

**Family:** *Moraceae*

**Taxon:** *Dorstenia contrajerva*

**Synonym:** *Dorstenia alexiteria* L.

*Dorstenia houstonii* L.

*Dorstenia maculata* Lem.

**Common Name:** snakewort

herbe aux serpents

contrahierba

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	9
101	Is the species highly domesticated?			y=-3, n=0	n
102	Has the species become naturalized where grown?			y=1, n=-1	
103	Does the species have weedy races?			y=1, n=-1	
201	Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"			(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
202	Quality of climate match data			(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)			y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates			y=1, n=0	y
205	Does the species have a history of repeated introductions outside its natural range?			y=-2, ?=-1, n=0	y
301	Naturalized beyond native range			y = 1*multiplier (see Appendix 2), n= question 205	y
302	Garden/amenity/disturbance weed			n=0, y = 1*multiplier (see Appendix 2)	y
303	Agricultural/forestry/horticultural weed			n=0, y = 2*multiplier (see Appendix 2)	
304	Environmental weed			n=0, y = 2*multiplier (see Appendix 2)	n
305	Congeneric weed			n=0, y = 1*multiplier (see Appendix 2)	
401	Produces spines, thorns or burrs			y=1, n=0	n
402	Allelopathic			y=1, n=0	n
403	Parasitic			y=1, n=0	n
404	Unpalatable to grazing animals			y=1, n=-1	
405	Toxic to animals			y=1, n=0	
406	Host for recognized pests and pathogens			y=1, n=0	
407	Causes allergies or is otherwise toxic to humans			y=1, n=0	n
408	Creates a fire hazard in natural ecosystems			y=1, n=0	n
409	Is a shade tolerant plant at some stage of its life cycle			y=1, n=0	y
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)			y=1, n=0	n

411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	n
501	Aquatic	y=5, n=0	n
502	Grass	y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y=1, n=0	
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
602	Produces viable seed	y=1, n=-1	y
603	Hybridizes naturally	y=1, n=-1	
604	Self-compatible or apomictic	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
606	Reproduction by vegetative fragmentation	y=1, n=-1	
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y=1, n=-1	
702	Propagules dispersed intentionally by people	y=1, n=-1	y
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	y
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	y
706	Propagules bird dispersed	y=1, n=-1	n
707	Propagules dispersed by other animals (externally)	y=1, n=-1	
708	Propagules survive passage through the gut	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	y=-1, n=1	

Designation: H(HPWRA)

WRA Score 9

**Supporting Data:**

101	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Is the species highly domesticated? No] No evidence
101	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Is the species highly domesticated? No] No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Species suited to tropical or subtropical climate(s) 2-high] "Southern Mexico to northern South America and in the Antilles, in moist thickets and forests from sea level to about 2,000 m."
201	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Species suited to tropical or subtropical climate(s) 2-high] "From Mexico to the West Indies and through Central America to Colombia and northern Venezuela (possibly extending to Guyana), also in southwestern Ecuador and in Peru (San Martin)"
202	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Quality of climate match data? 2-high] "Southern Mexico to northern South America and in the Antilles, in moist thickets and forests from sea level to about 2,000 m."
203	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Broad climate suitability (environmental versatility)? Yes] "Southern Mexico to northern South America and in the Antilles, in moist thickets and forests from sea level to about 2,000 m." [Elevation range exceeds 1000 m, demonstrating a degree of environmental versatility]
204	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Southern Mexico to northern South America and in the Antilles, in moist thickets and forests from sea level to about 2,000 m."
205	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Does the species have a history of repeated introductions outside its natural range? Yes] "...sometimes sold as a pot plant and greenhouse subject." [Hawaii]
205	2008. Wunderlin, R.P./Hansen, B.F.. Atlas of Florida Vascular Plants. Institute for Systematic Botany, University of South Florida, Tampa, FL <a href="http://www.plantatlas.usf.edu/">http://www.plantatlas.usf.edu/</a>	[Does the species have a history of repeated introductions outside its natural range? Yes] "...often a weed in greenhouses or around nurseries..." [Florida]
205	2009. Chong, K.Y./Tan, H.T.W./Corlett, R.T.. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	[Does the species have a history of repeated introductions outside its natural range? Yes] "Dorstenia contrajerva L.; Moraceae; cultivated only" [Singapore]
301	2003. Wunderlin, R.P./Hansen, B.F.. Guide to the Vascular Plants of Florida. University Press of Florida, Gainesville, FL	[Naturalized beyond native range? Yes] "Moist, disturbed sites, often a weed in greenhouses or around nurseries, but rarely in the wild."
301	2008. Wunderlin, R.P./Hansen, B.F.. Atlas of Florida Vascular Plants. Institute for Systematic Botany, University of South Florida, Tampa, FL <a href="http://www.plantatlas.usf.edu/">http://www.plantatlas.usf.edu/</a>	[Naturalized beyond native range? Yes] "Locality: USA. Florida. Clay Co.: Along C-739 at junction with C-220; ca. 4 mi. NE of Middleburg. T5S, R24E, Sec. 4, NW¼. Habitat: Roadside ditch ... USA. Florida. Clay Co.: Along FL 220, 1.5 mi. W of the junction with US 17; 2.5 mi. E of Doctors Inlet. T5S, R26E, Sec. 31, SE¼ of SE¼ Habitat: Wet ditch.... USA. Florida. Clay Co.: At the junction of FL 224 and FL 220A; ca. 6 mi. NE of Middleburg. T4S, R25E, Sec's 26, 35. Habitat: Roadside and wet ditch."
301	2009. Chong, K.Y./Tan, H.T.W./Corlett, R.T.. A Checklist of the Total Vascular Plant Flora of Singapore: Native, Naturalized and Cultivated Species. Raffles Museum of Biodiversity Research, National University of Singapore, Singapore	[Naturalized beyond native range? Not in Singapore] "Dorstenia contrajerva L.; Moraceae; cultivated only"

302	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Garden/amenity/disturbance weed? Yes] "Some Dorstenia species, D. brasiliensis, D. cayapia (at least subsp. asaroides), and D. contrajerva, can become weeds,"
302	2001. Lemke, C.. Cal's Plant of the Week - Dorstenia contrajerva - Contra Heirba. University of Oklahoma Department of Botany & Microbiology, <a href="http://www.plantoftheweek.org/week138.shtml">http://www.plantoftheweek.org/week138.shtml</a>	[Garden/amenity/disturbance weed? Yes] "Plant can become very weedy if you do not keep the old receptacles picked off. The seed in the receptacles are very viable and will germinate on any soil that they touch."
302	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Garden/amenity/disturbance weed? Yes] "...sometimes sold as a pot plant and greenhouse subject. It has escaped from cultivation to become a weed in the tropics, as it has in many greenhouses, where it easily spreads to nearby pots and thrives under the benches."
302	2011. eFloras. Flora of North America Vol. 3 - Dorstenia contrajerva. <a href="http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344">http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344</a>	[Garden/amenity/disturbance weed? Yes] "Dorstenia contrajerva is a weed in greenhouses and nurseries; it rarely occurs in the wild in North America. It is sometimes cultivated as a house plant."
303	1946. Standley, P.C./Steyermark, J.A.. Flora of Guatemala Vol. 24 - Part IV. Fieldiana. 24: 1-493.	[Agricultural/forestry/horticultural weed? Unknown] "Moist forest or thickets, often a weed in cafetales" [Reported as a weed of "cafetales" or coffee crops, but no indication of degree of impact or whether species is being controlled]
304	2003. Wunderlin, R.P./Hansen, B.F.. Guide to the Vascular Plants of Florida. University Press of Florida, Gainesville, FL	[Environmental weed? No] "Moist, disturbed sites, often a weed in greenhouses or around nurseries, but rarely in the wild."
304	2007. Randall, R.P.. Global Compendium of Weeds - Dorstenia contrajerva [Online Database]. <a href="http://www.hear.org/gcw/species/dorstenia_contrajerva/">http://www.hear.org/gcw/species/dorstenia_contrajerva/</a>	[Environmental weed? No] No evidence
305	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Congeneric weed? Possibly] "Some Dorstenia species, D. brasiliensis, D. cayapia (at least subsp. asaroides), and D. contrajerva, can become weeds," [Impacts unknown]
401	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Produces spines, thorns or burrs? No] "Succulent or subsucculent acaulescent or subacaulescent herbs. Leaves densely crowded, long-petioled, of relatively small or moderate size, extremely variable in dimensions and outline, commonly deeply pinnatifid, basifixed, usually scabridulous or inconspicuously puberulent"
402	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Allelopathic? No] No evidence
402	2001. Lemke, C.. Cal's Plant of the Week - Dorstenia contrajerva - Contra Heirba. University of Oklahoma Department of Botany & Microbiology, <a href="http://www.plantoftheweek.org/week138.shtml">http://www.plantoftheweek.org/week138.shtml</a>	[Allelopathic? No] No evidence
402	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Allelopathic? No] No evidence
403	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Parasitic? No] "Succulent or subsucculent acaulescent or subacaulescent herbs." [Moraceae]
404	2011. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2007. Lans, C.. Comparison of plants used for skin and stomach problems in Trinidad and Tobago with Asian ethnomedicine. Journal of Ethnobiology and Ethnomedicine. doi:10.1186/1746-4269-3-3: .	[Toxic to animals? Unknown] "Dorstenia species contain furanocoumarins with analgesic, anti inflammatory, antibacterial, antiviral, anticoagulant, and photosensitizing activities. Prenylated chalcones are also found and may have anti-carcinogenic and antiproliferative properties. Dorstenia contrajerva was active toward Giardia lamblia with IC(50)<38 mug/ml. This antiprotozoal activity supports the popular use to treat diarrhoea and dysentery." [No evidence, but medicinal compounds could potentially affect certain animals if accidentally or intentionally ingested]

406	2011. PlantCare.com. Plant Encyclopedia - Latin Name: <i>Dorstenia contrajerva</i> . <a href="http://www.plantcare.com/encyclopedia/dorstenia-contrajerva-2084.aspx">http://www.plantcare.com/encyclopedia/dorstenia-contrajerva-2084.aspx</a>	[Host for recognized pests and pathogens? Unknown] "Prone to mealy bugs and scale Always inspect any new plant for pests before introducing it to your home or greenhouse."
407	1946. Standley, P.C./Steyermark, J.A.. Flora of Guatemala Vol. 24 - Part IV. Fieldiana. 24: 1-493.	[Causes allergies or is otherwise toxic to humans? No. No evidence] "The plant is well known in Central America because of its use in domestic medicine. It is a common household remedy for dysentery and is also employed in treating bites of poisonous animals of all kinds. The name "contrahierba," employed by Linnaeus as the specific name of this widespread species, usually is used in Spanish to designate plants of supposed outstanding value as counteragents for poisons. The aromatic rootstocks are much used in Salvador, and probably also in Guatemala, for flavoring cigarette tobacco."
407	1995. Terreaux, C./Maillard, M./Stoeckli-Evans, H./Gupta, M.P./Downum, K.R./Quirke, J.M.E./Hostettmann, K.. Structure revision of a furanocoumarin from <i>Dorstenia contrajerva</i> . <i>Phytochemistry</i> . 39(3): 645-647.	[Causes allergies or is otherwise toxic to humans? No] "During the course of our systematic search for new compounds of natural origin, Panamanian medicinal plants have been screened. <i>Dorstenia contrajerva</i> L. is a herbaceous plant reported to be used by the Kuna Indians of Panama as a cold remedy [11 and for the treatment of snakebites and muscle aches [21. In the screening for biological activity, the dichloromethane extract did not show antifungal properties but exhibited a slight larvicidal activity against <i>Aedes aegypti</i> , the vector of yellow fever, [31 and antimicrobial activity against <i>Bacillus subtilis</i> [41.]" [No evidence, despite medicinal uses]
407	2011. Dave's Gardern. PlantFiles: PlantFiles: <i>Dorstenia - Dorstenia contrajerva</i> . <a href="http://davesgarden.com/guides/pf/go/61962/">http://davesgarden.com/guides/pf/go/61962/</a>	[Causes allergies or is otherwise toxic to humans? No evidence] "There are lots of species of <i>Dorstenia</i> and many of them are succulents, although this species is not. I don't know if it is poisonous, but I have handled it with no problems." [Grower comment]
408	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Creates a fire hazard in natural ecosystems? No] "Succulent or subsucculent acaulescent or subacaulescent herbs...Southern Mexico to northern South America and in the Antilles, in moist thickets and forests from sea level to about 2,000 m" [No evidence, and unlikely that a succulent herb of moist thickets would carry fire]
409	1977. Burger, W. (ed.). <i>Flora Costaricensis</i> . <i>Fieldiana: Botany</i> . 40: 1-291.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "Plants of shaded sites in evergreen forest formations from sea level to 1200 ( 1400) m. elevation on both the Caribbean and Pacific slopes in Costa Rica; ... It is found in areas that are very wet to those that are seasonally dry but where shade is present throughout the year."
409	2001. Berg, C.C.. Moreae, Artocarpeae, and <i>Dorstenia</i> (Moraceae), with Introductions to the Family and <i>Ficus</i> and with Additions and Corrections to <i>Flora Neotropica</i> Monograph 7. <i>Flora Neotropica</i> . 83: 1-346.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "in shade, usually in ± wet, sometimes in dry types of forest or scrub, often in rocky places, often on limestone, along water courses, also in secondary growth; to ca. 1500m"
409	2001. Lemke, C.. Cal's Plant of the Week - <i>Dorstenia contrajerva</i> - Contra Heirba. University of Oklahoma Department of Botany & Microbiology, <a href="http://www.plantoftheweek.org/week138.shtml">http://www.plantoftheweek.org/week138.shtml</a>	[Is a shade tolerant plant at some stage of its life cycle? Yes] " <i>Dorstenia contrajerva</i> need part shade to full shade with a rich moist soil."
410	2001. Lemke, C.. Cal's Plant of the Week - <i>Dorstenia contrajerva</i> - Contra Heirba. University of Oklahoma Department of Botany & Microbiology, <a href="http://www.plantoftheweek.org/week138.shtml">http://www.plantoftheweek.org/week138.shtml</a>	[Tolerates a wide range of soil conditions? No] " <i>Dorstenia contrajerva</i> need part shade to full shade with a rich moist soil."
410	2011. Dave's Gardern. PlantFiles: PlantFiles: <i>Dorstenia - Dorstenia contrajerva</i> . <a href="http://davesgarden.com/guides/pf/go/61962/">http://davesgarden.com/guides/pf/go/61962/</a>	[Tolerates a wide range of soil conditions? No] "Requires consistently moist soil; do not let dry out between waterings ... Soil pH requirements: 5.6 to 6.0 (acidic) 6.1 to 6.5 (mildly acidic)"
411	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Climbing or smothering growth habit? No] "Succulent or subsucculent acaulescent or subacaulescent herbs."
412	1946. Standley, P.C./Steyermark, J.A.. Flora of Guatemala Vol. 24 - Part IV. Fieldiana. 24: 1-493.	[Forms dense thickets? No] "Moist forest or thickets, ascending from sea level to about 1,800 meters;" [Plant grows in thickets, but no evidence that <i>Dorstenia</i> itself forms dense thickets]
412	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Forms dense thickets? No] No evidence
412	2003. Wunderlin, R.P./Hansen, B.F.. Guide to the Vascular Plants of Florida. University Press of Florida, Gainesville, FL	[Forms dense thickets? No] No evidence

501	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Aquatic? No] "Succulent or subsucculent acaulescent or subacaulescent herbs" [Terrestrial]
502	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Grass? No] Moraceae
503	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Nitrogen fixing woody plant? No] "Succulent or subsucculent acaulescent or subacaulescent herbs" [Moraceae]
504	1977. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? Possibly. Unknown how frequently plant will resprout from tuberous base] "Herbs, acaulescent from a tuberous base or rarely from a short (3 cm.) stem with several internodes, becoming about 20-40 cm. tall, slightly succulent; stipules 2-6 mm. long, aculeate and often persisting."
601	1946. Standley, P.C./Steyermark, J.A.. Flora of Guatemala Vol. 24 - Part IV. Fieldiana. 24: 1-493.	[Evidence of substantial reproductive failure in native habitat? No]
601	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Evidence of substantial reproductive failure in native habitat? No]
601	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Evidence of substantial reproductive failure in native habitat? No]
602	2001. Lemke, C.. Cal's Plant of the Week - Dorstenia contrajerva - Contra Heirba. University of Oklahoma Department of Botany & Microbiology, <a href="http://www.plantoftheweek.org/week138.shtml">http://www.plantoftheweek.org/week138.shtml</a>	[Produces viable seed? Yes] "The seed in the receptacles are very viable and will germinate on any soil that they touch...Propagation: Dorstenia contrajerva are easily propagated from seed or by division. Fresh seed germinate in 7-14 days. "
603	2011. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Self-compatible or apomictic? Yes] "In many cases stigmas can contact pollen of adjacent flowers (as in most species of Dorstenia), creating the opportunity for (geitonogamous) autogamy..." [Geitonogamy is the pollination of a flower with the pollen from another flower on the same flowering plant.]
605	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Requires specialist pollinators? No] "In many cases stigmas can contact pollen of adjacent flowers (as in most species of Dorstenia), creating the opportunity for (geitonogamous) autogamy..."
606	1994. Artaud, C.R.. Botany Section. Tri-ology. 33(5): <a href="http://www.freshfromflorida.com/pi/enpp/triology/archive/94-9&amp;10all.htm">http://www.freshfromflorida.com/pi/enpp/triology/archive/94-9&amp;10all.htm</a>	[Reproduction by vegetative fragmentation? Unknown] "Dorstenia contrajerva L., Moraceae, torus herb, contra hierba: Rhizomatous creeping, perennial herb." [Ability to spread vegetatively from creeping rhizomatous roots unknown]
607	2011. WRA Specialist. Personal Communication.	[Minimum generative time (years)? Unknown]
701	2001. Berg, C.C.. Moreae, Artocarpeae, and Dorstenia (Moraceae), with Introductions to the Family and Ficus and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Propagules likely to be dispersed unintentionally? Possibly] "Two major types of dispersal can be recognized in Moraceae. 1. Autochory by expulsion or ejection of endocarp bodies from the dehiscent drupes as described above. This occurs in Dorstenia... Endocarp body ca. 1.8-2 x 1.8-2 mm, tuberculate." [Relatively small, explosively dispersed seeds could potentially be inadvertently dispersed in mud on boots, tires, even though they lack any means of external attachment]
702	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules dispersed intentionally by people? Yes] "...sometimes sold as a pot plant and greenhouse subject."
703	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Propagules likely to disperse as a produce contaminant? Yes. Ornamental contaminant] "...sometimes sold as a pot plant and greenhouse subject. It has escaped from cultivation to become a weed in the tropics, as it has in many greenhouses, where it easily spreads to nearby pots and thrives under the benches."

703	2011. eFloras. Flora of North America Vol. 3 - <i>Dorstenia contrajerva</i> . <a href="http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344">http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344</a>	[Propagules likely to disperse as a produce contaminant? Yes] "Seeds yellowish, explosively expelled .... <i>Dorstenia contrajerva</i> is a weed in greenhouses and nurseries; it rarely occurs in the wild in North America. It is sometimes cultivated as a house plant."
704	2001. Berg, C.C.. Moreae, Artocarpeae, and <i>Dorstenia</i> (Moraceae), with Introductions to the Family and <i>Ficus</i> and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Propagules adapted to wind dispersal? No] "Two major types of dispersal can be recognized in Moraceae. 1. Autochory by expulsion or ejection of endocarp bodies from the dehiscent drupes as described above. This occurs in <i>Dorstenia</i> ..." [Explosive dehiscence, but no adaptations for wind dispersal]
704	2011. eFloras. Flora of North America Vol. 3 - <i>Dorstenia contrajerva</i> . <a href="http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344">http://www.efloras.org/florataxon.aspx?flora_id=1&amp;taxon_id=220004344</a>	[Propagules adapted to wind dispersal? No] "Seeds yellowish, explosively expelled." [Explosive dehiscence, but no adaptations for wind dispersal]
705	2001. Berg, C.C.. Moreae, Artocarpeae, and <i>Dorstenia</i> (Moraceae), with Introductions to the Family and <i>Ficus</i> and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Propagules water dispersed? Yes. Likely] "Two major types of dispersal can be recognized in Moraceae. 1. Autochory by expulsion or ejection of endocarp bodies from the dehiscent drupes as described above. This occurs in <i>Dorstenia</i> ...As the ballistically released diaspores do not have elaiosomes, further transportation may be carried out by running water. Many of the autochorous taxa often occur near streams."
706	1960. Nevlng, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Propagules bird dispersed? No] "The dehiscent drupes and drupelets are subtended or enclosed by enlarged perianths which do not or hardly become fleshy and mostly remain greenish. The same applies to the inflorescences of <i>Dorstenia</i> ; they do not become really fleshy structures and do not change color ... Two major types of dispersal can be recognized in Moraceae. 1. Autochory by expulsion or ejection of endocarp bodies from the dehiscent drupes as described above. This occurs in <i>Dorstenia</i> ...As the ballistically released diaspores do not have elaiosomes, further transportation may be carried out by running water. Many of the autochorous taxa often occur near streams."
707	2011. WRA Specialist. Personal Communication.	[Propagules dispersed by other animals (externally)? Unknown]
708	2011. WRA Specialist. Personal Communication.	[Propagules survive passage through the gut? Unknown] Unlikely that propagules would be consumed
801	2005. Staples, G.W./Herbst, D.R.. A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown] "The tin, 1-seeded fruits are propelled off the receptacle when ripe. <i>Contrahierba</i> thrives under low light if kept moist and is easily propagated from seed, which is abundantly produced." [Despite abundant seed production, it is unlikely that such a small-statured plant with 1-seeded fruits would produce seed densities in excess of 1000/m <sup>2</sup> ]
802	2001. Berg, C.C.. Moreae, Artocarpeae, and <i>Dorstenia</i> (Moraceae), with Introductions to the Family and <i>Ficus</i> and with Additions and Corrections to Flora Neotropica Monograph 7. Flora Neotropica. 83: 1-346.	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] "The majority of the genera of Moraceae have large seeds requiring germination shortly after maturity. Germination normally happens in shade of the forest canopy. The large seeds reduce the possibilities for long distance dispersal. In microsporous taxa...the seeds have extended longevity and often require light for germination. However, in <i>Dorstenia</i> small seeds(at least) of forest undergrowth species appear to behave like large moraceous seeds." [Unknown, but this suggests that <i>Dorstenia</i> seeds do not persist in the soil, behaving more like large-seeded Moraceae]
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. <a href="http://data.kew.org/sid/">http://data.kew.org/sid/</a>	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown]
803	2011. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown] No information found on herbicide efficacy or chemical control of this species
804	2011. WRA Specialist. Personal Communication.	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown]
805	2011. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]