Bidens pilosa

**System:** Terrestrial

<table>
<thead>
<tr>
<th>Kingdom</th>
<th>Phylum</th>
<th>Class</th>
<th>Order</th>
<th>Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantae</td>
<td>Magnoliophyta</td>
<td>Magnoliopsida</td>
<td>Asterales</td>
<td>Asteraceae</td>
</tr>
</tbody>
</table>

**Common name**

- tombo-maga (English, Sierra Leone), kiradale (English, Ivory Coast), eyinata (English, Nigeria), nana (English, Sierra Leone), zikilli wissi (English), akessan (English, Nigeria), dwirantw (English, Ghana), pilipili (English), klakuo (English), ananse mpaane (English, Ghana), sanyina (English, Sierra Leone), dzani pipi (English, Ghana), gyinantwi (English, Ghana), beggar's tick (English), kurofiedie (English, Ghana), kete kete (English, Nigeria), cobbler's peg (English), fis'iuli (Tongan), kichoma nguo (Swahili), kichoma mguu (Swahili), Spanish needle (English), tabason (English, Ivory Coast), asta de cabra (Spanish), kandane (English, Sierra Leone), acetillo (Spanish), passoklo (English, Ivory Coast), amonoablanfê (English, Ivory Coast), kukwe kwo (English, Ivory Coast), Zweizhan (German), sornet (French), lebason (English, Ivory Coast), broom stick (English), hairy beggar ticks (English), piquants noirs (French), black fellows (English), black jack (English), devil's needles (English), pisau-pisau (English), herbe villebague (French), matua kamate (Fijian), broom stuff (English), batimidramadramatakaro (Fijian), herbe d'aiguille (French), mbatikalawau (Fijian), mbatimandramandra (Fijian), bident poilu (French), dada (English, Sierra Leone), carrapicho-deagulha (Portuguese), dadayem (Ibatan), nehe (Hawaiian), ki (Hawaiian), pipili (Hawaiian), sosolé (English, Ivory Coast), ki nehe (Hawaiian), alonga (English, Ivory Coast), sirvulaca (Spanish), arponcito (Spanish), aseduro (English, Ghana), kofetonga (Niuean), amor seco (Spanish), pipipiri (Maoi), ko-sendagusa (Japanese), niroa (Maoi), kamik tuarongo (Maoi), kofetoga (Niuean), tebasson (English, Ivory Coast), pipiri niroa (Maoi), pipiri kerekere (Maoi), sanyi (English, Sierra Leone), nudul-lif (English, Sierra Leone), masquia (Spanish), bidente pilosa (Spanish), agberi-oku (English, Sierra Leone), adzrskpi (English, Ivory Coast), nangua (English, Ivory Coast), cadillo (Spanish), cacha de cabra (Spanish), légué (English, Ivory Coast), zebeuyéboque (English, Ivory Coast), hierba amarilla (Spanish), diandu (English, Ivory Coast), rosilla (Spanish), dinenkui (English, Ivory Coast), nanguadian (English, Ivory Coast), kokosa (English, Ivory Coast), mozote (Spanish), diaani (English, Ivory Coast), iuna (English, Ivory Coast), perca (Spanish), gonoretii (English, Ivory Coast), niani (English, Liberia), zagoi ini (English, Ivory Coast), tagiaani (English, Ivory Coast), manamendigo (English, Ivory Coast), abissawa (English, Ivory Coast), puriket (English), pega-prga (Spanish), nguad (English), papunga chipaca (Spanish), alongoi (English, Ivory Coast), anasipagnê (English, Ivory Coast), bident hérissé (French), iréné (English, Ivory Coast), picâo-preto (Portuguese), pétéoré (English, Ivory Coast), zogai zagagbé (English, Ivory Coast), zegbei zegbagwë (English, Ivory Coast)
Synonym

Bidens leucantha, (L.) Willd.
Bidens leucantha, Willd. var. sundaica (Blume) Hassk.
Bidens sundaica, (Blume)
Coreopsis leucantha, L.
Bidens odorata

Similar species

Bidens pilosa is a cosmopolitan, annual herb which originates from tropical and Central America. Its hardiness, explosive reproductive potential, and ability to thrive in almost any environment have enabled it to establish throughout the world. Generally introduced unintentionally through agriculture or sometimes intentionally for ornamental purposes, B. pilosa is a major crop weed, threat to native fauna, and a physical nuisance.

Summary

Bidens pilosa is a species profile from the Global Invasive Species Database (GISD) 2015.

Species Description

Bidens pilosa is an erect, annual herb which stands from 0.3-2 m high and bears opposite, pinnately compound, broadly ovate, (3-)5-9-lobed leaves 3-20 cm long and 2.5-12 cm wide. Leaf segments ovate to lanceolate lobed or bilobed at the base with margins crenate-serrate and apices acute. Stems are reddish tinged; 4-angled, simple, or branched. Heads solitary or in lax paniculate cymes at the ends of the main stem and lateral branches, usually radiate, 5 – 12 mm broad. Heads with 2 rows of involucral bracts, outer ones 7-10, spatulate, reflexed at anthesis, 3-4 mm long, inner ones ovate lanceolate; ray flowers absent or 4-8, sterile, corolla 7-15 mm long, white to yellow or pinkish, disk flowers with 3.5 – 5 mm long, yellow corolla. Achenes are black, 4-8 ribbed, linear, 6-16 mm long, with 2-3(-5) retrorsely barbed bristles of 2-4 mm long (Aluka, undated; PIER 2007).

Lifecycle Stages

Bidens pilosa grows quickly. Plants flower 4 months after germination and produce mature seeds 4 weeks after flowering. Plants typically bear 80 flower heads with seeds with potential production of 3000 plants in a generation and 4 generations per year (DPI, 2008; Mvere, 2004; PIER, 2007).

Uses

Bidens pilosa is used as a medicinal plant in areas of Africa, Asia, and tropical America. Its roots, leaves, and seeds are reported to have antibacterial, antidiysenteric, anti-inflammatory, antimicrobial, antimalarial, diuretic, hepatoprotective, and hypotensive properties. In Africa, B. pilosa is used to treat headaches, ear infections, hangovers, diarrhoea, kidney problems, malaria, jaundice, dysentery, burns, arthritis, ulcers, and abdominal problems. It is also used as an anaesthetic, coagulant, and treatment to ease child birth. In sub-Saharan Africa, its fresh or dried shoots and young leaves are eaten as a leaf vegetable, especially in times of food scarcity. B. pilosa is also an ingredient of sauces eaten with many staple foods there (Mvere, 2004).
**Habitat Description**

*Bidens pilosa* is a hardy weed capable of invading a vast range of habitats ranging from moist soil, sand, limerock, or dry, infertile soil and low to high altitudes of up to 3,600 m. It thrives in disturbed areas, high sunlight, and moderately dry soils, but is known to invade grassland, heathland, forest clearings, wetlands, plantations, streamlines, roadsides, pasture, coastal areas, and agriculture areas. *B. pilosa* is capable of surviving severe droughts with a required annual rainfall range is 500-3500 mm. It is tolerant to a pH range of 4-9 and high salinities of up to 100 mM NaCl. It prefers temperatures above 15°C and below 45°C but is tolerant to frosts with roots capable of withstanding and regenerating after temperatures as low as -15°C. *B. pilosa* is not fire tolerant but is known to quickly invade burnt areas (PIER, 2007; Aluka, undated; DPI, 2008).

**Reproduction**

Sexual by self or cross-pollination. A single plant may produce 3,000-6,000 seeds per year which are spread by attaching to animals, birds, and people or dispersal by wind and water. Its full reproductive cycle may be completed in 57-70 days and be completed 5-6 times a years in some areas. Seeds are reported to have no dormancy, remain viable for 5-6 years, and a 74% germination rate in the field (PIER, 2007; Zungsontiporn, undated; DPI, 2008)

**General Impacts**

*Bidens pilosa* is a problematic species for many reasons throughout its range. A troublesome weed to at least 30 crops in over 40 countries, *B. pilosa* is known to significantly reduce crop yields. One study found that dry bean, *Phaseolus vulgaris*, harvests were reduced by 48% in Uganda and 18-48% in Peru due to impacts by *B. pilosa*. It forms dense stands that can out compete, out grow, and eliminate crop and native vegetation, specifically the lower vegetative strata, over large areas. *B. pilosa* prevents the regeneration of these plants as well, given its allelopathic properties. Leaf and root extracts are known to significantly suppress germination and seedling growth of many plants and are believed to remain active throughout decomposition. Furthermore, *B. pilosa* grows three times faster than similar plant species. All of these properties render it a quite formidable competitor.

Its thick stands impede access to roads, trails, and recreational areas, are a nuisance to travellers and tourists, and inflict damage to pavements and walls. Its burrs is a nuisance to people, as well as, sheep and other fleece producing livestock. The burrs are also a troublesome seed contaminant as they are difficult to separate. *Bidens pilosa* is also a host and vector to harmful parasites such as Root knot nematodes (*Meloidogyne* sp.) and Tomato spotted wilt virus (*Sclerotinia sclerotiorum*) (DPI, 2008; Mvere, 2004).

**Management Info**

Physical: *Bidens pilosa* is susceptible to hand weeding. Germination may be prevented by mulches if they are thick enough (PIER, 2007).

Chemical: *B. pilosa* is susceptible to several types of herbicides. Residual herbicides: diuron, bromacil, atrazine, simazine, ropazine, hexazinone, oryzalin, and ametryn; translocated herbicides: 2,4-D, glyphosate, amitrole, metribuzin, and dicamba; and contact herbicides bentazon, diquat, and paraquat have all been evaluated as effective means of controlling *B. pilosa* when applied at standard rates. *B. pilosa* is thought susceptible to the majority of broad-leaved plant herbicides (PIER, 2007).
Pathway
*Bidens pilosa* has been introduced to many new locations by man for agricultural or ornamental purposes (Carlquist, 1966).

**Principal source:** Pacific Island Ecosystems at Risk (PIER), 2007. *Bidens pilosa L., Asteraceae*

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

**Review:** Johan van Valkenburg, Dutch Plant Protection Service.

**Publication date:** 2010-08-30

**ALIEN RANGE**

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<td>[1] FRANCE</td>
<td>[16] FRENCH POLYNESIA</td>
</tr>
<tr>
<td>[3] UNITED KINGDOM</td>
<td>[26] UNITED STATES</td>
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</table>
GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: Bidens pilosa

[2] UNITED STATES MINOR OUTLYING ISLANDS
[1] VANUATU
[1] VIET NAM
[2] WALLIS AND FUTUNA
[1] VIRGIN ISLANDS, U.S.
[1] ZAMBIA

BIBLIOGRAPHY
40 references found for Bidens pilosa

Management information
Summary: Available from:


Department Of Primary Industries (DPI)., 2008. Victorian Resources Online Statewide. Cobblers Pegs (Bidens pilosa L.): Impact Assessment - Cobblers Pegs (Bidens pilosa L.) in Victoria

Department Of Primary Industries (DPI)., 2008. Victorian Resources Online Statewide. Cobblers Pegs (Bidens pilosa L.): Invasiveness Assessment - Cobblers Pegs (Bidens pilosa L.) in Victoria


General information
Aluka, undated. Bidens pilosa L. [family Compositae]
Summary: Available from:


GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: Bidens pilosa


DAISIE (Delivering Alien Invasive Species Inventories for Europe) 2008. Bidens pilosa L.

Summary: Available from: http://www.europe-aliens.org/speciesFactsheet.do?speciesId=122433 [Accessed on 7 July 2008]

DAISIE (Delivering Alien Invasive Species Inventories for Europe) 2008. Bidens pilosa L. Distribution Map

Summary: Available from: http://www.europe-aliens.org/speciesFactsheet.do?speciesId=122433# [Accessed on 7 July 2008]


Global Biodiversity Information Facility (GBIF), 2008. Species: Bidens pilosa L. Kofe Tonga


Weed categories for natural and agricultural ecosystem management. Bureau of Rural Sciences, Canberra.

Summary: This document gives the status of all weed species found in Australia.


ITIS (Integrated Taxonomic Information System), 2008. Online Database. Bidens pilosa L.

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=35731 [Accessed on 7 July 2008]


Pacific Island Ecosystems at Risk (PIER)., 2007. Bidens pilosa L., Asteraceae


Plants of Hawaii., 2008. Images by Forest & Kim Starr Bidens pilosa Spanish needle, ki, ki nehe, ki pipili, nehe (Asteraceae)

GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: *Bidens pilosa*


Summary: Available from: http://202.4.49.29/att/IRC/eCOPIES/INVASIVE%20SPECIES/micronesia.pdf [Accessed on 7 July 2008]

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