

**THE UNIVERSITY OF HONG KONG  
SCHOOL OF BIOLOGICAL SCIENCES**

*Postgraduate Student Public Seminar*

**“THE CULTURAL AND ECOSYSTEM VALUES OF SNAKES IN ASIA”**

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**Room 6N-11, Kadoorie Biological Sciences Building**

**Abstract**

With a broad range of climates, habitats, and biodiversity, the significance of snakes across the societies and ecosystems of Asia are multifaceted. Socio-culturally, these stretch from the reverence of snakes and snake-related deities in South Asia, to the hunting and consumption of, as well as the economic reliance on snakes in Southeast Asia. Ecologically, snakes are important mediators of the adaptive responses and population dynamics of their own prey and predator species. Imminent threats to Asian snake populations, notably environmental change, habitat loss and overharvesting, are therefore sure to indirectly impact other species as well as the livelihoods of communities that depend on snakes.

I applied an integrative approach consisting of empirical experiments, analyses and social surveys across three case studies to explore the varied dimensions of such cultural and ecological processes. I first assessed the attitudes and perceptions towards snakes by local communities throughout the Western Ghats of Southwestern India in the context of snake-deity worshipping in sacred groves. I then surveyed owners and workers of snake soup shops in Hong Kong, as well as genetically analyzed snake meat samples, to inquire about the snake species consumed and their potential geographic sources. On the Izu islands of Japan, I compared the thermal biology of a lizard species according to the presence or absence of its snake predator, and the implications of such differences under recent climatic warming over the past four decades. For the Izu Islands study, I found lizards on snake islands to be warmer adapted than those from snake-free islands, and that this difference persisted despite increases in overall body temperatures across islands according to recent climatic warming. In Southwestern India, I detected a nearly unanimous taboo against the harming of snakes inside sacred groves. Although not as widespread for encounters with snakes outside of sacred groves, I found that the taboo in such cases tended to be associated with snake-deity worshipping. Regarding snake soup in Hong Kong, I genetically identified *Ptyas mucosa*, widely distributed throughout East and Southeast Asia, and *Naja sputatrix*, mostly limited to Indonesia, as the most common species consumed. According to shop owners and workers, snakes were mostly imported from mainland China in the past, but currently tend to be sourced from Southeast Asia, Indonesia especially.

With these three studies, I demonstrate a mechanism through which snakes can affect the response of other species to environmental change on the Izu Islands, showcase the potential significance of cultural beliefs in bottom-up approaches to the conservation of snakes in Southwestern India, and pinpoint Indonesia as a geographic target for evaluating the effects of snake soup consumption in Hong Kong on overseas snake populations. Overall these results reflect the multiple dimensions through which the conservation of snakes matters in Asia, and how it can be sustainably and equitably conducted via context-specific strategies.

--- ALL ARE WELCOME ---