

Session 6803213. Modern challenges of classic taxonomy: how to connect and keep catalogues up to date

Abstract

Global Taxonomic Database of Gracillariidae www.gracillariidae.net – a machine-human teaming taxonomic service system, updatable in real time

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Global taxonomic catalogues are essential resources for biodiversity assessment. Even though taxonomy is probably one of the most classical disciplines for which fundamentals were set in the works of Aristotle, nevertheless, as a science, it develops rapidly together with immense biodiversity discoveries, society's need to know the living world, and the advantages of technology. In recent years, the World Catalogue of Gracillariidae (Insecta) has undergone a fascinating transformation from a human-readable book, later an online platform, to a human-machine/machine-machine teaming system www.gracillariidae.net, updatable in real time. New technologies equipping taxonomy of insects with the modern diagnostic possibilities for visual, DNA, and behaviour data challenge the community of users with constant changes in species names and current species concepts. A species name is a fundamental global communication unit for all Life Sciences disciplines as well as for governmental legal documentation and decision making. In our presentation, we shall suggest a well-tested solution on how a small human-technology-assisted team provides human and machine-readable biodiversity data that are updatable in real time. We shall demonstrate the intelligent way we code the names of taxa and their taxonomic position, so the latest changes in synonymy and higher hierarchical position (genus, tribe, subfamily and family levels) are followed with easy adaptations. We address the user's need to present a world taxonomic database of Gracillariidae www.gracillariidae.net as a multi-searchable visual system with interlinked structured information on the original publication, types, their depository, type locality, distribution, host plants, DNA data accompanied with the sources of information and a huge visual gallery of verified photographs of diagnostic importance. We advocate for interlinked data with other Global initiatives such as [GBIF](#) and [ChecklistBank](#), so our global Gracillariidae taxonomy is synchronised, up-to-date, reliable, verifiable, and resistant to specialist and public scrutiny.

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