

1. Record Nr.	UNINA9910677245203321
Autore	Pullaiah T.
Titolo	Invasive alien species : observations and issues from around the world / / editors, T. Pullaiah [and three others]
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley Blackwell, , [2021] ©2021
ISBN	1-119-60703-5 1-119-60704-3 1-119-60701-9
Descrizione fisica	1 online resource (1465 pages)
Disciplina	578.62
Soggetti	Introduced organisms Biological invasions Biodiversity conservation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Volume I -- Title Page -- Copyright Page -- Contents -- List of Contributors -- Chapter 1 Invasive Alien Species: A Prodigious Global Threat in the Anthropocene -- 1.1 Introduction -- 1.2 The Global Significance of the Invasive Alien Species Threat -- 1.3 Steps Along the Journey -- 1.4 Foundations of Invasion Ecology and Management - Origins, Perspectives, and Trajectory into the Twenty-First Century -- 1.5 Reducing Risk and Preventing Invasions - The First Line of Defense -- 1.5.1 A Case for Prevention and Regional Biosecurity -- 1.6 The Second Line of Defense - Early Detection and Rapid Response -- 1.6.1 Predator Free New Zealand - A Community-Based EDRR Program -- 1.7 Global Biological Security and the Threat of IAS Introductions -- 1.7.1 Conscious Integration of IAS Concerns -- 1.7.2 Elevating the Biosecurity Threat of IAS in the Environmental, Business, Health, and Economic Sectors -- 1.7.3 Impact of Climate Change on Invasion by Alien Species -- 1.8 Unification, Collaboration, and Cooperation - A Global Call to Action Against IAS -- 1.8.1 Gaps and Barriers to Surmount Within Existing Structures and Programs to Accelerate Unification, Collaboration, and Cooperation

Against IAS -- 1.8.2 Promoting Innovative Solutions and Technological Advancements -- 1.9 Conclusion -- Acknowledgments -- References -- Chapter 2 Reproductive Traits That Foster the Invasion of Four Alien Plant Species in Botswana -- 2.1 Introduction -- 2.2 Materials and Methods -- 2.2.1 Study Species -- 2.2.1.1 Mexican Poppy (*Argemone mexicana* L.) -- 2.2.1.2 Milkweed [Gomphocarpus fruticosus (L.) W. T. Aiton] -- 2.2.1.3 Prickly Sesban [Sesbania bispinosa (Jacq.) W. Wight] -- 2.2.1.4 Wild Sunflower [Verbesina encelioides (Cav.) Benth. & Hook. f. ex Gray] -- 2.2.2 Study Site -- 2.2.3 Methods -- 2.2.3.1 Mexican Poppy (*Argemone mexicana*) -- 2.2.3.2 Milkweed (Gomphocarpus fruticosus) -- 2.2.3.3 Prickly Sesban (Sesbania bispinosa) -- 2.2.3.4 Wild Sunflower (Verbesina encelioides) -- 2.3 Results -- 2.3.1 Mexican Poppy (*Argemone mexicana*) -- 2.3.2 Milkweed (Gomphocarpus fruticosus) -- 2.3.3 Prickly Sesban (Sesbania bispinosa) -- 2.3.4 Wild Sunflower (Verbesina encelioides) -- 2.4 Discussion -- 2.5 Conclusions and Recommendations -- Notes -- References -- Chapter 3 The Worst Invasive Species to Egypt -- 3.1 *Azolla filiculoides* Lam. -- 3.2 *Bassia indica* (Wight) A.J. Scott -- 3.3 *Bidens pilosa* L. -- 3.4 *Caulerpa taxifolia* (M. Vahl) C. Agardh -- 3.5 *Eichhornia crassipes* (C. Mart.) Solms-Laub -- 3.6 *Ipomoea carnea* Jacq. subsp. *fistulosa* (Mart. ex Choisy) D.F. Austin -- 3.7 *Ludwigia stolonifera* (Guill. & Perr.) Raven -- 3.8 *Persicaria senegalensis* (Meisn.) Sojak (Syn. *Polygonum senegalense* Meisn) -- 3.9 *Prosopis juliflora* (Sw.) DC. -- 3.10 *Solanum elaeagnifolium* Cav. -- 3.11 *Ctenopharyngodon idella* (Valenciennes, 1844) -- 3.12 *Lates niloticus* (L.) -- 3.13 *Procambarus clarkia* (Girard, 1852) -- 3.14 *Gambusia affinis* (S.F. Baird and Girard, 1853) -- 3.15 *Rhynchophorus ferrugineus* (Olivier) -- References -- Chapter 4 Status, Trends, and Scenarios of Invasive Alien Species in Gabon -- 4.1 Introduction -- 4.2 Status of Invasive Alien Species -- 4.3 Trends -- 4.4 Scenarios, Pathways, and Vectors of Invasion -- 4.5 Conclusion and Recommendations -- References -- Web Site Source -- Chapter 5 Invasive Alien Species (IAS) of Ghana -- 5.1 Introduction -- 5.2 Status of IAS in Ghana -- 5.2.1 Types of IAS Found in Ghana -- 5.2.2 IAS Distributions, Ecology, and Assessments -- 5.2.2.1 Invasive Alien Aquatic Plants -- 5.2.2.2 Invasive Alien Terrestrial Plants -- 5.3 Selected Invasive Alien Species: Ecology and Characteristics.
5.3.1 Water Hyacinth (*Eichhornia crassipes*) (Mart) Solms-Laub. (Pontederiaceae) -- 5.3.2 Siam Weed (*Chromolaena odorata*) (L.) King & Robinson (= *Eupatorium odoratum* L.) -- 5.3.3 Fall Armyworm (*Spodoptera frugiperda*) -- 5.3.4 Giant African Snail (*Achatina fulica* Bowdich) -- 5.4 Threats of IAS in Ghana -- 5.4.1 Effect of Invasive Species on Agriculture -- 5.4.2 Effect of Invasive Alien Species on Water Bodies -- 5.4.3 Effect of Invasive Alien Species on Genetic Resources -- 5.4.4 Economic Impact of Invasive Alien Species -- 5.5 Management of IAS in Ghana -- 5.5.1 Physical Control -- 5.5.2 Chemical Control -- 5.5.3 Biological Control -- 5.5.4 Integrated Control -- 5.6 Policies and Awareness Programs in Ghana -- 5.6.1 Policies and Conventions for the Control of IAS -- 5.6.1.1 Ghana Policy Framework -- 5.6.1.2 Implementing Agencies on IAS -- 5.6.1.3 Sensitization and Awareness Creation for IAS -- 5.7 Conclusion -- References -- Chapter 6 Invasive Alien Species in Libya -- 6.1 Introduction -- 6.2 Plant Invasion -- 6.3 Pathways of Introduction of Alien Plant Species -- 6.4 Methods of Management -- 6.5 What Should Be Done About Invasive Alien Plants, and Who Should Do This? -- 6.6 Marine Invasion -- 6.7 Topography and Geography of the Libyan Coast -- 6.8 What Is an Exotic Fish Species? -- 6.9 Origin and Dispersal of Marine Invasive Species -- 6.10 Marine Alien Species Inventory -- 6.11 Impact

of Marine Alien Species on the Libyan Coast -- References -- Chapter 7
Elements for Reflection on Primary Invasive Alien Species (IAS) in
Morocco: Actual and Potential Impacts -- 7.1 Introduction -- 7.2
Nature of IAS in Morocco -- 7.2.1 Terrestrial IAS -- 7.2.2 IAS
of Continental Wetlands -- 7.2.3 IAS of Marine and Coastal Waters --
7.3 Main Reasons for Introducing IAS in Morocco -- 7.3.1 Deliberate
Introductions -- 7.3.1.1 Aquaculture Activities
7.3.1.2 Agricultural Activities -- 7.3.1.3 Silvicultural Activities --
7.3.1.4 Leisure and Gardening Activities -- 7.3.2 Unintentional
Introductions -- 7.3.3 Factors Aggravating the Impact of IAS
in Morocco -- 7.4 Actual and Potential Impacts of IAS in Morocco --
7.4.1 Impacts on the Urban Environment -- 7.4.2 Impacts
on Agricultural (Agriculture and Livestock), Forestry, and Fisheries
Ecosystems -- 7.4.3 Impacts on Human Health -- 7.4.4 Impacts
on Biodiversity and Ecosystem Services -- 7.4.5 Socioeconomic Impacts
-- 7.5 Morocco and the Fight Against Invasive Alien Species -- 7.6
Conclusion -- References -- Chapter 8 Invasive Alien Species of Sierra
Leone -- 8.1 Introduction -- 8.2 Concepts of Invasive Alien, Native,
and Naturalized Species -- 8.3 Analysis of Diversity within Invasive
Alien Species in Sierra Leone -- 8.4 Mode of Introduction of Invasive
Alien Species in Sierra Leone -- 8.5 Impacts of Invasive Alien Species
in Sierra Leone -- 8.6 Management of Invasive Alien Species in Sierra
Leone -- 8.7 Conclusions and Future Prospects -- References --
Chapter 9 Alien Invasive Species in Tanzania -- 9.1 Introduction -- 9.2
Legal Framework and Laws on Invasive Alien Species in Tanzania -- 9.3
Status of Alien Species -- 9.4 Factors Involved in the Spread of Invasive
Alien Species in Tanzania -- 9.4.1 Natural Factors -- 9.4.2 Human-
Induced (Anthropogenic) Factors -- 9.5 Examples of Impacts from IAS
in Tanzania -- 9.5.1 Plants -- 9.5.1.1 Whitetop (Parthenium
hysterophorus) -- 9.5.1.2 Siam weed (*Chromolaena odorata*) -- 9.5.1.3
Tick berry (*Lantana camara*) -- 9.5.1.4 Water hyacinth (*Eichhornia
crassipes*) -- 9.5.1.5 Prosopis (*Prosopis juliflora*) -- 9.5.1.6 Senna
spectabilis -- 9.5.2 Vertebrates -- 9.5.2.1 House Sparrow (*Passer
domesticus*) -- 9.5.2.2 Indian House Crow (*Corvus splendens*) --
9.5.2.3 Nile Perch (*Lates niloticus*).
9.5.2.4 Nile Tilapia (*Oreochromis niloticus*) -- 9.5.3 Invertebrates --
9.5.3.1 Fall Armyworms (*Spodoptera frugiperda*) -- 9.5.3.2 Tomato
Leaf Minor (*Tuta absoluta*) -- 9.5.3.3 Cinara cupressi -- 9.5.3.4
Heteropsylla cubana -- 9.5.3.5 Eucalyptus gall wasp (*Leptocybe invasa*)
-- 9.6 Conclusion and Recommendations -- 9.6.1 Conclusion -- 9.6.2
Recommendations -- Appendix -- References -- Chapter 10 Invasive
Alien Species in Togo (West Africa) -- 10.1 Introduction -- 10.2
Overview -- 10.3 Invasive Alien Plant Species of Togo -- 10.4 Invasive
Alien Mollusk of Togo: The Invasive Giant African Land Snail -- 10.5
Invasive Alien Insects of Togo -- 10.6 IAS Management Strategy in
Togo -- 10.7 Conclusion -- References -- Chapter 11 Invasive Alien
Species in Zambia -- 11.1 Introduction -- 11.2 Alien Animal Invasive
Species and Implications on Ecosystem Management and Integrity
in Zambia -- 11.2.1 The Red-Claw Crayfish (*Cherax quadricarinatus*) --
11.2.2 Nile Tilapia (*Oreochromis niloticus*) -- 11.3 Plant Invasive
Species and Their Management -- 11.3.1 Spanish Flag (*Lantana
camara*) -- 11.3.2 Mimosa (*Mimosa pigra*) -- 11.3.3 Control Measures
for Lantana camara and Mimosa pigra -- 11.3.4 Water Hyacinth
(*Eichhornia crassipes*) and Kariba Weed (*Salvinia molesta*) -- 11.3.5
Mexican Sunflower (*Tithonia diversifolia*) -- 11.4 Legislative Framework
-- 11.5 Conclusion -- References -- Chapter 12 Invasive Alien Species
in Zimbabwe (Southern Africa) -- 12.1 Introduction -- 12.2 Overview
of Zimbabwe -- 12.3 Invasive Alien Species of Zimbabwe -- 12.3.1

Terrestrial Invasive Alien Species -- 12.3.1.1 Invasive Alien Plants --
12.3.1.2 Invasive Alien Insects -- 12.3.2 Aquatic Invasive Alien Species
-- 12.3.2.1 Invasive Alien Plants -- 12.3.2.2 Invasive Alien Fish -- 12.4
IAS Management Strategy and Control -- 12.5 Conclusion --
References -- Index -- Volume II -- Title Page.
Copyright Page.

Sommario/riassunto

"Invasive alien species (IAS), introduced intentionally or inadvertently, are one of the main drivers of global environmental change and cause significant ecological and economic damage. IAS threaten biosecurity, human and animal health, ecosystem services and important social aspects of cultures and communities on every continent. Underserved and marginalized peoples are at great risk from alien species invasions. The issue is a global crisis of enormous proportion and has grown insidiously for decades, exacerbated by the globalization of world economies and increased trade and travel. Globally, the concern for IAS varies greatly from nation to nation, and often lacks the level of conscious proactivity necessary to effectively address the threats before they are insurmountable. This is largely due to capacity limitations for most nations and is aggravated by shortage of funds to implement strategies, lack of policies, and variable levels of public awareness and perspectives on risk. Most importantly, IAS is yet to emerge as a priority issue to tackle for most countries although there are some changes visible now. The spread of a novel coronavirus (COVID-19), has rocketed the global biosecurity issue to a new level of consciousness, and perhaps galvanizing the world about the importance of disease pandemics and demonstrating that the IAS threat has so many parallel aspects of risk and spread. Through this publication, we attempt to compile information for a better understanding of the global threat of IAS, the diverse array of issues resultant of invasion, and considerations by decision makers for management. It shares information from every continent on the planet. We also attempt to provide a variety of perspectives, problems, solutions, and considerations relevant to invasions, and help illustrate how a large portion of world nations, cultures, communities, and organizations are struggling with the same issues as their neighbors do against the IAS threat. It thus becomes necessary to highlight the IAS threat in terms of a global 'call to action' at multiple scales and challenge the world to unify and collaborate at all levels"--