## A Palaeolithic point from the excavation near Lüderitz, Landesamt für Geologie und Bergwesen Sachsen-Anhalt district of Stendal

Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt LANDESMUSEUM FÜR VORGESCHICHTE

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The archeological section in which the tip was found near the pit in the background







Overview map: Older Palaeolithic sites between Harz Mountains and Wendland (Lower Saxony

Lower Palaeolithic
Acheulean with Levallois technique
Acheulean or Weichselian Middle P.
Weichselian Middle Palaeolithic
Lüderitz

Filled symbols = inventories Open symbols = single finds

In the course of the excavations in northern Saxony-Anhalt, which precede the construction of the northern extension of the A14 motorway, a double peak, apparently made of Nordic crystalline rock, came to light in 2020. At first glance it appears to be intermediate igneous rock, similar to diorite found in Nordic moraine material but also elsewhere in Europe. The artefact's surface is slightly weathered; but it is apparently complete (not fragmented), which speaks against larger postdepostional rearrangement processes of such a "leptolithic" piece. *(T. W.)* 



Lüderitz, district of Stendal: point made of Nordic crystalline rock, four views and 3Dscan. it cannot be clearly determined whether, apart from the edge retouch, e. g., on both sides near the point, there is also a face retouch on one or both sides. Unfortunately, microscopic examination of the surfaces is not useful due to surface weathering.

The approximately 92 mm long, 35 mm wide and 13 mm thick artefact was recovered as a single find, but several OSL samples were taken by the State Office for Geology and Mines Saxony-Anhalt (LAGB) in the find area for the chronological classification of the various stratigraphic units. The soil and sediment profile at the discovery site was as follows:



Geological map with the find location (red arrow)

The location on the Kamp, the remainder of an older terrace, is situated as an Isle in the wide valley of the Lüderitzer Tanger. The buried older surface within soil profiles shows an change in the direction of discharge compared to the present course of the Lüderitzer Tanger. A proluvial fan was deposited to the north in a hollow with hanging groundwater. The OSL samples from these fan deposites dated into Early Weichselian (103.3±13.6, 81.4±10.5, 77.1±10.0 ka). These fan sediments lie erosively on terrace sands and fillings of former waterholes wich were formed in earlier periglacial time. The terrace sands are correlated with those of a neighbouring soil profile according to position and sediment structure. The OSL sample taken from the latter sands yielded  $171.2 \pm 24.7$  ka. The dated sand isn't ferrous. So, the source sand and soil horizon may lie in a higher position within the older terrace. *(W. K.)* 

Comparable finds from Weimar-Ehringsdorf (left) and Ranis 2 (right)



40,00 55,00 65,00 75,00 85,00 95,00 125,00 145,00 Length (rounded to 5 mm steps)



Measurements of the Lüderitz point compared with pieces from the Weimar-Ehringsdorf quarry und from the Ilsenhöhle below Ranis castle

100 km

In addition to the piece from Lüderitz, 32 pointed artefacts from the travertine quarry in Weimar-Ehringsdorf (mainly from the Lower Travertine) and 52 artefacts from the Ilsenhöhle were included (sometimes fragments which do not allow the determination of all features). These are not only clearly surface retouched leaf points, but also tipshaped retouched artefacts such as pieces that are classified as "pointed scrapers".

The length measurements show larger values for the pieces from Ranis compared to the smaller specimens from Ehringsdorf. The artefact from Lüderitz has a value that is above average for Ehringsdorf. The length of the Lüderitz pieces is also above average compared to the Ranis pieces, but even there is also a number of larger-format tips.

The quotients of length and breadth/width show clear differences between the relatively shorter and wider Ehringsdorf points and the longer narrower pieces from Ranis. Lüderitz fits best to Ranis with a length breadth index value near the Ranis mode.

"Double point", lydite (after Behm-Blancke 1960, 196 & Taf. XC)

Leaf point *("Blattspitze"*), flint (after

Hülle 1977, 80 & Taf. 26-27)

1. Buried humic topsoil of Holocene sand-fill (brownish black (10 YR 3/2), slightly silty sand, slightly gravelly, carbonate-free, very small subpolyhedral structure, weakly rooted; lower boundary: sharp, horizontal, wavy, with plough-traces, erosive on layer 2

In order to clarify the assignment to the find layer, material adhesions on the leaf point were examined visually. The possible find (2 and 3) layers are lithologically very rich in contrast. Therefore, examining any soil adhesions can bring clarification here.

2. Completely bleached retained water horizon of sea silt, very pale brown (10 YR 8/2), sandy silt, very slightly gravelly, carbonate-free, polyhedral to crumbly structure, weakly rooted; flatbedded; lower border: distinct, horizontal, wavy, erosive, filling a former waterhole in layer 3.

3. Iron-rich former groundwater horizon of ferrous, cemented sand from an older lower terrace: fine to medium-grained, predominantly clear to yellowish quartz that appears polished and very shiny: rich brown, rusty (7.5 YR 5/6), pure sand, very slightly gravelly, carbonate-free, subpolyhedral to putty structure, weakly rooted, flat cross-bedded. The OSL sample taken in profile 2 (7 m west of profile 1) from this sediment body yielded 171.2 ± 24.7 ka.

According to the succession of layers, the buried relief and the OSL age, the artefact was in the upper, ferrous sands of the "Höhere Niederterrasse", the period of formation of which, according to the Lüderitz data, begins in the Saale Ice Age and can extend into the Early Weichselian glacial period. (W. K.)

## Under the magnifying glass, (below left and right) the macroscopically recognizable iron oxide hydroxide adhesions usually also represent cementation of fine grains of sand. There are also very small warty to blotchy, red to very dark brown, very shiny deposits and shell-like residues. The latter are cementing material from fallen grains of sand and, rarely, globular collomorphic settling (formed from gel). Most of these deposits and residues are attached and are related to soil formation. In a very few cases there are holes (sometimes cuboid) caused by minerals





**Conclusion:** 

(T. W.)

Angle at the top

Relative Thickness Index RTI = 200\*t/(I+b) rounde to 5 steps

The size, proportions, and tip angles compared to Lüderitz suggest an archaeological similarity with the finds from the Ilsen cave of Ranis (Ranis 1, 2 & 3) rather than with the Ehringsdorf points.

With regard to the sediments embedding the pieces one of us (W. K.) argues that the clearly Pre-Weichsel dating for this probable find layer seems to speaks for a Pre-Weichselian technocomplex, which manifests itself, for example, in older sites, e. g. from the Lower Travertine of Weimar-Ehringsdorf, or Markkleeberg.

Another point of view, represented by H. R., see the layer from which the point apparently came from (brown sands - and "white" silts - in the immediate neighbourhood of the found area) as representation of age and places the point in the Early Weichselian

Under the magnifying glass (50x) both sand and iron oxide hydroxide and/or jarosite adhesions can be seen on the tip of the leaf point.



loosened away, which also have brown crusts and may be related to the weathering of the leaf tip rock.



Sources:

Behm-Blancke, G. 1960. Altsteinzeitliche Rastplätze im Travertingebiet von Taubach, Weimar, Ehringsdorf. Weimar.

Hülle, W. 1977. Die Ilsenhöhle unter Burg Ranis, Thüringen. Eine paläolithische Jägerstation. Hrsg. von J. Hahn und H. Müller-Beck. Fischer, Stuttgart/New York.

Figures:Aerial and planum photos:LGeological map:FRegional map::ELüderitz point photo and diagrams:T3D scan:JGeological profile and macro photos of the Lüderitz point:V

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The adhering grains of sand are predominantly fine to medium-sized (0.1-0.6 mm). They are very well rounded and as if polished, very shiny. The sand grains consist of quartz, are mostly clear, rarely cloudy or yellowish. They are cemented by a very fine-grained, scaly and very shiny yellowish-white jarosite-like matrix (top left and right).

According to these findings, the leaf point lay in the upper, ferrous sands of the Contact: lower terrace, the formation of which had already begun in the Saale glacial Thomas W period. (W. K.)

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