Invasive Species

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Member Countries Regional Consultation: Americas and Caribbean

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KNOWLEDGE FOR LIFE

CABI

CABI and Invasive Species

- A focus since CABI originated >100 years ago
- Member countries repeatedly identify Invasive Species as a priority
- CABI's strength: biological control, following due diligence in regard to Nagoya protocol
- Collaborative applied research on Invasive Species prevention and management core to CABI's Science Strategy
- Expertise and resources in knowledge management and dissemination: www.cabi.org/isc
- Convening capability facilitates cooperation and collaboration amongst stakeholders
- Member of the Inter-Agency Liaison Group on Invasive Species (www.cbd.int/invasive/lg)
- New "Action on Invasives" programme aims to protect and improve the livelihoods of over 50 million poor rural households

CABI's goals and activities in Invasive Species

1. Increased awareness of the risks and costs of Invasive Species
2. Enhanced capacities of countries to respond to the threat of Invasive Species
3. Strengthened policies and plans for invasive species management
4. Effective prevention and management of Invasive Species

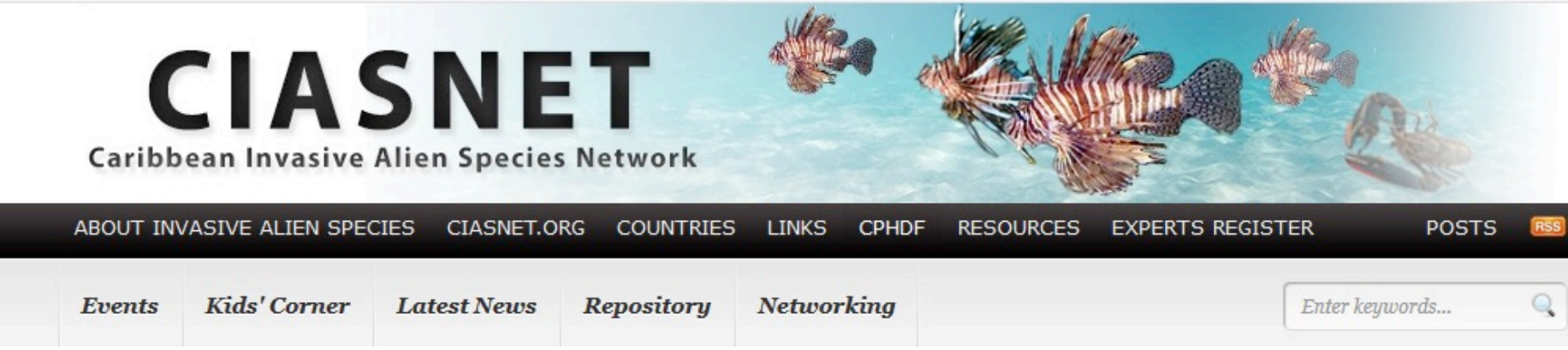
- Action on Invasives (AoI) programme contributes to all goals
- Specific projects contribute to one or more goals

1. Increased awareness of the risks and costs of Invasive Species

- Develop, implement and evaluate communication campaigns
- Develop and apply methods for assessing and communicating the risks and costs
- Strengthen areas of
  - Monitoring and evaluation
  - Gender and diversity
  - Management and analysis of big data sets

Mitigating the Threats of Invasive Alien Species in the Insular Caribbean (MTIASIC)

- CIASNET.ORG received 85,000 hits per month by end of project
- National information on CIASNET.ORG
- Preventing the Costs of Invasive Alien Species (IAS) in the Caribbean Magazine
- Numerous articles, television and radio programmes on IAS in particular, Dominican Republic, Jamaica and St. Lucia
- Hosted a regional workshop on Invasive Species in forest ecosystems in collaboration with FAO



Voluntary Code of Conduct for Saint Lucia's Pet Sector (PS VCoC) with Species Reference to Invasive Alien Species (IAS)

An output produced by the public and private partners attending the workshop series

Pets and Invasive Alien Species (IAS)

held at conference room of the Veterinary Division of the
Ministry of Agriculture, Food Production, Fisheries and Rural Development (MAFF) in Balata
and organized by the Forestry Department of the
Ministry of Sustainable Development, Energy, Science and Technology (MSDEST)
31 July 2013, under the project

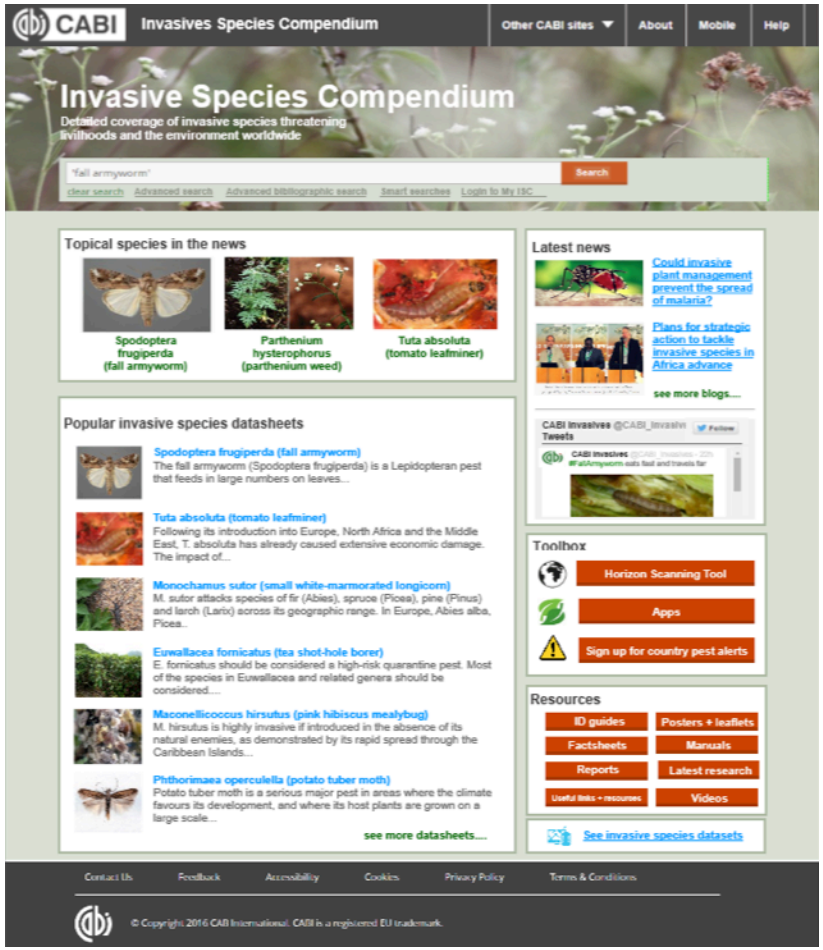
Mitigating the Threats of Invasive Alien Species in the Insular Caribbean

Project No. GFL / 2328 – 2713-4A86, GF-1030-09-03

2. Enhanced capacities of countries to respond to the threat of Invasive Species

- Facilitate national and regional cross-sectoral cooperation, building on Plantwise achievements
- Further develop knowledge and information resources and tools to support decision-making
- Provide training to national agricultural and environment organisations

Enhanced Invasive Species Compendium



www.cabi.org/isc

Enhancements

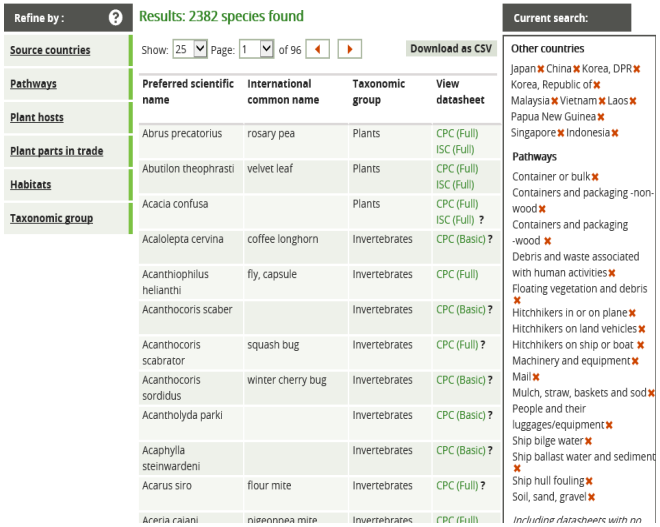
- Species “portals”
- Improved mapping
- Toolbox
  - Horizon scanning
  - Pest risk analysis (PRA)
- Resources
  - Diagnostics
  - Communication materials
  - Data
- Abstracts
- News

Horizon Scanning Tool (beta)

Prioritizing invasive species threats

The Horizon Scanning Tool is a decision support aid that helps you identify and categorize species that might enter a particular country from another country.

Using the Horizon Scanning Tool



Refine by:

Source countries | Pathways | Plant hosts | Plant parts in trade | Habitats | Taxonomic group

Results: 2382 species found

Show: 25 Page: 1 of 96 Download as CSV

Preferred scientific name	International common name	Taxonomic group	View datasheet
Abrus precatorius	rosary pea	Plants	CPC (Full) ISC (Full)
Abutilon theophrasti	velvet leaf	Plants	CPC (Full) ISC (Full)
Acacia confusa		Plants	CPC (Full) ISC (Full) ?
Acalolepta cervina	coffee longhorn	Invertebrates	CPC (Basic) ?
Acanthiophilus helianthi	fly, capsule	Invertebrates	CPC (Full)
Acanthocoris scaber		Invertebrates	CPC (Basic) ?
Acanthocoris scabrator	squash bug	Invertebrates	CPC (Full) ?
Acanthocoris sordidus	winter cherry bug	Invertebrates	CPC (Basic) ?
Acantholyda parki		Invertebrates	CPC (Basic) ?
Acaphylla steinwardeni		Invertebrates	CPC (Basic) ?
Acarus siro	flour mite	Invertebrates	CPC (Full) ?
Aceria cajani	pigeonpea mite	Invertebrates	CPC (Full)

Current search:

Other countries

Japan ✖ China ✖ Korea, DPR ✖ Korea, Republic of ✖ Malaysia ✖ Vietnam ✖ Laos ✖ Papua New Guinea ✖ Singapore ✖ Indonesia ✖

Pathways

Container or bulk ✖ Containers and packaging -non-wood ✖ Containers and packaging -wood ✖ Debris and waste associated with human activities ✖ Floating vegetation and debris ✖ Hitchhikers in or on plane ✖ Hitchhikers on land vehicles ✖ Hitchhikers on ship or boat ✖ Machinery and equipment ✖ Mail ✖ Mulch, straw, baskets and sod ✖ People and their luggages/equipment ✖ Ship bilge water ✖ Ship ballast water and sediment ✖ Ship hull fouling ✖ Soil, sand, gravel ✖

Including datasheets with no

Targeted users: risk assessors, plant protection officers, quarantine officers, protected area managers and researchers

Potential threats can be prioritised by:

- habitats
- pathways
- plant hosts
- plant parts in trade
- taxonomic group

Results output as a list with links to datasheets in the ISC and CPC. Exportable as .csv for analysis

Supported by USDA

https://www.cabi.org/horizonscanningtool

3. Strengthened policies and plans for Invasive Species management

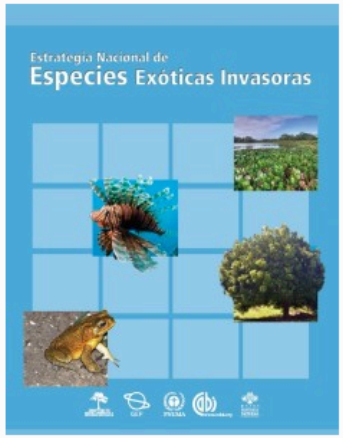
- Assist countries to develop and implement national Invasive Species strategies and action plans (NISSAPs), ecosystem management plans and biosecurity plans
- Assist countries to strengthen regulatory frameworks for prevention and management of Invasive Species

Mitigating the Threats of Invasive Alien Species in the Insular Caribbean (MTIASIC)

- One National Invasive Alien Species Strategy updated (Bahamas) and four completed (Dominican Republic, Jamaica, St. Lucia, Trinidad and Tobago)
- Development of a Regional Lionfish Strategy
- Caribbean Invasive Species Strategy and Action Plan developed and submitted to CARICOM for adoption

National Invasive Alien Species Strategy – Dominican Republic

JUNE 15, 2014



This national strategy of invasive alien species has been prepared under the project "Mitigating the threat of invasive alien species in the insular Caribbean "funded by the Global Environment Facility (UNEP-GEF) and implemented by CAB International and the Ministry of Environment and Natural Resources of the Dominican Republic, which seeks to provide countries participants and others in the Caribbean region, the tools and capabilities needed to address existing biological invasions and future. The objectives of the National IAS Strategy is to promote policies, develop programs and strengthen regulations to minimize the impacts of invasive alien species on biodiversity, economics, health and natural heritage of the Dominican Republic, through a participatory and coordinated management responsible for all institutional sectors and the public, based on scientific knowledge.

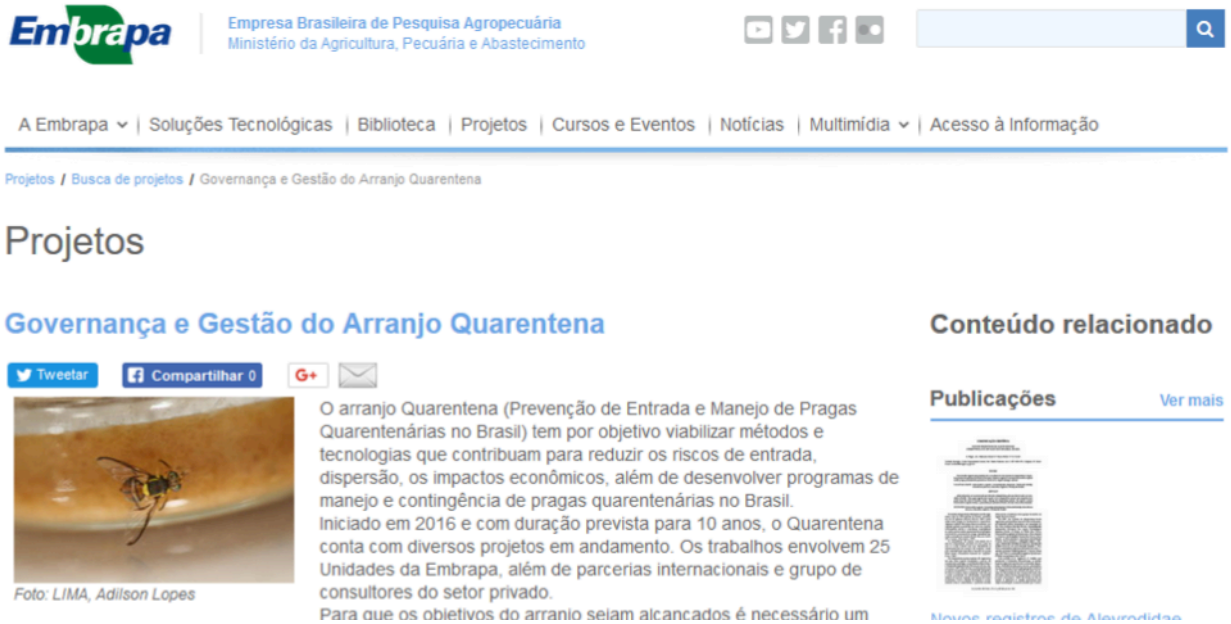
Read more: National Strategy (Estretegia-Nacional) (PDF)

4. Effective prevention and management of Invasive Species

- Support national and regional prioritisation of risks and threats from Invasive Species in agriculture and the environment
- Undertake collaborative research on improved methods for the prevention and management of prioritised species
- Provide the information needed by stakeholders (particularly the men and women most impacted) to take action against Invasive Species
- Promote the implementation of biological control and other low-risk methods for integrated management of Invasive Species

Prioritisation of pests and diseases

- Important due to limited human resources, infrastructure and funds
- Done in collaboration with National Plant Protection Organizations and scientists from Latin America and Caribbean (LAC)
- Key activity of LAC Invasive Species platform led by Embrapa and others in collaboration with CABI
- Criteria for prioritisation include current and potential future economic losses



Canadian support for biological control of Invasive Alien Species

- Forestry: one project (beech weevil)
  → Canadian Forest Service

- Agriculture: three projects (BMSB, apple leaf-curling midge, diamondback moth)
  → Agriculture and Agri-Food Canada (AAFC)

- Weeds: 20 projects in Americas and Caribbean
  → 12 co-financed by Canada (British Columbia, Alberta, AAFC)

Successful control of leafy spurge in North America

- Leafy spurge is an exotic invasive rangeland plant in North America
- Reduces livestock carrying capacity, native species richness and cover and use of infested areas by native wildlife
- 2 million ha infested across 35 states
- Five flea beetles released during 1980s based mainly on work conducted by CABI Switzerland
- Reduction in stem densities of up to 90%
- Estimated to have resulted in total annual direct benefit of $US 19.1m
- Based on a CABI impact study from 2016, the cost-benefit ratio is 9-56

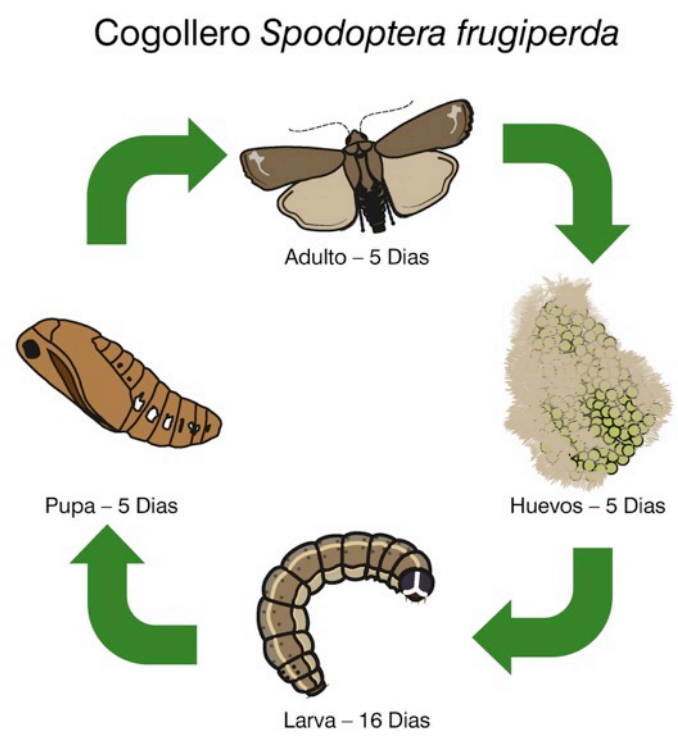
Classical biological control of *Rubus niveus* on the Galápagos Islands

- *Rubus niveus* is native to India, China and Southeast Asia and invasive on the Galápagos Islands, reducing native biodiversity
- Project funded through FEIG (Fondo de Control de Especies Invasoras de Galápagos), Ecuador
- Molecular work suggests Chinese centre of origin
- Surveys in China and India have been undertaken
- Taxonomically complex plant species and pathogen mycoflora
- Plant, insect and pathogen specimens from Indian surveys deposited with relevant Indian National Bureau
- Currently waiting for official permission to collect and export natural enemies to CABI UK for testing

The samurai wasp-
Trissolcus japonicus

Potential for biological control of the brown marmorated stink bug (BMSB) in Chile

- BMSB originates from Asia and is a highly polyphagous pest of fruit trees and field crops in Europe and North America
- Detected in Chile in December 2016
- CABI Switzerland leads a biocontrol project since 2012 in collaboration with its centre in China
- Discussions ongoing with Chile
- INIA and SAG are evaluating the natural enemy complex currently present in Chile
- A potential biocontrol agent (*Trissolcus japonicus*) was accidentally introduced in the U.S. in 2014



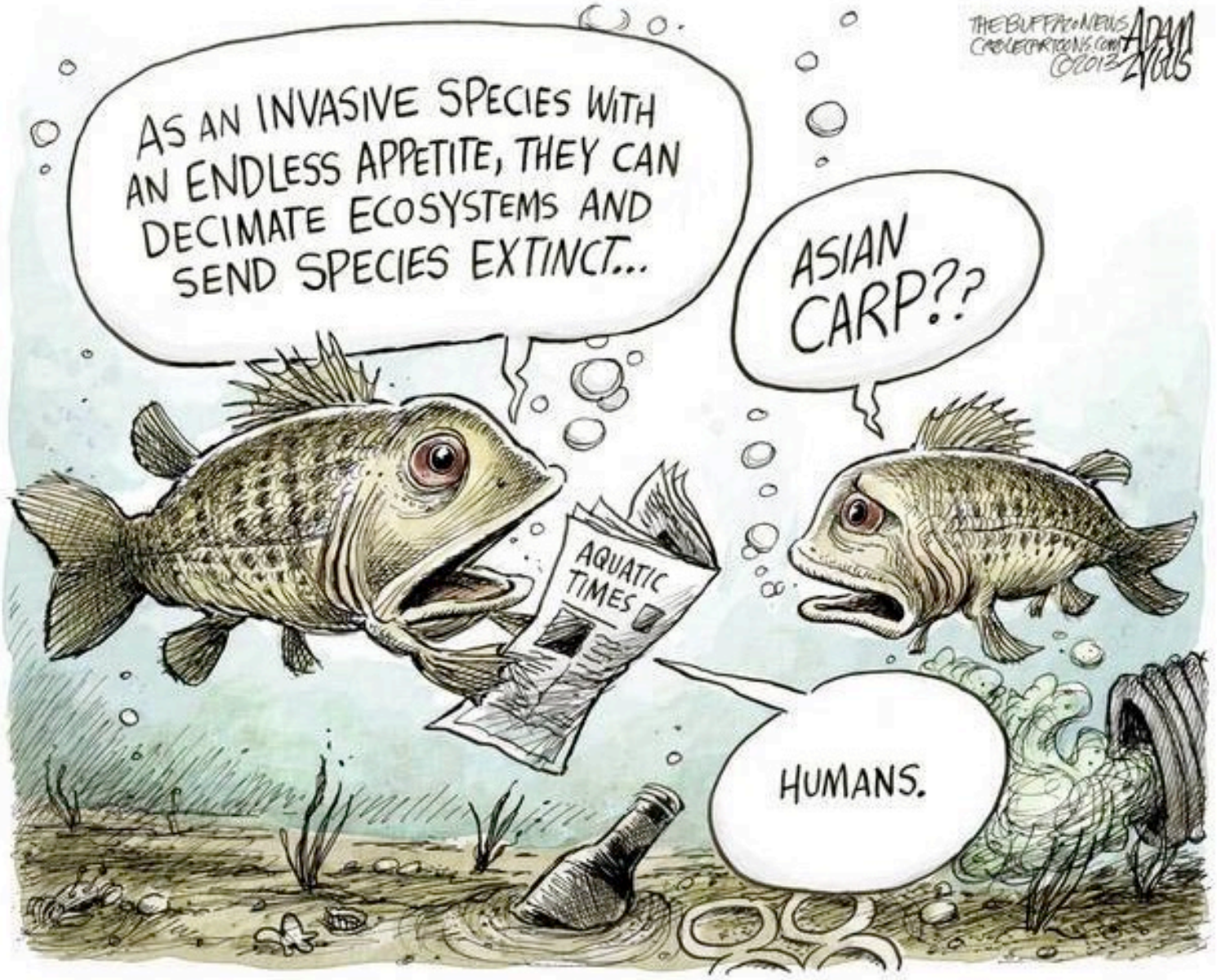
Potential for biological control of fall armyworm (FAW) in Africa

- FAW originates in South/Central America and has become a major invasive species in Africa and has now also reached Asia (India)
- Crop losses in key crops, especially maize
- Search for classical biological control agents in South America have started for eventual export to Africa
- Classical biocontrol approach relies on free exchange of genetic resources
- Experience on the management of these species from LAC
- **South – South Cooperation**

Review Article

REVISÃO DA BIOLOGIA, OCORRÊNCIA E CONTROLE DE *Spodoptera frugiperda* (LEPIDOPTERA, NOCTUIDAE) EM MILHO NO BRASIL

BIOLOGY REVIEW, OCCURRENCE AND CONTROL OF Spodoptera frugiperda (LEPIDOPTERA, NOCTUIDAE) IN CORN IN BRAZIL


AS AN INVASIVE SPECIES WITH AN ENDLESS APPETITE, THEY CAN DECIMATE ECOSYSTEMS AND SEND SPECIES EXTINCT...
ASIAN CARP??
AQUATIC TIMES
HUMANS.

CABI is an international intergovernmental organisation, and we gratefully acknowledge the core financial support from our member countries (and lead agencies) including:

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Australian Centre for International Agricultural Research

Agriculture and Agri-Food Canada

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Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC