

**IEMA Research and Travel  
Scholarship Report**

**Finding Forts: A Forgotten  
Landscape in Southeast Romania**

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For the 2017-18 academic year and through the help of the IEMA research grant, I was fortunate enough to travel to the University of Exeter in Devon, England to work alongside Dr. Ioana Oltean. My research focuses on the frontier environment and defenses of one of the most turbulent and active regions of the late Roman Empire, the province of Scythia Minor, located in southeast Romania. Especially in the wake of numerous contemporary events such as the Syrian migration crisis and the sudden exit of Britain from the European Union, the focus on national borders and border control has never been greater. Frontiers, both present and ancient, act as dynamic areas of cultural interaction where goods, ideas, and populations are exchanged but also regulated and controlled. While theories surrounding the definition and role of frontiers can be seen to partially originate from those of the former British Empire, these concepts have since been expanded and applied to a number of other cultures.

During the 3rd to 6th centuries A.D., the frontier province of Scythia Minor was repeatedly overrun by foreign invasions from the north. While this external stress may have not been on a daily basis, the sporadic yet destructive nature of the invasions, as well as the repeated indications in the archaeological and historical records of foreign occupation of Roman land suggest that a purely linear and static depiction of the frontier during this period may not be useful. Additionally, the military crises that plagued the empire in this period indicate that the Roman administration could

not effectively deal with the defense of its perimeter. In the wake of these invasions, the forts and settlements in this region may have opted for the control and defense of their own surrounding area independently, rather than working together as a frontier system. In this project, I address whether the Late Roman frontier in Scythia Minor during the 3rd to 6th centuries is better modeled as a series of fortifications occasionally working in collaboration but, more often than not, concerned primarily with the control over their immediate neighboring area and localized defense. The Late Roman frontier is then defined not just as a linear feature, but rather as a zone of control that exists well beyond its installations and, in periods of successful defense, the area between such fortifications.

This analysis relies on the accurate identification and landscape contextualization of any relevant sites within the area under study, but not all sites mentioned by written evidence have been located on the ground. For example, one of the ancient registers of the Roman Empire, the 3rd century Antonine Itinerary, mentions two important sites by name (Vallis Domitiana and Ad Salices) whose remains have not yet been attested archaeologically. I have successfully narrowed down their possible locations using ArcGIS based on the registrar distances from nearby sites, but a more systematic above-ground survey of archaeological structures is needed. Unfortunately, site location in Romania has often proved difficult based on traditional satellite imagery as much of the land in the area of Scythia Minor has been subjected to post-WWII disturbances under significant agricultural and industrial communist projects. These modern developments and practices such as deep plowing have generally resulted in the severe obliteration of archaeological remains, whether as surface or subsurface features

potentially revealed by cropmarks. However, a series of recently declassified aerial reconnaissance surveys taken by the RAF, USAF, and Luftwaffe during WWII (now stored in Washington D.C. and Edinburgh) predate much of this later development and thus act as a valuable resource for locating and identifying now invisible sites. The combined study of such aerial photographs and existing satellite data has already resulted in the discovery and identification of previously unknown sites in areas of southern Scythia Minor, but its northern regions, containing the traditional line of the frontiers along the Danube and coast have yet to benefit from this methodology.

The first month (October) of my project was spent preprocessing the imagery I had already acquired as well as making inquiries regarding the material stored in Edinburgh. Unfortunately, due to unforeseen circumstances, I was not able to purchase all the needed imagery from Edinburgh, but was able to find an alternative solution. During the Cold War, the Corona satellite was launched by the United States government in order to provide detailed surveillance of the Soviet bloc which fortunately includes much of the region of my study area. Thus, by purchasing a number of these declassified high-resolution images, I was able to fill in much of the study area covered by the inaccessible photographs. Following the data collection, the following two months of the project (November and December) was spent georeferencing all processed photograph archival material from the province of Scythia Minor in a digital database and GIS.

The final three months (January-March) consists of identifying and GIS mapping subsurface phenomena in the aerial photographs based on cropmarks and other distinguishing features. Interpretation of historical photographs can often be

difficult and depends highly on the level of preservation and clarity of the individual picture. Poor archival conditions, physical and chemical deterioration of the photo and any subsequent markings made upon it can all negatively impact the identification of any features and even destroy valuable visual data. However, with my training in photo interpretation coupled with the meaningful discoveries of archaeological features already made in southern Scythia Minor, I am confident that these photographs will provide significant information about the location of minor frontier installations along the northern half of the Roman province. All crop marks from the aerial photographs will be noted as potential archaeological sites. Those that fall within my calculated area for Vallis Domitiana and Ad Salices will be given special consideration so as to serve as regions of interest for future ground research. This summer, I hope to travel to many of these areas of interest identified from the photographs to conduct ground surveys and determine whether any significant material culture or anthropogenic features can be identified at these sites.

The results of this project should make up a significant component of my PhD and integrate well with my previous work. I have also undertaken the development of a GIS-based predictive model aimed towards identifying the most probable locations of Roman forts (again focusing on Vallis Domitiana and Ad Salices) based on the spatial and geographic characteristics of established fortifications in the province. Therefore, any potential fortifications identified from the WWII and Cold War photography, once established as Roman through ground confirmation, can serve as valid test points to either validate or fine tune the model based on the spatial characteristics of these new forts. Even without the discovery of any clear fortifications, past

research with these photographs in other regions of Romania has already proven how they can reveal key markers in the landscape such as roads and settlements which can improve the understanding of the layout of the Roman province.

WWII aerial photographs are a resource that can provide valuable information about past landscapes, both those in the time of the photo and before. As many sites in Romania have become invisible to modern satellite imagery due to excessive agricultural and industrial development in areas, the cropmarks present in these photos offer an unprecedented view of these areas and can be used to place them within the modern landscape. While it can be difficult to identify the frontier site as Roman purely based on its aerial imagery, the date of each site can be corroborated by ground survey. By combining the newly discovered sites with those already identified, I will create a new comprehensive spatial view of the Late Roman frontier in Scythia Minor and examine when these sites worked as a unified front against invasions or rather concerned themselves only with the nearby areas. With this newly created landscape, it will be possible to gain a much better understanding of the method of control that the Romans used on the frontiers of their empire and how such methods compare to other civilizations in the ancient and modern world.