

INC-STEP - General Progress Summary

Please provide a public summary of the progress of the project (the summary will be used in dissemination activities by TETTRIs on the 3PP):

Summary Requirement	Description
Context and overall objectives	<p>Reference collections are curated sets of specimens in museums or research institutions that are essential for the identification of animals and plants. Reference collections may contain the definitive examples used to describe and name species, and are critical for taxonomists, by providing a reliable standard for identifying and comparing species, and also for environmental scientists and practitioners interested in researching and conserving nature.</p> <p>INC-STEP aims to create a comprehensive reference collection for six groups of pollinating insects in Spain. By tapping into the thousands of insect specimens stored in scientific collections, the project will establish a national reference collection to support identification of pollinators. This initiative will combine the expertise of taxonomists with advanced technologies, making the collections more accessible to researchers and the public alike. By facilitating the reliable monitoring and conservation of pollinators, the project will contribute to the sustainability of nature and food security.</p>
Work performed and main achievements	<p>INC-STEP focuses on more than 400 Spanish pollinator species from two families of butterflies, a subfamily of hoverflies, and three bee genera. Since the kick-off meeting (January 2024), we have coordinated the organisation, validation and digitisation of collections for the six taxa across our five partner institutions, to transform them into an accessible and fully validated reference collection.</p> <p>INC-STEP began by using the latest taxonomic research to build an accurate reference database for all species from these taxa occurring in Spain. Following this, we focused on verifying the identification of specimens. Working together, we have rationalized procedures and undertaken training to facilitate expert ID, including digital photography of entomological boxes for pre-screening by taxonomists, and development of protocols for transfer of sensitive material between collections. This has allowed our expert taxonomists and curators to organise and catalogue over 39,000 specimens and validate their identification.</p>
Outlook for the remaining activities in the project	<p>The authenticated data from our collections is now being converted into accessible digital formats, ensuring they can be shared and used by researchers and the public. Data gaps will be analysed and filled to enhance the reference collection, and a survey of public institutions holding insect collections is being prepared, alongside a tool to gather data on private insect collections. Concurrently, we will explore challenges imposed by different collection sizes, staff capacities, and levels of documentation or taxonomic difficulty. This will allow us to develop contingency plans to increase the reliability and accessibility of the collection, including digital images and identification keys to share information online. To enhance public uptake, the resources and tools will be presented in a workshop for stakeholders, obtaining feedback about their usefulness. We will also hold a wild bee identification training course, for the next generation of taxonomists, curators, collections managers and citizen scientists.</p>
Images attached to support the summary for publication	INC-STEP team. Kick-off meeting, Madrid



Rob Wilson talk. Kick-off meeting, Madrid, January 2024



Training in photography, in "Captura Digital" course, Pamplona. March 2024



INC-STEP team. Protocol Workshop in Pamplona, March 2024



Preparation of material for transportation and transport from Valencia to Madrid (several steps)





Arriving to Madrid



Revision of *Bombus* in MCNB (Óscar Aguado and Helena Barril), Barcelona, October, 2024



MCNB *Bombus* mixed box, before revision



MCNB *Bombus terrestris* box, after revision by Óscar Aguado and Helena Barril



Dissemination activity. Education and training event: Rob Wilson in the Pint of Science event. Madrid, April 2024



Dissemination activity. Rob Wison and Celia Santos in RNE for recording the interview in the “A hombros de gigantes” program. RNE Prado del Rey studios, Madrid, May 2024



Dissemination activity. Conference: Marina González Cristóbal & Lorena León Rodríguez. “¿Cuánto cuesta formar una colección de referencia? El proyecto INC-STEP (TETTRIs)”. VII Jornadas de la Vicedirección de Colecciones y Documentación. Madrid MNCN. October 2024



! This general progress summary should not contain any confidential information as it will be shared publicly!