## Egyptian animal mummies in Poland Non-invasive and historical research as part of Polish Animal Mummy Project

Towards the end of the XVI century Mikołaj Radziwiłł, called Sierotka, was sailing back to Poland with at least two mummies. Unfortunately the ship ended up in a life threatening storm. When the superstitious sailors found out about the cargo, they blamed the mummies for their perilous situation. Sierotka was forced to throw the mummies overboard. This event literally drowned the chances of Poland having two of the earliest mummies in Europe in the waters of the Mediterranean. Poland had to wait more than two hundred years to get its own mummy and by then other European countries had surpassed us. That is at least the belief.

Egyptian mummies attracted people since the Renaissance. The first unwrappings occured in the XVI century. Even three hundred years later, they were arranged not for scientific reasons, but rather as aristocrats' entertainment: it was fashionable to be invited to a high-class social event where the unwrapping of a (human) mummy was the highspot of the evening. There were even special invitations for such event! The scientific research on mummies only began with the unwrapping and dissections in the XIX century. Soon Röntgen discovered X-rays. In the beginning of the 70's of the XX century the mummies of pharaohs were X-rayed in Cairo. Few people are aware that a Polish professor X-rayed a mummy in Cracow as early as the mid-70's.

The development of technology in different fields enables us to apply it to archaeology. Medicine is one of these fields. The popularity of unwrapping mummies ended a long time ago, thanks to the development of scientificand antiquity-preservation-awareness thinking, as well as... radiology. Today we are not only able to look inside the mummy, but virtually manipulate its contents and in a way to recreate and duplicate it.

Although it was a cat mummy that was one of the very first objects X-rayed at all, animals did not preoccupy people's minds as much as their own species did. Animal mummy study has therefore always been a step behind the human mummies. Animal mummies have long been neglected by both science, and popular audiences. Animal mummies were ignored by the early discoverers, barely recorded or kept. They served as ship ballast, locomotive fuel and agricultural fertilizer. The luckiest found their way to the curiosities auctions, private collections, and ultimately to world museums.

Animal mummies are fascinating and puzzling, as the purposes of creating them are not as obvious as those of human mummies. The research on the animal mummies is also more challenging. There are at least 4 or 5 recognized types of animal mummies. Many species were mummified, positioned in the ways often creating problems when studying them. Not many people are aware that Poland has some original Egyptian animal mummies. These have never been collected for study purposes and no research has ever been undertaken focusing on them, therefore the current Project will fill this gap.

The Project will on the one hand study the mummies as historical objects and on the other as biological and Egyptological objects. Thus far the applicant has found 36 animal mummies in Poland (in Warsaw, Cracow and Poznań) and continues to search for more. There are also other objects related to the animal mummies, such as animal sarcophagi, or suspected animal mummies that need to be studied as well.

The applicant will carry out a search on the history of the mummies in museum catalogues, archives and in the institutions that donated or loaned mummies. The aim is to trace the history of each object as far back as possible. Some animal mummies arrived the museum before World War II, other were donated/loaned after that period. In Warsaw, in 19 of the 20 cases the only information about the mummy origin is the institution that donated or loaned it. In Cracow it is different. The history behind each object is intriguing and the Project will attempt to reveal it, and to determine the reasons as to why, when and by whom the animal mummies were brought to Poland.

The biological and Egyptological study will rely mainly on the X-rays and computed tomography, and zoo-archaeological analysis. The methods applied at this stage will be non-invasive. The applicant will analyse the radio- and tomograms, to find answers on a number of questions, such as: Is there really an animal inside? Is the inside compatible with the external appearance? (Animal mummies often hide inside a completely different animal than the one expected from external inspection.) What is the type of the analysed mummy? How many animals are there? What is the state of preservation of the mummy and are there any pathologies or fractures? Are there any repairs visible? What is the species, position, age, sex (if determinable), cause of death? Are there any internal organs or additional elements (amulets, etc.)? What do the wrappings look like? How does the whole collection of Polish animal mummies correspond to other assemblages (mainly in Europe)?

The Project is a fist attempt to research all the Polish animal mummies available and the approach will thus be broad. It started with the applicant's study on the collection of the National Museum in Warsaw, which was CT-scanned and X-rayed by the applicant within the Warsaw Mummy Project (and studied within Warsaw Animal Mummy Project, as WMP sub-project), well known from the media. The research results of the Polish Animal Mummy Project will be presented to the international scientific community and to layman audiences.