

# **The Kyrenia Ship Conservation Project**

## **Kyrenia Ship Collection:**

### **Conservation Progress Report**

**March 2016**



Photographs courtesy of Veronica Ford and Cassy Cutulle, 2016

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# Kyrenia Ship Conservation Project

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## **General Introduction**

During the course of March the conservators of the Kyrenia Ship Project Team have been involved in a diverse range of activities including the continuing conservation of the Kyrenia Ship Collection, the purchasing and installment of equipment, as well as the preparation of objects for transport from Kyrenia Castle to the Conservation Laboratory in Nicosia. Preparation work for the desalination of the ceramics has continued at the Conservation Laboratory, with focus placed on ensuring the stability of the objects so that they are robust enough to withstand immersion in water. To protect those ceramics which have a friable or flaky surface, consolidation using an adhesive was carried out [See Below, “Remedial Conservation Tasks”]. At Kyrenia Castle, the conservators have begun the assessment of some of the wooden material and amphoras in storage, and have begun the process of packaging the second batch of ceramics for transport to the Conservation Laboratory.

Considerable effort has also been put into researching and ordering supplies and equipment, a task which will prove important to ensure that future work progresses efficiently. This has involved developing plans and estimating material types and quantities for both the future treatment of the metals and for the rehousing of the objects at Kyrenia Castle. Recently, two key pieces of equipment were installed: the new water deionizing system—the “DI 750” at the Conservation Laboratory, which will allow the conservators to proceed with the desalination treatment of the ceramics, and also the first set of metal cabinets, which were installed at Kyrenia Castle to allow the future rehousing of the ceramic and metal objects there.

A key highlight of the month was the United Nations Development Programme (UNDP) visit on March 24<sup>th</sup>. Stella Pissaridou, Özge Sami and Martina Zaccaro visited the conservation laboratory at Nicosia where they were given a tour of the facilities and further information about conservation activities from the conservators.

## **March 2016: Conservation Tasks in Progress**

### **Preventive Conservation Tasks**

Preventive conservation activities are actions which are aimed at the prevention of degradation through manipulation of the environment. This includes monitoring the temperature and relative humidity, light, pollutant and pests in the environment to understand how the object materials may be adversely affected, and what environmental changes can be implemented to prevent this. Preventive conservation

can also include packaging and storage of objects with archival materials which will prevent or slow deterioration of the materials.

At the Conservation Laboratory, Cassy and Veronica have been working to institute a preventive conservation program through monitoring temperature, relative humidity and pests in the laboratory areas. In early March, the sticky blunder pest traps were examined by Veronica to assess what types of pests were present throughout. The results have shown that the main pests present include ants, woodlice, silverfish, spiders, fruit flies and beetles. Although there are not currently any objects present in the Laboratory that would be affected by these types of pests, it is beneficial to monitor this for future reference. The traps will be checked again in June and additional traps will be placed within the Kyrenia Ship Storeroom, the Shipwreck Museum Gallery and Ship Gallery at the Kyrenia Castle to assess the pest populations there.



**Fig. 1: Photograph of a sticky blunder trap that was checked for pests in early March by Veronica Ford. Photograph courtesy of Cassy Cutulle, 2016.**

In addition to monitoring the pests in the Conservation Laboratory, the relative humidity and temperature have also been monitored to gain an understanding of the fluctuations in temperature and humidity throughout the laboratory spaces. These aspects of the environment can greatly affect the condition of objects and the rate at which they deteriorate. This monitoring is especially important for the metal artifacts that are currently stored in the Conservation Laboratory, which are susceptible to corrosion in high humidity environments.

Logging of the relative humidity and temperature took place four times a week—two recordings on Monday and Friday mornings and afternoons at approximately 9:00am and 2:00pm. During some weeks where work was done at Kyrenia Castle, the recordings took place on a different day/time or less than four times during that week. To provide a point of comparison and to assess the capacity of the Conservation Laboratory building to provide a buffer against the outdoor fluctuations, the outdoor overall humidity and temperature were also recorded from Weather.com for most days. Below are two graphs, one of which displays the relative humidity and temperature recordings within the object cupboards in the Conservation Laboratory and the other which displays the outdoor overall humidity and temperature throughout this period.

**Figs. 2-3: Graphs displaying the fluctuations in humidity and temperature within the object cupboards in the Conservation Laboratory in Nicosia (top) and outdoors (bottom).**

By comparing the indoor and outdoor graphs, it is apparent that the building and the metal cabinets within the Laboratory do provide a buffer against violent fluctuations in humidity and temperature that are present on the “Outdoor” graph. However, on the “Indoor” graph, there are still some fluctuations in relative humidity—particularly those that occur over a short time period and irregularly—that are concerning, and further work will need to be done to create a more appropriate buffering environment within the metal cabinets. On the “Indoor” graph, the temperature remained relatively steady with some fluctuations in early March.

Aside from environmental monitoring, Cassy and Veronica have also been working to purchase supplies for the housing and packaging of the Kyrenia Ship Collection after conservation treatment has concluded. Supplies include archival foams, tissue paper and silica gel to provide preservation-grade storage for the objects. Data loggers will also be purchased, which will be used to log and record the temperature and relative humidity within the Kyrenia Ship Storeroom and Shipwreck Museum and Ship Galleries into the future. Of primary importance was the purchasing of metal cabinets, which will be used to store smaller ceramics and metallic objects. Four larger metal cabinets were delivered to the Kyrenia Ship Storeroom on March 15th, and will be installed in the room during the week of the 28th. Ultimately, the metal cabinets and archival storage materials will provide a buffer from the fluctuations in humidity and temperature and pollutants that exist within the Storeroom environment, slowing object degradation significantly.



**Fig. 4: Photograph of the three of the four large metal cabinets recently purchased for the Kyrenia Ship Storeroom to house artifacts after conservation treatment. Photograph courtesy of Cassy Cutulle, 2016.**

## Remedial Conservation Tasks

Remedial conservation activities are classified as those actions which require physical intervention on the object. Remedial activities can include cleaning, coating/consolidation, reconstruction and restoration. In March, while waiting for the “DI 750” water deionizer to be delivered and installed, Veronica and Cassy undertook consolidation of some of the smaller ceramics in preparation for desalination. Consolidation was decided for ceramics that contained surfaces which were particularly degraded and flaking. The function of such a coating is to provide more stability for the fragile ceramic fabric during desalination soaking, to limit and prevent material loss.

After considerable experimentation with a number of adhesives in a number of concentrations, 2.5% w/v Butvar B98 (Polyvinyl Butyral) in ethanol was selected. Butvar B-98 is a conservation-grade adhesive which is often used as a consolidant to prevent surface loss on materials. This concentration was seen as particularly effective because it soaked into the upper layers of the ceramic surface, providing adequate stability without darkening the ceramic or altering its appearance. In all, 20 ceramics were consolidated before desalination from the first batch of ceramics currently stored in the Conservation Laboratory.



**Figs. 5-6: Photographs of Veronica Ford (left) and Cassy Cutulle (right) consolidating ceramics in preparation for desalination soaking. Photographs courtesy of Cassy Cutulle and Veronica Ford, 2016.**

On March 22<sup>nd</sup>, the “DI 750” water deionizer was delivered and installed at the Conservation Laboratory in Nicosia. With this equipment, the conservators will now be able to produce deionized water to soak the ceramic objects in. The use of deionized water is particularly important as the lack of ions within the water will leach the salts from within the ceramics. Preparation is now underway for starting desalination, which will begin the week of March 28<sup>th</sup>. To start, the first three ceramics to be desalinated were first placed in a high humidity atmosphere to prime the object surface, minimizing material shock as it is immersed for desalination.



**Fig. 7: (Left) Photograph of the first three ceramic objects for desalination in a high humidity atmosphere to prime the ceramic prior to desalination soaking. (Right) Photograph of Veronica Ford placing a beaker of tap water with cotton wool in the basin to create the humid atmosphere. Photograph courtesy of Cassy Cutulle, 2016.**



**Figs. 7-8: Photographs of the “DI 750” water deionizer unit installed in the Conservation Laboratory in Nicosia. Photographs courtesy of Cassy Cutulle, 2016.**

Lastly, at the end of March the conservators started the packaging of the 2<sup>nd</sup> batch of small ceramics to be transported to the Conservation Laboratory for treatment. After arrival, these ceramics will undergo the same treatment as the first batch, which includes deconstruction (if previously reconstructed), cleaning, consolidation and desalination. After desalination and drying, the ceramics will be reconstructed and restored.



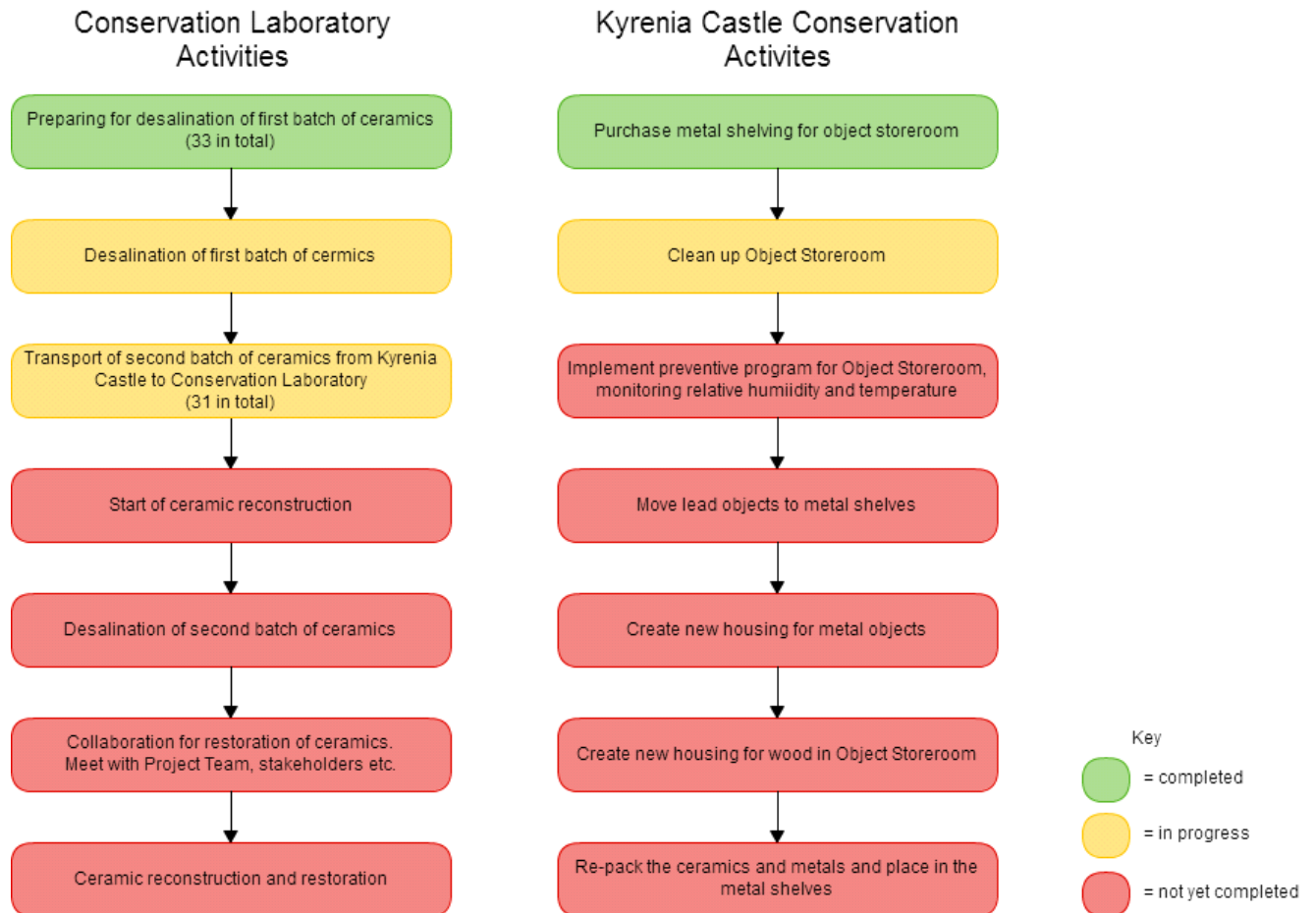
**Figs. 9-10: Photographs of Cassy Cutulle (left) and Veronica Ford (right) packaging the 2<sup>nd</sup> batch of ceramics for transport to the Conservation Laboratory in Nicosia for treatment. Photographs courtesy of Veronica Ford and Cassy Cutulle, 2016.**

## **April 2016: Projected Work Plan**

During the course of the next month, desalination of the ceramics will begin in earnest to ensure that damaging salts are removed from the structure of the ceramics. Once the desalination of the first three stable ceramics has been successfully completed, desalination of the remaining ceramics will commence, including those which have been consolidated. Ceramics will be carefully monitored to ensure that any damage which may occur is minimized.

Early next month, the packaging and transportation of the second batch of ceramics from Kyrenia Castle to the Conservation Laboratory will occur. These will be deconstructed, allowing the consolidation and desalination of this batch to begin, where appropriate. If time and resources are available, treatment of some of the smaller metal objects will also begin. Delivery of further smaller metal cabinets for the storeroom in Kyrenia Castle is scheduled to take place in mid-April, which will allow the storage of the metal objects there to be upgraded in the future. Note that due to shifting conservation priorities and needs, the long term work plan has been altered accordingly, as can be seen in more detail in Figure 11 below.





**Fig. 11: Flow chart displaying the activities to be undertaken by the conservators for this Project and the progress made so far. Flow chart courtesy of Veronica Ford, 2016.**

## Object Numbers

- In total, 61 smaller ceramic objects will be treated, as per the condition assessment conducted by Cassy Cutulle in August-September 2015 (this is subject to change).
- Metal numbers: 22+ (this figure does not include metals which have not yet been condition assessed).