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Conference Abstract

Global perspectives on the management of invasive lizards: bridging science, practice, and policy

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Abstract

Invasive alien lizards are among the most frequently introduced reptiles worldwide, yet their management remains fragmented, underreported, and comparatively overlooked in invasion science. Here, we present the first global, practitioner-informed synthesis focused specifically on the management of invasive lizards, integrating evidence from the scientific literature with the outcomes of an international workshop held in 2025 that brought together 42 experts from 10 countries involved in detection, control, health surveillance, policy, and biosecurity.

Our review shows that introductions are driven primarily by the pet trade and unintentional transport pathways, while impacts extend far beyond simple establishment success. Invasive lizards can disrupt native communities through predation, competition, behavioural interference, hybridisation, and pathogen transmission, with consequences for biodiversity, ecosystem functioning, public health, agriculture, and infrastructure. Management responses are highly context-dependent, but a consistent pattern emerges globally: prevention and early detection and rapid response (EDRR) are far more effective than reactive intervention once populations are established.

A key original contribution of this synthesis is the identification of recurrent barriers that cut across taxa and regions. These include low detectability, high reproductive potential, taxonomic and biogeographic uncertainty, limited availability of species-specific control tools, chronic underfunding, inconsistent reporting of management outcomes, and major socio-political constraints such as public resistance, stakeholder conflict, and legislative misalignment. The review also highlights a substantial implementation gap between scientific knowledge and management practice, with many projects remaining undocumented or poorly evaluated.

By combining global case studies with on-the-ground management experience, this review provides a rare “from practice to synthesis” perspective. We argue that effective invasive lizard management requires a shift towards proactive prevention, stronger governance and pathway regulation, improved knowledge circulation, and closer integration of ecological, health, and socio-economic dimensions within adaptive management frameworks.

Keywords

Invasive alien lizards, Early Detection and Rapid Response (EDRR), Biosecurity, Control, Eradication, Pathway regulation, Wildlife management

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Conflicts of interest

The authors have declared that no competing interests exist.