



The National Biodiversity DNA Library: an authoritative DNA reference library for Australia's species.

Nerida G. Wilson (CSIRO Environomics Future Science Platform/National Collections and Marine Infrastructure, Crawley); Olly Berry (CSIRO Environomics Future Science Platform, Crawley); Stephen Bent (CSIRO Environomics Future Science Platform, Dutton Park); Troy Denyer (CSIRO Information Management and Technology, Clayton); Anna Kearns (CSIRO National Collections and Marine Infrastructure, Black Mountain); Todd McLay (CSIRO Environomics Future Science Platform/National Collections and Marine Infrastructure, Parkville); James Nicholls (CSIRO National Collections and Marine Infrastructure, Black Mountain); Leonardo Tedeschi (CSIRO Environomics Future Science Platform/National Collections and Marine Infrastructure, Parkville); Jesse Wallace (CSIRO Environomics Future Science Platform/National Collections and Marine Infrastructure, Parkville); Mark Wallace (CSIRO National Collections and Marine Infrastructure, Black Mountain); Claire Yang (CSIRO National Collections and Marine Infrastructure, Black Mountain); Andreas Zwick (CSIRO National Collections and Marine Infrastructure, Black Mountain); Jenny Giles (CSIRO Environomics Future Science Platform/National Collections and Marine Infrastructure, Parkville).

Molecular identifications are becoming more widely utilised, and in some cases are the only useful method available (e.g. for specimens that are damaged, modified or represent life stages without diagnostic morphology). This is also intensified by the steep uptake of eDNA applications. While these techniques are potentially powerful, the interpretation of these data is limited by the reference databases that DNA sequences are compared to. CSIRO is developing partnerships with the collections community to create comprehensive and reliable genetic data to enable high-integrity DNA species identifications for all named Australian plants, animals and macroalgae. Working with partners, the National Biodiversity DNA Library (NBDL) will generate data from expertly-identified specimens held in natural history collections to underpin robust molecular identifications. By using specimens archived in collections, identifications can be re-checked and updated into the future. CSIRO has developed a cost effective, highly miniaturised, genome-skimming technology ideally suited to collection specimens. Starting with marine taxa, the NBDL is working in targeted campaigns to generate authoritative sequence data and make these publicly available through a dedicated portal. To achieve this ambitious goal, we are working with collections, philanthropic and research organisations, and the Australian Government, with guidance from taxon-experts and the end-user community.

Nerida Wilson: nerida.wilson@csiro.au