Journal of Archaeological Science 66 (2016) 154–168

Contents lists available at ScienceDirect

Journal of Archaeological Science

journal homepage: http://www.elsevier.com/locate/jas

Social identity and mobility at a pre-industrial mining complex, Sweden

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ARTICLE INFO

Article history:
Received 7 November 2014
Received in revised form
30 December 2015
Accepted 3 January 2016
Available online 2 February 2016

Keywords:
Mobility
Demographical change
Social identity
Strontium isotopes
Early modern period
Mining cemetery
Bioarchaeology

ABSTRACT

The early modern period has so far received little attention from archaeologists and anthropologists in Sweden. This study explores demographic patterns, social differences, family structure and mobility in a 16th-century skeletal population (n = 102) from a preindustrial mining community (Salberget) in Bergslagen, Sweden, using a bioarchaeological perspective. Methodologically, the results of strontium and oxygen isotope analysis in tooth enamel (n = 38) were added to archaeological, anthropological and documentary evidence to detect demographic and/or social differences in mobility. Historical documents provided some indications of the kinds of people working at the mine. Archaeological evidence indicated two distinct grave types and the anthropological analysis documented differences in the age and sex of these individuals. The analysis of strontium, oxygen and carbon isotopes in teeth was used to infer possible place of origin information about these individuals. Various lines of evidence suggest that the cemetery held a mix of family groups, foreign workers and prisoners of war, all associated with the Sala silver mine. Together, the archaeology, osteology and isotope chemistry confirmed the documentary evidence of internal and external migration in the region. Furthermore, this study displays signs of matrilocality and a socially stratified society.

1. Introduction

In Sweden, the early modern period and the preindustrial mining industry has for a long time mostly been studied by historians using documentary sources (e.g. Boëthius 1951; Heckscher 1935, 1941; Isacson and Magnusson 1987; Florén 1987, 1995 (1991); Florén and Rydén 1992; Mispelaere 2012, 2013; Olsson 2007; Rydén 2011; Sundin and Tedebrand 2008; Ågren 1998). However, there is a growing and important trend of expanding this research by adding archaeological sources (e. g. Bergqvist, 2013; Jonsson, 2006, 2009; Nyberg, 2010). Yet, compared to, for instance the British Isles and the United States, there is still little contextual research based on the analyses of Swedish skeletons from this time period (e. g. Arcini et al., 2012; Arcini and Tagesson, 2005; Kjellberg et al., 1993). This paper provides a bioarchaeological perspective on an early modern preindustrial mining community by combining results from different disciplines: history, archaeology, anthropology and isotope chemistry. This perspective entails an investigation and evaluation of how different source materials and methods present history: are they consistent with each other, do they highlight various aspects of a phenomenon, do they complement each other, or do they give completely different pictures of the specific aspects investigated? Furthermore, owing to the focus on skeletons, this study will give a more "bottom-up" and individual perspective on the early modern period.

By focusing on three key questions, the following discussion will bring together the results from the isotope analysis with the archaeological, anthropological and historical data. Is the population buried at Salberget cemetery isotopically homogenous, reflecting a localized place of origin? How can the isotopic data further the understanding of the social topography of the cemetery? Is there any difference among the sexes with respect to isotopes?

The large woodlands in central Sweden, an area known as *Bergslagen*, were gradually populated from the 11th-century, as the population expanded. The clearances stopped due to the plague in the 14th-century, but accelerated again during the 16th-century. One driving factor for the clearances was iron production, which

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http://dx.doi.org/10.1016/j.jas.2016.01.004
0305-4403/

increased substantially in the 13th-century. This early mining in Sweden was mostly a side-income for the freeholders' living in these areas of rich ores, and not centralized in any way, but in the 16th-century the Crown became more interested in this region for economic reasons. Above all, the export of iron and copper to the Continent made a good income for the Crown, who needed to finance the wars with Germany, Poland, Russia and Denmark (e.g. Myrdal and Morell, 2011, 101–116; Nagel, 1994; Sundberg et al., 1995, 6).

The inhabitants of Bergslagen divided their work between mining and farming, organized with the household as the main production unit (Florén and Rydén, 1992, 124–127; Gaunt, 1986, 86; see also Mispelaere, 2012, 88 for a slightly differing opinion). Men, women, and children were involved in the mining activity, although the women and children generally undertook above-ground tasks (Bäckström, 2014-04-14, Engelbertsson, 1987, 59, 164; Norberg, 1978, 404; Nordlund, 1996, 11, 42). The largest group of labourers in the mines and foundries probably consisted of servants belonging to the peasant miners', i. e. *bergsmännens*, household (Boëthius, 1951, 167), but the need for workers in the mining areas also boosted the labour migration, both the internal (esp. from Finland) and the external (esp. from Germany) (see e. g. Bogin, 1988; Clark, 1979; Moch, 2011; Norman and Rudblom, 1985; Rosander, 1967). Moreover, the mining activity had a ripple effect on the surrounding countryside where the farmers for parts of the year became occupied with contract work, transporting grain to the Bergslagen area and iron/copper/silver/tar to the harbour of Västerås (e.g. Gaunt, 1986, 93; Houston and Snell, 1984) (Fig. 1).

1.1. Salberget

The Sala silver mine, located in central Sweden approximately 40 km north of Västerås and 60 km west of Uppsala, was a preindustrial mining complex in operation at least from the late 15th-century to the early 20th-century. From the 16th-century, the mine was administered by the Swedish Crown from the Väsby royal estate, situated northwest of the central area of open pits and trenches (Fig. 1). The mine was very productive for several centuries and was finally abandoned in 1908. Around 450 tons of silver, 35,000 tons of lead and an unknown amount of zinc were extracted from an estimated 5 million tons of ore while the Sala mine was in operation (Jansson, 2007).

South of the mine, the village of Salberget grew up around the middle of the 15th-century (Bergold and Öhnegård, 1987, 111–112). It can be defined as a pre-industrial mining community since there was not a large-scale mechanized manufacturing industry at this time. The ownership of the mines and foundries were shared between the Crown and the peasant miners (i.e. *bergsmän*) (Boëthius, 1951, 88–89). The village had a cemetery with a small church or chapel (Fig. 1). This mining village was the largest conglomeration of people in Sala parish before the founding of modern Sala town in 1624 when the original village was abandoned by order of the king (Frankius, 2008, 23). According to Jansson (1963), Salberget held as many as 1000 tax payers during the 1540s, which could be compared to the population of the nearest town Västerås, estimated to have 948 inhabitants in 1570 (Stads-och kommunhistoriska institutet, Stockholm). Archaeological excavations of the mining village took place during the 1950s and 80s (Bergold, 1986; Bergold and Öhnegård, 1987; Nordahl, 1956). The oldest building phase was dated in time to after 1450, and the settlement lasted at least to 1624 (Bergold and Öhnegård, 1987, 111).

The Crown became more involved in the management of the extraction of silver (esp. 1540–1620), and it is from this period that there are a large number of primary sources regarding Sala silver mine and Väsby royal estate (administrative centre for both the mining village, the chapel and at times for the mine). The archives include tax registers, as well as employment lists and payrolls. A

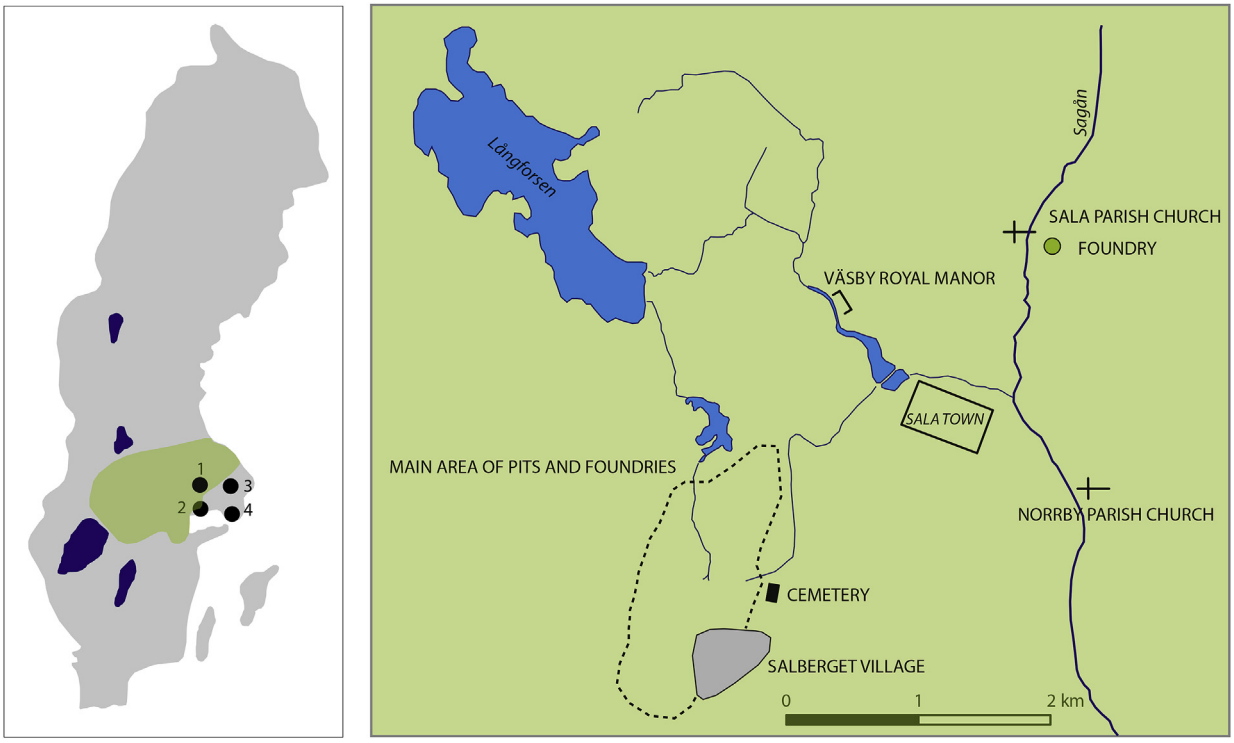

Fig. 1. Sala/Salberget (1), Västerås (2), Uppsala (3) and Stockholm (4) and the Bergslagen area (to the left). The area of the Sala silver mine, the foundry, Salberget mining village, the royal manor, the parish churches of Sala and Norrby, Sala town from 1624, and the excavated cemetery (to the right).