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## **An Upper Palaeolithic Open Air Site near Saladorf (Lower Austria)**

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### **Zusammenfassung**

Während Rettungsgrabungen bei Saladorf wurden paläolithische Funde freigelegt. Der Beitrag präsentiert die ersten Ergebnisse der Studien zur Silexindustrie. Morphologie und Technologie zeigen ein Steininventar in Gravettien/Epigravettien Tradition. Die  $^{14}\text{C}$  Daten rangieren zwischen 26.500 und 18.000 Jahren. Die Faunenreste lassen auf eine Nutzung im Herbst oder Winter schließen.

### **Summary**

Palaeolithic finds have been found during rescue excavations near Saladorf. The contribution presents first results of studies concerning the stone industry. Morphology and technology assign the lithic inventory to a Gravettian/Epigravettian tradition.

Radiocarbon dates range between 26,500 and 18,000 y BP. Faunal remains indicate seasonality with an autumn or winter occupation.

**Keywords:** Gravettian, Epigravettian, seasonality, local raw material

Since the early 20<sup>th</sup> century the valley of the river Perschling in Lower Austria has been known in the history of Palaeolithic research. In 1919 J. Bayer from the Natural History Museum in Vienna discovered the Upper Palaeolithic open air site Langmannersdorf (BAYER 1919-1920; ANGELI 1952). New research was done by S. Mayer-Umgeher and T. Salcher-Jedrasiak (in prep.).

Recently a Neolithic settlement was excavated near the village of Saladorf by the Archäologie-Service on behalf of the Bundesdenkmalamt (BLES� & STÖCKL 2004, 2005). The Prehistoric Commission of the Austrian Academy of Sciences was informed about the discovery of Palaeolithic finds (i.e. a reindeer antler and several stone artefacts) on the site (BLES�, HÄNDEL & HERRMANN 2005; EINWÖGERER & SIMON 2005) and started with investigations (Fig. 1).



**Fig. 1:** Salzdorf, excavation of the Palaeolithic site (photo: Austrian Academy of Sciences)

The Palaeolithic site is located on a promontory at the right side of the valley not far from the Palaeolithic site of Langmannersdorf. In its central part the valley of the river Perschling intersects the Tertiary Molasse sediments. The slopes are characterized by aeolian loess deposits and moved Molasse sediments. Sometimes there are also layers of gravel. Probably they represent the raw material source of the stone artefacts.

The stratigraphy is characterized by thin layers of sandy sediments, which were displaced from tertiary deposits (SCHNABEL 2002). Frequently thin horizons of fine gravels are present.

The Palaeolithic inventory originates from one singular archaeological horizon, besides some poorly preserved bones above and very few rounded stone artefacts underneath.

During the excavation 5 fire structures have been documented. The hearths A in the north-western, B in the south-eastern and C in the north-eastern sector of the excavation area are well developed. The highest density of stone artefacts indicates a workshop for flint knapping. Furthermore two small dispersions of chips

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are located in the south-western part of the excavation.

The lithic inventory of Saladorf amounts to 2,195 stone artefacts, among them 1,764 small chips. The following analysis is based on 431 pieces, which are larger than 1 centimetre.

The raw material is dominated by red and green radiolarites from the river gravels with a share of 65%. 34% of the stone artefacts are made from grey spotted chert, which was also used at the Langmannersdorf site. Other raw materials sum up to only 1% (Fig. 2). Therefore the raw material economy can be described as a local one.

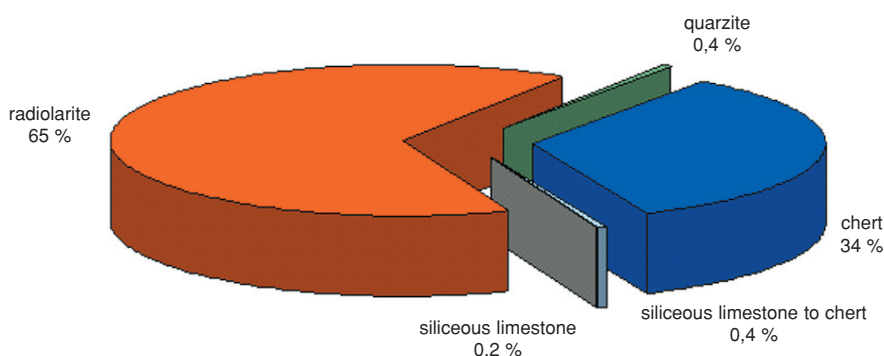


Fig. 2: Saladorf, distribution of raw materials (no. = 431)

Flakes are most frequent with 62,9% (n=271). Blades are present with 21,1% (n=91). Some cores, preparation flakes and debris indicate the core reduction at the site (Fig. 3).

The distribution of raw materials for blades and flakes (Fig. 4) complies with the expectations. More blades are made of the better in quality chert, while radiolarite with its joints is more frequently used for flakes. From the other raw materials no blades are present.

Only 13 artefacts are modified (Fig. 5), which represent 3% of the inventory. Most frequent are end scrapers with a total of 5 pieces. 4 artefacts are unilaterally retouched. Backed bladelets are present with 2 pieces. Furthermore one burin on a break and one notched tool were recovered.

Morphology and technology assign the lithic inventory to a Gravettian/Epigravettian tradition. A more precise typological determination is difficult due to the small number of modified tools. In Lower Austria Gravettian sites are more frequent, while Epigravettian sites are less common (Table 1).

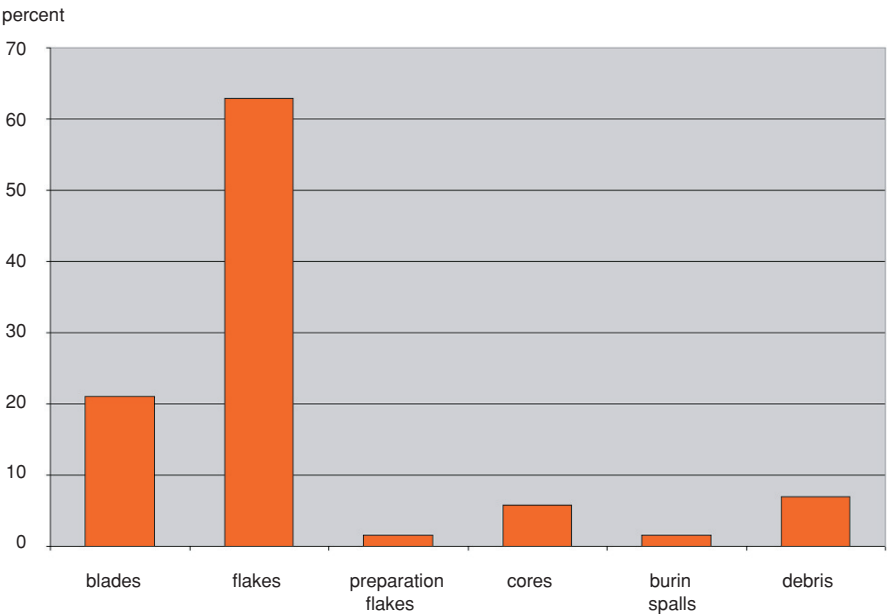


Fig. 3: Saladorf, frequency of artefact classes (no. = 431)

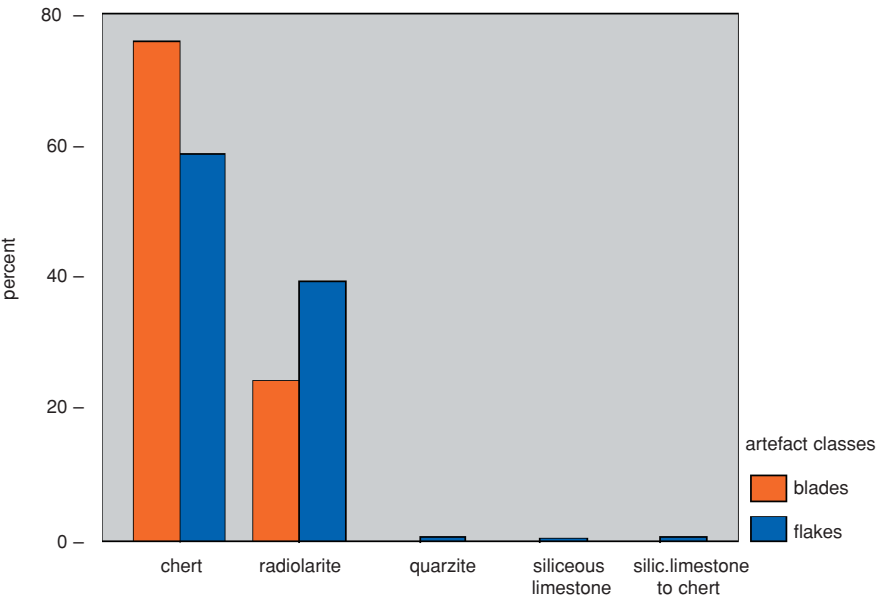


Fig. 4: Saladorf, raw materials of blades and flakes (no. = 362)

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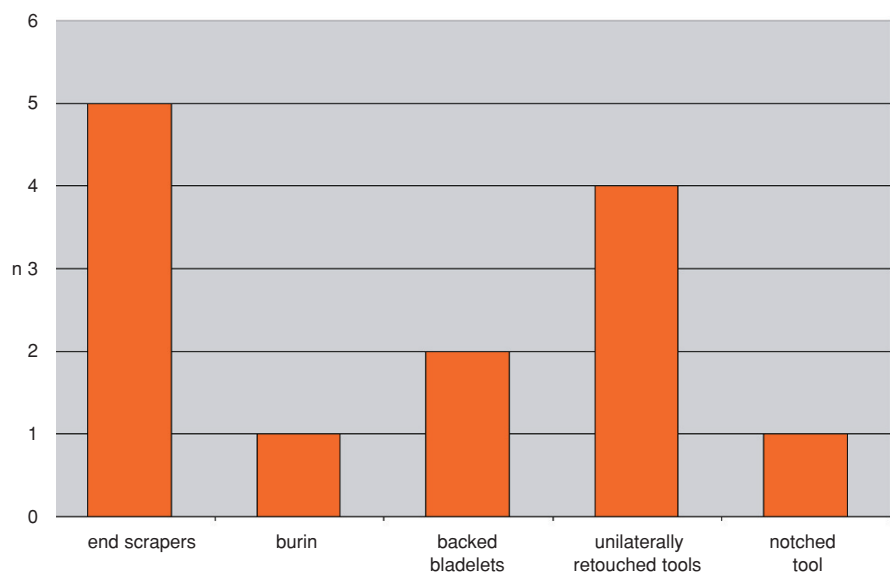


Fig. 5: Saladorf, frequency of tool types (no. = 13)

The time interval can not be specified by radiocarbon dates ranging between 26,500 and 18,000 years (Table 2). For the sample VERA-3244 only the extracted humic acids could be dated. Thus a distortion of the <sup>14</sup>C-measurement by humic acids from other sediment layers is possible.

In total there are 514 faunal remains from Saladorf (Table 3)<sup>1</sup>. Caused by corrosion and calcification the preservation is variable. Therefore in some cases only the determination of a size category was possible. The species reindeer (Fig. 6), horse and ground-squirrel are characteristic for glacial tundra and steppe environments. In contrast to other Upper Palaeolithic sites in Lower Austria the game is represented only by horse with 16.1% (n=83) and reindeer with 8.8% (n=45). Half-year up to one-year-old horses indicate seasonality with an autumn or winter occupation (GALIK 2005).

1) The analysis of the faunal remains is carried out by A. Galik (University of Veterinary Medicine Vienna)

**Table 1:** Chronology of the Palaeolithic and Mesolithic in Lower Austria

years BP	geology	climate	techno-complex		Sites
10,000	Holocene		Mesolithic		Kamegg
13,000	Upper Pleistocene	Würmian	Late Palaeolithic		Kamegg, Horn-Galgenberg
			Upper Palaeolithic	Magdalenian	Gudenushöhle
20,000				Epigravettian/ Epiaurignacian	<b>Saladorf</b> Rosenburg, Grubgraben, Alberndorf, Langmannersdorf
29,000				Gravettian	Willendorf, Langenlois, Krems-Wachtberg, Krems-Hundssteig, Stillfried/Grub-Kranawettberg
				Aurignacian	Willendorf, Stratzing, Krems-Hundssteig
40,000				Middle Palaeolithic	Mousterian
130,000		Eemian			

**Table 2:** Saladorf, radiocarbon dates (\* 1σ–failure)

lab no.	sample no.	position	δ <sup>13</sup> C [‰] *	<sup>14</sup> C years [BP] *	comment
VERA-3072	636	AC-AD 15-16	-22.3 ± 0.4	18,350 ± 80	tooth (M <sup>2</sup> horse)
VERA-3242	1506	A/AB 13-14	-24.1 ± 0.6	26,540 ± 200	charcoal
VERA-3244	3046	hearth C	-24.0 ± 0.6	17,880 ± 75	humic acids

**Table 3:** Saladorf, faunal remains

species	n	%
horse ( <i>Equus przewalski</i> )	83	16.1
reindeer ( <i>Rangifer tarandus</i> )	45	8.8
ground-squirrel ( <i>Spermophilus citellus</i> )	3	0.6
small mammal	1	0.2
size category horse	44	8.6
size category reindeer	49	9.5
indet	289	56.2
<b>total</b>	<b>514</b>	<b>100.0</b>

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**Fig. 6:** Saladorf, reindeer antler in situ (photo: Archäologie-Service)

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