

Archaeological Pioneering Prospection in Rumania

The Roman province of Dacia was occupied by the Romans for about 150 years. During these years the province was the northern frontier and therefore very well guarded with Castella and wall-ditch systems.

The University of Nijmegen in the Netherlands was invited by the Museum of Art and History in Zalau, Rumania to carry out a pioneering archaeological prospection. Two sites were selected for the fieldwork: the Castellum of Tihau and the Roman city of Porolissum.

The Castellum was selected because previously some roof-tiles were found at the site carrying the markings of the "Cohors I Cananefatium", Dutch tribal auxiliary forces in the Roman army, therefore linking the Roman history of this Castellum to today's Dutch University of Nijmegen. Furthermore, previous trial-excavations proved that the site was relatively undisturbed and offered good opportunities for an extensive prospection.

The city of Porolissum was selected because it has a vast fort and a civil Vicus of unknown size. Small trial-trenches covering a wide area prove that it must have been a very large city, but so far the full extent is still unknown.

The work consisted of height measurements, field prospection, augering, trial trenches and geophysical measurements. Geophysical measurements were carried out by RAAP-archaeological consultancy with the assistance of two students from the University of Utrecht, Department of Geophysics. The methods used were geo-electrical and magnetic measurements using Geoscan equipment.

At the Castellum of Tihau the prospection resulted in a clear image of the construction of the castellum and the building within the castellum itself. The geo-electrical measurements show nicely the rectangular stone constructions of the wall with rounded corners, the gates and defensive towers, the roads, the horreum, the principia and the praetorium. Remarkable information was obtained from the difference between the geo-electrical measurements with an electrode spacing of 50 cm and the geo-electrical measurement with an electrode spacing of 100 cm. Some structures like the praetorium only show up at the 50 cm level, but the gates and the food-storage show up in both. The magnetic measurements show clearly the wooden barracks structures and some ovens lying outside the castellum. Due to the usage of multiple techniques, additional archaeological information was obtained and this fortress can be considered as one of the best studied Castella in Dacia.

The figure shows the result of the geo-electrical measurement with an electrode spacing of 50 cm.

The results in the city of Porolissum were not as clear as expected. Some linear structures could be interpreted as roads, some structures might be related to houses. The very steep slope of the hill is certainly to blame for the blurry images.

Roman Castellum Tihau, Rumania
Results geo-electrical measurements with an electrode spacing of 50 cm

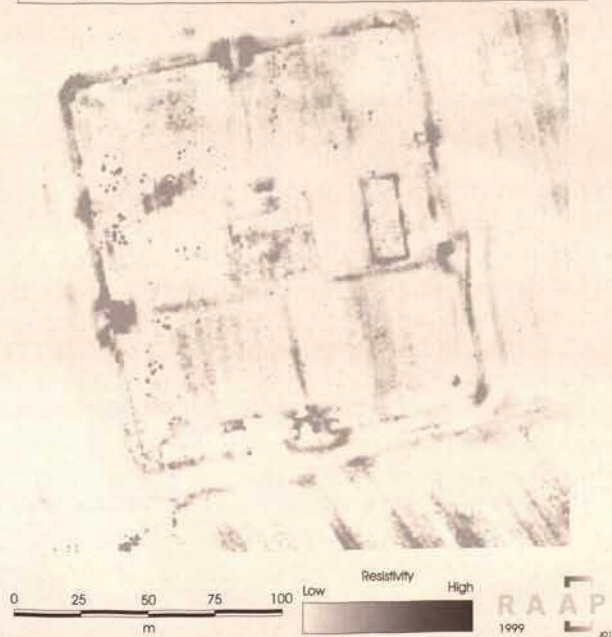




Fig. 1. Galgenberg-Kopfham; aerialphoto of soilmarks of a ditch system after first ploughing at the Galgenberg near Kopfham, Lower Bavaria (Photograph O. Braasch from 04.01.81, Archivnr. 7538/040; SW229-16)

Fig. 2. Galgenberg-Kopfham; magnetogram as digital image of the first use of caesium magnetometry in Bavaria in 1981; caesium-magnetometer Vari-an V101 in variometer mode, sensitivity 0.1 nT, raster 1.0 to 1.0 m (interior area with 0.5 to 0.5 m), dynamics -10.0/+20.0 nT in 256 grayscale (white/black), 10 m grid, north to the right, Mag-nr. 7538/40-85B

