*November 2021*

# The IUCN Species Survival Commission Phylogenetic Diversity Task Force

The IUCN SSC Phylogenetic Diversity Task Force ('PDTF') aims to provide leadership and guidance on the inclusion of phylogenetic diversity (PD) in conservation strategies. The PDTF hereby sets out its principles and ambitions to meet its aim.

***Our Aim:*** The PDTF seeks to promote the importance of conserving phylogenetic diversity, and so the tree of life and our evolutionary heritage, enhancing the understanding and wider adoption of phylogenetic diversity in conservation among conservation practitioners, decision-makers, business, the academic community and the public.

***Our Key Objectives:*** The PDTF seeks to support implementation and provide guidance and advice for practitioners and decision-makers on selecting and using appropriate PD-approaches, and incorporating PD into policy. As part of this, the PDTF has committed to the production of two indicators proposed to the Convention on Biological Diversity. The PDTF also seeks to compile information and identify gaps in knowledge or application of PD-based approaches, and encourage its members and the wider scientific and conservation community to undertake scientific research and conservation applications that will add to the knowledge base.

## Conserving the Tree of Life and our evolutionary heritage

Phylogenetic diversity (PD) measures the evolutionary history captured by a set of species and therefore describes a fundamental aspect of biodiversity; the diversity of features produced by the course of evolution (Faith 1992). The evolutionary tree of life is a storehouse of benefits for humanity, including potential and unexpected future benefits. By conserving PD, we conserve feature diversity (broadly, the full range of different evolutionary features of a set of species) and thus options for humanity. As well as providing potential future benefits (biodiversity option value), the benefits and values of PD may include (but are not limited to) intrinsic value, existence value, proxy value, and insurance value. Yet, existing conservation action is insufficient to safeguard the million species estimated to be threatened with extinction, so it is essential to consider how we can effectively direct our limited resources to ensure we are truly conserving the diversity of life. Although there is a growth in application of PD in conservation, and IUCN Resolution 19 (2012) calls for "halting the loss of evolutionarily distinct lineages", there is a need to improve the general understanding of PD in the wider community.

## Phylogenetic Diversity approaches

The PDTF recognises that there are a wide range of PD-approaches to conservation prioritisation provided by various PD-based calculations and is particularly engaged with two high profile applications of PD: the expected loss of PD (ExpPDloss) ; and the EDGE (Evolutionarily Distinct and Globally Endangered) approach. ExpPDloss is used by IPBES as a key indicator for Nature's Contributions to People and represents the maintenance of options from biodiversity for future humanity and nature, for present and future generations. The EDGE approach represents the current primary practical methodology to apply PD to conservation. The EDGE lists produced by the Zoological Society of London, identify priority EDGE species that are threatened with extinction with few or no close relatives on the tree of life. EDGE species are those which disproportionately represent threatened phylogenetic diversity and represent opportunities to avert the loss of entire branches of the tree of life by prioritising their conservation. In particular, the expertise and guidance provided by the PDTF will be essential in conveying the importance of conserving phylogenetic diversity and consequently the tree of life to major conventions (starting with the CBD, but also CITES, CMS, Ramsar), governments, and the public.