

*Poecilia reticulata*  正體中文

**System:** Freshwater

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Actinopterygii	Cyprinodontiformes	Poeciliidae

**Common name** millions (English), guppil (Japanese), miljoonakala (Finnish), guppil (Afrikaans), Mexicano (Portuguese), miljoenvis (Afrikaans), guppy (English), million fish (English), lebistes (Portuguese), lareza tripikaloshe (Albanian), lepistes (Turkish), ikan seribu (Malay), hung dzoek ue (Cantonese), millionenfisch (German), poisson million (French), zivorodka duhov (Czech), Wilder Riesenguppy (German), queue de voile (French), Sardinita (Spanish), rainbow fish (English), sarapintado (Portuguese)

**Synonym** *Poecilioides reticulatus* , (Peters, 1859)  
*Acanthophaelus reticulatus* , (Peters, 1859)  
*Girardinus reticulatus* , (Peters, 1859)  
*Haridichthys reticulatus* , (Peters, 1859)  
*Lebistes reticulatus* , (Peters, 1859)  
*Poecilia reticulatus* , Peters, 1859  
*Lebistes poecilioides* , De Filippi, 1861  
*Lebistes poecilioides* , De Filippi, 1861  
*Girardinus guppil* , Günther, 1866  
*Acanthophaelus guppil* , (Günther, 1866)  
*Heterandria guppil* , (Günther, 1866)

## Similar species

**Summary** *Poecilia reticulata* is a small benthopelagic fish native to Brazil, Guyana, Venezuela and the Caribbean Islands. It is a popular aquarium species and is also commonly used in genetics research. In the past *Poecilia reticulata* was widely introduced for mosquito control but there have been rare to non-existing measurable effects on mosquito populations. It can occupy a wide range of aquatic habitats and is a threat to native cyprinids and killifishes. It is a carrier of exotic parasites and is believed to play a role in the decline of several threatened and endangered species.



[view this species on IUCN Red List](#)

## Species Description

*Poecilia reticulata* is a very small opportunistic benthopelagic (feeding on bottom, midwaters, or near the surface) non-migratory fish that can inhabit both fresh and brackish water. *P. reticulata* males are smaller, reaching an average length of 3.5cm compared 5cm in females. Besides being half the size of females, males have a colourful tail and caudal fin. This species has 7-8 dorsal soft rays and 8-10 anal soft rays (FishBase, 2006).

## Uses

*Poecilia reticulata* is a popular aquarium species and is also commonly used in genetics research. In the past *P. reticulata* was widely introduced in hopes of gaining mosquito control, but there have been rare to non-existing measurable effects on mosquitoes populations (FishBase, 2006).



# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Poecilia reticulata*

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## Habitat Description

Occurs in warm springs and their effluents, weedy ditches and canals. Found in various habitats, ranging from highly turbid water in ponds, canals and ditches at low elevations to pristine mountain streams at high elevations. Has a wide salinity range but requires fairly warm temperatures (23-24 °C) and quiet vegetated water for survival (FishBase, 2006).

## Reproduction

Male *Poecilia reticulata* anal fins are transformed into a gonopodium for internal fertilization. Males are continuously chasing and mating females. Females can store sperms for later fertilization and may produce young every four weeks. Pregnant females are recognizable by black triangle between anal and pelvic fins. After a gestation period of four to six weeks females give birth to 20-40 live young. No parental care is exercised and parents may even prey on their young (FishBase, 2006).

## Nutrition

Feeds on zooplankton, small insects and detritus. Feeds mainly on insects and has been observed consuming: ceratopogonids, chironomids, culicids, dipterans, hemipterans, and hymenopterans (FishBase, 2006).

## General Impacts

*Poecilia reticulata* is considered a hazard to native cyprinids and killifishes in the United States. It has been implicated in the decline of native fishes in Nevada and Wyoming, and of native damselflies in Hawaii. It is a known carrier of trematode parasites, which may affect native fish populations (Nico, 2001). It eats the eggs of native fish species and acts as a host for the parasitic nematode *Camallanus cotti*, and the Asian tapeworm *Bothriocephalus acheilognathi* in Hawaii (Eldredge, 2000).

Hybrids between *P. reticulata* and *P. mexicana* and between *P. reticulata* and *Xiphophorus helleri* are shown to threaten species of native fish in the western USA (Courtenay and Meffe, 1989 in Eldredge, 2000).

## Pathway

*P. reticulata* is a popular aquarium species (FishBase, 2006). Guppies are also popular ornamental fish in Australia, and introductions may have resulted from escapes or releases from aquaria or outdoor breeding ponds (Linholm *et al.*, 2005 i

**Principal source:** [Poecilia reticulata - Guppy \(Fishbase, 2006\)](#)

**Compiler:** National Biological Information Infrastructure (NBII) & IUCN/SSC Invasive Species Specialist Group (ISSG)

**Review:** Pam Fuller USGS/BRD Nonindigenous Aquatic Species Program Florida Integrated Science Center Gainesville, Florida USA

**Publication date:** 2006-10-27

## ALIEN RANGE

[1] ALGERIA	[5] AUSTRALIA
[1] BAHRAIN	[1] CANADA
[1] CHINA	[1] COMOROS
[1] CONGO	[1] COOK ISLANDS
[1] COSTA RICA	[1] FRANCE
[2] FRENCH POLYNESIA	[1] GHANA
[1] GUADELOUPE	[1] GUAM
[1] INDONESIA	[1] IRELAND



# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Poecilia reticulata*

- |                                      |                                  |
|--------------------------------------|----------------------------------|
| [1] JAPAN                            | [1] KENYA                        |
| [1] LAO PEOPLE'S DEMOCRATIC REPUBLIC | [1] MALAYSIA                     |
| [1] MARTINIQUE                       | [1] MAURITIUS                    |
| [2] MAYOTTE                          | [1] MEXICO                       |
| [1] MOROCCO                          | [1] MYANMAR                      |
| [1] NAMIBIA                          | [3] NEW CALEDONIA                |
| [1] PAPUA NEW GUINEA                 | [1] PARAGUAY                     |
| [1] PERU                             | [1] PHILIPPINES                  |
| [1] REUNION                          | [1] SENEGAL                      |
| [1] SINGAPORE                        | [1] SOUTH AFRICA                 |
| [1] SURINAME                         | [1] TANZANIA, UNITED REPUBLIC OF |
| [1] THAILAND                         | [1] UGANDA                       |
| [17] UNITED STATES                   | [1] VIET NAM                     |

## BIBLIOGRAPHY

18 references found for *Poecilia reticulata*

### Management information

[Clearwater, Susan J.; Chris W. Hickey and Michael L. Martin. 2008. Overview of potential piscicides and molluscicides for controlling aquatic pest species in New Zealand. Science for conservation 283. March 2008. New Zealand Department of Conservation](#)

**Summary:** Available from: <http://www.doc.govt.nz/upload/documents/science-and-technical/sfc283entire.pdf> [Accessed 20 March 2008]

[Cossios E. Daniel, 2010. Vertebrados naturalizados en el Perú: historia y estado del conocimiento \(Naturalised vertebrates in Peru: history and state of knowledge\) Rev. peru. biol. 17\(2\): 179 - 189 \(Agosto 2010\)](#)

**Summary:** Available from: <http://sisbib.unmsm.edu.pe/BVrevistas/biologia/v17n2/pdf/a07v17n2.pdf> [Accessed 23 February 2011]

[Mendoza, R.E.; Cudmore, B.; Orr, R.; Balderas, S.C.; Courtenay, W.R.; Osorio, P.K.; Mandrak, N.; Torres, P.A.; Damian, M.A.; Gallardo, C.E.; Sanguines, A.G.; Greene, G.; Lee, D.; Orbe-Mendoza, A.; Martinez, C.R.; and Arana, O.S. 2009. Trinational Risk Assessment Guidelines for Aquatic Alien Invasive Species. Commission for Environmental Cooperation. 393, rue St-Jacques Ouest, Bureau 200, Montréal \(Québec\), Canada. ISBN 978-2-923358-48-1.](#)

**Summary:** In 1993, Canada, Mexico and the United States signed the North American Agreement on Environmental Cooperation (NAAEC) as a side agreement to the North American Free Trade Agreement (NAFTA). The NAAEC established the Commission for Environmental Cooperation (CEC) to help the Parties ensure that improved economic efficiency occurred simultaneously with trinational environmental cooperation. The NAAEC highlighted biodiversity as a key area for trinational cooperation. In 2001, the CEC adopted a resolution (Council Resolution 01-03), which created the Biodiversity Conservation Working Group (BCWG), a working group of high-level policy makers from Canada, Mexico and the United States. In 2003, the BCWG produced the Strategic Plan for North American Cooperation in the Conservation of Biodiversity. This strategy identified responding to threats, such as invasive species, as a priority action area. In 2004, the BCWG, recognizing the importance of prevention in addressing invasive species, agreed to work together to develop the draft CEC Risk Assessment Guidelines for Aquatic Alien Invasive Species (hereafter referred to as the Guidelines). These Guidelines will serve as a tool to North American resource managers who are evaluating whether or not to introduce a non-native species into a new ecosystem. Through this collaborative process, the BCWG has begun to implement its strategy as well as address an important trade and environment issue. With increased trade comes an increase in the potential for economic growth as well as biological invasion, by working to minimize the potential adverse impacts from trade, the CEC Parties are working to maximize the gains from trade while minimizing the environmental costs.

Available from: English version: [http://www.cec.org/Storage/62/5516\\_07-64-CEC%20invasives%20risk%20guidelines-full-report\\_en.pdf](http://www.cec.org/Storage/62/5516_07-64-CEC%20invasives%20risk%20guidelines-full-report_en.pdf) [Accessed 15 June 2010]

French version: [http://www.cec.org/Storage/62/5517\\_07-64-CEC%20invasives%20risk%20guidelines-full-report\\_fr.pdf](http://www.cec.org/Storage/62/5517_07-64-CEC%20invasives%20risk%20guidelines-full-report_fr.pdf) [Accessed 15 June 2010]

Spanish version: [http://www.cec.org/Storage/62/5518\\_07-64-CEC%20invasives%20risk%20guidelines-full-report\\_es.pdf](http://www.cec.org/Storage/62/5518_07-64-CEC%20invasives%20risk%20guidelines-full-report_es.pdf) [Accessed 15 June 2010].

### General information

[CONABIO. 2008. Sistema de información sobre especies invasoras en México. Especies invasoras - Peces. Comisión Nacional para el Conocimiento y Uso de la Biodiversidad. Fecha de acceso.](#)

**Summary:** English:

The species list sheet for the Mexican information system on invasive species currently provides information related to Scientific names, family, group and common names, as well as habitat, status of invasion in Mexico, pathways of introduction and links to other specialised websites. Some of the higher risk species already have a direct link to the alert page. It is important to notice that these lists are constantly being updated, please refer to the main page (<http://www.conabio.gob.mx/invasoras/index.php/Portada>), under the section Novedades for information on updates.

Invasive species - fish is available from: [http://www.conabio.gob.mx/invasoras/index.php/Especies\\_invasoras\\_-\\_Peces](http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Peces) [Accessed 30 July 2008]

Spanish:

La lista de especies del Sistema de información sobre especies invasoras de México cuenta actualmente con información acerca de nombre científico, familia, grupo y nombre común, así como hábitat, estado de la invasión en México, rutas de introducción y ligas a otros sitios especializados. Algunas de las especies de mayor riesgo ya tienen una liga directa a la página de alertas. Es importante resaltar que estas listas se encuentran en constante proceso de actualización, por favor consulte la portada (<http://www.conabio.gob.mx/invasoras/index.php/Portada>), en la sección novedades, para conocer los cambios.

Especies invasoras - Peces is available from: [http://www.conabio.gob.mx/invasoras/index.php/Especies\\_invasoras\\_-\\_Peces](http://www.conabio.gob.mx/invasoras/index.php/Especies_invasoras_-_Peces) [Accessed 30 July 2008]

[FishBase, 2006. \*Poecilia reticulata\*.](#)

**Summary:** FishBase is a global information system with all you ever wanted to know about fishes. FishBase on the web contains practically all fish species known to science. FishBase was developed at the WorldFish Center in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and many other partners, and with support from the European Commission (EC). Since 2001 FishBase is supported by a consortium of seven research institutions. You can search on [Search FishBase](#)

This species profile is available from: <http://filaman.ifm-geomar.de/Summary/SpeciesSummary.php?id=3228> [Accessed 26 March 2006]

[Gargominy, O., Bouchet, P., Pascal, M., Jaffre, T. and Tourneau, J. C. 1996. Conséquences des introductions d'espèces animales et végétales sur la biodiversité en Nouvelle-Calédonie. Rev. Ecol. \(Terre Vie\) 51: 375-401.](#)

**Summary:** Consequences to the biodiversity of New Caledonia of the introduction of plant and animal species.

[Global Biodiversity Information Facility \(GBIF\), 2010. \*Poecilia reticulata\* Peters, 1859](#)

**Summary:** Available from: <http://www.gbif.net/species/13538255/> [Accessed 15 June 2010]

[ITIS \(Integrated Taxonomic Information System\). 2005. Online Database \*Poecilia reticulata\*](#)

**Summary:** An online database that provides taxonomic information, common names, synonyms and geographical jurisdiction of a species. In addition links are provided to retrieve biological records and collection information from the Global Biodiversity Information Facility (GBIF) Data Portal and bioscience articles from BioOne journals.

Available from: [http://www.itis.usda.gov:8080/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=165903](http://www.itis.usda.gov:8080/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=165903) [Accessed September 2006]

Keith, P. 2002. Freshwater fish and decapod crustacean populations on Reunion island, with an assessment of species introductions. Bull. Fr. Pêche Piscic., 364, 97-107.

**Summary:** Cet article propose un bilan de la connaissance des espèces de poissons et des crustacés décapodes présents dans les eaux douces de La Réunion avec une synthèse des espèces introduites.

Keith, P. 2002. Revue des introductions de poissons et de crustacés décapodes d'eau douce en Polynésie française. Bull. Fr. Pêche Piscic, 364, 147-160.

**Summary:** Cet article fait le bilan des introductions d'espèces dulçaquicoles en Polynésie française.

Keith, P. 2005. Revue des introductions de poissons et de crustacés décapodes d'eau douce en Nouvelle-Calédonie. Revue d'Ecologie (La Terre et la vie), 60, 45-55.

**Summary:** Cet article propose un bilan complet et actualisé des introductions d'espèces de poissons et de crustacés décapodes dans les eaux douces de Nouvelle-Calédonie.

Keith, P., Marquet, G., Valade, P., Bosc, P. & Vigneux, E. 2006. Atlas des poissons et crustacés d'eau douce des Comores, Mascareignes et Seychelles. MNHN, Patrimoines naturels, vol. 67, Paris, 158p.

Keith, P., Vigneux, E. & P. Bosc. 1999. Atlas des poissons et crustacés d'eau douce de la Réunion. Patrimoines Naturels (M.N.H.N./S.P.N.), 39 : 136pp.

Keith P., Vigneux E. and G. Marquet. 2002. Atlas des poissons et crustacés d'eau douce de la Polynésie française. Patrimoines naturels, (MNHN), 55 :1-175.

Lindholm, A. K., F. Breden, H. J. Alexander, W. Chan, S. G. Thakurta, and R. Brooks. 2005. *Invasion success and genetic diversity of introduced populations of guppies *Poecilia reticulata* in Australia*. Molecular Ecology 10.1111/j.1365-294X.2005.02697.x.

Marquet, G., Keith, P., Vigneux, E. 2003. Atlas des poissons et des crustacés d'eau douce de Nouvelle-Calédonie. Paris, Muséum national d'histoire naturelle, Collection Patrimoines Naturels 58, 282 p

[Nico, L. 2006. \*Poecilia reticulata\*. USGS Nonindigenous Aquatic Species Database, Gainesville, FL.](#)

**Summary:** Available from: <http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=863> [Accessed 26 March 2006]

Pascal, M., Barré, N., De Garine-Wichatitsky, Lorvelec, O., Frétey, T., Brescia, F., Jourdan, H. 2006. Les peuplements néo-calédoniens de vertébrés : invasions, disparitions. Pp 111-162, in M.-L. Beauvais et al., : Les espèces envahissantes dans l'archipel néo-calédonien, Paris, IRD éditions, 260 p. + cd-rom

**Summary:** Synthèse des introductions d'espèces de vertébrés en Nouvelle-Calédonie et évaluation de leurs impacts.