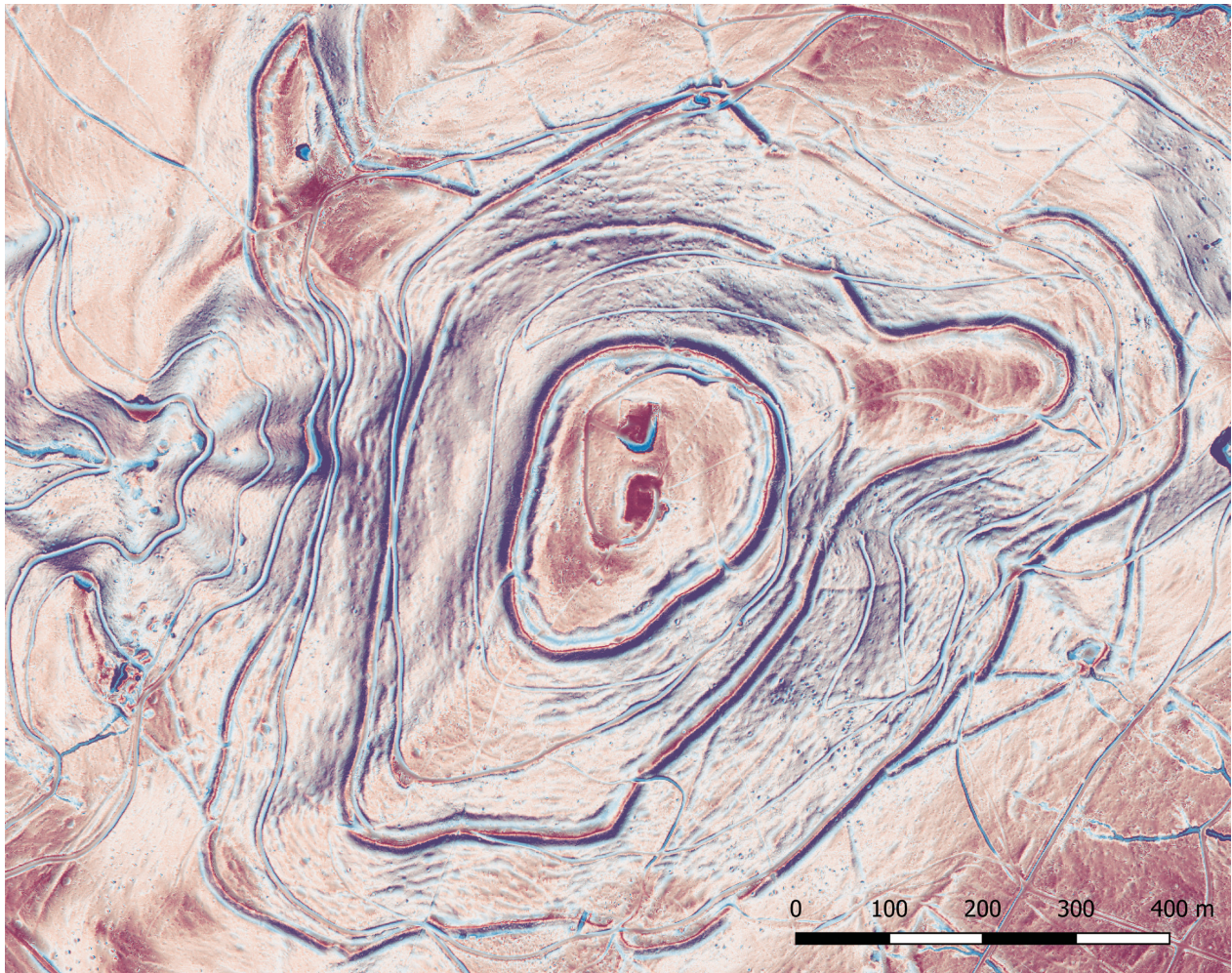


Fig. 18 Dünsberg. Combination of Sky View Factor and Slope made with Relief Visualization Toolbox (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

preservation will be determined, which will provide us with a sound foundation for thoroughly planning upcoming fieldwork. For these rather challenging conditions geomagnetometry and ground penetrating radar have been applied. The general results were promising, but due to the thick forest cover, the magnetograms are distorted by voids and sometimes a distinction between geological or anthropogenic anomalies were not always explicit. Thus far the clearest results come from the Bleibeskopf³⁵(**Fig. 19**) and Brüler Berg (**Fig. 20**), which show remarkable differences in the archaeological data, known from the surface and the LiDAR data. After surveying five hilltop sites to a varying extent it seems that the detection of archaeological features is indeed possible.

Conclusion and perspectives

By tracing the long history of archaeological research on the sites in Hesse, a vast number of sources is already available. The examination of these sources gives us a first insight into the use of the hilltop sites during the Late Bronze Age. This existing data is completed by remote sensing and geophysical surveying. Both approaches will lead to a collection of all existing data on the Late Bronze Age hillforts and hill top sites between the Taunus and the Vogelsberg. On this basis research will turn to investigate some sites in more detail through excavation and verify whether or not these sites were already fortified during that time. In a further step the wider context of these hillforts should be considered, which will be accomplished by the integration of the data on the transformation of the past natural landscape and its contemporaneous archaeological landscape.

³⁵ Maier 1983; Titzmann 1984/85; 1988; Bachmann *et al.* 2002/2003.

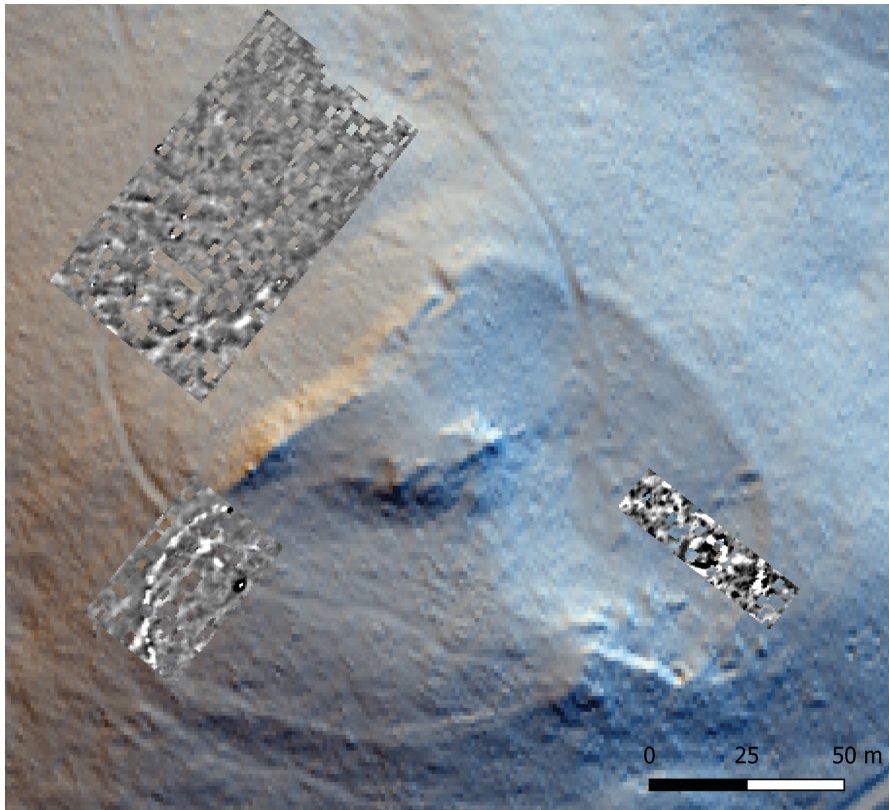


Fig. 19 Bleibeskopf. Magnetogram (-5/+5nT; made by M. Posselt, PZP GbR) above a hillshading from multiple directions (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

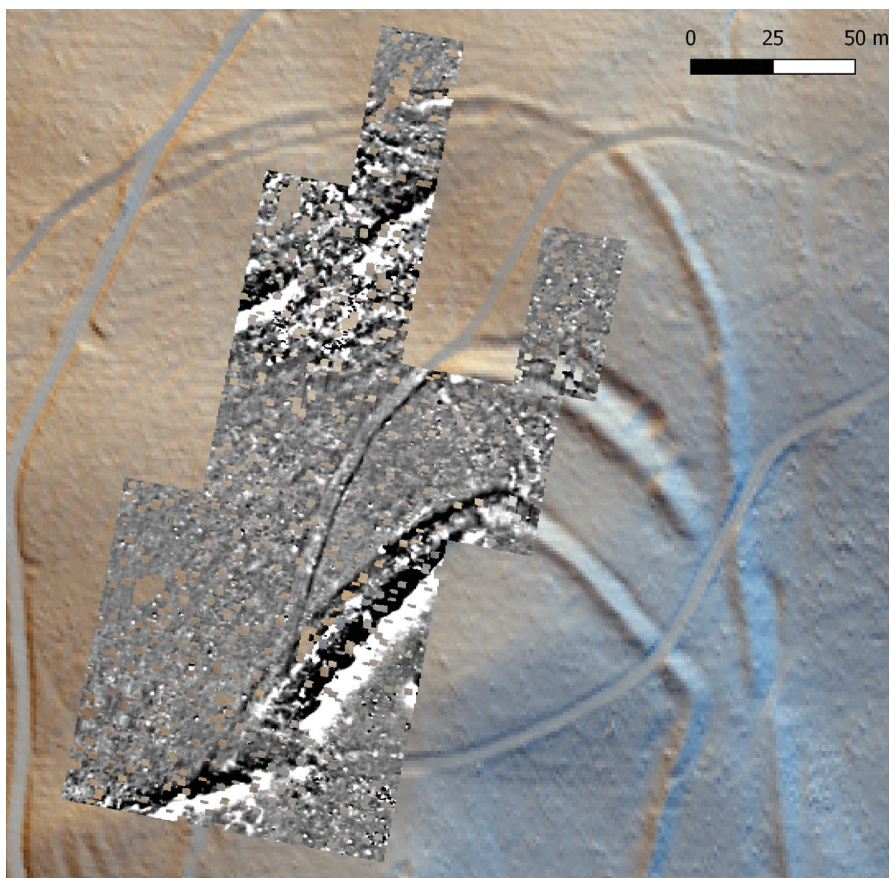


Fig. 20 Brüler Berg. Magnetogram (-5/+5nT; made by M. Posselt, PZP GbR) above a hillshading from multiple directions (data: DGM 1 © Hessisches Landesamt für Bodenmanagement und Geoinformation; processing D. Neumann, RGK)

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Daniel Neumann, On the Fringes of the Mountain Ridge – New Research on Late Bronze Age Hillforts between the Taunus and the Vogelsberg

In this contribution the sub-project of the LOEWE initiative which is researching Late Bronze Age hilltop sites between the mountain ranges of the Vogelsberg and Taunus is presented. Special emphasis is placed on the first results from an evaluation of the data from archives and remote sensing as well as from geophysical examinations of particular sites.

Daniel Neumann, Am Rand des Bergrückens – Neue Forschungen zu spätbronzezeitlichen Burgen zwischen Taunus und Vogelsberg

In diesem Beitrag wird ein Teilprojekt der LOEWE-Initiative, das spätbronzezeitliche Höhensiedlungen zwischen den Bergketten des Vogelsberg und Taunus untersucht, vorgestellt. Ein besonderer Schwerpunkt liegt auf den ersten Ergebnissen der Auswertung von Daten aus Archiven sowie auf Fernerkundung und auf geophysikalischen Untersuchungen einzelner Fundorte.