The Alice Mutton Bequest, awarded by the QMUL Expedition Fund Committee, supported a two-part expedition that comprised: (a) participation at the Freshwater Ostracods Training Workshop held at Malham Tarn Field Studies Centre in the Yorkshire Dales National Park and (b) undergraduate dissertation fieldwork conducted at a palaeo-lake basin exposure site at Marks Tey, Essex.

**Freshwater Ostracods Training Workshop (Yorkshire Dales National Park)**

Upon arrival at the Malham Tarn Field Studies Centre for the start of the workshop, we were greeted by the serenity of Malham Tarn as shown in Figure 1.

![Figure 1: View of Malham Tarn from the Malham Tarn Field Studies Centre](image)

As part of the training, living ostracod specimens would be collected from several locations surveyed and mentioned by Fryer (1993) in his publication, *The Freshwater Crustacea of Yorkshire: A Faunistic and Ecological Survey*. 
Early next morning, we started along a segment of the Pennines Way Trail and chanced upon our first potential collection site where there were muddy puddles of stagnant water as shown in Figure 2.

**Figure 2**: Professor David Horne (left) and Dr. Ian Boomer (right) closely observing the puddles of muddy water for ostracods that were visible, especially for the occurrence of *Herpetocypris reptans*, an ostracod species that is large enough to be seen in – situ without the need to use hand lenses.

Further down the trail, we found evidence of an outlet stream 'disappearing' underground, where the water would emerge beneath the iconic Malham Cove further downstream where we were headed next. As we moved on, the presence of water seepage outflowing from adjacent cliffs drew the attention of many participants of the workshop, who felt that these were potential habitats for various ostracod species as shown in Figure 3. Not long after, we arrived at the limestone pavements atop Malham Cove as shown in Figure 4, a magnificent limestone formation that is now a relic of a former waterfall discharging vast quantities of meltwater from retreating glaciers during the waning stages of the Last Ice Age. The cove was recently featured in the movie, *Harry Potter and the Deathly Hallows (Part 1)*.
Figure 3: Training workshop participants sampling spring outflows along the trail as we were walking towards Malham Cove.

Figure 4: Limestone pavements atop Malham Cove.

It is also interesting to note that although Malham Cove is usually dry as shown in Figure 5, attributed to a complex and intricate network of subterranean caves and waterways diverting water away, it became a temporary waterfall following Storm Desmond in 2015, which brought record amounts of precipitation to the area.
Following that, we returned to Malham Tarn for sample collection at the lake, before concluding the day with some laboratory microscope work. For myself, it was my very first time looking at live ostracods and I was certainly thrilled to spot some on my first attempt as shown in Figures 6 and 7! The micropalaeontological experts within the group also confirmed that there were different species present in the samples we collected, some were also not listed by Fryer (1993) himself.
Undergraduate Dissertation Fieldwork (Marks Tey, Essex)

My dissertation research involved the reconstruction of Middle Pleistocene (Marine Isotope Stage 11) palaeoclimatic and palaeoenvironmental conditions at Marks Tey, a former inland freshwater lake. Sediment samples were retrieved from exposures at the site. For my first trip there, I accompanied Ms Anna March, a PhD student supervised by Professor Horne who was working on the site and helped her with the cleaning of the upper sections of the exposures as shown in Figure 8.

Over the course of several trips to the site, we worked on my own research, guided by Professor Horne and Anna.
On one of the days, we were also fortunate enough to be able to assist Anna with coring work as shown in Figure 9.

Concluding Remarks

I would like to express my sincerest gratitude to the QMUL Expedition Fund Committee for this generous funding, which has certainly provided me with much essential financial support that has enabled me to participate in these enriching activities detailed above. This expedition has benefitted me tremendously and the knowledge I’ve gained would definitely inform my own undergraduate dissertation research.