Shedding new light on the cryptic world of subterranean fauna: an end-user driven research program

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SYMPOSIUM: Why won't people just listen to me? Integrating ecology into environmental decisions, Hall A, November 28, 2018, 11:00 AM - 1:00 PM

Biography:
Lesley is a Program Director with the Western Australian Biodiversity Science Institute. Lesley was seconded in 2016 from the Department of Biodiversity, Conservation and Attractions where, as a Principal Research Scientist, she led the Science and Conservation Division's Biogeography Program.

Subterranean environments contain a unique and diverse fauna: either aquatic, living in the groundwater (stygofauna), or air-breathing, living in rock voids above the water table (troglofauna). The decision by the Western Australian Environmental Protection Agency in the mid-1990s to recognise subterranean fauna as a factor to be considered in environmental impact assessments highlighted the dearth of information available to make informed decisions. Since then, research in Australia on this group of mainly invertebrates has grown exponentially. However, much of this research has focused on taxonomy, diversity and evolutionary history, and recent reviews have indicated that large knowledge gaps still exist. We know that due to their narrow ranges, high local endemism and poor dispersal capacity, subterranean fauna are vulnerable to local impacts, but the deficiencies in knowledge continue to present challenges. In early 2017, the Western Australian Biodiversity Science Institute was tasked with leading the development of a research program to improve on the current state of knowledge of subterranean fauna. The development pathway applied to this program was one that focused on iterative co-development with a diverse range of stakeholders. The shared vision of this program is to

dramatically improve confidence in assessing likely impacts of resource developments and threat mitigation strategies on subterranean fauna, by transforming our knowledge of patterns and processes in subterranean ecosystems. Here, I present the key challenges as articulated by end users, describe the research program development, and provide a synthesis of the critical knowledge gaps and research initiatives to address these.

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