



PHILIPPINES

Invasive Alien Species Resource Directory

More than 475 plant species have been introduced in the Philippines since pre-historic time, coming mainly from the Malayan region, but a high percentage has been introduced within the past 400 years, including a great number of American origin (Merrill 1912). About 255 species were found only in cultivation for food and were not reported to cause economic or environmental harm. Intentional and accidental introduction of alien species have been done due to economic reason until they were observed and reported to have become invasive and caused economic losses and environmental damage. Biosafety measures and environmental impacts were not considered before their introduction.

This country report presents only a few information because of lack of data on the economic as well as social impacts of introduction of invasive alien species. Also, only few researches have been conducted on their effects to the environment, and on their management.

Some Alien Species and their Effects on the ecosystems

Terrestrial plants

Hagonoy weed (*Chromolaena odorata*)
Source: Mexico, West Indies and Tropical America

It is considered as a threatening/harmful weed in grassland ecosystems because it outgrows or prevents the establishment of other species like *Imperata* thus reducing the feeds available for livestock and biodiversity. The weed clogs waterways, and has been reported by farmers to be harmful to cattle when eaten.

Large leaf lantana (*Lantana camara*)
Widely grown as an ornamental shrub, it is known as a weed in pasturelands.

Chinese creeper (*Mikania micranth*)
This is a fast-growing perennial, creeping and twining plant commonly called mile-a-minute be-

cause of its vigorous and rampant growth habit. It grows best where fertility, organic matter, soil moisture, and humidity are all high and, damages or kills other plants by smothering them thereby cutting out the light.

Gmelina arborea
Host of *Ozola minor*, *Attacus*

Acacia mangium
Host of *Anoplophora luciphor*

Eucalyptus camaldulensis
Host of an unidentified termite species

Swietenia macrophylla
Host of *Zeuzera coffeae*

Dipterocarpus grandiflorus
Host of *Dryocoetiops laevis*

Leucaena leucocephala
Host of *Heteropsylla cubana*

Toona ciliata
Host of an unidentified weevil

Terrestrial invertebrates

Big headed ant (*Pheidole megacephala*)
One of the most invasive species having achieved global distribution, the ant displaces most invertebrate faunas; it is considered as a pest of agricultural crops as it harbours phytophagous insects that reduce crop productivity.

Fire ant (*Solenopsis geminate*)
A grave threat to conservation values as it will invade native communities and affect many or all of the animals and plants in that community. The name fire ant comes from their fiery and painful stings; it is most prevalent in isolated areas, living in open land, including barren areas and grassland, and nests in the soil.

Jumping plant lice (*Heteropsylla cubana*)
Introduced by the typhoon in the late 1980s, it has





Fire ant

affected almost 100% of standing *Leucaena leucocephala* all over the country. Spiralling whitefly (*Aleurodicus dispersus*)

Accidentally introduced with the importation of ornamental Kalanchoe in the 1970s, the whitefly is now affecting vegetables and ornamentals.

Leaf miner (*Liriomyza* sp.)

Accidentally introduced with the importation of the Chrysanthemum, it has become a major pest of potato and ornamentals.

Mealy bug (*Pseudococcus* sp.)

Accidentally introduced in the late 1990s with the importation of hybrid coconut planting materials, the mealy bug has affected the coconut in Northern Palawan.

Riceblack bug (*Scotiniphora coarctata*)

This bug species was introduced through vessels plying the route between the province of Palawan, the Mindanao Island and countries south of the Philippines. It is a major problem in rice in Mindanao and the province of Leyte.

Oncidium sp.

This is an orchid virus brought in with the importation of orchids in the late 1970s.

Potato cyst nematode (*Globodera rostochlensis*)

Accidentally introduced with the importation of

potato planting materials, it is heavily infesting potato farms in the province of Benguet, in Northern Philippines.

Aquatic/wetland Plants

Water fern (*Salvinia molesta*)

It is considered a serious aquatic weed in many Asian countries and is rapidly invading other bodies of water; it was then a problem weed in Iloilo, especially in irrigated ricefields as it competes with nutrients and water, and also clogs waterways.

Water hyacinth (*Eichhornia crassipes*)

Rapidly invading Laguna Lake, it continues to reduce the growth of phytoplankton that provides food to fish; it also clogs waterways.

Aquatic/Wetland Animals

Thai catfish (*Clarias batrachus*)

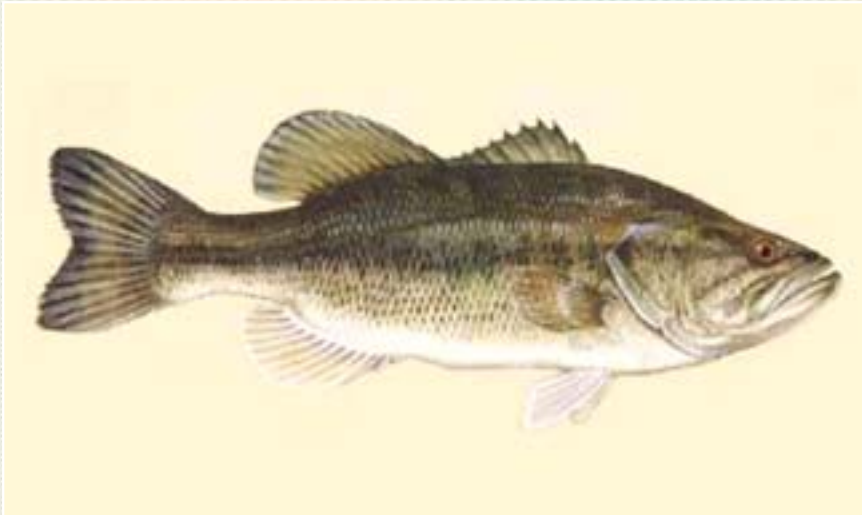
Its introduction in Luzon led to the displacement of the native catfish (*Clarias macrocephalus*), and has spread to many parts of the country. It was thought to boost the aquaculture industry, but it was not successfully commercialised because of its tough flesh.

African catfish (*Clarias gariepinus*)

Not yet considered invasive but on the "watch list."



Water fern



Black bass

South American catfish or janitor fish (*Plecostomus* sp.)

Although it has invaded Laguna Lake, it is not yet considered invasive but on the "watch list".

Golden apple snail (*Pomacea canaliculata*)

Its introduction led to the displacement of the native kuhol (*Pila luzonica*). In 1999, it was considered as a major pest of newly planted rice seedlings; purposely imported to avert malnutrition as source of protein.

White goby (*Glossogobius giurus*) and *Hypseleotris agilis* (eleotrid)

Their introduction has caused the extinction of majority of 15 cyprinid species in Lanao Lake, Mindanao.

Black bass (*Micropterus salmoides*)

It has led to the disappearance of the original fish population in Caliraya Lake, Laguna.

Marine toad (*Bufo marinus*)

A very prolific toad species, it has decreased the population of several species of native frogs in Dumaguete City, Negros.

American bullfrog (*Rana catesbeiana*) and Leopard frog (*Tana tigrina*)

Both species may displace native frogs.

Management Efforts and Awareness Campaigns on Invasive Species

- Implementation of existing quarantine regulation
- Implementation of Philippine policy on Biodiversity
- Implementation of the Guidelines on Planned

Release to the Environment of Genetically Modified Organisms and Potentially Harmful Exotic Species

- Biological control of *Chromolaena odorata* using the gall fly
- Management of rice black bug thru the monitoring, mass production and field application of metarhizium. This is an ongoing programme of the Department of Agriculture, Philippines

Action Done

- Seminar-workshop on the Biodiversity and Management of Alien Invasive Species in the Philippines, 22-23 May 2001 including an exhibit on the biodiversity and management of IAS.

Priorities for Future Work and Strategies for Management and Policy Recommendations

- Inventory/Status Report of each alien species (invasive and non-invasive) in respective countries
- Database of all alien species
- Database of management strategies
- Networking
 - Establishment of country hubs specific for the monitoring and management of alien species;
 - A regional hub that will serve as repository of all data from member countries and their management; responsible for knowledge management that can be shared by member countries; also responsible for alerting member countries on the invasiveness of a certain species; responsible for fund sourcing for all activities related to alien species including research and development.
- Enforcement of quarantine regulation
- Enhancement of policies and other regulations related to IAS
- Monitoring of IAS
- Research and Development
- Enhance public awareness and encourage advocacy campaign on IAS. ■

*Excerpts from the paper entitled "Invasive Alien Species Resource Directory for the Philippines" presented by **Veronica O. Sinohin** of the Ecosystems Research and Development Bureau, and **Wilma R. Cuaterno** of the Bureau of Plant Industry during the workshop on "The Prevention and Management of Invasive Alien Species: Forging Cooperation through South and Southeast Asia" held from 14-16 August 2002 in Bangkok, Thailand.