Taxonomy & Systematics Plenary Programme 11th September 2014

Who needs taxonomists? Articulating future needs

10:30 – 11:00 Tea and coffee reception in the Library

11:00 – 11:10 Professor David Cutler
Welcome and introduction to the day

SESSION 1

11:10 – 11:30 Dr Tammy Horton (National Oceanography Centre, Southampton)
The petroleum industry in deep water? Environmental surveys and taxonomy in the deep sea
As part of the EIA process, the petroleum industry conducts environmental baseline surveys which frequently include samples of seabed fauna. Many specimens taken during deep-sea surveys are new to science. Our understanding of the ecology of new deep-water areas is limited by a shortage of taxonomists, and by poor curation of industry-collected samples. I will provide examples of our work with industry to provide guidance for best practice in curation of deep-water survey samples. The petroleum industry is contributing to a legacy of global deep-sea samples to be used by current and future generations of taxonomists and ecologists.

11:30 – 11:50 Dr Robert Bradburne (DEFRA)
Understanding Nature's Value: Taxonomy and the work of Defra
I will describe Defra's current policy priorities and our strategic evidence requirements as set out in the new Evidence Strategy. I will then provide some examples of where taxonomy is relevant to our ongoing work and plays a part in meeting our national and international objectives. I will finish with some thoughts on future directions and the constant drive for innovation.

11:50 – 12:10 Dr Keith Porter (Evidence Access and Mobilisation Lead, Natural England)
Making the right decisions: species and nature conservation
Species lie at the heart of nature conservation and being confident about the identification of a plant or animal is critical to this topic; we routinely use the status of wild species as a surrogate for health of the natural environment. The reduction of formal training in species recognition has had a significant impact on organisations that depend on identification skills.

An analysis of what information is needed, and who collects it, provides an insight into future priorities for species data. Actions being taken include increasing the skills and approach of those collecting data, and looking to use new molecular technology to support identification.

12:10 – 12:30 Professor Joanne Porter (Associate Professor Marine Biology, Heriot Watt University)
From Taxonomy to Taxol

12:30 – 12:50 Dr Peter Mertens (BBSRC Pirbright Institute)

Virus Taxonomy, Making Sense of the Multitude

I will discuss how we identify certain viruses, using sequencing phylogenetic analyses and databases, to detect and identify specific virus species, serotypes and strains, as diagnostic methods for specific diseases, and as a basis to inform control strategies. I will use bluetongue virus as a model and refer to the latest outbreaks of BTV-4 in the Mediterranean region, and the threat of their spread to northern Europe and the UK.

12:50 – 13:10 Dr Alistair Griffiths (Director of Science, RHS Garden Wisley)

Why Horticultural Taxonomy Matters

Cultivated Plant Taxonomy facilitates trade valued globally at more than US$17 billion annually. Horticultural Taxonomy provides essential knowledge that contributes in many ways to the sustainability of our planet and is a pivotal but often hidden service used by gardeners, practitioners and scientists in agriculture, conservation, design and heritage, the environment, forestry, horticulture, plant breeding, media and trade. Horticultural Taxonomy will play an increasing role in informing government policies and in addressing global challenges such as managing pests, improving human, animal and plant health, responding to climate change, conserving biodiversity and our environment and reducing the use of natural resources.

13:10 – 14:00 **Lunch**

Sandwiches/fruit/cold and hot drinks provided

SESSION 2

14:00 – 14:20 Monique Simmonds (RBG Kew)

14:20 – 14:40 Max Wade (Chair of Steering Group for the Ecological Skills Research Project, CIEEM)

Species identification and professional ecologists and environmental managers: nurturing a sustainable symbiosis

A large proportion of the work undertaken by professional ecologists and environmental managers is underpinned by the correct identification of plant and animal species. This is achieved in five main ways:

- *their ability to identify a given species correctly*
- *their training by experts in species identification*
- *the affirmation by or involving experts in species identification that they are able to correctly identify a given species*
- *species identification by experts commissioned by ecologists and environmental managers*
- *provision of reliable databases of species information, primarily distributional, for ecologists and environmental managers.*

Informed by CIEEM's Ecological Skills Research Project, the presentation identifies key ways in which the role of the expert in species identification can be developed in these areas as an essential resource which has monetary value and the role that CIEEM could have in this process. This should help to sustain these experts to inform industry and government with respect to describing and making correctly informed decisions about biodiversity.

14:40 – 15:00 Sue Townsend & Dr Rich Burkmar (FSC)
Who are the Trainers? Where are the ID Resources? Solutions for Field Identification and Taxonomy from one environmental charity

15:00 – 15:20 Professor Alfried Vogler (Imperial College, Taxonomy & Biodiversity MSc course director)

15:20 – 15:40 Professor Geoff Boxshall (NHM)

SESSION 3

15.40 – 16.40 **Open discussion**
Chaired by Professor Geoff Boxshall to address funding issues with contributions from representatives from BBSRC and NERC

16:40 – 16:50 Paolo Viscardi
Natural History Near You - Putting Collections on the Map
Natural history collections provide a valuable resource for researchers, recorders, educators and artists. However, the dispersed and often local nature of collections can make finding them a challenging task.

The Natural Sciences Collections Association is working to increase awareness of and access to collections through the Natural History Near You project. This takes a crowdsourcing approach, using freely available Google systems to build a database and map of collections in the UK with top-level information provided by the wider natural history community. This provides a simple system to collect and share useful information, which is intended to provide the basis of a more detailed system in the future.

16:50 – 18:00 **Wine Recpetion**