Sonchus asper 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Asterales	Asteraceae

Common name chaudronnet (French), prickly sow thistle (English), serralha espinhosa (Portuguese), prickly sowthistle (English), spiny annual sow thistle (English), perennial sowthistle (English), serralha preta (Portuguese), spiny sowthistle (English), prickly sow-thistle (English), laiteron rude (French), spiny-leaf sow-thistle (English), laiteron âpre (French), lastron piquant (French), laiteron piquant (French), rough sow thistle (English), serralha áspera (Portuguese), laiteron épineux (French)

Synonym
Sonchus asper , (L.) Hill ssp. *asper*
Sonchus asper , (L.) Hill ssp. *glaucescens* (Jord.) J. Ball
Sonchus nymanii , Tineo & Guss.
Sonchus asper , Linn.

Similar species *Sonchus oleraceus*

Summary Sonchus asper is a perennial or annual herb native to Eurasia and Africa. It has been introduced to a wide range of countries around the world, including some sub-Antarctic islands such as Gough Island, Auckland Islands and Campbell Island. It is considered a weed in agricultural systems mainly due to its role in harbouring diseases and pests. It produces large numbers of seeds that are dispersed by wind.

view this species on IUCN Red List

Species Description
Sonchus asper is a dicotyledonous annual or biennial herb in the family Asteraceae (Grubben & Denton, 2004). Plants can grow up to 2 metres in height. It has a ridged, glabrous (hairless) central stem that is simple or branched and is pentagonal in cross section. The tap root is usually unbranched (Hutchinson *et al*., 1984). Egg-shaped cotyledons are borne on petioles and are approximately 3 to 8mm long. Cotyledons and young leaves have a whitish coating. Young leaves form a basal rosette, sometimes causing them to be confused with thistles. Mature leaves that occur on the flowering stem are alternate and have rounded lobes that clasp the stem and measure 4-30cm x 1-9cm (Virginia Tech, undated). All leaves are glabrous, oblanceolate in shape, bluish green in colour and have prickly margins. Leaves and stems emit a milky sap (latex) when damaged.\r\n Inflorescences (capitula) are 4-5mm in diameter, yellow in colour and occur in clusters at the end of stems. Each capitulum contains 25-150 ligulate bisexual yellow florets (Hutchinson *et al*., 1984). Fruits are brown, wrinkled achenes 2.5-4mm long and 1.5mm wide. Achenes have 3 (or rarely 4-5) longitudinal ribs on each face (Hutchinson *et al*., 1984). Mature seeds have a white feathery pappus (8mm long) that collectively form a white puff ball, similar to dandelion (Grubben & Denton, 2004).

Lifecycle Stages
Sonchus asper is an annual or biennial herb (Cuevas Marticorena & Cavieres 2004). It reproduces by seed, and overwinters in the vegetative phase as rosettes or as seeds (Hutchinson *et al*., 1984).

Uses
Sonchus asper is eaten cooked and raw in salads in Africa, Madagascar(Grubben & Denton, 2004) and in the Mediterranean (Leonti *et al*., 2006) Its roots, stem, leaves, juice, latex or whole plant has also been used to treat a vast variety of conditions, ailments and diseases. These include treatment of wounds, boils, asthma, bronchitis, gastrointestinal infections, malaria, venereal disease and many more (Reviewed in Khan *et al*., 2010). The latex has also been used to treat warts (Grubben & Denton, 2004). Chemical analysis of *S. asper* has confirmed that it contains large quantities of phenolic compounds, flavonoids, ascorbic acid, carotenoids and a variety of other antioxidants. Khan *et al*. (2010) confirm that *S. asper* extract protects rats from renal damage associated with CCl4 (a source of free radicals).

Habitat Description
Sonchus asper can grow on a variety of soil types including white to grey sand, brown clayey loam, black sandy loam and black clayey peat (FloraBase, 2010). It can grow in dunes, valleys, seasonally wet areas, watercourses, lakes, wetlands (FloraBase, 2010), pastures, hay fields, orchards, roadsides and other disturbed sites (Virginia Tech, Undated).\r\n
S. asper prefers well drained, slightly acid to alkaline soils, but are tolerant of saline soils (Lewin, 1948 in Hutchinson *et al*., 1984). Their range in Canada suggests a broad tolerance to climatic variation (Hutchinson *et al*., 1984). Occurs from 750-2550m in altitude (Grubben & Denton, 2004)

Reproduction
Sonchus asper flowers are insect pollinated by solitary bees and fly species. Flowers are also self compatible and seeds are produced through self pollination and fertilization (Hutchinson *et al*., 1984). An average of 23,000 achenes (seeds) are produced per plant (Salisbury, 1942 in Hutchinson *et al*., 1984). Seeds are primarily dispersed by wind, although they have been found attached to clothing (Ridley, 1930 in Guertin, 2003) and in feathers and fur of birds and animals (Zollinger & Parker, 1999 in Guertin, 2003). Seeds are viable for 1 to 3 years, depending on conditions. *Sonchus* spp. seeds may also be dispersed by animals being passed through the digestive tract.

General Impacts
Sonchus asper is a major problem in winter crops and in tillage systems throughout southern Australia, South-East Queensland and Northern New South Wales (CSIRO, 2007).\r\n\r\n
S. asper is also an important alternative host of pests and diseases of crops (CSIRO, 2007). In Canada *S. asper* acts as an alternate summer host to economically important aphids, which are vectors of “yellows” virus diseases. They may also serve as hosts for nematodes which attack cultivated plants (Hutchinson *et al*., 1984). It is also likely to be an important host for downy mildew (*Bremia lactucae*), one of the worst diseases of lettuce which is an important vegetable crop worldwide (Vieira & Barreto, 2006).

Management Info
Physical Control: Small or isolated populations may be manually removed while plants are young, prior to seed set. The taproot must be removed, as resprouting can occur if left in the soil (Elkhorn Slough National Estuarine Research Reserve, 2000 in Guertin, 2003). Slashing is often ineffective as flowers continue to be produced (FloraBase, 2010). Regular cultivation of plants, every three months or so, will stimulate germination and can lead to a diminished seed bank. This will also drain food reserves stored in the roots and cause death (Zollinger & Parker, 1999 in Guertin, 2003). Mulching and soil sterilisation methods can complement other management efforts (Elkhorn Slough National Estuarine Research Reserve, 2000 in Guertin, 2003).\r\n
Grazing: Grazing of *Sonchus* spp. by cattle and sheep effectively suppresses infestations in pastures, and weakens plants allowing other control methods to be more effectively used (Zollinger & Parker, 1999 in Guertin, 2003). They also make excellent feed for livestock.\r\n
Chemical Control: For control of Sonchus spp. (asper and oleraceus), a pre-emergent herbicide containing isoxaben can be used, herbicidal soaps when the plants are young, or glyphosate when plants are mature. Zollinger and Parker (1999 in Guertin, 2003) recommend 2,4-D, clopyralid, dicamba, glyphosate, and picloram for control of *Sonchus* spp., while Rice (1992 in Guertin, 2003) 2,4-D, DCPA, diethatyl-ethyl, MCPA, amitrole, atrazine, bromoxynil, chlorsulfuron, dicamba, dichlorprop & 2,4-D, diuron, glyphosate, isoxaben (Snapshot), norflurazon, oryzalin, oxyfluorfen, paraquat, Ornamental Herbicide II, napropamide, simazine and tebuthiuron.\r\n
S. asper has developed resistance to chlorsulfuron in southern Queensland and northern New South Wales (Adkins *et al*., 1997 in Chauhan *et al*., 2006)atrazine (CSIRO, 2007) and acetolactate synthase inhibitors (metsulfuron-methyl, thifensulfuron-methyl, tribenuronmethyl) (Weedscience.org, 2003 in Guertin, 2003). Apparently spot spraying of Lontrel® 10ml/10L with a wetting agent can be used to control the plant, preferably at the rosette stage (FloraBase, 2010).\r\n
Biological Control: Biological agents are currently being researched as a possibility for managing *S. asper* and other *Sonchus* species in Australia (CSIRO, 2007). *Sonchus* species have previously been the target of biological control in Canada (Peschekn, 1984 in CSIRO, 2007). Preliminary surveys for biological control agents have been made in southern France and northern Europe (Scott & Jourdan, 2005; Peschken, 1984). Currently the rust fungus *Miyagia pseudosphaeria* and an unidentified eriophyid mite species are two widespread organisms in Australia with potential for control. The CSIRO project will focus on determining the impact of these potential control agents on related native Australian species (*Sonchus hydrophilus* and *Actites megalocarp* and on weedy *S. oleraceus* and *S. asper* (CSIRO, 2007).

Pathway

Principal source:

Compiler: IUCN/SSC Invasive Species Specialist Group (ISSG) with support from the EU-funded South Atlantic Invasive Species project, coordinated by the Royal Society for the Protection of Birds (RSPB)
Updates with support from the Overseas Territories Environmental Programme (OTEP) project XOT603, a joint project with the Cayman Islands Government - Department of Environment

Review:

Pubblication date: 2010-07-23

ALIEN RANGE

[1] AUSTRALIA
[11] CANADA
[1] FALKLAND ISLANDS (MALVINAS)
[1] GREENLAND
[1] PAKISTAN
[1] BRAZIL
[1] CHILE
[2] FRENCH SOUTHERN TERRITORIES
[2] NEW ZEALAND
[1] PUERTO RICO

[3] SAINT HELENA
[1] UNITED KINGDOM

[1] SAINT PIERRE AND MIQUELON
[51] UNITED STATES

BIBLIOGRAPHY

19 references found for **Sonchus asper**

Managment information

Guertin, P. 2003. USGS Weeds in the West project: Status of Introduced Plants in Southern Arizona Parks Factsheet for: *Sonchus* L. spp.
Summary: Available from: http://sdrsnet.srnr.arizona.edu/data/sdrs/ww/docs/sonc_spp.pdf [Accessed 30 July, 2010]

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.

Varnham, K. 2006. Non-native species in UK Overseas Territories: a review. JNCC Report 372. Peterborough: United Kingdom.
Summary: This database compiles information on alien species from British Overseas Territories.
Available from: http://www.jncc.gov.uk/page-3660 [Accessed 10 November 2009]

General information

Chauhan, B.S., Gill, G. & Preston, C. 2006.Factors affecting seed germination of annual sowthistle (*Sonchus oleraceus*) in southern Australia. Weed Science, 54: 854-860.

CSIRO. 2007. Management and control of sowthistles in Australia. Commonwealth Scientific and Industrial Research Organisation.
Summary: Available from: http://www.csiro.au/science/SowthistleControl.html [Accessed 23 July, 2010]

Cuevas, Jaime G., Alicia Marticorena & Lohengrin A. Cavieres. 2004. New additions to the introduced flora of the Juan Fern�ndez Islands: origin, distribution, life history traits, and potential of invasion. Revista Chileana de Historia Natural 77: 523-538.

Duffey, Eric. 1964. The terrestrial ecology of Ascention Island, The Journel of Applied Ecology 1 (2)
Summary: Available from: http://www.seaturtle.org/PDF/Duffey_1964_JAppEcol.pdf [Accessed 25 October 2009]

FloraBase. 2010. *Sonchus asper* L.
Summary: Available from: http://florabase.calm.wa.gov.au/browse/profile/8230 [Accessed 23 July, 2010]

Frenot, Y., Gloaguen, J., Mass�, L., & Lebouvier, M. 2001. Human activities, ecosystem disturbance and plant invasions in subantarctic Crozet, Kerguelen and Amsterdam Islands. Biological Conservation, 101, 33-50.
Summary: Cette article propose une liste des plantes exotiques pour 3 des �les subantarctiques fran�aises. Le r�le pass� et pr�sent des activit�s humaines dans les ph�nom�nes d invasions est discut�.

Grubben, G.J.H. & Denton, O.A. (Eds). 2004. Plant Resources of Tropical Africa 2. Vegetables. PROTA Foundation, Wageningen, Netherlands. 668pp.

Hutchinson, I., Colosi, J. & Lewin, R.A. 1984. The biology of Canadian weeds. 63. *Sonchus asper* (L.) Hill and *S. oleraceus* L. Canadian Journal of Plant Science, 64:731-744.

ITIS (Integrated Taxonomic Information System), 2008. Online Database *Sonchus asper* (L.) Hill
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=38424 [Accessed 10 November 2008]

Khan, R.A., Khan, M.R., Sahreen, S. & Bokhari, J. 2010. Prevention of CCl4-induced nephrotoxicity with *Sonchus asper* in rat. Food and Chemical Toxicology, in press.

Leonti, M., Nebel, S., Rivera, D. & Heinrich, M. 2006.Wild Gathered Food Plants in the European Mediterranean: A Comparative Analysis. Economic Botany, 60(2): 130-142.

Meurk, C.D. 1982. Supplementary notes on plant distributions of the subantarctic Auckland Islands. New Zealand Journal of Botany 20: 373-380

United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS). 2009. *Sonchus asper* (L.) Hill spiny sowthistle
Summary: Available from: http://plants.usda.gov/java/profile?symbol=SOAS [Accessed 14 August 2008]

Vieira, B.S. & Barreto, R.W. 2006. First Record of *Bremia lactucae* Infecting *Sonchus oleraceus* and *Sonchus asper* in Brazil and its Infectivity to Lettuce. Journal of Phytopathology, 154: 84-87.

Virginia Tech. Undated. Spiny Sowthistle: *Sonchus asper*. Virginia Tech Weed Identification Guide.
Summary: Available from: http://www.ppws.vt.edu/scott/weed_id/sonas.htm [Accessed 23 July, 2010]

Wilken, D. & Hannah, L. 1998. *Sonchus asper* (L.) Hill (Asteraceae), Prickly sow thistle, Spiny mild thistle. Santa Barbara Botanic Garden, for Channel Islands National Park.
Summary: Available from: http://usgssrv1.usgs.nau.edu/swepic/factsheets/Sonchus_oleraceus.pdf [Accessed 28 July, 2010]