***Delairea odorata*** 简体中文 正體中文

**System:** Terrestrial

| Kingdom | Phylum | Class | Order | Family |
|---|---|---|---|---|
| Plantae | Magnoliophyta | Magnoliopsida | Asterales | Asteraceae |

**Common name** capeivy (English), Cape ivy (English), African ivy (English), German ivy (English), Italian ivy (English), climbing groundsel (English), parlor ivy (English)

**Synonym** *Senecio mikanioides* , (Otto ex Walp.)
*Senecio scandens* , (DC)

**Similar species** *Hedera helix*

**Summary** Delairea odorata is a perennial, evergreen vine that is native to South Africa but has been introduced into California where it is highly invasive and has started to dominate habitats and displace native species. Also known as \"Cape ivy\" or \"German ivy\", the vine was introduced as an ornamental groundcover. It spreads prolifically by vegetative reproduction through stolons. Although its native range is fairly limited, Delairea odorata can tolerate a wide range of environmental and habitat conditions.

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**Species Description**
*Delairea odorata* is a fleshy, perennial, evergreen vine that can grow up to six metres long (Starr *et al*. 2003). The stem and leaves are glabrous and green (Starr *et al*. 2003) with underground stolons a mottled purple colour (Bossard, undated). The leaves are alternate, broadly deltate to \"ivy-shaped\", with 5-7 shallow, but sharply pointed lobes (State of Victoria, Department of Natural Resources and Environment, 2001), 3-10cm long and 3-6cm wide, palmately veined with petioles 1.5-7cm long (Starr *et al*. 2003). A pair of kidney-shaped leaves present at the base of large leaves and may be absent on older vines (State of Victoria, Department of Natural Resources and Environment, 2001). Flowers are axillary or terminal cymes, with individual flowers yellow, disk corollas 4-5mm long arranged in clusters, ray flowers absent (Starr *et al*. 2003). The fruit is an achene about 2mm long, often with a pappus (Starr *et al*. 2003) and a \"crown\" of hairs (State of Victoria, Department of Natural Resources and Environment, 2001).

**Lifecycle Stages**
*Delairea odorata* has the most rapid vegetative growth between the months of February and June (Bossard, undated) and tends to dieback during dry periods when there is a lack of available water resources (Starr *et al*. 2003). The plant flowers between December and January in California (Alvarez & Cushman, 2002) and between July and September in Australia (State of Victoria, Department of Natural Resources and Environment, 2002). Non-viable or poor germinating seed is produced in California (Starr *et al*. 2003) so the main form of propagation is by vegetative means. However it has been noted by Nelson (1999) in Starr *et al*. (2003), that seed set and germination is enhanced by hard frosts, cool winters and rain.

**Uses**
Originally introduced as a landscape plant due to its rapid growth and easy propagation, cape ivy is not recommended for use as an ornamental because of its aggressive growth habit and tendency to dominate and outcompete native vegetation (Starr *et al*. 2003). The entire plant contains toxic compounds and should be regarded with caution (Starr *et al*. 2003).

**Habitat Description**
Cape ivy is tolerant of a wide range of habitats from natural forests, rainforests, scrub and shrublands, grasslands, riparian corridors, lake shores, coastland, forest margins, roadsides, and waste places (Balciunas, 2002; Starr *et al*. 2003). It can grow in full sun or in the shade (Starr *et al*. 2003) and establishes on xeric (dry) or meisic (moderate) moisture sites (Jacobi & Warshauer, undated). Elevation ranges from 500-2500 metres in Hawaii (Jacobi & Warshauer, undated) but typically it is found below 200 metres in coastal regions (Starr *et al*. 2003). It is commonly found in high pH soils characterized by high fertility (Baars *et al*. 1998) and has been known to establish on salt exposed bluffs (Starr *et al*. 2003). It is tolerant of drought and freezing (Alvarez & Cushman, 2002). Its growth pattern and climbing mechanism is scrambling and creeping, clinging to exposed branches of shrubs and young trees, establishing best in early successional forests (Baars *et al*. 1998).

**Reproduction**
Cape ivy can reproduce vegetatively or through seed production. Vegetative reproduction can occur at any time when the nodes of the stem, stolon, or leaf petiole are in contact with the soil (Alvarez & Cushman, 2002). Small fragmented pieces can root easily and quickly (Starr *et al*. 2003). *D. odorata* can also reproduce by seed but it seems it only does so in South Africa and Australia; no viable seed is produced in species that have invaded the coasts of California (Bossard, undated). It is theorized that since the flowers of *D. odorata* are self-incompatible that only a few genetic lines have been introduced and therefore inhibit viable seed production (Bossard, undated).

**General Impacts**
Cape ivy is an oppurtunistic and aggressively growing perennial vine that can form dense vegetative groundcover mats that can prevent seedling establishment of native forbs and grasses (Alvarez, 1997). The climbing nature of the plant allows it to access light resources higher in the canopy and can prevent forest stand regeneration by smothering trees (Bossard, undated). The weight of large masses of Cape ivy have been known to bring down trees (Bossard, undated). *D. odorata* also competes for other resources like soil nutrients and water (Alvarez & Cushman, 2002). The reduction in diversity also effects higher trophic level organisms like several sensitive species of insects and predator complexes that rely on these invertabrates for food (Starr *et al*. 2003). Cape ivy has several negative impacts on riparian communities, including increased soil erosion along watercourses due to its shallow root system not capable of holding loose soils together (Bossard, undated). Toxic pyrrolizidine alkaloids and xanthones are found within the plant that are toxic to humans, mammals, and in particularly aquatic organisms. Due to the toxic compounds in this plant it is not considered widely palatable to most species, reducing forage quality (Starr *et al*. 2003). The dense vegetation can also displace burrowing shorebirds, like little penguins (see *Eudyptula minor* in IUCN Red List of Threatened Species), by taking up available space used for nesting (Dann, undated).

**Management Info**
Preventitive measures: *Delairea odorata* should not be used as a landscape plant or sold as an ornamental in nursery stock. Education of the public on the harmful effects the plant has on native habitats and species should be a priority (Starr *et al*. 2003). Monitoring and mapping infestations as they arise is also considered a priority as well as follow-up monitoring and control to make sure infested areas remain clean (Jacobi & Warshauer, undated).
A Risk Assessment of *Delairea odorata* 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 Pacific islands (Daehler *et al.* 2004). The result is a score of 14 and a recommendation of: \"Likely to cause significant ecological or economic harm in Hawaii and on other Pacific Islands as determined by a high WRA score, which is based on published sources describing species biology and behaviour in Hawaii and/or other parts of the world.\"
Please follow this link management information: *Delairea odorata* for detailed management information.

**Principal source:** Starr, F., Starr, K., & Loope, L., Jan. 2003, *Delairea odorata* Cape ivy, United States Geological Survey, Biological Resources Division, Haleakala Field Station, Maui, Hawaii;
Alvarez, M.E., 1997, Management of Cape-ivy (*Delairea odorata*) in the Golden Gate National Recreation Area, California Exotic Pest Plant Council, 1997 Symposium Proceedings, [online];
State of Victoria, Department of Natural Resources and Environment, Aug. 2001, Coastal Notes, Cape ivy, CW0008, ISSN 1329-4806.

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

**Pubblication date:** 2010-10-04

## ALIEN RANGE

**[3]** AUSTRALIA
**[2]** MICRONESIA, FEDERATED STATES OF
**[1]** NORTH AFRICA
**[1]** SOUTHERN EUROPE
**[1]** UNITED KINGDOM
**[1]** ITALY
**[1]** NEW ZEALAND
**[1]** PORTUGAL
**[1]** SPAIN
**[5]** UNITED STATES

**Red List assessed species 1: CR = 1;**

Loxioides bailleui **CR**

## BIBLIOGRAPHY

**19** references found for **Delairea odorata**

**Managment information**
Alvarez, M.E., 1997, Management of Cape-ivy (*Delairea odorata*) in the Golden Gate National Recreation Area, California Exotic Pest Plant Council, 1997 Symposium Proceedings, [online].
**Summary:** An article from a 1997 symposium discussing the current impact of the time of cape ivy on ecosystems and communities in the state of California. It also reviews the impact of mechanical control employed on several infestations and the success of volunteer programs in controlling cape ivy.
Available from: http://www.cal-ipc.org/symposia/archive/pdf/1997_symposium_proceedings1933.pdf [Accessed on 23 July 2010].
Bossard, C., undated, *Delairea odorata*, Agriculture and Natural Resources (ANR), University of California, [online].
California Invasives Plant Council (Cal-IPC) ., undated. Invasive plants of California s Wildlands *Delairea odorata*
**Summary:** Available from: http://www.cal-ipc.org/ip/management/ipcw/pages/detailreport.cfm@usernumber=41&surveynumber=182.php [Accessed 6 August 2007]
Collins, J.N, May M, Grosso C. 2003. Cape ivy (German Ivy) *Delairea odorata* (synonym *Senecio mikanioides*). Practical Guidebook to the Control of Invasive Aquatic and Wetland Plants of the San Francisco Bay - Delta Region.
**Summary:** Information on description, economic importance, distribution, habitat, history, growth, and impacts and management of species.
Available from: http://legacy.sfei.org/nis/capeivy.html [Accessed 22 May 2010].
The Guidebook is available from: http://legacy.sfei.org/nis/index.html
IUCN/SSC Invasive Species Specialist Group (ISSG)., 2010. A Compilation of Information Sources for Conservation Managers.
**Summary:** This compilation of information sources can be sorted on keywords for example: Baits & Lures, Non Target Species, Eradication, Monitoring, Risk Assessment, Weeds, Herbicides etc. This compilation is at present in Excel format, this will be web-enabled as a searchable database shortly. This version of the database has been developed by the IUCN SSC ISSG as part of an Overseas Territories Environmental Programme funded project XOT603 in partnership with the Cayman Islands Government - Department of Environment. The compilation is a work under progress, the ISSG will manage, maintain and enhance the database with current and newly published information, reports, journal articles etc.
Jacobi, J.D., & Warshauer, F.R., undated, Distribution of Six Alien Plant Species in Upland Habitats on the Island of Hawai I, *Aliens in Upland Habitats*.
**Summary:** Research on mapping six aggressive invasive plant species in Hawaii, including *Delairea odorata*. Giving the habitat, distribution amongst the Hawaiian islands, and abundance, along with recommendations on continuous monitoring of these populations.
Available from: http://www.hear.org/books/apineh1992/pdfs/apineh1992ii2jacobiwarshauer.pdf [Accessed on 23 March 2007].

Pacific Island Ecosystems at Risk (PIER), 2006, 2010. *Delairea odorata*, [online database].
**Summary:** A Pacific island database on invasive species introductions and distributions. Also includes brief information on habitat and management options.
Available from: http://www.hear.org/pier/species/delairea_odorata.htm [Accessed on 23 March 2010].
Starr, F., Starr, K., & Loope, L., Jan. 2003, *Delairea odorata* Cape ivy, United States Geological Survey, Biological Resources Division, Haleakala Field Station, Maui, Hawai i.
**Summary:** A very informative article on the current control and distribution of Cape ivy as an introduced and invasive species. Also gives a great description , habitat and management options that are currently available.
Available from: http://www.hear.org/starr/hiplants/reports/pdf/delairea_odorata.pdf [Accessed on 23 March 2007].
Stelljes, K. B., June 2001, South African Insects May Help Against Cape Ivy, *Agricultural Research*, Agricultural Research Service, United States Department of Agriculture(USDA), [available online].
**Summary:** A magazine article from USDA-ARS discussing biological control species that have the potential to be introduced into the U.S. for the control of Cape ivy.
Available from: http://www.ars.usda.gov/is/AR/archive/jun01/cape0601.htm [Accessed on 23 March 2010].

**General information**
Alvarez, M. E., & Cushman, J. H., 2002. Community-level Consequences of a Plant Invasion: Effects on Three Habitats in Coastal California, *Ecological Applications*, Vol. 12, no. 5, pp. 1434-1444.
Baars, R., Kelly, D., & Sparrow, A.D., 1998, Liane Distribution Within Native Forest Remnants in Two Regions of the South Island, New Zealand, *New Zealand Journal of Ecology*, Vol. 22, no. 1, pp.71-85.
**Summary:** A journal article that discusses the general ecology of subtropical and tropical vines in forested communities and how these vines are established and their impact on other vegetation.
Available from: http://www.nzes.org.nz/nzje/free_issues/NZJEcol22_1_71.pdf [Accessed on 23 March 2007].
Balciunas, J.K., Sept. 2002, Coping with Cape Ivy, *Biocontrol News and Information*, Vol. 23, pp. 6-8.
**Summary:** An abstract article discussing the ecological impacts of Cape ivy on native communities where introduced.
Available from: http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=146106 [Accessed on 23 March 2007].
Dann, P., undated, Little (Blue or Fairy) Penguin *Eudyptula minor*, Penguin Reserve Committee of Management, International Penguin Conservation Work Group, [online].
**Summary:** An article on penguins with a brief mention on how Cape ivy has detrimental impacts on habitat for shorebird nesting sites.
Available from: http://www.penguins.cl/little-penguins.htm [Accessed on 23 March 2007].
Department of Conservation (DOC) 2004. Wetlands for Education in the West Coast Tai Poutini Conservancy Compiled by Chrisie Sargent, Sharleen Hole and Kate Legget
**Summary:** Available from:
http://www.doc.govt.nz/upload/documents/getting-involved/students-and-teachers/field-trips-by-region/wetlands-resource.pdf [Accessed 6 August 2007]
Hussey, B.M.J., & Lloyd, S.G., Dec. 2002, Western Weeds: Additions, Deletions, and Name Changes, Department of Conservation and Land Management FloraBase.
**Summary:** A list of the weed species in Australia with up-to-date nomenclature and a brief mention of Cape ivy.
Available from: http://members.iinet.com.au/~%20weeds/ww_update.pdf [Accessed on 23 March 2007].
ITIS (Integrated Taxonomic Information System), 2007. Online Database *Delairea odorata*.
**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=565124 [Accessed on 23 March 2007].
South African National Biodiversity Institute, African Flowering Plants Database, *Delairea odorata* Lem., [online].
**Summary:** A botanical website for South African species, referenced for an obscure synonym associated with *Delairea odorata*.
Available from: http://www.ville-ge.ch/cjb/bd/africa/details.php?langue=an&id=97574 [Accessed on 23 March 2007].
State of Victoria, Department of Natural Resources and Environment, Aug. 2001, Coastal Notes, Cape ivy, CW0008, ISSN 1329-4806
**Summary:** A fact sheet produced by the Victorian administrative government of Australia on the biology, ecology, and management options for the control of cape ivy.
Available from:
http://www.dpi.vic.gov.au/dpi/nreninf.nsf/9e58661e880ba9e44a256c640023eb2e/c31809477e0f353eca256e72002284c1/$FILE/ATTJSNRJ/Cw0008.pdf [Accessed on 23 March 2007].
United States Department of Agriculture (USDA), ARS, National Genetic Resources Program, Germplasm Reources Information Network(GRIN), 2007, [Online database], National Germplasm Resources Laboratory, Beltsville, MD.
**Summary:** USDA site giving distribution from reported sources for Cape ivy along with common names and uses.
Available from: http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?410179 [Accessed on 23 March 2007].