

Coccinia grandis  [简体中文](#) [正體中文](#)

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Violales	Cucurbitaceae

Common name kundru (English, Fiji), kiuri awia (English, Marshall Islands), ivy gourd (English), aipikohr (English, Pohnpei), scarlet-fruited gourd (English)

Synonym *Bryonia grandis*, L.
Coccinia cordifolia, auct. non (L.) Cogn.
Bryonia grandis, L.
Coccinia cordifolia, (L.) Cogn. var. *alceifolia* (Willd.) Cogn.
Cephalandra indica, Naudin
Coccinia cordifolia, (L.) Cogn. var. *wightiana* (M. Roem.) Cogn.
Coccinia grandis, (L.) Voigt var. *wightiana* (M. Roem.) Greb.
Coccinia indica, Wight & Arn.
Coccinia loureiriana, M. Roem.
Coccinia wightiana, M. Roem.
Cucumis pavel, Kostel.
Momordica bicolor, Blume
Momordica covel, Dennst.
Momordica monadelphica, Roxb.
Bryonia alceifolia, Willd.

Similar species

Summary *Coccinia grandis* is a noxious vine that smothers vegetation and other objects forming a dense canopy. It acts as a host for melon fly and is a reservoir for other crop pests possibly including ring spot virus. It has become invasive in Guam, Saipan and Hawai'i where it is a severe pest in gardens, on utility poles, roadsides, and in natural areas.



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

Species Description

"Dioecious perennial herbaceous vine. Stems mostly glabrous, produced annually from a tuberous rootstock; tendrils simple, axillary. Leaves alternate, simple, blade broadly ovate, 5-lobed, 5-9 x 4-9cm, acute and mucronate at the apex, cordate with a broad sinus at the base; surfaces glabrous or scaly, with 3-8 glands near the base; margins denticulate; petiole 1-5cm long. Inflorescence usually of solitary, axillary flowers. Calyx of 5 subulate, recurved lobes 2-5mm long on the hypanthium; peduncle 1-5cm long. Corolla campanulate, white, 3-4.5cm long, deeply divided into 5 ovate lobes. Stamens 3, present as staminodes in female flowers. Ovary inferior. Fruit a smooth, bright red, ovoid to ellipsoid berry 2.5-6cm long" (PIER, 2003).

Lifecycle Stages

Seeds do not exhibit dormancy, (PIER, 2003).

Uses

The shoot tips are used in Asian cooking, (PIER, 2003).



Habitat Description

In Hawai'i, "naturalised and rapidly spreading in disturbed sites, 0-100 m" (PIER, 2003). In Fiji, "a naturalised weed of waste places, canefields, roadsides, etc., near sea level, perhaps originally intentionally introduced; a sprawling or creeping vine" (PIER, 2003).

Reproduction

Pieces of vines or cuttings, bird-dispersed seeds, probable dispersal by feral pigs. On Guam, only one sex of the plant is present (male), so spread is entirely by roots, pieces, and cuttings. The shoot tips are used in Asian cooking, so long-range dispersal is often the result of introduction by humans. (PIER, 2003)

Nutrition

The roots and stems are succulent and capable of storing water throughout the dry season, (ERDC).

General Impacts

Smothering vegetation and other objects forming a dense canopy (NMC Crees, 1997). Smothering vine, very aggressive, with extensive tuberous root system, (PIER, 2003). Acts as a host for melon fly and may also be a reservoir for ring spot virus (NMC Crees, 1997). Very aggressive weed on Guam and Saipan, in many places smothering the forest, (PIER, 2003). In Hawai'i a severe pest in gardens, on utility poles, roadsides, and in natural areas, (Thomas, 1998).

Management Info

Preventative measures: A [Risk Assessment of *Coccinia grandis*](#) for Hawai'i 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 Pacific islands (Daehler *et al.* 2004. The result is a score of 21 and a recommendation of: "Likely to cause significant ecological or economic harm in Hawai'i and on other Pacific Islands as determined by a high WRA score, which is based on published sources describing species biology and behaviour in Hawai'i and/or other parts of the world."

A [Risk assessment of *Coccinia grandis*](#) for Australia was prepared by Pacific Island Ecosystems at Risk (PIER) using the Australian risk assessment system (Pheloung, 1995). The result is a score of 9 and a recommendation of: reject the plant for import (Australia) or species likely to be a pest (Pacific).

Physical: Cutting has little effect (PIER, 2003).

Chemical: A single application of herbicide (Garlon®) may be insufficient to prevent regrowth. Roundup® is only effective against young plants. Because of its climbing habit, use of foliar herbicides is difficult without causing damage to the underlying vegetation. "Susceptible to basal bark applications of 2,4-D or triclopyr, however finding basal stems difficult in dense stands. Foliar applications of 2,4-D, glyphosate or metsulfuron ineffective; triclopyr and dicamba, each at 1 lb/acre provided excellent knockdown of foliage. This suggests knockdown of foliage followed by basal stem treatments when the plants begin to re-sprout may be successful. Seeds do not exhibit dormancy so ivy gourd may be eradicable from a defined area." (PIER, 2003).

Biological: "To control this weed, three natural enemies, *Melittia oedipus* Oberthur (Sesiidae), *Acythopeus cocciniae* O'Brien (Curculionidae) and *Acythopeus burkhartorum* O'Brien (Curculionidae) were introduced to the Hawai'ian Islands from East Africa. These natural enemies are being cultured at the Quarantine Laboratory in Guam" (PIER, 2003). In Hawai'i two species of weevils have recently been released for biological control (Thomas, 1998). Some regions, including Hawai'i, are experimenting with biological control of *A. coccinia* primarily using *Acythopeus burkhartorum* and *A. cocciniae*, two nonindigenous weevils, to control infestations of *Coccinia grandis* or ivy gourd, (Thomas, 1998). A decade of lower rainfall in Hawai'i has not provided ideal conditions for the proliferation of ivy gourd so the true impact of the biocontrol agents is difficult to assess (Kenneth K. Teramoto, pers. comm, 2003).

Pathway

The shoot tips are used in Asian cooking, so long-range dispersal is often the result of introduction by humans. (PIER, 2003)

Principal source: [Pacific Islands Ecosystems at Risk, \(PIER\)](#)

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG)

Review: Kenneth K. Teramoto. Chief, Biological Control Section, Plant Pest Control Branch, Hawaii Department of Agriculture. Hawaii USA.

Publication date: 2005-06-24

ALIEN RANGE

[2] FIJI	[1] FRENCH GUIANA
[1] FRENCH POLYNESIA	[1] GUAM
[1] MARSHALL ISLANDS	[1] MICRONESIA, FEDERATED STATES OF
[3] NORTHERN MARIANA ISLANDS	[1] REUNION
[1] SAINT LUCIA	[1] SAMOA
[2] TONGA	[3] UNITED STATES
[1] VANUATU	

BIBLIOGRAPHY

13 references found for *Coccinia grandis*

Management information

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.

[European and Mediterranean Plant Protection Organization \(EPPO\), 2006. Guidelines for the management of invasive alien plants or potentially invasive alien plants which are intended for import or have been intentionally imported. EPPO Bulletin 36 \(3\), 417-418.](#)

[Gardner, Donald E. Biocontrol of Forest Weeds. University of Hawaii, Botany Department.](#)

Summary: Biocontrol of forest weeds.

Available from: <http://www.botany.hawaii.edu/faculty/gardner/biocontrol/biocontrol.htm> [Accessed 9 July 2003]

[NMC Crees, 1997. Scarlet Gourd in Saipan.](#)

Summary: About the Scarlet Gourd in Saipan.

Available from: <http://www.crees.org/weeds/scarlet-gourd.htm> [Accessed 10 July 2003]

[PIER \(Pacific Island Ecosystems at Risk\), 2003. Coccinia grandis](#)

Summary: Ecology, synonyms, common names, distributions (Pacific as well as global), management and impact information.

Available from: http://www.hear.org/pier/species/coccinia_grandis.htm [Accessed 9 July 2003]

General information

[Conservatoire Botanique National De Mascarin \(BOULLET V. coord.\) 2007. Coccinia grandis.- Index de la flore vasculaire de la R union \(Trach ophytes\) : statuts, menaces et protections. - Version 2007.1](#)

Summary: Base de donn es sur la flore de la R union. De nombreuses informations tr s utiles.

Available from: <http://flore.cbnm.org/index2.php?page=taxon&num=c0d58683701171db454d0456f2508f90> [Accessed March 2008]

Delnatte, pers. comm., 2007

Summary: Personal communication with C sar Delnatte from the herbarium of Cayenne

[Department of Agriculture and Food - Western Australia \(WA\). 2002. Ivy Gourd.   Chief Executive Officer of the Department of Agriculture 2002.](#)

Summary: Information on Ivy gourd in Western Australia.

Available from: <http://www.agric.wa.gov.au/agency/offices/Derby/rubb.htm> [Accessed 10 July 2003]

ERDC. *Coccinia grandis* (L.) Voigt (Ivy Gourd). Waterways Experiment Station (WES). U.S. Army Engineer Research and Development Center (ERDC).

Summary: Small amount of information on *Coccinia grandis* in the US.

[Florence J. Chevillotte H. Ollier C. & Meyer J.-Y. 2007. Coccinia grandis. Base de donn es botaniques Nadeaud de l'Herbier de la Polyn sie fran aise \(PAP\).](#)

Summary: Base de donn es sur la flore de Polyn sie Fran aise.

Available from: http://www.herbier-tahiti.pf/Selection_Taxonomie.php?id_tax=20262 [Accessed March 2008]

Global Invasive Species Database (GISD) 2024. Species profile *Coccinia grandis*. Available from:

<https://iucngisd.org/gisd/species.php?sc=348> [Accessed 22 November 2024]



GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Coccinia grandis*

[ITIS \(Integrated Taxonomic Information System\), 2004. Online Database *Coccinia grandis*](#)

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.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=22358 [Accessed December 31 2004]

[Meyer, J.-Y. 2000. Invasive plants in the Pacific Islands. In: *The Invasive Species in the Pacific: A Technical Review and Draft Regional Strategy*. Sherley, G. \(tech. ed\). Published in June 2000 by the South Pacific Regional Environment Programme \(SPREP\).](#)

Summary: Resource that includes the distribution of invasive species throughout the Pacific Islands.

[Thomas, P.A. 1998. Ivy gourd. *Hawaiian ecosystems at Risk*, \(HEAR\).](#)

Summary: Information on Ivy gourd in Hawaii.

Available from: <http://www.hear.org/ivygourd/index.html> [Accessed 10 July 2003].