

## Hunters of the “Golden Mile”

### The late Allerød *Federmessergruppen* Site at Bad Breisig, Central Rhineland, Germany

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#### Abstract

The late Allerød eruption of the Central Rhineland Laacher See-volcano (10,966 cal BC) was of large environmental impact, both on a regional and on a supraregional scale. Its eruptiva were deposited over an area of more than 2000 km<sup>2</sup>, covering large parts of the landscape. The recent discovery of a Final Palaeolithic site near Bad Breisig shows that the human re-occupation of the Central Rhineland of Germany by a late *Federmessergruppen* band took place much earlier than previously thought. The presence of backed points of Malaurie-type as well as remains of red and roe deer dates the occupation into the last 200 years of the Allerød interstadial, which is also indicated by radiocarbon dating.

#### 1. Introduction

The Central Rhineland Neuwied Basin is well known for several Final Palaeolithic sites (fig. 1) with lithic inventories resembling the *Federmessergruppen*, which all date into the late Allerød-Interstadial (Baales & Street, 1996; Street & Baales, 1997), as well as the preservation of floral (Street, 1995; Waldmann, 1996) and faunal remains sealed by tephras (LST) of the Laacher See-volcano (ca. 10,966 cal BC; Jöris & Weninger, 2000), predating the onset of the Younger Dryas by some 200 years. The paleoecological data permit a detailed reconstruction of the regional late Allerød environment.

Until recently, archaeological sites postdating the Laacher See-eruption and predating the early Neolithic LBK (with the exception of a possible Mesolithic bone point from Mayen; Bosinski, 1992) were not known. This gap in the regional archaeological record is slowly being filled, firstly by the discovery of a few Mesolithic stone artefacts from the left bank of the lower Moselle south of Koblenz, collected by A. von Berg (*Archäologische Denkmalpflege, Amt Koblenz*) and, secondly, by the discovery of the Final Palaeolithic site north of Bad Breisig (district of Ahrweiler) described here.

This site is located in the Rhine valley north of the Neuwied Basin in a small widening on the left bank of the river between Bad Breisig and Remagen called the *Goldene Meile* (“Golden Mile”). The site was

uncovered in 1999 by G. Waldmann (Coventry) who was undertaking a survey of newly exposed profiles in a gravel pit as part of his exploration for imprints of vegetation in LST deposits. On top of the gravels of the middle Lower Rhine Terrace (Schönbrunn Terrace or NT 2, *sensu* Schirmer, 1990a, 1990b) G. Waldmann became aware of a concentration of calcined bone splinters and a few lithic artefacts overlaying LST fallout and reworked LST sediments.

Following this discovery, archaeological field-work was conducted in autumn 2000 and spring 2001 by *Forschungsbereich Altsteinzeit des RGZM, Schloß Monrepos* and the *Archäologische Denkmalpflege, Amt Koblenz*.

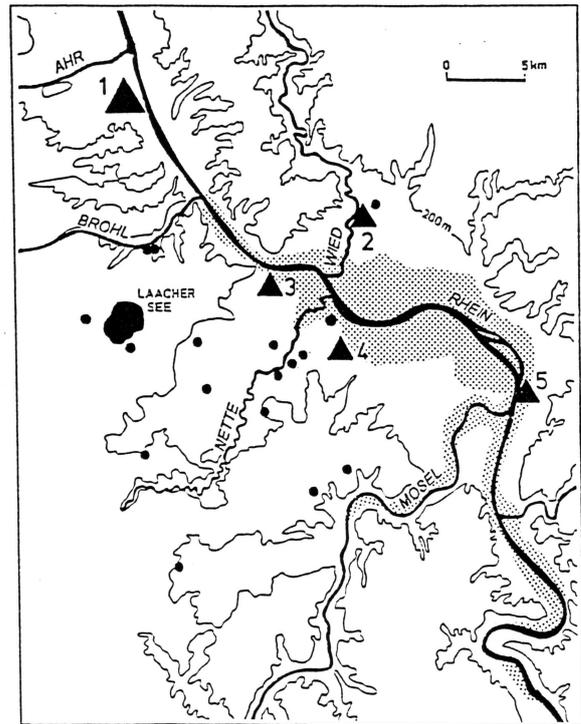


Fig. 1 – Bad Breisig (Central Rhineland). Location of the *Federmessergruppen* site (1) and other sites in the Neuwied Basin pre-dating LST (2 Niederbieber – 3 Andernach-Martinsberg – 4 Kettig – 5 Urbar). Dots are major palaeontological sites preserved by LST which permitted a detailed reconstruction of the late Allerød regional environment. Stippling indicates the extension of the syneruptively dammed lake in the lower Neuwied Basin (cf. C. Park u. H.-U. Schmincke 1997).

## 2. Geological setting

The site of Bad Breisig is located close to the edge of the terrace separating the NT 2 from the lowermost Lower Rhine Terrace (NT 3). This prominent morphological step resulted from the downcutting of the Rhine during the Final Pleistocene (most probably during the onset of the Younger Dryas).

Following initial LST ashfall, the dam of a temporary lake that had formed in the Neuwied Basin (fig. 1) during the course of eruption burst open catastrophically (Schmincke, Park & Harms, 1999; Baales *et al.*, submitted) and layers of reworked pumices were rafted onto the flat plain of the NT2 in the *Goldene Meile*. This sequence (fig. 2) is sealed by a solid ash layer attributed to the terminal phreatomagmatic phase of the upper LST-B (ULST-B; Schmincke, van den Bogaard & Freundt, 1990) placing the bursting of the dam into the later middle to terminal phases of the eruption. The top of the sequence is formed by high-flood sediments attesting to seasonal floodings of the Rhine in which the find horizon of the *Federmessergruppen* site is stratified, approximately 30 cms below the present-day surface.

## 3. The *Federmessergruppen* site

From the beginning of the excavation onwards, it became clear that the concentration of calcined bones observed in the wall of the gravel pit represents the remains of a hearth partly destroyed by gravel exploitation. The concentration of burned material – calcined bones and lithics – and a zone of charcoal-rich darkened sediment form a semicircle almost 1.6 m in diameter (Waldmann, Jöris & Baales, 2001). The disturbed edge of this concentration and the absence of finds in a circular area inside the hearth suggest that material was reworked somewhat by further flooding, and later on by vegetation rooting in the former hearth, after the site had been abandoned.

A total of some 50 m<sup>2</sup> was investigated during excavation, revealing a distinct concentration of lithic artefacts with a clear boundary may be interpreted as deposition within the walls of a tent (fig. 3). Altogether some 2267 lithic artefacts could be three-dimensionally documented, 90 % of which were produced from regional Tertiary quartzites and approximately 10 % from exogenous silex originating from sources in the Dutch/Belgian Meuse, some 80 to

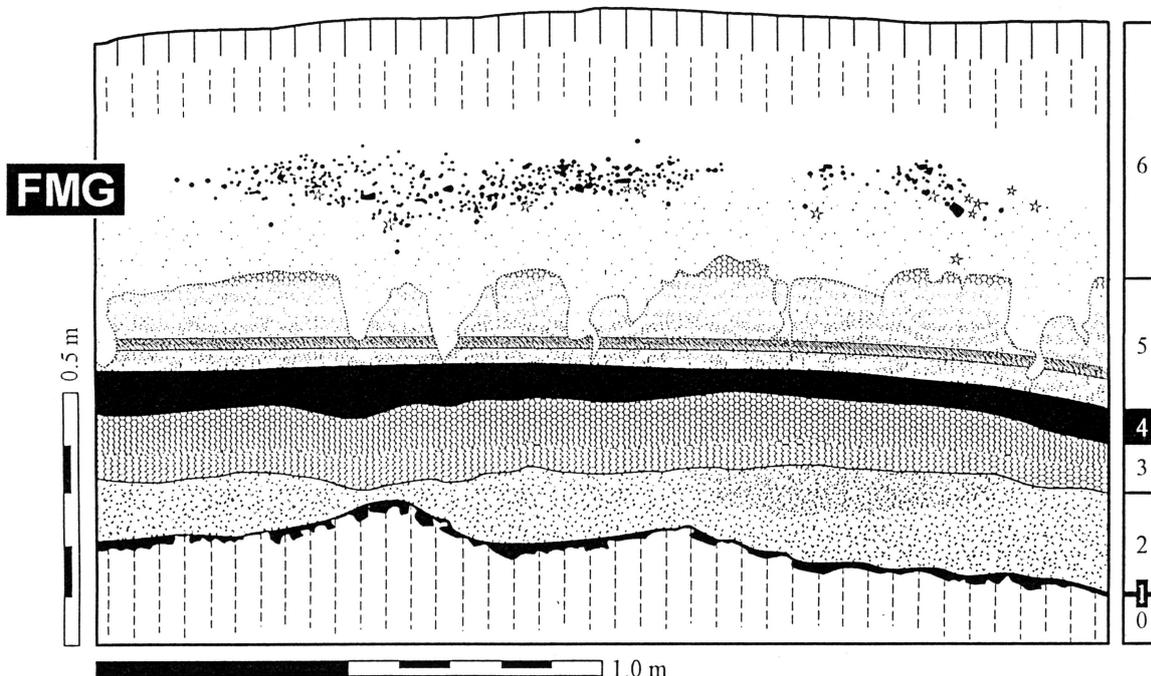


Fig. 2 – Bad Breisig (Central Rhineland). Gravel pit profile showing *Federmessergruppen* find horizon (FMG) with concentration of calcined bones (black) and lithic artefacts (asterisks). 0. Allerød palaeosoil; 1. Initial LST ash fallout with vegetation imprints; 2. Flood deposited sands containing pumice; 3. Flood rafted pumice layer; 4. ULST-B ash fallout; 5. High flood sediments containing fluvially reworked LST and pumice rafts; 6. Sandy to loamy high flood sediments with topsoil containing the *Federmessergruppen* find horizon and reworked pumice in its basal parts.

100 km to the northwest. A few artefacts were made of lydite (< 1 %), which is present locally in river gravels.

136 cores or core fragments of Tertiary quartzite were registered (but only two cores of flint and one of lydite). That Tertiary quartzite was commonly found in the area is indicated by the presence of

large cores and core fragments, and relatively large flakes and blades made of this material, as well as the minimal utilisation of blocks of Tertiary quartzite intended as a raw material for lithic production. The large quantities of this raw material as well as the absence of abraded surfaces, imply that the *Federmessergruppen* band which settled here must

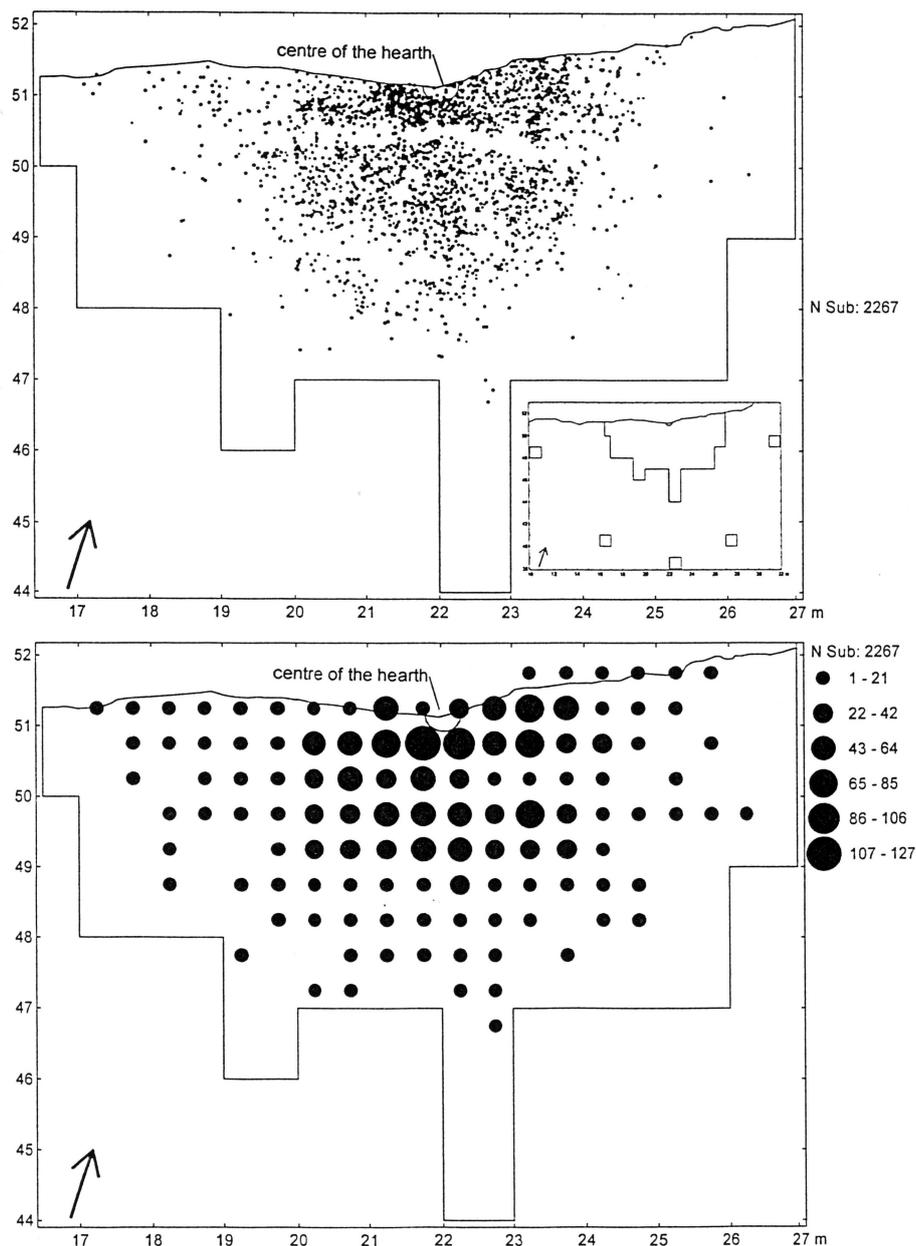


Fig. 3 – Bad Breisig (Central Rhineland). Distribution of lithic artefacts recorded during excavation (compiled with ANALITHIC) showing the distinct concentration of the finds and, to the north, a linear disturbance caused by ploughing. The semicircle indicates the centre of the hearth. The density map follows the equidistance-method proposed by E. Czesla (1990).

have had access to primary outcrops of Tertiary quartzite close to the site.

In this context it is interesting to note that H. Floss (1994: fig. 8) mentioned several outcrops of Tertiary quartzite a few kilometres to the west of Bad Breisig in the foothills of the Eifel. The deeply incised valley of a rivulet, located close to the site, may have served as a track leading to these raw material outcrops.

Among the lithics there are 40 backed implements and 74 end scrapers, mainly made of Tertiary quartzite. In comparison with other lithic concentrations at *Federmessergruppen* sites in the Neuwied Basin, the high count of end scrapers is remarkable, although at Urbar near Coblenz, 98 scrapers were recovered from an even smaller area (Baales, Mewis & Street, 1998). Furthermore, burins, some end retouched pieces and a few minor retouched artefacts as well as a

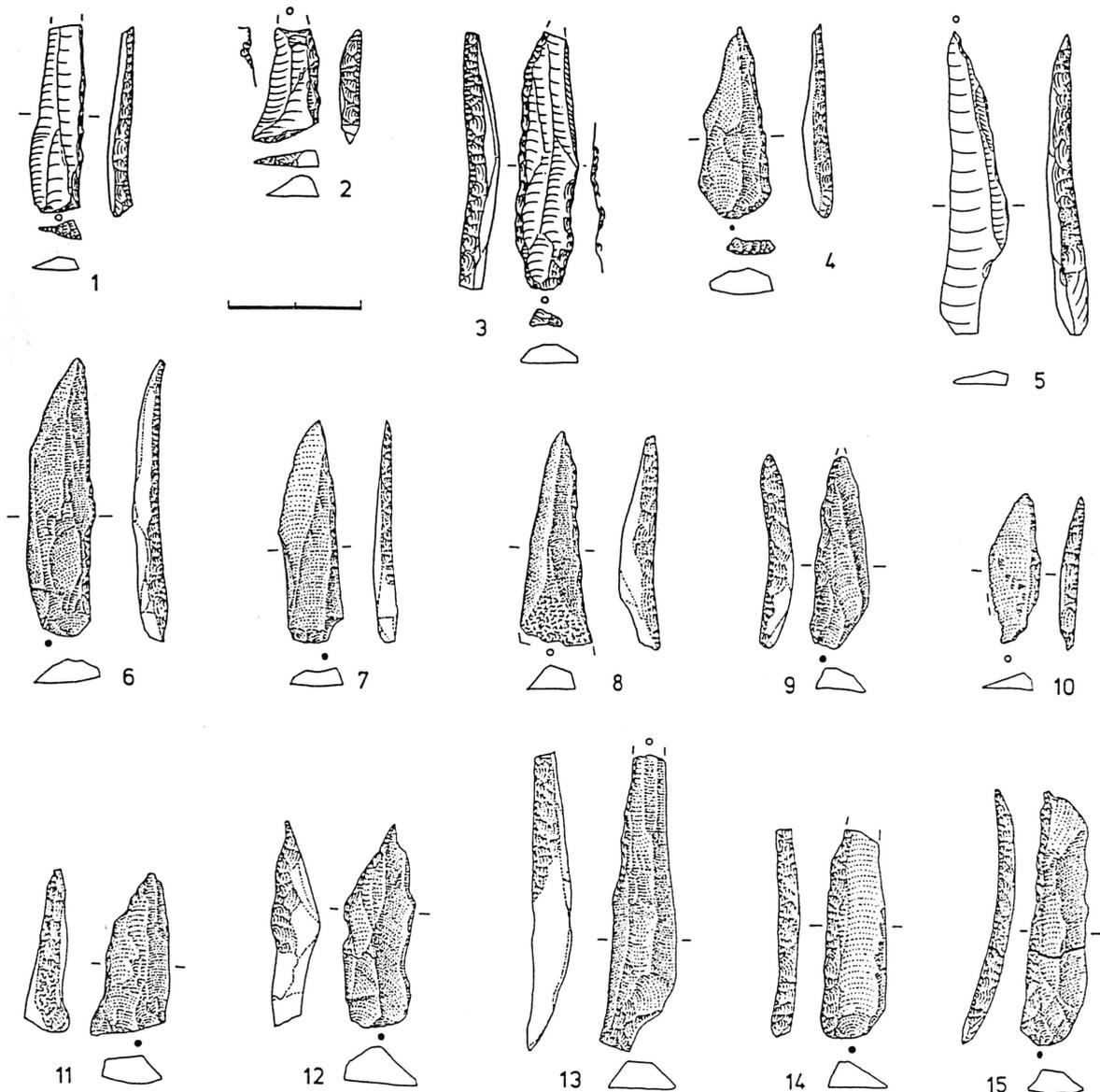


Fig. 4 – Bad Breisig (Central Rhineland). Backed implements (drawings: G. Rutkowski, Monrepos). 1-3. *Maurie* points (1-2: basal fragments); 4. Backed point with basal retouch; 5-7. Points showing a partly backed edge; 6. Point with a straight back and a gentle shoulder; 8-9. Straight backed points; 10. Backed points resembling a large segment; 11-12. Small backed points; 13. Preform of a backed point; 14. *Federmesser*; 15. Backed bladelet (1-3, 5: Meuse flint; otherwise Tertiary quartzite).

retoucher and hammerstones were found at Bad Breisig.

Of special interest is the spectrum of backed implements in the lithic inventory (fig. 4): alongside typical curved backed *Federmesser* points, an obvious variety of backed objects can be recognized. Especially two pieces, both made of Meuse flint, resemble the Malaurie type of backed points common at French sites, but rarely known in Central Europe (cf. Waldmann, Jöris & Baales, 2001).

Apart from the lithics, only calcined bone splinters are preserved as well as a dozen non-calcined, but heavily weathered, animal teeth. Most of the teeth are from red deer (*Cervus elaphus*), and one tooth is attributed to horse (*Equus* sp.). Several calcined bone fragments could be determined as red deer, others as roe deer (*Capreolus capreolus*). This fauna is equivalent in its species composition to faunas found at *Federmessergruppen* sites predating the LST in the Neuwied Basin.

Charcoal pieces from the Bad Breisig hearth were analyzed by J. Wiethold (Wiesbaden) but only one fragment – representing pine (*Pinus* sp.) – could be identified to the genus level; the others originate from deciduous trees.

#### 4. Dating and further implications

A chronological position of the site postdating the LST is evident from the geological sequence. Bearing in mind that the final phase of large-scale downcutting by the Rhine (NT2 ? NT3) is believed to have taken place at the latest at the onset of the Younger Dryas, it has to be concluded that the NT2 (and subsequently the site) were located outside the area that could be penetrated by further high-floods. The reduced sediment cover above the find horizon may support this idea, showing that the Bad Breisig site was inhabited during the last 200 years of the Allerød period. This is further supported by the presence of red deer and roe deer indicating a forested environment, which can be excluded for regional conditions during the Younger Dryas. The first appearance of Malaurie points is also placed to within the Allerød termination as, for example, at Le Closeau, locus 25, near Paris (Bodu, 2000; cf. Fagnart, 1997).

Two charcoal samples and calcined bones from the hearth were radiocarbon dated by the AMS-lab at Groningen (J. N. Lanting), with the following results:

10840 ± 60 BP	(GrA-17493)	<i>Pinus</i> charcoal (square 22/50)
10480 ± 80 BP	(GrA-17642)	deciduous charcoal (square 21/50)
10220 ± 60 BP	(GrA-17716)	calcined bones

The deviation of the younger charcoal sample (GrA-17642) from the proposed age of the site could be due to the later deposition of a rafted sample and / or subsequent bioturbation. The rather young age of the GrA-17716-sample is possibly a result of methodological problems associated with the dating of Final Pleistocene calcined bones.

Although a precise evaluation of how many years elapsed between the eruption of the Laacher See-volcano at about 10,966 cal BC and the settlement of the Bad Breisig site remains unclear, the site proves re-occupation of the deserted Central Rhine area by fauna and Final Paleolithic humans not very long after this catastrophic event. Observations in areas recently affected by larger volcanic eruptions like Mount St. Helens or Pinatubo show that the environment – at least in the area close to the near-distal fans – regenerates much faster than previously assumed.

#### 5. Acknowledgements

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