GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Bidens pilosa***

Bidens pilosa 简体中文 正體中文

System: Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Asterales	Asteraceae

Common name

tombo-maga (English, Sierra Leone), kiradale (English, Ivory Coast), eyinata (English, Nigeria), nana (English, Sierra Leone), zikilli wissi (English), akesan (English, Nigeria), dwirantwi (English, Ghana), pilipili (English), klakuo (English), anansee mpaane (English, Ghana), sanyina (English, Sierra Leone), dzani pipi (English, Ghana), gyinantwi (English, Ghana), beggar's tick (English), kurofidie (English, Ghana), kete kete (English, Nigeria), cobbler's peg (English), fisi'uli (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), amonoablanfè (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), batimadramadramatakaro (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), ki 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), piripiri (Maori), ko-sendagusa (Japanese), niroa (Maori), kamik tuarongo (Maori), kofetoga (Niuean), tebasson (English, Ivory Coast), piripiri niroa (Maori), piripiri kerekere (Maori), sanyi (English, Sierra Leone), nidul-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), zebeyuzébogue (English, Ivory Coast), hierba amarilla (Spanish), diandu (English, Ivory Coast), rosilla (Spanish), dinenkui (English, Ivory Coast), nanguadian (English, Ivory Coast), kokosa (English, Ivory Coast), mazote (Spanish), diaani (English, Ivory Coast), iuna (English, Ivory Coast), perca (Spanish), gonoretti (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), alongoï (English, Ivory Coast), anasipagné (English, Ivory Coast), bident hérissé (French), iréné (English, Ivory Coast), picão-preto (Portuguese), pétéoré (English, Ivory Coast), zagaï zagagbé (English, Ivory Coast), zegbei zegbagwè (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

Summary

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.

view this species on IUCN Red List

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, spathulate, 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, antidysenteric, anti-inflammatory, antimicrobial, antimalarial, diuretic, heptoprotective, 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 are 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 (*Schlerotinia 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 susceptable 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 bentazone, 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-leafed 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.

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ALIEN RANGE

[3] AMERICAN SAMOA
[1] AUSTRIA
[1] BENIN
[1] BRITISH INDIAN OCEAN TERRITORY
[1] CAMEROON
[1] CHINA
[1] CONGO, THE DEMOCRATIC REPUBLIC OF THE
[1] COTE D'IVOIRE
[1] CZECH REPUBLIC
[1] ESTONIA
[1] FRANCE
[1] GREECE
[7] AUSTRALIA
[1] BELGIUM
[1] BOTSWANA
[1] CAMBODIA
[2] CANADA
[1] CHRISTMAS ISLAND
[13] COOK ISLANDS
[1] CYPRUS
[1] ECUADOR
[5] FIJI
[16] FRENCH POLYNESIA
[1] GUAM

[1] INDONESIA
[1] ITALY
[1] KENYA
[1] LIBERIA
[1] MALAYSIA
[1] MAURITIUS
[1] MOZAMBIQUE
[3] NEW ZEALAND
[1] NIUE
[2] NORTHERN MARIANA ISLANDS
[1] PAPUA NEW GUINEA
[1] PITCAIRN
[2] SAMOA
[1] SIERRA LEONE
[1] SPAIN
[1] TANZANIA, UNITED REPUBLIC OF
[5] TONGA
[3] UNITED KINGDOM
[2] UNITED STATES MINOR OUTLYING ISLANDS
[1] VIET NAM
[2] WALLIS AND FUTUNA
[1] ZIMBABWE
[1] ISRAEL
[1] JAPAN
[5] KIRIBATI
[1] MALAWI
[2] MARSHALL ISLANDS
[5] MICRONESIA, FEDERATED STATES OF
[7] NEW CALEDONIA
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[1] NORFOLK ISLAND
[1] PALAU
[1] PHILIPPINES
[3] PORTUGAL
[1] SEYCHELLES
[1] SLOVENIA
[1] TAIWAN
[1] THAILAND
[1] UGANDA
[26] UNITED STATES
[1] VANUATU
[1] VIRGIN ISLANDS, U.S.
[1] ZAMBIA

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