# GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Ardisia elliptica***

***Ardisia elliptica*** 简体中文 正體中文

**System:** Terrestrial

| Kingdom | Phylum | Class | Order | Family |
|---|---|---|---|---|
| Plantae | Magnoliophyta | Magnoliopsida | Primulales | Myrsinaceae |

**Common name** shoebutton ardisia (English), ati popa'a (English, French Polynesia)

**Synonym** *Ardisia humilis* , Vahl.
*Ardisia squamulosa* , Pr.

**Similar species**

**Summary** Ardisia elliptica is a shade tolerant evergreen tree whose fast growth and attractive fruit made it a popular ornamental plant in the past. It has escaped from private and public gardens to invade natural areas. Due to high reproductive output and high shade-tolerance, carpets of seedlings can form underneath adult trees. High seed viability (99%) and seed consumption by both avian and mammalian frugivores can lead to rapid spread across a landscape.

view this species on IUCN Red List

**Species Description**
*Ardisia elliptica* is a tropical understorey shrub that can reach heights of up to 5 metres. Undamaged plants in forest habitats are characterised by a single stem, producing short, perpendicular branches. Leaves are elliptic to elliptic-obovate, entire, leathery and alternate. Most plants in South Florida have pink to red coloured petioles, although some populations have light green petioles. Umbellate inflorescences develop in leaf axils of branch leaves. Petals are light pink. Fruits are drupes that first turn red as they mature and then deep purple/black. Pulp from the fruits will stain fingers a deep purple. Seeds are approximately spherical with a diameter of about 5mm.

**Notes**
*Ardisia elliptica* readily invades moist disturbed forests, however, it has also been able to invade relatively undisturbed sites. Its fast growth and attractive fruit made it a popular ornamental plant in the past. From private and public gardens it has invaded natural areas. Close resemblance between it and *A. escallonioides* in Florida led to its introduction to the Everglades National Park in 1947. Because its fruit is readily consumed by both avian and mammalian frugivores, rapid spread across a landscape is possible. High seed viability (99%) greatly increases success of rare long-distance dispersal events.

**Lifecycle Stages**
Seeds do not have any long-term dormancy (i.e., greater than 6 months), however, seedlings and juveniles can survive under very shady conditions for many years. Given enough light, juveniles rapidly develop into reproductive adults. In Florida (USA) habitats, there is very little adult mortality. Fruits are readily eaten by frugivores.

**Habitat Description**
*Ardisia elliptica* readily invades moist disturbed forests, however, it has also been able to invade relatively undisturbed sites. Its fast growth and attractive fruit made it a popular ornamental plant in the past. From private and public gardens it has invaded natural areas. Close resemblance between it and *A. escallonioides* in Florida led to its introduction to the Everglades National Park in 1947. Because its fruit is readily consumed by both avian and mammalian frugivores, rapid spread across a landscape is possible. High seed viability (99%) greatly increases the success of rare long-distance dispersal events.

**Reproduction**
*Ardisia elliptica* is highly autogamous. Given ideal conditions, individuals can reach reproductive maturity in 2-4 years in the field and 1-2 years in a shade house. Large adults in bright forested sites have been measured producing up to 400 fruits. However, adults can also successfully set fruit under shady conditions.

**Nutrition**
A shade-adapted species that can survive under extreme low light levels. In Florida it grows in alkaline soils and limestone substrates. Prefers moist forests. Seedlings can tolerate submergence for short periods.

**General Impacts**
*Ardisia elliptica* readily forms dense monotypic stands that exclude native species. Due to high reproductive output and high shade-tolerance, carpets of seedlings (>400 plants per square metre) can form underneath adult plants under ideal conditions (moist soil and shallow litter). Seedling carpets and increased shade levels inhibit recruitment by native species.

**Management Info**
Preventative measures: A Risk Assessment of *Ardisia elliptica* for Hawaii and other Pacific islands was prepared by Dr. Curtis Daehler (UH Botany) with funding from the Kaulunani Urban Forestry Program and US Forest Service. The alien plant screening system is derived from Pheloung *et al.* (1999) with minor modifications for use in the Pacific islands (Daehler *et al.* 2004).
Physical: Hand pull seedlings.
Chemical: \"In areas with a dense groundcover of seedlings, a broadcast spray of a glyphosate herbicide is effective, but be careful to avoid damaging desirable plants. Mature specimens should be treated with a basal application of a triclopyhr herbicide mixed with an oil diluent\" (Hammer, 1996).

**Pathway**
Although this method has not been documented, it is a likely invasion path.Sold as an ornamental.

**Principal source:** Pacific Islands Ecosystems at Risk, (PIER, 2002)

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**ALIEN RANGE**

**[1]** AUSTRALIA
**[3]** FRENCH POLYNESIA
**[1]** SAINT LUCIA
**[1]** COOK ISLANDS
**[1]** REUNION
**[2]** UNITED STATES

**BIBLIOGRAPHY**

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**Managment information**
Brown, M. T. and Lamare, M. D. 1994. The distribution of *Undaria pinnatifida* (Harvey) Suringar within Timaru harbour, New Zealand. Japanese Journal of Phycology 42: 63-70.
Daehler, C.C; Denslow, J.S; Ansari, S and Huang-Chi, K., 2004. A Risk-Assessment System for Screening Out Invasive Pest Plants from Hawaii and Other Pacific Islands. Conservation Biology Volume 18 Issue 2 Page 360.
**Summary:** A study on the use of a screening system to assess proposed plant introductions to Hawaii or other Pacific Islands and to identify high-risk species used in horticulture and forestry which would greatly reduce future pest-plant problems and allow entry of most nonpests.
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Hay, C. H. 1990. The dispersal of sporophytes of *Undaria pinnatifida* by coastal shipping in new Zealand, and implications for further dispersal of Undaria in France. British Phycological Journal 25: 301-313.
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Montague, T. L. 2000. The brushtail possum: Biology, impact and management of an introduced marsupial. Manaaki Whenua Press, New Zealand.
**Summary:** An account (by several authors) that outlines the breadth and complexity of the possum problem in New Zealand. The book explores current and potential future management techniques, and measuring the benefits of controlling possums.
Motooka, P. 2000. Summaries of herbicide trials for pasture, range, and non-cropland weed control-1999. College of Tropical Agriculture and Human Resources of the University of Hawaii at Manoa.
**Summary:** Data published to assist applicators experimenting with herbicides for weed control.
Rash, J. E., Williamson, R. C. and Taylor, S. J. 1995. How green is your mudflat? Proceedings of the Australasian conference on Spartina control. Department of Conservation and Natural Resources, Yarram, Victoria, Australia.
**Summary:** Collection of papers about the history of Spartina invasions in Australia and New Zealand and subsequent control attempts.
Shaw, W. B. 1999. Options for Spartina control in Northland. Conservation Advisory Science Notes: 253, Department of Conservation, Wellington, New Zealand.
Ward, B. and Henzell, R. 1999. Gel pruning for the control of invasive vines. ConScience, Department of Conservation, New Zealand.
**Summary:** Gel pruning is being investigated as an environmentally friendly and effective chemical application system for selectively killing invasive vines.

**General information**
Conservatoire Botanique National De Mascarin (BOULLET V. coord.) 2007. - *Ardisia elliptica* Index de la flore vasculaire de la R&#65533;union (Trach&#65533;ophytes) : statuts, menaces et protections. - Version 2007.1
**Summary:** Base de donn&#65533;es sur la flore de La R&#65533;union. De nombreuses informations tr&#65533;s utiles.
Available from: http://flore.cbnm.org/index2.php?page=taxon&num=3435c378bb76d4357324dd7e69f3cd18 [Accessed 28 March 2008]
Cowan, P. E. 1990. The Brushtail Possum. The Handbook of New Zealand Mammals. King, C. M. (ed.) Oxford University Press.
**Summary:** A comprehensive book on all 46 species of land-breeding mammals (mostly alien) that occur in New Zealand. Chapters are by local experts on each species. Chapter on brushtail possums is by P.E. Cowan.
Florence J., Chevillotte H., Ollier C. & Meyer J.-Y. 2007. *Waterhousea floribunda* Base de donn&#65533;es botaniques Nadeaud de l Herbier de la Polyn&#65533;sie fran&#65533;aise (PAP).
**Summary:** Base de donn&#65533;es sur le flore de Polyn&#65533;sie Fran&#65533;aise.
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**Summary:** A complete reference to the ship rat in New Zealand.
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**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.
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**Summary:** Information on plants that pose threats to natural resource areas in Florida.
Available from: http://www.fleppc.org/ID_book/ardidia%20elliptica.pdf [Accessed 30 December 2004]
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**Summary:** Dans cet article, la menace croissante des plantes exotiques envahissantes est discut&#65533;e et les esp&#65533;ces les plus envahissantes sont d&#65533;crites. Des hypoth&#65533;ses sur l invasibilit&#65533; des &#65533;les sont pr&#65533;sent&#65533;es &#65533; la lumi&#65533;re des observations et des donn&#65533;es r&#65533;colt&#65533;es.