Iron resources and production for the Roman frontier in Pannonia

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ABSTRACT: During Roman times Siscia was an important settlement, controlling a key route between Pannonia and Dalmatia, across the river Sava. To the south of Siscia, on Mount Trgovi, Mount Zrin and Mount Majdan, limonite deposits were exploited on a very large scale resulting in millions of tons of slag. Finds of large numbers of iron bars from Hrvatska Dubica, Siscia and the Japra valley indicate extensive iron smithing in the area. Thirty-eight of these bars survive and their size and weight suggest a degree of standardization of the products. It is estimated that between 150 to 200 million of these bars would have been produced in this region during the Roman period.

Introduction

The Roman limes in Pannonia, seven hundred kilometres long, is primarily defined by the River Danube. The termination of the Dacian and Suebian-Sarmatian wars, led by the emperor Domitian towards the end of the first century (88-93 AD), resulted in Pannonia becoming the most important military province of the empire (Mócsy 1974, 85).

From the beginning of the 1st century AD to the time of Hadrian, the number of Roman legions gradually grew from one to four. Their number remained constant until the period of late antiquity and they were located in Vindobona (legio X Gemina), Carnuntum (legio XIII Gemina), Brigetio (legio I Adiutrix) and Aquincum (legio II Adiutrix). Occasionally however, in more troublesome periods, the number of legions at the frontier would grow considerably (Mócsy 1974, 99). The entire provincial army, as well as the auxiliary units (exercitus Pannoniae Superioris et Inferioris), were positioned at the limes itself in about thirty limes-forts (the locations of these have recently been determined precisely). The forts were twenty kilometres (fifteen Roman miles) apart, even in marshy areas (Radnoti and Barkoczi 1951; Fitz 1959). Since the province of Pannonia did not possess its own metal resources, it was, in that respect, oriented toward Noricum, Dalmatia and Moesia.

The Roman conquest of Pannonia began with the destruction of the Celtic settlement of Segestica on the right bank of the River Kupa (next to its mouth, where it flows into the Sava). How important Segestica was for the Romans can clearly be seen from the fact that they repeatedly attempted to conquer it in 156 BC, 129 BC, 119 BC, 83 BC, and finally in 35 BC when Octavian eventually managed to destroy it after a siege that lasted for a whole month, engaging two and a half legions backed by the river fleet (Hoti 1992, 137). The whole of Pannonia, with borders on the Sava and Drava rivers, found itself under Roman control (Klemenc 1963, 56). Very soon, following the destruction of Segestica, a new settlement Siscia was established on the left bank of the Kupa river, more precisely between the Kupa and the Sava rivers.

Why did Segestica represent the key to Pannonia for the Romans? The answer lies, above all, in the ‘problematic’ stream of the Sava river. This river is not