

# Gestire i dati tra ricerca e servizio: *dati su specie aliene invasive*

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Responsabile fauna, ISPRA

Chair IUCN SSC Invasive Species Specialist Group



# Le evidenze scientifiche sulle specie invasive

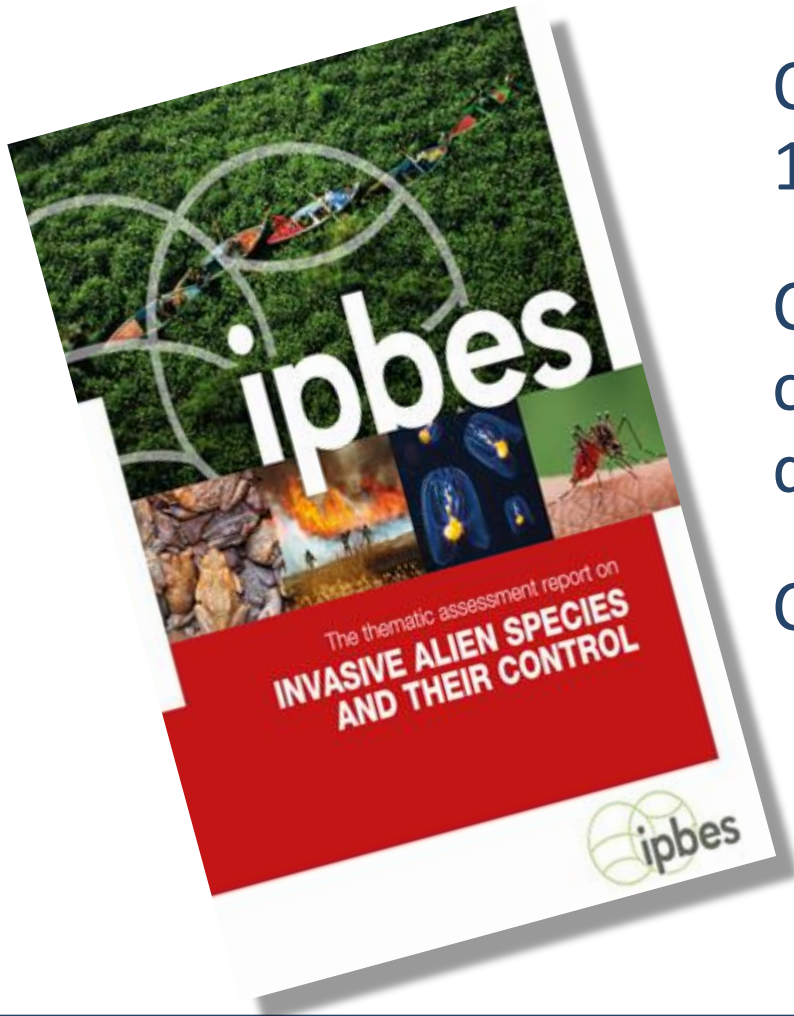
86 autori da 47 paesi, ca 200 contributori

Oltre 13,000 documenti attentamente analizzati (in 15 lingue)

Considerati diversi sistemi di valore, meccanismi di conoscenza, disegni, rapporti, informazioni raccolte da comunità locali e indigene

Coinvolgimento dei popoli indigeni e comunità locali:

- 3 incontri di dialogo (Montreal e online),
- Richieste di contributi
- Collaborazione con rappresentanti delle comunità locali e indigene. Esperti coinvolti nel team e tra gli autori

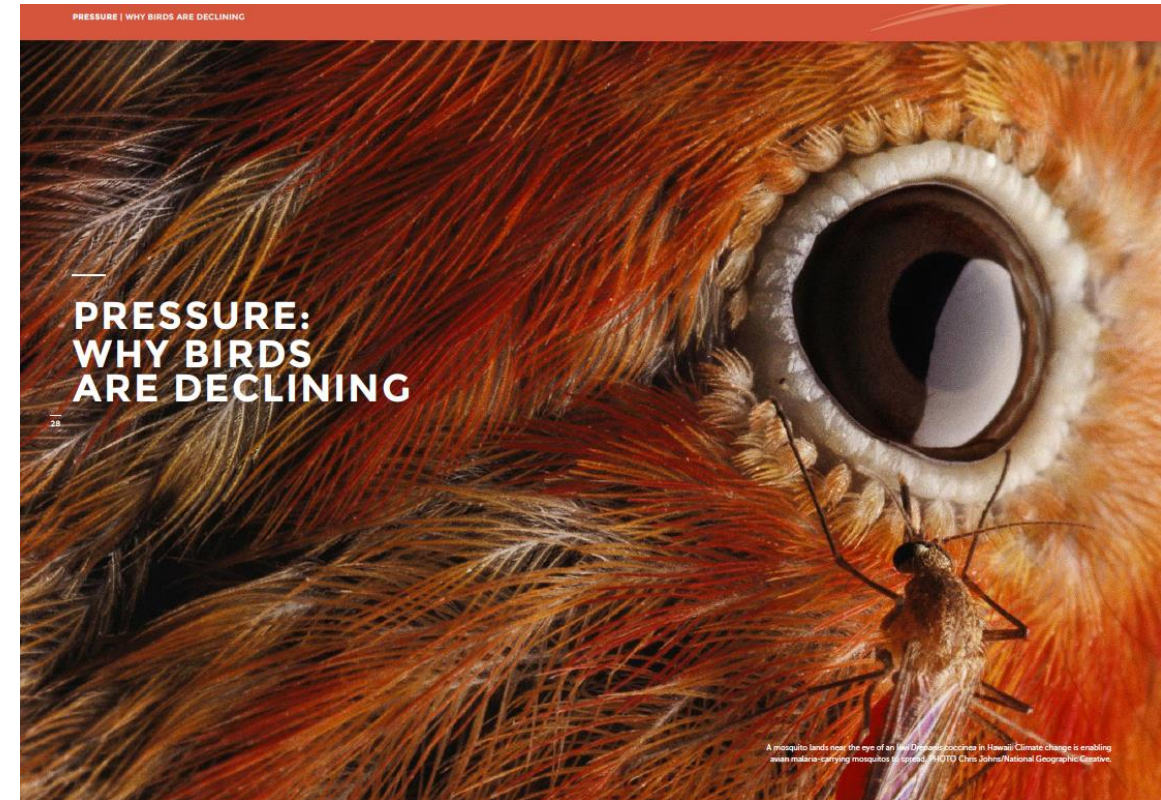


# Causa di estinzione di molte specie

Concausa del 60% estinzioni note


Unico fattore del 16% delle estinzioni


1215 estinzioni locali

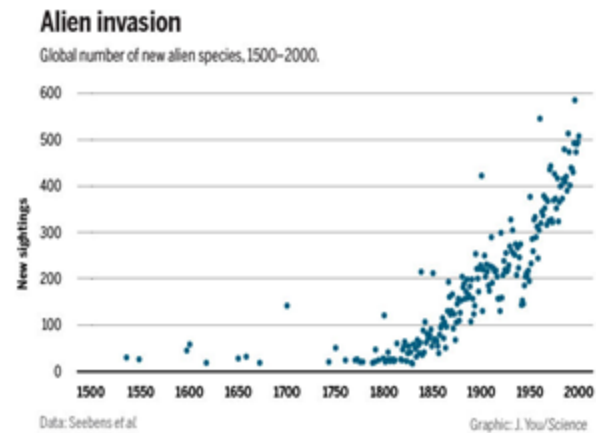
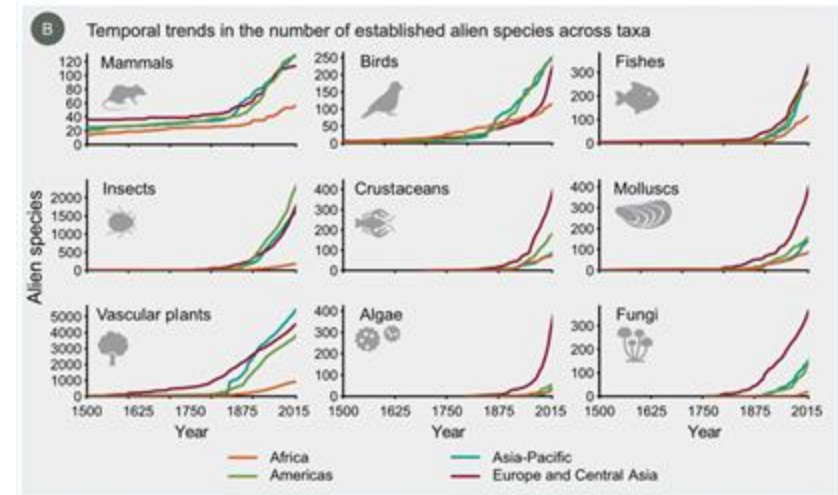


# Minacce in crescita in tutte le regioni del mondo e tra tutti i gruppi tassonomici

 **37%** di tutte le specie aliene note segnalate dopo il 1970

 **200 nuove specie aliene ogni anno** in crescita in tutte le regioni, si prevede continui a crescere nel future

 Senza un cambio di passo si prevede che il numero di specie aliene **aumenterà del 36%** nel 2050 rispetto al 2005.



Seebens H, Blackburn TM, Dyer E, Genovesi P et al. (2017) No saturation in the accumulation of alien species worldwide. *Nature Communications*, 1–9.





# THE BIODIVERSITY PLAN

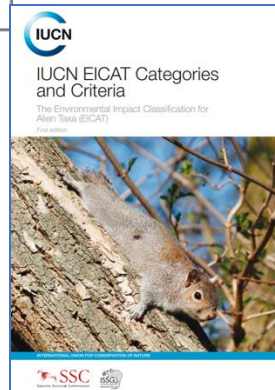
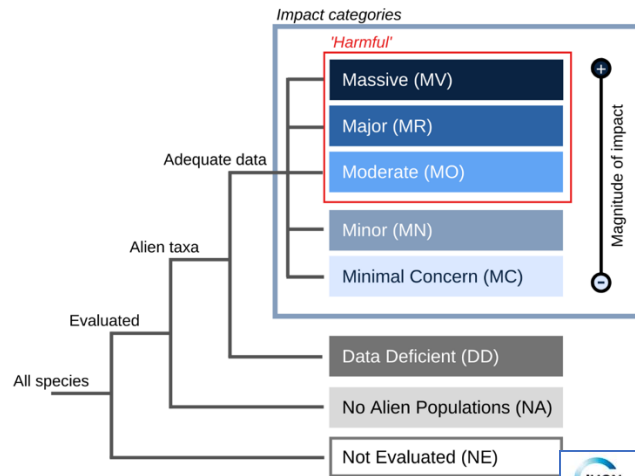
For Life on Earth

## Target 6

*Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, **preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands.***

# Prioritizzazione delle IAS

- Sviluppato metodo EICAT, per classificare il livello di impatto delle IAS



GLOBAL INVASIVE SPECIES DATABASE

HOME ABOUT THE GISD ABOUT EICAT HOW TO USE CONTACTS

The query resulted in 212 species in 22 pages

First Prev 1 2 3 4 5 ... Next Last

**Acacia auriculiformis ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia crassicaarpa ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia cyclops ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia dealbata ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia decurrens ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia holosericea ()**

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

System: Terrestrial

**Acacia longifolia** (acácia, acácia-de-espigas, acácia-de-folhas-longas, acácia-marítima, acácia-trinavés, golden wattle, langblaarwattel, long-leaf wattle, salgueiro-amarelo, sawto wattle, Sydney golden wattle, western yarrow)

YOUR SEARCH CRITERIA

Selected EICAT Cat. NE - Not Evaluated, NA - No Alien Population, DD - Data Deficient, MC - Minimal Concern, MN - Minor, MO - Moderate, MR - Major, MV - Massive

modify your criteria

clear all criteria

DOWNLOAD RESULTS (CSV)

GLOBAL INVASIVE SPECIES DATABASE

HOME ABOUT THE GISD ABOUT EICAT HOW TO USE CONTACTS

100 OF THE WORST

**Hyla intermedia** System : Freshwater\_terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Amphibia	Anura	Hylidae

FULL ACCOUNT (PDF)

EICAT (ENVIRONMENTAL IMPACT CLASSIFICATION FOR ALIEN TAXA)

Not Evaluated (NE) No Alien Population (NA) Data Deficient (DD) Minimal Concern (MC) Minor (MN) Moderate (MO) Major (MR) Massive (MV)

GENERAL DISTRIBUTION IMPACT MANAGEMENT BIBLIOGRAPHY CONTACT

**MV Hyla intermedia**

Italianischer Laubfrosch, Italian Tree Frog, Raganella italiana

DATE ASSESSED 2020-12-05

YEAR PUBLISHED 2021

EICAT CATEGORY MV (Massive)

JUSTIFICATION FOR EICAT ASSESSMENT

The hybridisation between the introduced *H. intermedia* and the endangered *H. arborea* is common in the impacted region (with the paper claiming that all individuals in the impacted population are hybrids; Dufresnes et al. 2015). As such this represents a decline, or potential extinction, of the genetically pure population of the *H. arborea*. The paper does note, however, that the native population of the endangered *H. arborea* may be recovered with increased human effort if *H. intermedia* were to be removed.

CONFIDENCE RATING Low

MECHANISM(S) OF MAXIMUM IMPACT Hybridisation

COUNTRIES OF MOST SEVERE IMPACT Switzerland

DESCRIPTION OF IMPACTS Hybridisation- *Hyla intermedia* has been reported to hybridize with the endangered European Tree Frog (*H. arborea*), thereby causing an extirpation of the genetically pure population of native *H. arborea*.

ASSESSOR James Baxter-Gilbert; Alexander D. Rebelo

CONTRIBUTORS Sabrina Kumschick; John Measey; Mohamatsane Mokhatla; Corey Thorp; Giovanni Vimercati; Sarah J. Davies; F. André de Villiers; Nitya Prakash Mohanty; Khensani Nkuna; Carla Wagener

REVIEWERS EICAT authority

RECOMMENDED CITATION James Baxter-Gilbert, Alexander D. Rebelo (2024). *Hyla intermedia*. IUCN Environmental Impact Classification for Alien Taxa (EICAT).

DOWNLOAD DETAILS (XLSX) DOWNLOAD DETAILS (CSV) DOWNLOAD SUMMARY

# Classificazione dei meccanismi di introduzione delle IAS

## Standard categorization of pathways

- Sviluppata dall'IUCN SSC ISSG all'interno di una Partnership, con il contributo del Segretariato della CBD.
- Basata sui contributi di esperti leader e sulla letteratura scientifica più aggiornata.
- Testata con i principali database globali e allineato con le decisioni della CBD.
- La decisione della COP della CBD include un invito all'ISSG a "... continue and complete the work on pathways."

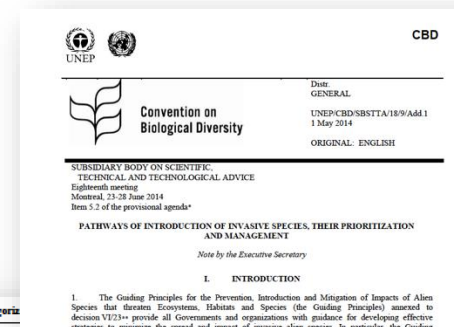


Table 1: Categoriz

Category			
MOVEMENT OF COMMODITY	RELEASE IN NATURE (1)	Biological control Fission control/dune stabilization (windbreaks, hedges, ...) Fishery in the wild (including game fishing) Hunting in the wild Landscape/flora/fauna "improvement" in the wild Introduction for conservation purposes Release in nature for use (other than above, e.g., fur, transport, medical use) Other intentional release	VIII/27 VIII/27, X/38 X/38
	ESCAPE FROM CONFINEMENT (2)	Agriculture (including livestock feedstocks) Aquaculture / mariculture Botanical garden/zoos/aquaria (excluding domestic aquaria) Pesticide/contaminant species (including live food for such species) Farmed animals (including animals left under limited control) Forestry (including reforestation) Fur farms Horticulture Ornamental purposes other than horticulture Research and ex-situ breeding (in facilities) Live food and live bait Other escape from confinement	X/38 VIII/27, IX/4 XI/28 VIII/27, X/38, XI/28 VIII/27
	TRANSPORT - CONTAMINANT (3)	Contaminant nursery material Contaminated bait Food contaminant (including live food) Contaminant on animals (except parasite, species transported by host/vector) Parasites on animals (including species transported by host and vector) Contaminant on plants (except parasite, species transported by host/vector) Parasites on plants (including species transported by host and vector) Seed contaminant Timber trade Transportation of habitat material (soil, vegetation, ...)	VIII/27, XI/28 XI/28 XI/28 XI/28 XI/28 VIII/27
VECTOR	TRANSPORT - STOWAWAY (4)	Angling/fishing equipment Containers/bulk Hitchhikers in or on airplane Hitchhikers on ship/barge (excluding ballast water and hull fouling) Machinery/equipment People and their luggage/equipment (in particular tourism) Organic packing material, in particular wood packaging Ship/barge ballast water Ship/barge hull fouling Vehicles (car, train, ...) Other means of transport	VIII/27 VIII/27 VIII/27, IX/4 VIII/27 VIII/27 VIII/27 VIII/27, IX/4
	CORRIDOR (5)	Interconnected waterway/basin/sea Tunnels and land bridges	VIII/27
SPREAD	UNAIDED (6)	Natural dispersal across borders of invasive alien species that have been introduced through pathways 1 to 5	

# Classificazione dei meccanismi di introduzione delle IAS



GLOBAL INVASIVE SPECIES DATABASE

HOME ABOUT THE GISD HOW TO USE CONTACTS



100 OF THE WORST



According to your search criteria results will be returned by species

### ADVANCED SEARCH OPTIONS

Define more your research

- TAXONOMY
  - Release
    - Release in nature for use
    - Biological control
    - Erosion control/ dune stabilization
    - Fishery in the wild
    - Hunting in the wild
    - Landscape/flora/fauna improvement
    - Conservation introduction
    - Other Intentional release
    - Subclass Undefined
  - THREATENED SPECIES
    - Escape
    - Transport - Contaminant
  - IMPACT
    - Transport - Stowaway
    - Corridors
  - MANAGEMENT
- LOCATION
- SYSTEM
- PATHWAY

**YOUR SEARCH CRITERIA**

Selected Taxonomy  
Plantae

Selected Pathway  
Erosion control/ dune stabilization

clear all criteria

**SEARCH**

LAST ADDED INVASIVE SPECIES

Table 1: Categorization of pathways for the introduction of alien species

Category	Subcategory	
RELEASE IN NATURE (1)	Biological control	
	Erosion control/ dune stabilization (windbreaks, hedges, ...)	
ESCAPE FROM CONFINEMENT (2)	Fishery in the wild (including game fishing)	
	Hunting in the wild	
	Landscape/flora/fauna "improvement" in the wild	
	Introduction for conservation purposes	
	Release in nature for use (other than above, e.g. fur, transport, medicine)	
	Other intentional release	
	Agriculture (including Biofuel feedstocks)	
	Aquaculture / mariculture	
	Botanical gardens/zoo/aquaria (excluding domestic aquaria)	
	Pet/aquarium/terrarium species (including live food for such species)	
TRANSPORT - CONTAMINANT (3)	Farmed animals (including animals left under limited control)	
	Forestry (including reforestation)	
	Fur farms	
	Horticulture	
	Ornamental purpose other than horticulture	
	Research and ex-situ breeding (in facilities)	
	Live food and live bait	
	Other escape from confinement	
	Contaminant nursery material	
	Contaminated bait	
TRANSPORT - STOWAWAY (4)	Food contaminant (including of live food)	VIII/27, XI/28
	Contaminant on animals (except parasites, species transported by host/vector)	XI/28
	Parasites on animals (including species transported by host and vector)	XI/28
	Contaminant on plants (except parasites, species transported by host/vector)	XI/28
	Parasites on plants (including species transported by host and vector)	XI/28
	Seed contaminant	VIII/27
	Timber trade	
	Transportation of habitat material (soil, vegetation, ...)	
	Angling/fishing equipment	VIII/27
	Container/bulk	VIII/27, IX/4
VECTOR	Hitchhikers in or on airplane	VIII/27, IX/4
	Hitchhikers on ship/boat (excluding ballast water and hull fouling)	
	Machinery/equipment	VIII/27
	People and their luggage/equipment (in particular tourism)	VIII/27
	Organic packing material, in particular wood packaging	
	Ship/boat ballast water	VIII/27
	Ship/boat hull fouling	VIII/27, IX/4
	Vehicles (car, train, ...)	
Other means of transport		
CORRIDOR (5)	Interconnected waterways/basins/lens	VIII/27
	Tunnels and land bridges	
UNAIDED (6)	Natural dispersal across borders of invasive alien species that have been introduced through pathways 1 to 5	



CBD

Convention on Biological Diversity

Distr. GENERAL

UNEP/CBD/SBSTTA/18/9/Add.1  
1 May 2014

ORIGINAL: ENGLISH

SUBSIDIARY BODY ON SCIENTIFIC, TECHNICAL AND TECHNOLOGICAL ADVICE

Eighteenth meeting  
Montreal, 23-28 June 2014  
Item 5.2 of the provisional agenda\*

PATHWAYS OF INTRODUCTION OF INVASIVE SPECIES, THEIR PRIORITIZATION AND MANAGEMENT

Note by the Executive Secretary

I. INTRODUCTION

1. The Guiding Principles for the Prevention, Introduction and Mitigation of Impacts of Alien Species that threaten Ecosystems, Habitats and Species (the Guiding Principles) annexed to decision VI/23\*\* provide all Governments and organizations with guidance for developing effective strategies to minimize the spread and impact of invasive alien species. In particular, the Guiding

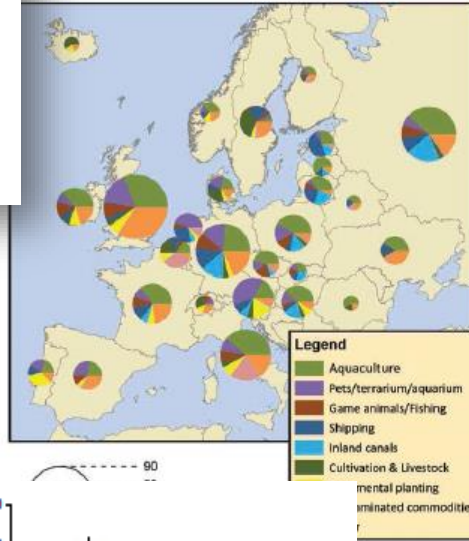


# Classificazione dei meccanismi di introduzione delle IAS

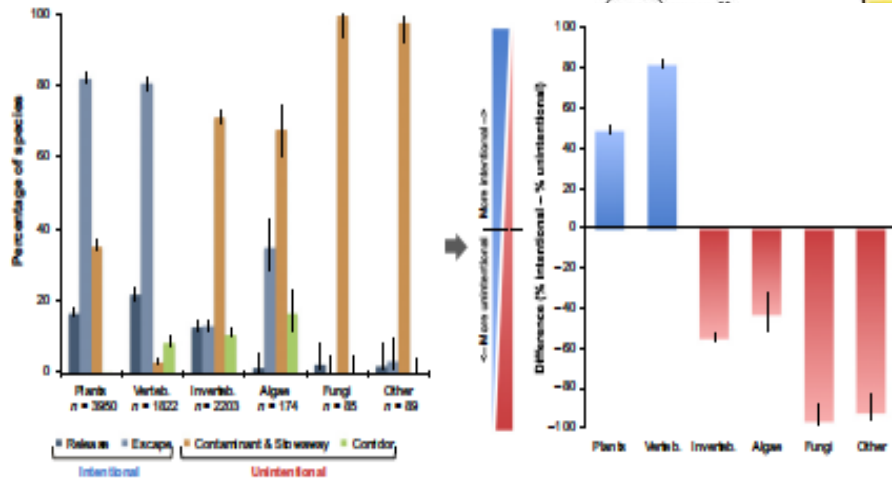
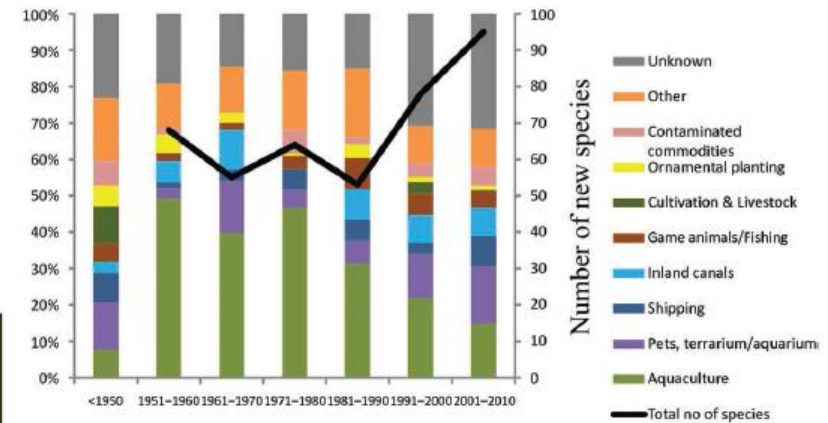
BioScience Advance Access published July 15, 2015  
Overview Articles

## Crossing Frontiers in Tackling Pathways of Biological Invasions

FRANZ ESSL, SVEN BACHER, TIM M. BLACKBURN, OLAF BOOY, GIUSEPPE BRUNDU, SARAH BRUNEL, ANA-CRISTINA CARDOSO, RENÉ ESCHEN, BELINDA GALLARDO, BELLA GALLI, EMILI GARCÍA-BERTHO, PIERO GENOVESI, QUENTIN GROOM, COLIN HARROWER, PHILIP E. HULME, STELIOS KATSANEVAKIS, MARC KENIS, INGOLF KÜHN, SABRINA KUMSCHICK, ANGELIKI F. MARTINOÙ, WOLFGANG NENTWIG,



b Freshwater species



**Journal of Applied Ecology**  
BRITISH ECOLOGICAL SOCIETY

*Journal of Applied Ecology* 2017, 54, 657–669  
doi: 10.1111/1365-2664.12819

## Assessing patterns in introduction pathways of alien species by linking major invasion data bases

Wolf-Christian Sau<sup>1,2,3,4\*</sup>, Helen E. Roy<sup>5</sup>, Olaf Booy<sup>6</sup>, Lucilla Carnevali<sup>7</sup>, Hsuan-Ju Chen<sup>8</sup>, Piero Genovesi<sup>9,10</sup>, Colin A. Harrower<sup>5</sup>, Philip E. Hulme<sup>11</sup>, Shyama Pagad<sup>12,13</sup>, Jan Pergl<sup>14</sup> and Jonathan M. Jeschke<sup>1,2,3,4</sup>

# Interlink tra database

**GLOBAL INVASIVE SPECIES DATABASE**

MA / MR / MO / MI / ME / DD / NA / NE / CG

HOME ABOUT THE GISD HOW TO USE CONTACTS

**Rattus rattus** 物种中文 正體中文 System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Rodentia	Muridae

MA MR MO MI **ME** DD NA NE CG

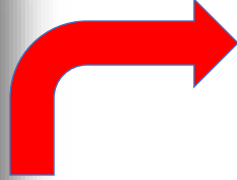
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**COMMON NAME** Hausratte (German), European house rat (English), bush rat (English), blue rat (English), ship rat (English), roof rat (English), black rat (English)

**SYNONYM** Mus rattus - Linnaeus, 1758  
Mus alexandrinus - Geoffroy, 1803  
Musculus Reginensis - Rafinesque, 1814  
Mus novaezealandiae - Butler, 1870

**ICUN SSC ISSG ISPPRA**

The Global Invasive Species Database was developed and is managed by the Invasive Species Specialist Group (ISSG) of the Species Survival Commission (SSC) of the International Union for Conservation of Nature (IUCN). It was developed as part of the global initiative on invasive species led by the emblematic Global Invasive Species Programme (GISP) in 2000. The GISD over the past two years and has been redesigned with support from the Abu Dhabi Environment Agency, the Italian Ministry of Environment and ISPPRA - the Institute for Environmental Protection and Research, Italy. **TERMS AND CONDITIONS OF USE**



**GRIIS**  
GLOBAL REGISTER OF INVASIVE SPECIES

HOME ABOUT GRIIS SOURCES EDITORS CONTRIBUTORS HOW TO USE CONTACT DONATION

SEARCH

**COUNTRY**

- Afghanistan
- Albania
- Algeria
- Andorra
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Bangladesh
- Barbados
- Belarus
- Belgium
- Belize
- Benin
- Bhutan
- Bolivia
- Bosnia and Herzegovina
- Botswana
- Brazil
- Brunei Darussalam
- Bulgaria
- Burkina Faso
- Burundi
- Cabo Verde
- Cambodia
- Cameroon
- Canada
- Cote d'Ivoire
- Central African Republic
- Chile
- China
- ...

**KINGDOM**

- ANIMALIA
- PLANTAE
- FUNGI
- PROTISTA
- CHROMISTA
- OTHERS

**SYSTEM**

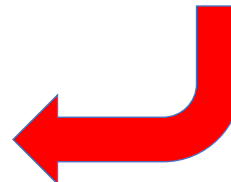
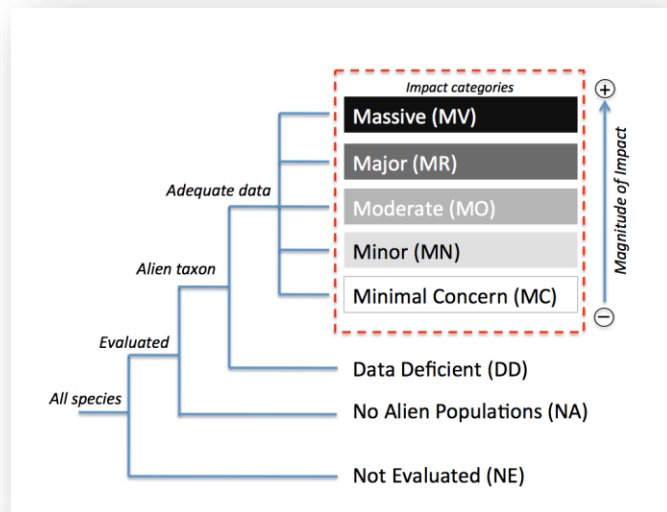
- Terrestrial
- Freshwater
- Marine
- Brackish
- Root

**OTHER OPTIONS**

- Verified records
- Evidence of impacts

**ICUN SSC ISSG ISPPRA**

GRIIS, hosted by ISPPRA, has been developed with co-funding from the European Union through the Secretariat of the Convention on Biological Diversity and with the assistance of the Global Invasive Species Programme. GRIIS has been developed as part of the global initiative on invasive species led by the emblematic Global Invasive Species Programme (GISP) in 2000. The GISD over the past two years and has been redesigned with support from the Abu Dhabi Environment Agency, the Italian Ministry of Environment and ISPPRA - the Institute for Environmental Protection and Research, Italy. **TERMS AND CONDITIONS OF USE**



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**CRITICALLY ENDANGERED**

**RECENTLY QUANTIFIED**

**17 August 2016 - A new study released today finds that the knowledge databases which underpin nature conservation and environmental decision-making – such as the IUCN Red List of Threatened Species™ – cost... more**

**IUCN expresses its gratitude to Dr Simon Stuart on his retirement from the IUCN**

08 August 2016 - Dr Simon Stuart, Chair of the IUCN Species Survival Commission (SSC), will be retiring after 30 years with IUCN. He will join Synchronicity Earth, a UK-based conservation charity, as Conservation Director... more

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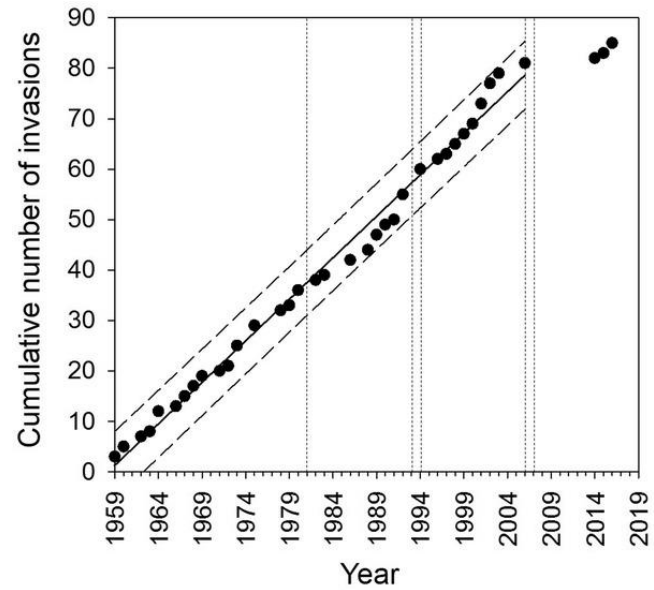
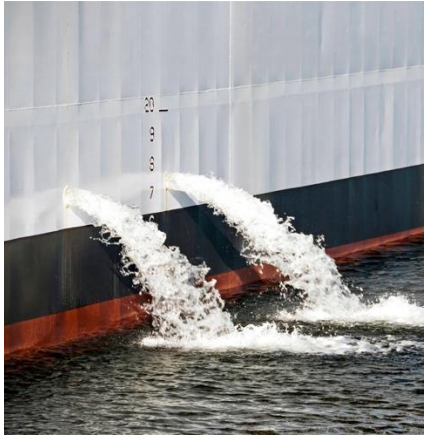
**HANA**  
Cyanella hana  
© Natalia Tanglin

**Amazing Species**

**ICUN SSC ISSG ISPPRA**



# Applicazioni concrete



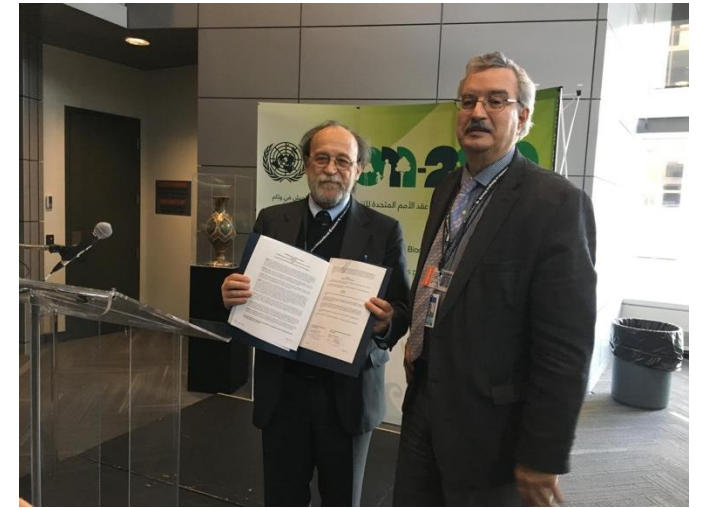
# Knowledge products su IAS e Open data

- GISD, EICAT, sviluppati su ProSQL, progettato per essere coerente con le politiche di Open Data, facilitando l'accesso e la condivisione di dati pubblici in modo trasparente e accessibile.
- Supporta formati standardizzati, promuove l'interoperabilità tra database e consente una gestione dei dati aperta, in linea con le normative di trasparenza e riuso delle informazioni pubbliche.



# Accesso ai dati su IAS

- Essenziale che i dati siano accessibili a paesi, esperti, cittadini
- ISPRA e CBD nel hanno firmato un MoU per accesso ai dati
  
- Alla COP 16 in corso a Cali, Colombia, la Russia ha bloccato le decisioni su IAS perché GISD non risultava accessibile



# Grazie