Natural Talent Case Study Template

Name; Christopher Jones

Age; 29

Traineeship; Marine Diatoms

Dates of traineeship; 19/01/2015 – 18/01/2016

About your traineeship

Can you give an overview of your Natural Talent UK traineeship? (What organisations are you placed with/type of work you will be involved in?)

My Traineeship is based at the World Museum Liverpool and I will be focusing on the taxonomy of Diatoms. Diatoms are aquatic, photosynthetic microorganisms that are very distinctive in appearance; they produce wonderful patterns in their cell walls, making them one of the most impressive organisms in the natural world. They are globally important as a primary energy source for aquatic systems and play a very important role in global carbon cycling; they are responsible for roughly 20% of global photosynthetic fixation of carbon (a greater contribution than the entire world's rainforests).

During this traineeship I will develop skills and knowledge of Diatom identification, taxonomy, ecology and biogeography. I will undertake fieldwork and engage with the community through citizen science by setting up a long term monitoring project. We hope to inspire 100 local champions to actively take ownership of the local shore-line in order to protect its biodiversity.

Why did you apply for a Natural Talent traineeship?

I studied Environmental Science and became fascinated by the diversity of life around us. I studied bacterial communities at marine hydrothermal vent systems for my final year project, which opened my eyes to the sheer scale of it all!

Over the last few years I have developed a passion for taxonomy, without which there would be chaos. It allows us to make sense of the world around us and underpins all biological research by providing order and consistency. This traineeship offers me the opportunity to develop taxonomic skills in a completely new area and to share what I learn with local communities. The facilitating of research and the sharing of knowledge has been a large part of my career to date and I have found it to be most rewarding. I hope to inspire others to wish to better understand the natural world around us.

What kind of employment were you in before undertaking a Natural Talent traineeship?

Most recently I have been working at the Royal Botanic Gardens, Kew. I have been digitising the Herbarium collection, a very noble task! The Herbarium is home to over 8 million plant specimens that have been flattened, dried, mounted on archival paper and stored in the cupboards you see behind me in the picture above. The project I have been working on provides baseline biodiversity data and improves access to the collection online; making it quite an effective research and educational tool for a global audience. Prior to Kew I worked in a Research and Development lab at Unilever, investigating ways to improve the recycling of water from factory processes of laundry liquid production.

What voluntary experience had you done prior to your traineeship?

Kew has provided me with ample opportunity to work on different projects in a voluntary capacity.

I have been contributing to the eMonocot project by building and illustrating online keys. This form of key is flexible and allows users to identify a plant easily (or at least suggest strong candidates) even if certain characters are missing – a drawback to printed keys unless you are familiar with the taxonomic group. I have worked with African specialists to identify material from collecting trips and I have been involved in a grassland restoration project, a demonstration of the importance of species ratio in seed mixes to produce an acid grassland community.

With the Wildlife Trusts of Cheshire and Lancashire I carried out Water vole and Otter surveys, and habitat maintenance work, removing invasive species.

What are you most looking forward to during your traineeship?

I am looking forward to moving back to Liverpool, as I have been away for nearly five years. I am excited by the prospect of developing expertise in such a large and globally significant taxonomic group, sharing what I learn and putting what I learn into practice.

What skills do you anticipate this traineeship will give you?

This traineeship has so much to offer. I will develop skills in data analysis, methodological development of biodiversity indicators, taxonomic principles, community engagement and citizen science. I will receive training in identification, specimen preservation techniques (for voucher specimens), and ecological surveying, analysis and monitoring.

How do you feel your traineeship benefits the conservation sector in the United Kingdom?

Taxonomic skills are essential to the conservation sector; the key to conserving anything is first to determine what “it” is. Taxonomy is about understanding differences, describing boundaries of groups and pinning names to species. It allows us to find out how many different species there are, understand their distributions, relatedness and evolutionary history.

Diatoms form the base of most aquatic food webs. Changes to their populations can have a disastrous effect on the health and well being of our seas, lakes and rivers. They are highly sensitive indicators of environmental change and are used extensively in routine environmental monitoring of watercourses. This is only made possible by understanding their taxonomy. It is difficult to stress enough the value in gaining as much understanding in this field as possible.

What career path do you see yourself pursuing and how will this experience help you?

Taxonomy is a wonderful area of study, and greatly underfunded. It is a field in which you continue to progress throughout your career, forever gaining knowledge and experience with seemingly no limit. Although a career in taxonomy is unlikely, the relevant skills I acquire during this traineeship will be valuable in environmental consultancy and could open the door for further research or study. But this project will also provide me with a wealth of invaluable experience that could lead into a career in the conservation sector in general.