

The Kyrenia Ship Conservation Project

Kyrenia Ship Collection: Conservation Progress Report

April 2017



Photographs courtesy of Veronica Ford and Cassy Cutulle, 2017

Cassy Cutulle

MA, MSc University College London
Chief Objects Conservator
Kyrenia Ship Conservation Project
Cmcutulle@gmail.com

Veronica Ford

MA, MSc University College London
Assistant Objects Conservator
Kyrenia Ship Conservation Project
Veronica.ford89@gmail.com

Contents

- **General Introduction**
- **April 2017: Conservation Tasks in Progress**
 - **Preventive Conservation Tasks**
 - **Re-housing Ceramics, Metals and Wood**
 - **Displaying Objects**
 - **Obtaining Air Conditioning**
 - **Concluding IPM and Environmental Monitoring at Lab**
 - **March and April %RH and Silica Gel Log**
 - **Remedial Conservation Tasks**
 - **Continuing Restoration of P21 and P15**
- **May 2017: Projected Work Plan and Current Standing**
- **April 2017 Expenditure Details**

General Introduction

Throughout April the main focus of the conservators' work has been the packaging and re-housing of the ceramic and metal objects—many of which were previously treated at the Conservation Laboratory—for long-term storage in the Kyrenia Ship Storeroom. Additionally, the conservators are working to re-house the lead objects, lead sheathing and wooden hull pieces, all of which are also stored in the Kyrenia Ship Storeroom. The goal is to re-house these items in archival storage materials so that their preservation can be better ensured for the long-term. The ceramic objects that were previously on display were also placed back within display cases with foam supports and mounts. These activities were undertaken alongside Project Team members Helena Swiny and Robin Piercy, who visited during the month of April.

Restoration activities on ceramics P21 and P15 have also continued on a limited basis as the conservators are only situated at the Conservation Laboratory approximately one to two times per week.

Furthermore, additional preventive activities such as pest monitoring and environmental monitoring of the metal cupboards were recorded and concluded at the Conservation Laboratory in April, as objects are currently being packed and transported back to Kyrenia Castle and are no longer being stored within the metal cupboards.

April 2017: Conservation Tasks in Progress

Preventive Conservation Tasks

Appropriate archival re-housing of the ceramic and metal objects requires several components: a conservation-grade plastic box, a foam base into which the object(s) are placed, acid-free tissue paper to prevent abrasion between the object and foam and top packaging to further stabilize the object when the box is moved. The standardized method for both the ceramics and metal objects that were treated at the Conservation Laboratory included an archival-grade polypropylene box with a base of thin, 2mm thick self-adhesive Volara foam placed within the interior and a base of 1-inch thick Plastazote® foam into which a recess in the shape of the object was cut/shaved out. This recess was lined with acid-free tissue paper to prevent abrasion between the object and the Plastazote® foam. Top packaging to stabilize the objects during box movement was also created using either a piece of Plastazote® foam with acid-free tissue paper padding and Tyvek® handles for ease of removal or a pillow created from Volara foam with 1mm thick Jiffy foam and acid-free tissue paper padding and handles for removal. For the metal objects, it was also important to include that vented sample bags filled with silica gel to maintain a dry environment within. Small relative humidity indicator cards are also included in these boxes so that it is easy to gain a quick understanding of the percentage relative humidity within the box at any time.



Figs. 1-2: (Top) Conservator Veronica cutting Plastazote® recesses for restored ceramic objects and placing acid-free tissue paper lining in the recesses to prevent abrasion. (Bottom) An example of finished packaging for four restored ceramics. Note that this photograph does not include the top packaging pillow, which was added later (Photographs courtesy of Cassy Cutulle, 2017).



Fig. 3: Photograph of object Cu19—The Ducks Head Ladle—after re-housing (Photograph courtesy of Cassy Cutulle, 2017)

For ceramic objects that have not been restored, these have been placed in polypropylene boxes lined with Volara foam. Ethafoam® tubing was cut and adhered to the Volara to section the base of the box for the placement of multiple objects. Acid-free tissue paper pads were created and the object was situated within an archival-grade sample bag and on top of the acid-free tissue paper pad. Top pillows were created using Volara foam, Jiffy foam, acid-free tissue paper padding and Tyvek® handles for easy removal.

Lastly, the boxes were appropriately labeled—a very important part of the re-housing process which allows others to easily and safely access the objects without posing a risk of damage to the objects or themselves. Labels such as “This way up”, “Caution: fragile objects below, lift carefully”, “Do not apply too much pressure”, and “Caution: objects treated with benzotriazole, toxic!” have been used, including labels with the object numbers.

Aside from re-housing the objects that were treated at the Conservation Laboratory, the conservators have worked to re-house/re-package the wooden hull pieces and lead objects and sheathing stored in the Kyrenia Ship Storeroom. The packaging method for both the wood and lead sheathing are similar, and include the use of a polypropylene box lined on the interior with acid-free tissue paper onto which the objects are carefully placed. If more than one layer is included in a box, layers are separated using either Jiffy foam, smaller archival-plastic box lids and acid-free tissue paper. Top packaging for these boxes consists of acid-free tissue paper pads. The boxes are subsequently labeled and placed within the wooden shelving already existing in the Storeroom. Cassy and Veronica have finished the re-housing of the wood and are currently in the process of re-packaging the lead sheathing. With the kind support of Owen Gander, the lead objects are being organized and packaged into new sample bags and situated within partitioned plastic boxes that are lined with Volara foam.



Figs.4-5: Veronica Ford preparing acid-free tissue paper pads for the re-housing of the wooden Hull pieces stored in the Kyrenia Ship Storeroom (Photograph courtesy of Cassy Cutulle, 2017)

As the re-housing continues, the conservators are also placing the smaller ceramic objects back on display in the Shipwreck Museum Gallery. To prevent abrasion and risk of damage while on display, the conservators are currently creating Jiffy and Plastazote® foam mounts and supports.



Fig.6: Photograph of Cassy placing object P27 back on display on top of a piece of Jiffy foam to prevent the abrasion of the ceramic (Photograph courtesy of Veronica Ford, 2017).

Throughout March and April, the conservators have continued to monitor the relative humidity of the metal objects which are particularly vulnerable to damper conditions. At the beginning of this time, many of the metals were being treated at the laboratory in Nicosia, and therefore monitoring was not always possible. Overall, however the metals appeared to remain in relatively dry conditions, buffered from external fluctuations in relative humidity and temperature by their packaging.

Box	Cu17	Cu18	Cu19	C1-8, Cu11, Cu21-Cu23, Pb23, Pb25, S9	Copper spikes	Copper tacks
Date	03/14/2017	03/14/2017	03/14/2017	03/14/2017	03/14/2017	03/14/2017
RH reading (blue strip)	30-40%	20%	30-40%	30-40%	30-40%	NA (Treatment in Progress)
Temp and RH (cupboard)	15.4C, 59%	In main lab	In main lab	C1-8 in main lab, Cu11, Cu21-Cu23, Pb23, Pb25 and S9 in cupboard: 15.3C, 58%	In main lab	In main lab
Observations	two (of two) bags of silica gel beginning to change color	one (of two) bags of silica gel beginning to change color considerably	three (of three) bags of silica gel beginning to change color, one considerably	two (of three) bags of silica gel beginning to change color	two (of two) bags of silica gel changing color considerably	two (of two) bags of silica gel changing color considerably
Actions	none	NA (Treatment in Progress)	NA (Treatment in Progress)	none	NA (Treatment in Progress)	NA (Treatment in Progress)
Date	03/30/2017	03/30/2017	03/30/2017	03/30/2017	03/30/2017	03/30/2017
RH reading (blue strip)	30%	20-30%	NA (Treatment in Progress)	30-40%	40-50%	NA (Treatment in Progress)
Temp and RH (cupboard)	In main lab	In main lab	In main lab	C1-8 in main lab, Cu11, Cu21-Cu23, Pb23, Pb25 and S9 in cupboard: 18.0C, 59%	In main lab	In main lab
Observations	two (of two) bags of silica gel beginning to change color, one considerably	two (of two) bags of silica gel beginning to change color, one considerably	three (of three) bags of silica gel beginning to change color, one considerably	two (of three) bags of silica gel beginning to change color	two (of two) bags of silica gel changing color considerably	NA (Treatment in Progress)
Actions	none	none	NA (Treatment in Progress)	none	none	NA (Treatment in Progress)

Fig.7: Table displaying the relative humidity readings and observations from each box containing copper alloy objects at the conservation laboratory in Nicosia, compared to the relative humidity within the cupboard at the same time where possible (Table courtesy of Veronica Ford 2017)

During April the objects were rehoused and the silica gel replenished. Once they had been transported back to Kyrenia Castle, monitoring of the relative humidity continued. This will be particularly

important in order to ensure that the long-term packaging solution is effective at protecting the metals from humid external conditions.

Box	Lead rings: AIK - C.13.G	Lead rings: Flanged	Cu17	Cu18	Cu19	Copper Nails	Copper Tacks	C1-C7, Pb11
Date	18/04/17	18/04/17	18/04/17	18/04/17	04/08/17	18/04/17	18/04/17	18/04/17
RH reading (blue strip)	60%	50-60%	30-40%	30-40%	40%	50%	20%	30%
Observations	2 of 2 silica gel bags unchanged	2 of 2 silica gel bags unchanged	2 of 2 silica gel bags unchanged	2 of 2 silica gel bags unchanged	2 of 2 silica gel bags changed considerably	2 of 2 silica gel bags unchanged	3 of 3 silica gel bags unchanged	3 of 3 silica gel bags unchanged
Actions	none - potentially reassess RH at end of May	none - potentially reassess RH at end of May	none	none	none	none - potentially reassess RH at end of May	none	none

Fig.8: Table displaying the relative humidity readings and observations from each box containing copper alloy and lead objects after rehousing within the Storeroom at Kyrenia Castle (Table courtesy of Veronica Ford 2017)

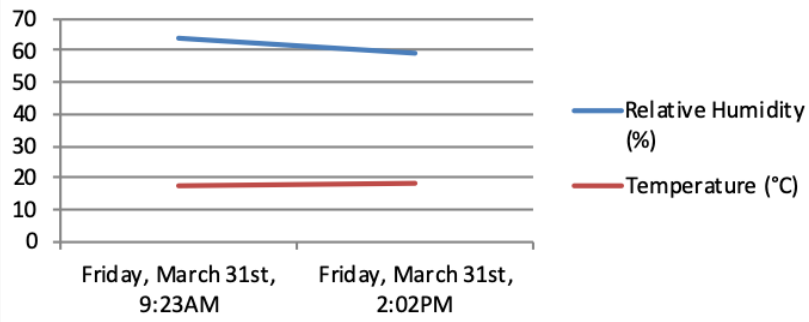
During the visit of Kyrenia Ship Project members Robin Piercy and Helena Swiny in April, a top priority was to install air conditioning in the Kyrenia Ship Storeroom at Kyrenia Castle. After assessing the environmental data collected by the TinyTag monitors, the team was keen to ensure improved temperature and relative humidity conditions in the Storeroom to ensure the longevity of the objects. At the end of April, a substantial Mitsubishi unit was successfully installed in the middle of the Storeroom, near the back door and has been working well to stabilize the local temperature conditions since. The full effects of this will be seen and analyzed by the conservators when the environmental data is downloaded from the TinyTag monitors on the 15th May.



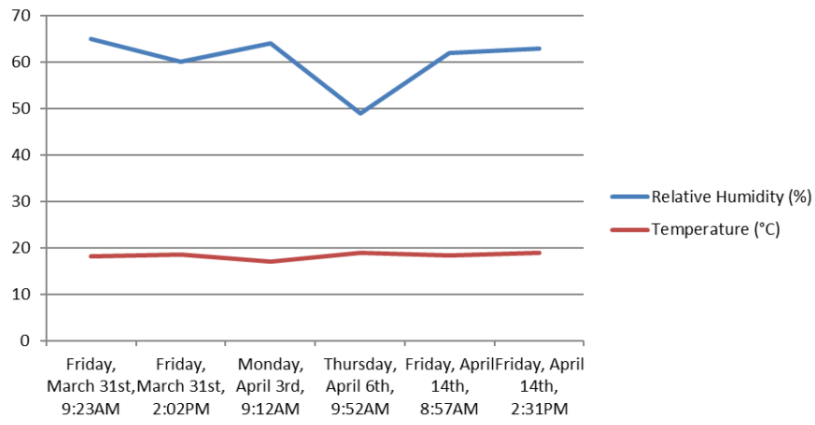
Fig.9: Conservator Cassy Cutulle and Kyrenia Ship Team member Owen Gander with the new air conditioning unit (Photograph courtesy of Veronica Ford 2017)

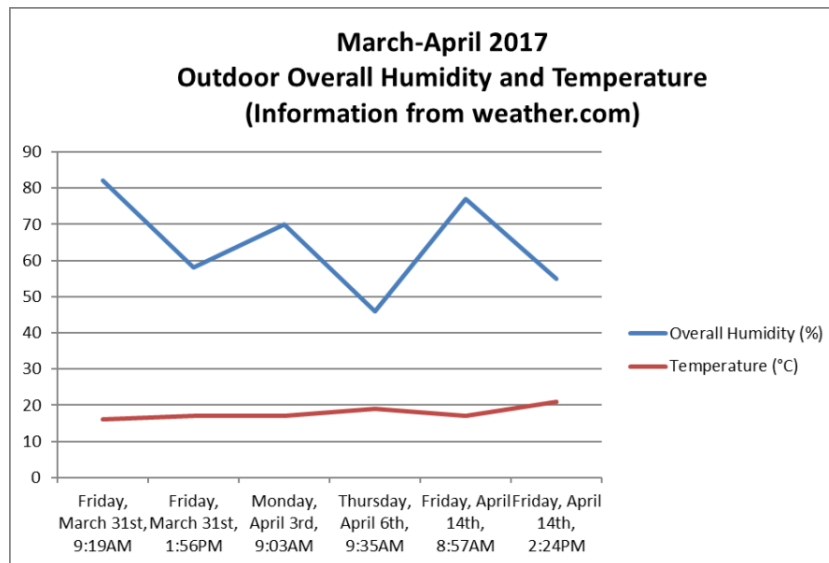
As the first batch of objects was returned to Kyrenia Castle in early April and the second batch has been mostly packaged up for transport in mid-May, the preventive conservation monitoring program at the laboratory in Nicosia is coming to an end. Up until the 14th of April, the conservators continued to log temperature and relative humidity data from the two object store cupboards during the time that objects remained in place. Temperature and relative humidity data was logged at around 09.00am and 02.00pm on Mondays and Fridays where possible, as previously. External conditions were logged using weather.com.

March-April 2017 Indoor Relative Humidity and Temperature Sensor 1, Cupboard 1



March-April 2017 Indoor Relative Humidity and Temperature Sensor 2, Cupboard 2





Figs. 10-12: Line graphs displaying the relative humidity and temperature within the two object cupboards housed in the Conservation Laboratory in Nicosia and the overall humidity and temperature outdoors (Graphs courtesy of Veronica Ford, 2017).

As can be seen above, temperatures rose throughout April, as might be expected as a result of seasonal change as spring progresses. Relative Humidity remained quite high, but began to see a gradual decline as the conditions became drier and hotter outside. The information from the sensor in cupboard 2, suggests that the objects remained considerably buffered from external conditions, with a much more stable relative humidity and temperature demonstrated.

In addition to logging the temperature and relative humidity in the laboratory, the conservators also examined the pest traps one final time. This was particularly interesting to see whether the insect eradication spraying, which was carried out at the end of 2016, had affected local populations. Results, as can be seen in the table below, indicate that there are now very few insects which are harmful to objects in the vicinity. A reduction in silverfish and beetles, when compared with previous months, is particularly notable.

Conservation Laboratory, Nicosia. October 2016 Location	Trap Number(s) and Locations	Length of time	Results: Pests Observed on Trap
Conservation Laboratory, Room 1 (Office Room)	Trap #1: Fireplace Trap #2: On wall next to door	5 Months October 31 st - April 17 th , 2017	Trap #1 - 3 spiders (20mm+), 4 fruit flies, 1 woodlouse (5mm), 1 wood weevil (4mm); Trap #2 - 1 small ant, debris and dust
Conservation Laboratory, Room 2 (Storage space/connecting area)	Trap #3: Next to metal cupboards (on wall with door)	5 Months October 31 st - April 17 th , 2017	Trap #3 - 1 spider (30mm), 1 fly/moth (2mm)
Conservation Laboratory, Room 3 (Lab 1 with Fume Cupboard)	Trap #4: Between 2 windows Trap #5: Near fume cupboard	5 Months October 31 st - April 17 th , 2017	Trap #4 - 4 spiders (10mm-30mm), 1 woodlouse (10mm), 1 fruit fly (1mm); Trap #5 - 5 spiders (10mm-15mm), 3 woodlice (5mm-10mm)
Conservation Laboratory, Room 4 (Lab 2 with adjoining bathroom)	Trap #6: Near object cupboards Trap 7: Near large sand tray	5 Months October 31 st - April 17 th , 2017	Trap #6 - 3 spiders (3mm-15mm); Trap #7 - 4 spiders (3mm-15mm), 2 fruit flies (1-2mm), 2 flies/moths (3mm), 1 ant (3mm), 1 woodlouse (2mm)

Fig. 13: Table displaying the insect populations observed within the pest traps at the conservation laboratory at Nicosia (Table courtesy of Veronica Ford, 2017).

Remedial Conservation Tasks

During the course of April, the focus of work has shifted away from remedial tasks in the conservation laboratory in Nicosia as increased focus has been placed on ensuring long term rehousing of the collection at Kyrenia Castle. However, with the metal treatments now complete, work continued on the remaining ceramic objects for restoration P15 and P21 when time allowed. Veronica is continuing to sand and finish the large fill on P21, and Cassy continues to build up the challenging area for fill on P15. It is envisioned that both of these objects will be completed over the course of the next few weeks.



Fig. 14: Photograph of conservator Veronica sanding the plaster fill for object P21 (Photograph courtesy of Cassy Cutulle, 2017).

May 2017: Projected Work Plan

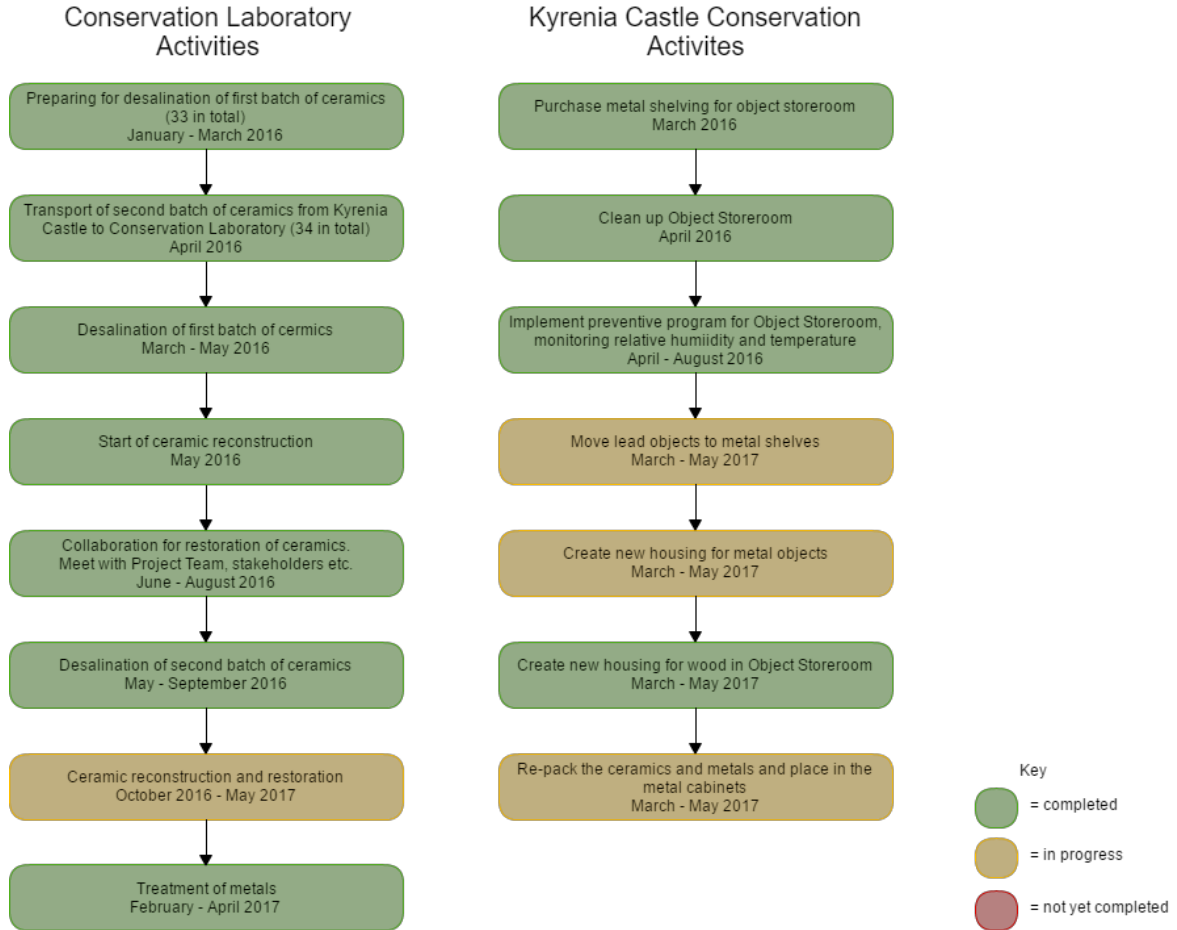


Fig. 15: Flow chart displaying the activities to be undertaken by the conservators for this Project and the progress made thus far (Flow chart courtesy of Veronica Ford, 2017).