

MASTS – Post Doctoral and Early Career Researcher Exchanges Fellowship

Final report – Thomas Linley

Host Institution: University of Hawai'i at Mānoa – Professor Jeffrey C. Drazen

Background

During a highly publicised research expedition, members of University of Aberdeen's Oceanlab were part of an international team (HADEEP), which discovered two new species of snailfish (Liparid) in the Mariana Trench. One of the species responded well to baited traps (Figure 1) and 38 specimens were recovered.

Funding was sought from the MASTS consortium in order to allow Thomas Linley to travel to the University of Hawaii and work in the lab of Professor Jeffrey C. Drazen on the description of this apparently new species. David L Stein (the world's leading expert on liparids) and fellow PhD student Makenzie Garringer (UoH) who also took part in the expedition. In addition to the processing of the samples and preparation of the manuscript Thomas would also be the illustrator.



Figure 1: The new Mariana snailfish gathering at the baited lander.

Completed outputs

All specimens were successfully processed during the time that the team was together and confirmed that this was indeed a new species. Dr Stein mentored Thomas Linley (UoA) and Makenzie Garringer (UoH) during the description of this new species. Dr Stein passed on a great deal of experience on the morphological taxonomic method, a skillset that is rapidly being lost in the scientific community. A first draft manuscript of the description paper was prepared.



Figure 2: Preserved specimen of the new species.

Due to their fragile nature and high water content the hadal snailfish preserve very poorly (Figure 2), making illustration a challenge. Through photographic techniques, review of the *in situ* vide and discussion with other members of the team, illustrations were prepared by Mr Linley of the key morphological features of this new species.

Future outputs

A description paper has been completed however the closely related species found within the Kermadec Trench is currently being redescribed by Dr Stein. As the Kermadec species is used for comparison during this paper it will be submitted first. Both papers should be submitted and published within 2016.

Once published the illustrations will be publically available and Mr Linley will be able to publicise this work to hopefully stimulate future work as a biological illustrator. This work will also contribute to Mr Linley's PhD thesis.

Benefits to the MASTS community

Mr Linley presented this work at the MASTS 2015 ASM as the presentation "A newly discovered hadal liparid (Pisces: Liparidae) from the Mariana Trench" and also gave an interview for MASTS Vidcast series: [Discovering Deep Sea Fish with Thomas Linley](#). The skills obtained during this project contributes to the wide diversity of skills within the MASTS members, strengthens its link to other institutions and highlights that MASTS areas of study and collaboration extends well beyond Scotland.

Award Expenditure (GBP)

Airfare:	860
Accommodation:	620
Transport:	125
Subsistence:	600
Total awarded:	2,205