Bridges to the past – the Roman settlement of Emmersdorf/Rosegg, Austria

Ralf Totschnig[1*], Jakob Gallistl[1], Alois Hinterleitner[1], Klaus Löcker[1], Hannes Schiel[1], Ingrid Schlögel[1], Mario Wallner[1], Tanja Trausmuth[1], Christian Gugl[2]

1 Near Surface Geophysics, GeoSphere Austia, Vienna, Austria
2 Department of Classical Studies, Austrian Archaeological Institute, Austrian Academy of Sciences, Vienna, Austria
* Corresponding author: E-mail: ralf.totschnig@geoshere.at

Abstract
A large-area archaeological prospection of a roman bridgehead settlement using aerial photography, magnetics and GPR was conducted. The roman bridgehead settlement of Emmerdorf/Rosegg is one of the best preserved Roman settlements in Austria.

Keywords
ground penetrating radar; large-area survey; magnetics; multi-method; Roman rural settlement

Introduction

Rosegg in Carinthia has for a long time been known for its early Iron Age graveyard near Frög, but since 2003 new finds illustrate the importance of the area also for late Iron Age and Roman times. Multiple Roman funerary monuments were found during excavation works north of the river Drava along with a building inscription and a piece of an altar (Piccotini 2010). Several poles driven in the riverbed of the Drava and a single iron pile shoe indicated a former wooden bridge in this area, where a ford has been used since prehistoric times.

In 2015, the archaeological park "Keltenwelt Frög-Rosegg" got possession of a collection of small finds from the area around the site of the stone monuments (Drotleff 2019). The collection comprised some 1500 late Celtic and Roman coins, five Carolingian coins and about 75 late Iron Age and Roman iron, bronze, and lead pieces. The follow-up excavation by the provincial museum of Carinthia in 2017 (Gleirscher 2017; Gleirscher 2018) showed the remains of two pile bridges next to each other and more iron pile shoes. Dendrochronological analyses of the wooden finds by Innsbruck University indicated that the bridges have been constructed successively and date to the late 2nd and the middle of the 3rd centuries AD (Gleirscher et al. 2020). It seems that in the area of the ford and both bridges sacrificial acts took place, which can be traced through the coins found dating to the 2nd and 1st century, although there are still finds from the 3rd and 4th centuries (Schachinger 2020).

During a geophysical prospection commissioned by the Austrian Federal Monuments Office in 2020 to investigate the area of the late Iron Age and Roman finds, remains of a large Roman bridgehead settlement were found in Emmersdorf, north of the Drava. Since the measurement did not cover the entire settlement area, additional measurements were carried out in 2021 and 2022 to find further settlement remains on both banks of the Drava and to try to map the total extent of the settlement.

Materials and methods

The magnetic survey of about 15 ha was carried out using a motorized measurement system with eight FEREX CON650 probes in a line of 25 cm (Fig. 1). An area of more than 8 ha of GPR data was surveyed using a Sensors & Software SPIDAR multichannel system with six 500 MHz antenna pairs with a line spacing of 25 cm (Fig. 2). The geophysical data have been processed using the APSoft

Fig. 1: Magnetic data image of the Roman settlement of Emmersdorf/Rosegg (background data provided by INSPIRE BEV).

software package by ZAMG (Trinks et al. 2018) and the resulting images and data integrated into ArcGIS Pro for further interpretative mapping.

The Roman settlement

The magnetic data image (Fig. 1) shows multiple strong anomalies and altogether the picture of a large-area rural settlement with buildings, roads, pits, ditches, and large areas with debris. Some of the buildings show clear signs of hypocausts, Roman floor heatings. Other areas, especially in the north of the Drava, seem to contain the remains of workshops. The settlement covers an area of at least eight hectares in the north and one hectare in the south of the Drava. To the north, the vicus seems to be confined by a road leading east-west. This road has connections to roads leading into the settlement and further on to the bridges over the Drava. South of the river the settlement appears to be less widespread, possibly containing only a few buildings along the road leading south from the river (Fig. 3).

The GPR data of course show a much clearer picture of the vicus (Fig. 2). The northern part of the settlement holds numerous stone and brick buildings, where the western part could have the character of public buildings together with private houses. The central part shows workshops and storage buildings, whereas the eastern part seems to be dedicated to ritual activities and might also contain a graveyard. The southern part of the settlement shows only few buildings, a large house, and a single storage building, marked by numerous stone pillars, possibly belonging to a villa complex (Fig. 3).

Conclusion

During the non-destructive archaeological investigations, the extensive remains of a Roman settlement were discovered on the fields between Emmersdorf and St. Lambrecht in the north and east of the modern cemetery in Rosegg south of the Drava with the help of magnetic and ground penetrating radar prospection. From the data images, conclusions can be drawn about the size and structure of the Roman settlement of the 1st to 4th centuries AD. Apart from the Roman cities of Virunum (Zollfeld) and Teurnia (St. Peter in Holz/Upper Carinthia), this is the most com-

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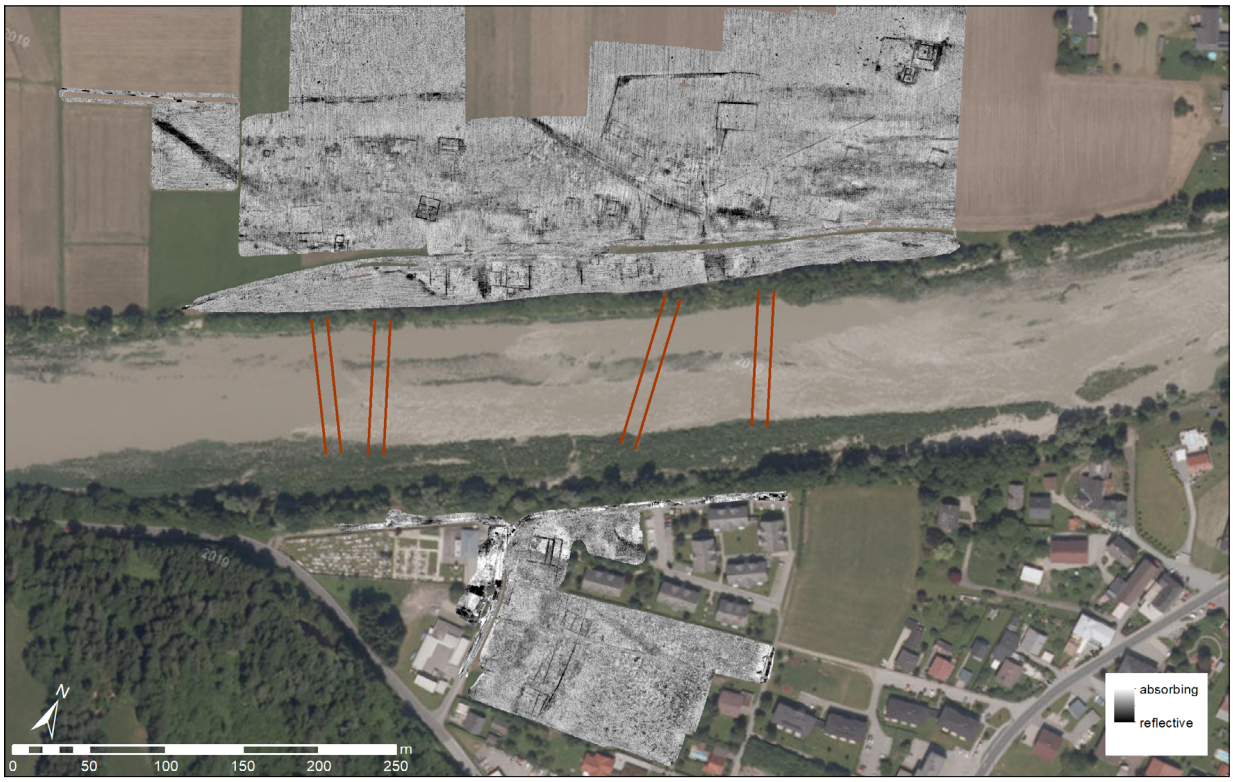

Fig. 2: GPR depth slice (0.3 to 1.0 m depth) of the Roman settlement of Emmersdorf/Rosegg (background data provided by INSPIRE BEV).

Fig. 3: Archaeological interpretative map of the Roman settlement of Emmersdorf/Rosegg (background data provided by INSPIRE BEV).

plete ground plan of an ancient settlement in today's Carinthia. In the present data images, several streets as well as numerous buildings and graves can be recognized. A very good preservation of the Roman building structures in the ground can be assumed, due to the thick covering of the remains of the Roman walls. The building remains on both banks of the Drava are clearly connected to the Roman wooden bridges examined in 2017. The discovery of this village-like settlement in Emmersdorf and Rosegg puts a whole new complexion on the Roman finds, marble fragments of tombs and sanctuaries, coins, and metal finds that have repeatedly come to light in the riverbed of the Drava.

References

Drotleff R. Die Fundmünzen aus dem Bereich zweier (spätkeltisch-) römischer Holzbrücken über die Drau in Emmersdorf bei Rosegg (Kärnten). Ein Vorbericht. In: Stermitz, M. (ed.), Sammlungen und Sammler, Tagungsband zum 8. Österreichischen Numismatikertag [Kärntner Museumsschriften 86] (Klagenfurt: Landesmuseum für Kärnten); 2019. p. 133-139. German.

Gleirscher P. Fundbericht Emmersdorf. Fundberichte aus Österreich 56; 2017. p. 111. German.

Gleirscher P. Zwei römerzeitliche Holzbrücken über die Drau in Emmersdorf bei Rosegg. Rudolfinum – Jahrbuch des Landesmuseums für Kärnten; 2018. p. 11-13. German.

Gleirscher P, Nicolussi K. Zwei römerzeitliche Draubrücken in Emmersdorf, Kärnten, Fundberichte aus Österreich 59; 2020. p. 77-93. German.

Piccottini G. Römerzeitliche Grabbauspolien aus der Drau bei Rosegg. Carinthia. 2010;200:19-42. German.

Schachinger U. Do ut des – Cultic coin deposits at the Drava River near Rosegg/Rožek in Carinthia (Austria). Analysis of the find inventory in the Museum Archeo Norico, Deutschlandsberg (Styria, Austria). Journal of Ancient History and Archaeology. 2020;7(4):58-78. doi: 10.14795/j.v7i4.554

Trinks I, Hinterleitner A, Neubauer W, Nau E, Löcker K, Wallner M, Gabler M, Filzwieser R, Wilding J, Schiel H, Jansa V, Schneidhofer P, Trausmuth T, Sandici V, Ruß D, Flöry S, Kainz J, Kucera M, Vonkilch A, Tencer T, Gustavsen L, Kristiansen M, Bye-Johansen L-M, Tonning C, Zitz T, Paasche K, Gansum T, Seren S. Large scale high-resolution ground penetrating radar measurements for archaeological prospection. Archaeological Prospection 2018; 25(3):171-195. doi: 10.1002/arp.1599