

The dark phase of biodiversity

‘Biodiversity’, one of the most searched words across the globe, tells us about the diverse life forms and their relations with each other. There are different ways to measure, evaluate and monitor biodiversity in a place. These measurements inform us about the organisms present in a place (be it plants, animals or microbes), how do they survive against different adverse conditions and how beneficial they are. In recent years, the term ‘dark diversity’ is raising interest among researchers, which actually sheds light on invisible but integral part of diversity in any place. What does invisible mean here? How the term ‘dark diversity’ is associated with that? Let’s get some idea. Suppose, a particular habitat is under biodiversity investigation (eg. forest, wetland, grassland or mountain) and a careful inventory of the study area produces a check list of species. However, apart from these visible entities, there is a probability of having other members in the system which are not



available at the time of study due to many reasons. The existence of these apparently invisible members can be ascertained by studying the species co-occurrence pattern in other area, species ecological requirements, and historical data. Therefore, both visible and invisible spectra of species constitute the ‘complete species pool’ of that particular habitat. The name ‘Dark Diversity’ is associated with cosmological concept of Dark matter, which is invisible but an integral part of planetary system and without which the system cannot be conceptualised. Dark diversity is important for practical purpose too, the concept is particularly useful for change detection in biodiversity and restoration planning for certain habitat. So, dark is meaningful, at least for biodiversity.

Source: Partel et al. (2011) Dark diversity: shedding light on absent species. *Trends in ecology and evolution*, 26(3):124-28.
Figure: Rajasri Ray

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