

# A paupers cemetery at Schwedt on the Oder (Brandenburg)

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## Introduction

From September 2010 to June 2013 road reconstructions took place in Schwedt on the Oder. 416 graves were documented by the company "Archäologische Ausgrabungen und Bauprojekt Betreuung". Full recovery and archeological documentation involved only 342 burials due to a prescribed depth of the construction work.

It is known from the historical sources that on the site was the cemetery "Vierradener Tor", which as a municipal public cemetery served mainly poor people from 1680 to 1868. This assumption could be verified archaeologically, due to many examples such as simple pine coffins without adornments, lack of burial objects, or up to 4 burial layers (Fig. 1). After abandonment the cemetery disappeared from the city landscape.

## Materials and Methods

Because of the large skeletal series the amount of skeletons (341 individuals) were divided. 221 skeletons examined by Ms. Dr. B. Heußner and 120 by Ms Susanne Storch. This presented report mainly about findings from 120 individuals. All 341 skeletons are presented in Fig. 4 and 5. Sincere thanks to Dr. B. Heußner for that.

The individuals were investigated macroscopically. 53% of the individuals were completely or almost completely. More than ¾ of the individuals showed no or only minor signs of decomposition. So that, the conditions are to be judged as good.

The diagnose focused on age, sex, body height, pathologies, anatomic variations and enthesopathies. Age and sex were determined by the conventional method after Ferembach et al. (1979). Additionally, for age determination the transition-analysis by Milner / Boldsen (2002) was exploited. The body height was calculated using the formula of Pearson (1899); pathologies were evaluated according to the criteria by Schultz (1988).

## Results

Fig.4 presents the percentage distribution of the age and sex for all 341 skeletons. It provides information on the demographic structure of the skeletons. The age at death relations, seen in Fig. 4, reflects up to the adult and mature age a typical mortality distribution of a population. Usually a population reaches its mortality peak in a mature age, as a comparison with several modern skeletal series from Brandenburg showed (Fig. 5). However, in Schwedt, the proportion of adult deaths is clearly higher than in the mature age (Fig. 4). Gender-specific mortality differences are often hidden behind the mortality peak in the adult age group. Thus, the higher mortality of adults is linked to the higher risks of young women, during pregnancy and at birth. The findings of skeletons from Schwedt do not confirm this. The proportion of female and male adult individuals is almost identical. Only the juvenile group consists almost entirely from females (Fig. 4).

The dead from this cemetery showed a very high disease rate and workload. In order to examine, among other analysis was done also: teeth and periodontium (caries, periodontal disease), non-specific stress markers (transverse enamel hypoplasia, cribra orbitalia) and malnutrition (rickets, scurvy) or infections diseases (sinusitis, stomatitis).

A comparison between the Schwedt skeletons and two modern skeletal series near Berlin shows impressively how immense suffered Schwedt population from the various diseases, such as teeth and periodontal tissues, malnutrition and infections (Fig. 6). 8 from 10 individuals from Schwedt had caries (KI = 81%). The intensity of caries involving intravital tooth loss in 53% (I-CE Index), meaning every second teeth was affected by caries. Periodontal diseases (Pp) and calculus (Zs) with a frequency of 60% and 81% complete the picture. Diseases such as cribra orbitalia

(Cri. Orb.), caused by malnutrition among others, occurred at almost every second individual in Schwedt (49%), but a similar picture emerges in other population, such as Tasdorf. As an example, here the infection diseases, such as stomatitis (Sto) and sinusitis (Si) are called. The former is present with two thirds of all individuals from Schwedt (frequency 67%), the latter could be diagnosed for every second individual (frequency 49%).

Conclusions on the workload can be drawn by the frequent occurrences of enthesopathies, spondylopathies and osteoarthritis, which are often associated with heavy physical work. One example is the osteoarthritis of the acromioclavicular joint (AC joint), which can be found with a frequency of 55% in the adult skeletons from Schwedt, affecting men and women in equal proportion.

In addition to these common diseases, rare diseases could be also diagnosed, such as syphilis, cancer, or acromegaly (Fig.2, 3, 7-9).

## Discussion and conclusion

The anthropological results confirm in many ways the statement already known through the archaeological and historical sources about a "paupers cemetery".

Urban community cemeteries or modern paupers cemeteries are well known in many cities in Brandenburg and Berlin, have almost never been so good analyzed by anthropologists. Thus, the Schwedt cemetery is the first anthropological exploration of a large skeletal series from the modern paupers cemetery in Brandenburg. The results provide representative insights about living conditions, diseases, and workload as well as the demography of the previously neglected social underclass. A meaningful task would be to compare the results with other modern paupers cemeteries and especially with the "Top 10,000", which most probably offers more interesting and exciting results.



Fig. 1: Schwedt burials 141 and 204 in situ.



Fig. 2: Burial 152A, it is suspected acromegaly. Note the thickened orbital margin.

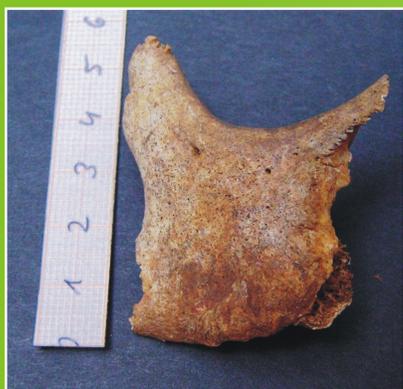


Fig. 3: Burial 152A, it is suspected acromegaly. Note the height of the zygomatic.

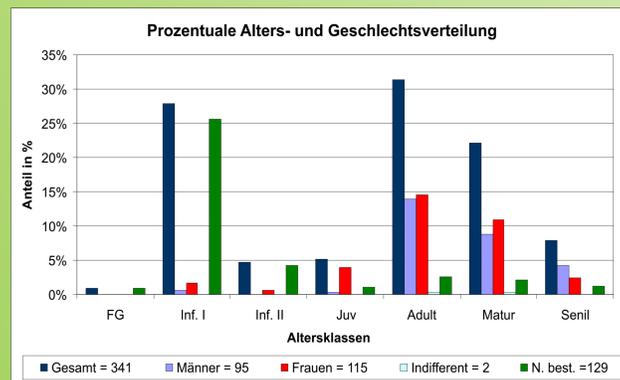


Fig. 4: Schwedt, Percentage age-and sex distribution.

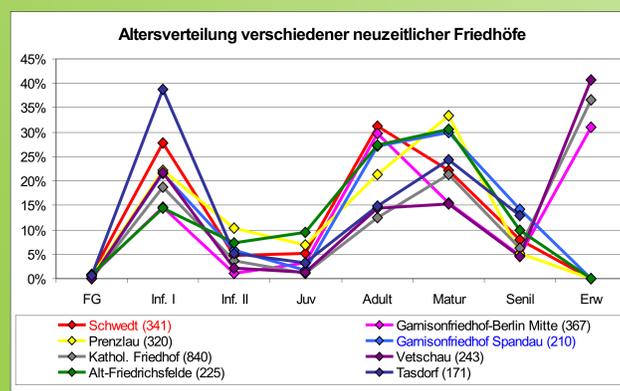


Fig. 5: Schwedt, Age at death distribution of several modern cemeteries.

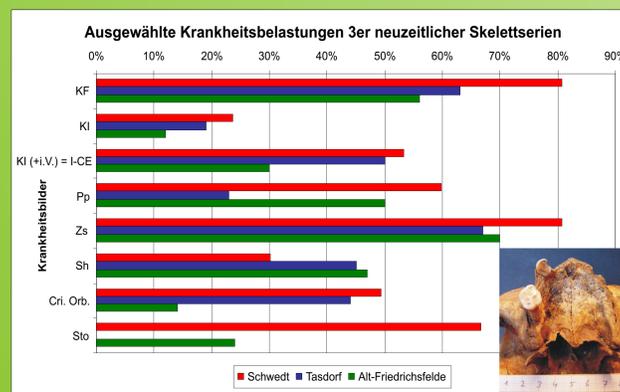


Fig. 6: Schwedt, Frequency of selected diseases by comparison of 3 modern cemeteries.

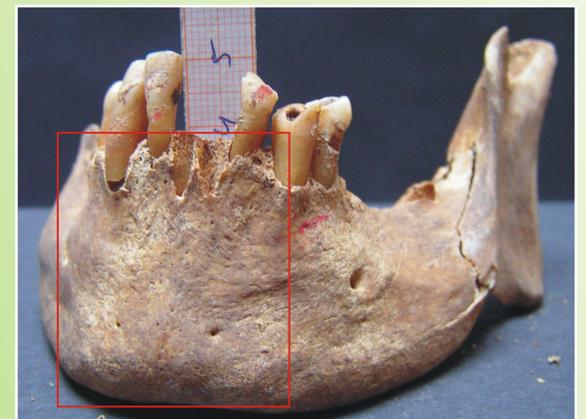


Fig. 7: Burial 152A, it is suspected acromegaly. Note the huge height of the chin.



Fig. 8: Burial 152A, it is suspected acromegaly. Note the huge height and breadth of the symphysis (left) as compared to a normal symphysis (right).



Fig. 9: Burial 152A, it is suspected acromegaly. Note the huge diameter of the both acetabula. Normally the diameter is 4 to 5 cm.