

## *Oxalis pes-caprae*

**System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Geraniales	Oxalidaceae

**Common name** buttercup oxalis (English), sourgrass (English), sour sorrel (English, South Africa), Englishweed (English), African woodsorrel (English), soursob (English), yellow sorrel (English), Bermuda buttercup (English)

**Synonym** *Oxalis cernua* , Thunb.  
*Oxalis libica* , Viv.  
*Oxalis pleniflora* , Lanfranco  
*Bolboxalis cernua* , (Thunb.) Small

### Similar species

**Summary** *Oxalis pes-caprae* is a short, perennial herb that is native to southern Africa. It mainly reproduces vegetatively via bulbs, and can form large clonal colonies. Colonies flower synchronously, with distinctive bright yellow flowers that are large and cup-shaped. It is commonly found growing in agricultural areas, cultivated areas, fields, disturbed/ruderal zones, gardens, wasteland, riparian zones, dunes and scrubland.



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

### Notes

*Oxalis pes-caprae* is listed as an invasive species by the European & Mediterranean Plant Protection Organisation (EPPO) (EPPO 2006a).

### Reproduction

*Oxalis pes-caprae* reproduces vegetatively, via bulbs. The mechanism by which this occurs is an underground movement combination of shoot elongation and root contraction. This results in a very effective method of bulb dispersal. However *O. pes-caprae* is also very dependent on human and animal-mediated dispersal into new areas. (EPPO 2006b; Pütz 1994).

### General Impacts

*Oxalis pes-caprae* can suppress other ruderal weedy plants, including native species, smothering them and leading to a reduction in biodiversity. The leaves are toxic and can pose a danger to livestock if growing in fields or grassy areas. *O. pes-caprae* growing in agricultural areas can also be a pest during harvesting and decreasing yield. The presence of *O. pes-caprae* has been shown to decrease cereal seed germinability by up to 63%. (EPPO 2006a; Lambdon 2006; Marshall 1987; Petsikos *et al.* 2007).

### Management Info

**Mechanical control:** Some livestock (e.g. pigs, turkeys) are known to graze on the bulbs of *Oxalis pes-caprae*, and this can be used as a control measure. (Lambdon 2006).

**Chemical control:** Pre-emergence herbicides have been found to be effective against *O. pes-caprae*, particularly those containing glyphosphate or sulfonyl urea. *O. pes-caprae* is known to be resistant against dinitroline-based herbicides. (Lambdon 2006).

## Principal source:

**Compiler:** IUCN SSC Invasive Species Specialist Group (ISSG) with support from the Overseas Territories Environmental Programme (OTEP) project XOT603, a joint project with the Cayman Islands Government - Department of Environment

## Review:

**Publication date:** 2010-06-08

## ALIEN RANGE

[1] AUSTRALIA	[1] BERMUDA
[1] CHILE	[1] CROATIA
[1] CZECH REPUBLIC	[1] DENMARK
[1] EGYPT	[2] FRANCE
[1] GIBRALTAR	[1] GREECE
[1] INDIA	[2] ITALY
[1] JAPAN	[1] MALTA
[1] MOROCCO	[1] NEW ZEALAND
[1] PAKISTAN	[3] PORTUGAL
[5] SPAIN	[1] TURKEY
[3] UNITED KINGDOM	[3] UNITED STATES

## BIBLIOGRAPHY

**36** references found for *Oxalis pes-caprae*

### Management information

Csurhes, S. and R. Edwards, 1998. Potential Environmental Weeds in Australia: Candidate Species for Preventative Control [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.

[Lambdon, Phil 2006. Oxalis pes-caprae. DAISIE Factsheet \(Delivering Alien Invasive Species Inventories for Europe\)](#)

**Summary:** Available from: [http://www.europe-aliens.org/pdf/Oxalis\\_pes-caprae.pdf](http://www.europe-aliens.org/pdf/Oxalis_pes-caprae.pdf) [Accessing May 3 2010]

Marshall, George, 1987. A review of the biology and control of selected weed species in the genus *Oxalis*: *O. stricta* L., *O. latifolia* H.B.K. and *O. pes-caprae* L. Crop Protection Vol. 6 December 1987, 355-364

[Vila, Montserrat; Gimeno, Isabel, 2007a. Effect of intercropping and ploughing on Mediterranean managed grasslands invaded by Oxalis pes-caprae. Plant Protection Quarterly. 22\(2\). 2007. 62-66.](#)

**Summary:** Available from: <http://www.montsevila.org/Other%5CEffect%20of%20agricultural%20practices.pdf> [Accessed 2 May 2010]

Vila, Montserrat; Tessier, Marc; Suehs, Carey M.; Brundu, Giuseppe; Carta, Luisa; Galanidis, Alexandros; Lambdon, Philip; Manca, Manuela; Medail, Frederic; Moragues, Eva; Traveset, Anna; Troumbis, Andreas Y.; Hulme, Philip E., 2006. Local and regional assessments of the impacts of plant invaders on vegetation structure and soil properties of Mediterranean islands. Journal of Biogeography. 33(5). MAY 2006. 853-861.

### General information

Aguiar, Francisca C.; Ferreira, M. Teresa; Albuquerque, Antonio; Moreira, Ilidio, 2007. Alien and endemic flora at reference and non-reference sites in Mediterranean-type streams in Portugal. Aquatic Conservation. 17(4). JUN 2007. 335-347

Ater, Mohammed, 2000. About a presence of sterile form of *Oxalis pes-caprae* L. in Morocco] Acta Botanica Malacitana. 25 2000. 259-261.

Bergmeier, Erwin; Dimopoulos, Panayotis, 2001. Chances and limits of floristic island inventories: The Dionysades group (South Aegean, Greece) re-visited Phytion (Horn). 41(2). 2001. 277-293

Bernhardt, K. G, 1986. *Oxalis pes-caprae* L. an adaptable neophyte in Sicily Italy. Bauhinia. 8(3). 1986. 141-148.

Bogdanovic, Sandro; Dobrovic, Iva; Ostojic, Ana; Borsic, Igor, 2003. *Oxalis pes-caprae* L. (Oxalidaceae) a new species in the flora of Croatia. Natura Croatica. 12(1). March 31, 2003. 31-37.

Brandes, D., 1991. Sociology and Ecology of *Oxalis pes-caprae* L. in the Mediterranean Region with special Attention to Malta. *Phytocoenologia*. 19(3). 1991. 285-306.

**Summary:** In this paper the ecology and sociology of the neophyt *Oxalis pes-caprae* coming from South Africa is pointed out. In the centre of interest is the island of Malta, where the species was introduced to Europe for the first time 190 years ago. Because of its formation of numerous bulbills *Oxalis pes-caprae* is a dangerous weed in the coastal areas of the western and especially the central Mediterranean region. In Malta *Oxalis pes-caprae* is one of the most frequent species. The centre of its occurrence is in, respectively at old walls surrounding the fields. It great phenotypical plasticity.sbd.the length of the overground shoot is up to 70 cm.sbd.enables her to acquire the full light without accepting the disadvantages of rapidly parching wall crevices. *Oxalis pes-caprae* is able to build tight weed layers in communities of tall herbs (*Urtico-Smyrniotum*, *Lavatera arborea* community) as well as under trees, respectively under *Arundo donax*. The behaviour of the species in Italy, in the Iberian peninsula as well as in North Africa is pointed out by literature and own investigations. There *Oxalis pes-caprae* occurs mainly in irrigated cultures of Citrus but also in river accompanying woods as well as in *Ricinus communis* scrubs. Castro, Silvia; Loureiro, Joao ; Santos, Conceicao; Ater, Mohammed; Ayensa, Garbine; Navarro, Luis, 2007. Distribution of flower morphs, ploidy level and sexual reproduction of the invasive weed *Oxalis pes-caprae* in the western area of the Mediterranean region. *Annals of Botany* (London). 99(3). MAR 2007. 507-517.

[Delivering Alien Invasive Species Inventories for Europe \(DAISIE\), 2006. \*Oxalis pes-caprae\*](http://www.europe-aliens.org/speciesFactsheet.do?speciesId=10959)

**Summary:** Available from: <http://www.europe-aliens.org/speciesFactsheet.do?speciesId=10959> [Accessed May3 2010]

[European and Mediterranean Plant Protection Organisation \(EPP0\), 2006a. Reporting Service: NO.3 PARIS, 2006-03-01](http://archives.eppo.org/EPPOReporting/2006/Rse-0603.pdf)

**Summary:** Available from: <http://archives.eppo.org/EPPOReporting/2006/Rse-0603.pdf> [Accessed May3 2010]

[European and Mediterranean Plant Protection Organisation \(EPP0\), 2006b. EPP0 Reporting Service: NO.8 PARIS, 2006-08-01](http://archives.eppo.org/EPPOReporting/2006/Rse-0608.pdf)

**Summary:** Available from: <http://archives.eppo.org/EPPOReporting/2006/Rse-0608.pdf> [Accessed May3 2010]

Gimeno, Isabel; Vila, Montserrat; Hulme, Philip E., 2006. Are islands more susceptible to plant invasion than continents? A test using *Oxalis pes-caprae* L. in the western Mediterranean. *Journal of Biogeography*. 33(9). SEP 2006. 1559-1565.

[Global Compendium of Weeds \(GCW\) 2007. \*Oxalis pes-caprae\* \(Oxalidaceae\)](http://www.hear.org/gcw/species/oxalis_pes-caprae/)

**Summary:** Available from: [http://www.hear.org/gcw/species/oxalis\\_pes-caprae/](http://www.hear.org/gcw/species/oxalis_pes-caprae/) [Accessed 4 October 2010]

Hadjikyriakou, G.; Hadjisterkotis, E., 2002. The adventive plants of Cyprus with new records of invasive species. *Zeitschrift fuer Jagdwissenschaft*. 48(Supplement). December 2002. 59-71.

Hantz J., 1986. Distribution of *Oxalis pes-caprae* in the East Mediterranean Region. *Annales Musei Goulandris*. 7 1986. 49-56.

[Integrated Taxonomic Information System \(ITIS\) 2010. \*Oxalis pes-caprae\* L.](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=29092)

**Summary:** Available from: [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=29092](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=29092) [Accessed 4 October 2010]

[Jakobsson, Anna; Padron, Benigno; Traveset, Anna., 2009. Competition for pollinators between invasive and native plants: Effects of spatial scale of investigation \(note\) \*Ecoscience\*. 16\(1\). 2009. 138-141.](http://www.imedeia.uib.es/bc/ecol_terr/all%20pdfs/2009_Jakobsson_Padron_Traveset_Ecoscience.pdf)

**Summary:** Available from: [http://www.imedeia.uib.es/bc/ecol\\_terr/all%20pdfs/2009\\_Jakobsson\\_Padron\\_Traveset\\_Ecoscience.pdf](http://www.imedeia.uib.es/bc/ecol_terr/all%20pdfs/2009_Jakobsson_Padron_Traveset_Ecoscience.pdf) [Accessed 3 May 2010]

Molero J, Montserrat J. M., 2006. Some new neophytes for the North East of Morocco. In: *Invasive plants in Mediterranean Type Regions of the World* (Ed. by S Brunel). Council of Europe publishing. Strasbourg. p. 333.

Petsikos, Charalampos; Dalias, Panagiotis; Troumbis, Andreas Y., 2007. Effects of *Oxalis pes-caprae* L. invasion in olive groves. *Agriculture Ecosystems & Environment*. 120(2-4). MAY 2007. 325-329.

Puetz, Norbert, 1994. Vegetative spreading of *Oxalis pes-caprae* (Oxalidaceae). *Plant Systematics & Evolution*. 191(1-2). 1994. 57-67.

Ross, Louise C.; Lambdon, Philip W.; Hulme, Philip E., 2008. Disentangling the roles of climate, propagule pressure and land use on the current and potential elevational distribution of the invasive weed *Oxalis pes-caprae* L. on Crete. *Perspectives in Plant Ecology Evolution & Systematics*. 10(4). 2008. 251-258.

Rottenberg, Aaron; Parker, John S., 2004. Asexual populations of the invasive weed *Oxalis pes-caprae* are genetically variable. *Proceedings of the Royal Society Biological Sciences Series B*. 271(Suppl. 4). May 7, 2004. S206-S208

Sala, Anna; Verdaguer, Dolores; Vila, Montserrat, 2007. Sensitivity of the invasive geophyte *Oxalis pes-caprae* to nutrient availability and competition. *Annals of Botany* (London). 99(4). APR 2007. 637-645.

Traveset, Anna; Brundu, Giuseppe; Carta, Luisa; Mprezetou, Irene; Lambdon, Philip; Manca, Manuela; Medail, Frederic; Moragues, Eva; Rodriguez-Perez, Javier; Siamantziouras, Akis-Stavros D.; Suehs, Carey M.; Troumbis, Andreas Y.; Vila, Montserrat; Hulme, Philip E., 2008. Consistent performance of invasive plant species within and among islands of the Mediterranean basin. *Biological Invasions*. 10(6). AUG 2008. 847-858.

[USDA-ARS 2008. Taxon: \*Oxalis pes-caprae\* L. National Genetic Resources Program. Germplasm Resources Information Network - \(GRIN\) \[Online Database\]. National Germplasm Resources Laboratory, Beltsville, Maryland.](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Oxalis%20pes-caprae)

**Summary:** Available from: [http://www.ars-grin.gov/cgi-bin/npgs/html/tax\\_search.pl?Oxalis%20pes-caprae](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl?Oxalis%20pes-caprae) [Accessed 4 October 2010]

[USDA-NRCS, 2010. \*Oxalis pes-caprae\* L. Bermuda buttercup. The PLANTS Database \(<http://plants.usda.gov>, 28 June 2010\). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.](http://plants.usda.gov/java/profile?symbol=OXPE)

**Summary:** Available from: <http://plants.usda.gov/java/profile?symbol=OXPE> [Accessing May 3 2010]

Verdaguer, Dolores; Anna Sala; Montserrat Vila, 2010. Effect of environmental factors and bulb mass on the invasive geophyte *Oxalis pes-caprae* development. *Acta Oecologica* 36 (2010) 92e99

Vila, Montserrat; Bartomeus, Ignasi; Gimeno, Isabel; Traveset, Anna; Moragues, Eva, 2006. Demography of the invasive geophyte *Oxalis pes-caprae* across a Mediterranean Island. *Annals of Botany* (London). 97(6). JUN 2006. 1055-1062.

Vila, Montserrat; Gimeno, Isabel, 2006. Potential for higher invasiveness of the alien *Oxalis pes-caprae* on islands than on the mainland. *Plant Ecology*. 183(1). MAR 2006. 47-53.

Vila, Montserrat; Gimeno, Isabel, 2007b. Does invasion by an alien plant species affect the soil seed bank? *Journal of Vegetation Science*. 18(3). JUN 2007. 423-430.

Vila, Montserrat; Siamantziouras, Akis-Stavros D.; Brundu, Giuseppe; Camarda, Ignazio; Lambdon, Philip; Medail, Frederic; Moragues, Eva; Suehs, Carey M.; Traveset, Anna.; Troumbis, Andreas Y.; Hulme, Philip E., 2008. Widespread resistance of Mediterranean island ecosystems to the establishment of three alien species. *Diversity & Distributions*. 14(5). SEP 2008. 839-851.