Why, and how, do we integrate multiple fields in amphibian conservation research?

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Abstract:

The surge in research focused on conservation, along with its novelty factor, has made it an appealing subject of investigation from multiple perspectives. This growing interest has fostered an interdisciplinary approach that has yielded significant innovations, ultimately bolstering efforts aimed at conserving the Earth's biodiversity. However, a critical challenge that confronts us is the need to effectively synthesize and organize research findings in a manner that can exert tangible influence on conservation initiatives. Of particular concern is the decline of amphibian populations, with over 40% of species worldwide now listed as threatened. Analysing the proportion of threatened amphibians within each biome, it becomes evident that East Asia stands out as a hotspot for both biodiversity and species at high risk of extinction. This pronounced trend can be attributed, in large part, to the transformation of wetland habitats into agricultural wetlands primarily driven by rice cultivation. The resulting modifications to the landscape have deleteriously impacted species diversity and abundance in these altered ecosystems. The approach presented here integrates science-based conservation strategies, thereby facilitating a comprehensive understanding of the threats faced by amphibians in East Asia predominantly attributed to landscape transformations driven by agriculture, climate change, and population displacement. This approach relies on a multi-faceted process that encompasses key domains of conservation, including the formulation of mitigation plans, policy recommendations, conservation applications, and monitoring protocols. In doing so, this approach strives to provide robust support for the conservation of East Asian biodiversity while concurrently fostering a sustainable coexistence between humans and other species inhabiting our planet.