

**Family:** *Urticaceae*

**Taxon:** *Pilea hyalina*

**Synonym:** *Pilea lundii* Liebm.

*Pilea scrobiculata* Liebm.

*Urtica arvensis* Poepp. ex Fenzl

**Common Name:** Virdrillo

Questionnaire :	current 20090513	Assessor:	Chuck Chimera	Designation:	H(HPWRA)
Status:	Assessor Approved	Data Entry Person:	Chuck Chimera	WRA Score	8
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		n
301	Naturalized beyond native range		y = 1*multiplier (see Appendix 2), n= question 205		
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)		y
401	Produces spines, thorns or burrs		y=1, n=0		n
402	Allelopathic		y=1, n=0		
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		
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		

411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	
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	n
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	
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	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	n
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	y
704	Propagules adapted to wind dispersal	y=1, n=-1	
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	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	y
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 8

## Supporting Data:

101	1960. Nevling, Jr., L.I.. Flora of Panama. Part IV. Fascicle II. Annals of the Missouri Botanical Garden. 47(2): 81-203.	[Is the species highly domesticated? No] No evidence
102	2012. WRA Specialist. Personal Communication.	NA
103	2012. 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] "Widely distributed in the American tropics, from Mexico and the Lesser Antilles to Chile, Argentina, and Brazil, up to 1500 m. alt."
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] "Widely distributed in the American tropics, from Mexico and the Lesser Antilles to Chile, Argentina, and Brazil, up to 1500 m. alt."
203	1937. Macbride, J.F./Dahlgren, B.E. Flora of Peru, Part II. No. 2. Fieldiana. Botany Series. 13: 1-661.	[Broad climate suitability (environmental versatility)? Yes] "Widely distributed in the American tropics, from Mexico to Chile, Brazil, and Argentina, at elevations up to 1,500 meters." [Elevation range exceeds 1000 m, demonstrating environmental versatility]
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] "Widely distributed in the American tropics, from Mexico and the Lesser Antilles to Chile, Argentina, and Brazil, up to 1500 m. alt." [Elevation range exceeds 1000 m, demonstrating environmental versatility]
203	1989. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Broad climate suitability (environmental versatility)? Yes] "Plants of seasonally dry or wet evergreen forest formations between (0) 500 and 1800 m" [Elevation range exceeds 1000 m, demonstrating 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] "Widely distributed in the American tropics, from Mexico and the Lesser Antilles to Chile, Argentina, and Brazil, up to 1500 m. alt."
204	2012. Acevedo-Rodríguez, P./Strong, M.T.. Catalogue of Seed Plants of the West Indies. Smithsonian Contributions to Botany. 99: 1192 pp.	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Distribution: Native to Lesser Antilles (Antigua, Guadeloupe, Martinique, Montserrat, St. Kitts), Mexico, Central America, and South America."
205	2012. WRA Specialist. Personal Communication.	[Does the species have a history of repeated introductions outside its natural range? No] Inadvertently introduced into Belgium and Hawaii through nursery materials. Otherwise, no evidence that <i>Pilea hyalina</i> has been widely introduced.
301	2009. DAISE. Handbook of alien species in Europe Volume 3 of Invading nature. Springer Science and Business Media B.V.,	[Naturalized beyond native range? Possibly, but may only be in greenhouses] "A Alien taxon from outside Europe" [Recorded in Europe, but distribution and impacts unspecified]
301	2012. HDOA. Pers. Comm. 3/27/2012.	[Naturalized beyond native range? Potentially] " <i>Pilea hyalina</i> was recently found on the Big Island at a nursery in Keaau. The nurseryman has been asked to remove any plants he finds around his site."
302	1952. Standley, P.C./Steyermark, J.A.. Flora of Guatemala—Part III. Fieldiana, Botany Series. 24(3): 396–430.	[Garden/amenity/disturbance weed? Yes] "Moist thickets or forest, frequently a weed in cafetales and other cultivated ground, 250-1,600 meters" [Potential agricultural weed of coffee fields, but impacts unspecified]
302	2006. Verloove, F.. Catalogue of neophytes in Belgium (1800-2005). Scripta Botanica Belgica. 39: 1-89.	[Garden/amenity/disturbance weed? A minor weed of nurseries] "Likewise, greenhouse weeds are also included even if their survival outside the greenhouse area is unlikely at present. In Belgium the spontaneous flora of greenhouses has never been studied in detail so far (contrary to several other European countries; see for instance: Kuitunen & Lahtonen 1994 for Finland or Galera and Ratyńska 1999 for Poland). Hence, only some occasional records are included (for instance <i>Acalypha indica</i> , <i>Laportea aestuans</i> , <i>Phyllanthus tenellus</i> or <i>Pilea hyalina</i> ). They are probably of minor importance but a future naturalization, outside the greenhouse area, can never be totally excluded." [Possibly a weed of horticulture, but negative impacts unspecified]
303	1952. Standley, P.C./Steyermark, J.A.. Flora of Guatemala—Part III. Fieldiana, Botany Series. 24(3): 396–430.	[Agricultural/forestry/horticultural weed? Possibly] "Moist thickets or forest, frequently a weed in cafetales and other cultivated ground, 250-1,600 meters" [Weed of coffee fields, but impacts unspecified]

303	2006. Verloove, F.. Catalogue of neophytes in Belgium (1800-2005). Scripta Botanica Belgica. 39: 1-89.	[Agricultural/forestry/horticultural weed? Possibly] "Likewise, greenhouse weeds are also included even if their survival outside the greenhouse area is unlikely at present. In Belgium the spontaneous flora of greenhouses has never been studied in detail so far (contrary to several other European countries; see for instance: Kuitunen & Lahtonen 1994 for Finland or Galera and Ratyńska 1999 for Poland). Hence, only some occasional records are included (for instance <i>Acalypha indica</i> , <i>Laportea aestuans</i> , <i>Phyllanthus tenellus</i> or <i>Pilea hyalina</i> ). They are probably of minor importance but a future naturalization, outside the greenhouse area, can never be totally excluded." [Possibly a weed of horticulture, but negative impacts unspecified]
304	2007. Randall, R.P.. Global Compendium of Weeds - Index [Online Database]. <a href="http://www.hear.org/gcw/">http://www.hear.org/gcw/</a>	[Environmental weed? No] No evidence
305	1994. Conover, C.A./Stamps, R.H.. Controlling Artillery Plant ( <i>Pilea microphylla</i> ) with Herbicides. CFREC-Apopka Research Report RH-94-7. University of Florida/IFAS, Gainesville, FL <a href="http://mrec.ifas.ufl.edu/foilage/resrpts/rh_94_7.htm">http://mrec.ifas.ufl.edu/foilage/resrpts/rh_94_7.htm</a>	[Congeneric weed? Yes] "Weeds in nurseries are not only unsightly; they can hinder growth of ornamental crops; increase production costs due to weeding labor or diminish value of containerized plants if not removed, and they can harbor insects or diseases, which may be passed on to the crop. <i>Pilea microphylla</i> (L.) Liebm, commonly called artillery plant, is a creeping herb that thrives under the humid conditions typical of many nursery areas. By freely re seeding itself, this plant spreads rapidly, and can quickly become a major problem."
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] "Slender, erect annual, 10-30 cm. high, the stem simple, glabrous; stipules very small, soon deciduous; leaves rhombic-elliptic or ovate, 1.4 cm. long, 0.8-2.5 cm. wide (extremes up to 6 X 4 cm.), acute at apex, cuneate at base, serrate except toward the base, thin membranous, glabrous, or sparsely hyaline strigose above..."
402	2012. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
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] "Slender, erect annual, 10-30 cm. high, the stem simple, glabrous; stipules very small, soon deciduous;..." [Urticaceae, Not parasitic]
404	2002. Norbu, L.. Grazingmanagement in broadleaf forests. Journal of Bhutan Studies. 7: 99-129.	[Unpalatable to grazing animals? Unknown, but other <i>Pilea</i> species are recorded as palatable to cattle] "Palatable forbs/shrubs species such as <i>Viola</i> , <i>Pilea</i> , <i>Elatostema</i> , <i>Aporosora</i> , <i>Persicaria</i> , <i>Girardinea</i> , <i>Aconogonon</i> , <i>Rubia</i> , <i>Rubus</i> and <i>Solonum</i> form the bulk of the cattle feed. The number of <i>Viola</i> , <i>Pilea</i> , <i>Elatostema</i> and <i>Aporosora</i> are high but their contribution to herbage production for animal intake is very little as they are tiny herbaceous plants. Shrubs such as <i>Girardinea</i> , <i>Aconogonon</i> , <i>Rubia</i> , <i>Rubus</i> and <i>Solonum</i> make up the major feed for the cattle. These shrubs are indicators of the succession to the shrub land and they die back in winter making the forage situation critical."
404	2012. WRA Specialist. Personal Communication.	[Unpalatable to grazing animals? Unknown]
405	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? Unknown] No evidence or entries for genus <i>Pilea</i>
406	2012. WRA Specialist. Personal Communication.	[Host for recognized pests and pathogens? Unknown]
407	2008. Wagstaff, D.J.. International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Causes allergies or is otherwise toxic to humans? Unknown] No evidence or entries for genus <i>Pilea</i>
408	1989. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Creates a fire hazard in natural ecosystems? No] "Plants of seasonally dry or wet evergreen forest formations between (0) 500 and 1800 m. and collected most often around the Meseta Central and the General Valley in Costa Rica ( apparently rare on the Caribbean slope and not recorded from the deciduous areas of Guanacaste), collected in flower and fruit from June to March. The species ranges from Mexico and the Lesser Antilles to Chile and Argentina." ... "A succulent-stemmed plant of moist sites and along water courses; completing its life cycle in the wet season. This species resembles <i>P. dauciodora</i> with larger flowers and fruit." [No evidence based on growth form and habitat]
409	1950. Matuda, E.. A Contribution to Our Knowledge of the Wild and Cultivated Flora of Chiapas. I. Districts Soconusco and Mariscal. American Midland Naturalist. 44(3): 513-616.	[Is a shade tolerant plant at some stage of its life cycle? Yes] " <i>Pilea hyalina</i> Fenzl.-In shaded margin of woods, Esperanza, Escuintla, No. 17178; on wet ridge, Barranca Honda, Siltepec, No. 4034."

409	1979. Kunkel-Westphal, I./Kunkel, P.. Litter Fall in a Guatemalan Primary Forest, with Details of Leaf-Shedding by Some Common Tree Species. <i>Journal of Ecology</i> . 67(2): 665-686.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "The forest floor itself is only sparsely herb covered: some of the species are listed in Appendix 1. Large patches of <i>Pilea</i> spp. Are particularly striking." [Includes <i>Pilea ecbolophylla</i> , <i>Pilea hyalina</i> , and <i>Pilea pansamalana</i> ]
409	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Is a shade tolerant plant at some stage of its life cycle? Yes] "While a few species are common as weeds or found in the cracks of city pavement ( <i>P. microphylla</i> ), most species are confined to the shaded floor of moist forests or to the proximity of streams and brooks."
410	2012. WRA Specialist. Personal Communication.	[Tolerates a wide range of soil conditions? Unknown]
411	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Climbing or smothering growth habit? No] "Slender, erect annual, 10-30 cm. high, the stem simple, glabrous; stipules very small, soon deciduous;..."
412	1931. Standley, P.C./Dahlgren, B.E.. <i>Flora of the Lantecilla Valley, Honduras</i> . Fieldiana. Botany Series. 10: 1-418.	[Forms dense thickets? Possibly] "A succulent erect branched herb 30-50 cm. high, glabrous; leaves long petioled, broadly ovate, 1-6 cm. long, coarsely crenate; flower clusters loose, usually shorter than the petioles. In wet thickets and forest about Quebrada Seca and La Fragua; ranging to Mexico and South America. Called "hierba de masamorra" in Salvador." [Unspecified whether <i>Pilea hyalina</i> forms monotypic thickets, or is merely a component of thicket vegetation]
412	1952. Standley, P.C./Steyermark, J.A.. <i>Flora of Guatemala—Part III</i> . Fieldiana, Botany Series. 24(3): 396-430.	[Forms dense thickets? Unknown] "Moist thickets or forest, frequently a weed in cafetales and other cultivated ground, 250-1,600 meters; Alta Verapaz; Jalapa; Santa Rosa; Guatemala; Sacatepequez; Retalhuleu; Quiche". Southern Mexico; El Salvador to Panama; tropical South America." [Unspecified whether <i>Pilea hyalina</i> forms monotypic thickets, or is merely a component of thicket vegetation]
501	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Aquatic? No] Terrestrial
502	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Grass? No] Urticaceae
503	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Nitrogen fixing woody plant? No] Urticaceae
504	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Small erect herbs 10-30 cm. tall, bisexual, unbranched or more often with several lateral branches and bush-like form, leafy internodes 4-40 mm. long, 0.4-2.5 mm. thick, glabrous, succulent but drying yellowish and often translucent; stipules rudimentary and less than 1 mm. long, usually obscure."
601	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Evidence of substantial reproductive failure in native habitat? No] No evidence
601	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Produces viable seed? Yes] "Fruit 0.3-0.5 mm. long, ovoid to broadly ellipsoid in outline, thick-lenticular with narrowed margins, drying yellowish brown or pale brown."
603	2012. WRA Specialist. Personal Communication.	[Hybridizes naturally? Unknown]
604	1960. Nevling, Jr., L.I.. <i>Flora of Panama</i> . Part IV. Fascicle II. <i>Annals of the Missouri Botanical Garden</i> . 47(2): 81-203.	[Self-compatible or apomictic? Unknown] "plants monoecious, the inflorescences androgynous, cymose-paniculate, shorter than the petioles, borne at nearly every node, the staminate flowers relatively few; achenes suborbicular, not more than 0.5 mm. long."
604	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Self-compatible or apomictic? Unknown] "...bisexual but the male flowers soon lost, flowers in congested clusters 1-3 mm. long; male and female flowers about 0.5 mm. long." [Loss of male flowers on an individual plant suggests that this may be an adaptation to avoid self-pollination]
605	1994. Zomlefer, W.B.. <i>Guide to Flowering Plant Families</i> . The University of North Carolina Press, Chapel Hill & London	[Requires specialist pollinators? No] "The minute, reduced flowers of the family often are well adapted for anemophily." [Family description]
605	2010. Simpson, M.G.. <i>Plant Systematics</i> . Academic Press, Oxford	[Requires specialist pollinators? No] "Flowers are wind-pollinated." [Urticaceae]

606	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	[Reproduction by vegetative fragmentation? Unknown] "Pilea nummulariifolia" ... "Creeping herb, rooting freely from nodes" [Unknown whether or not Pilea hyalina shares this trait]
607	1937. Macbride, J.F./Dahlgren, B.E. Flora of Peru, Part II. No. 2. Fieldiana. Botany Series. 13: 1-661.	[Minimum generative time (years)? 1] "A slender, erect annual, the stem unbranched, pellucid, glabrous; leaves rhombic-elliptic or ovate, 1-6 cm. long, 0.8-4.5 cm. wide, acute, cuneate, coarsely serrate-dentate, thin membranous, glabrous, or sparsely hyaline-strigillose above, the cystoliths linear, faint; plants monoecious, the inflorescences androgynous, cymose-paniculate, much shorter than the petioles." [Annual]
607	1989. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Minimum generative time (years)? 1-2] "Pilea hyalina is recognized by the small short lived habit, thin isomorphic leaves at a node, few hairs on the upper lamina-surface, minute fruit, and lack of developed stipules. A succulent-stemmed plant of moist sites and along water courses; completing its life cycle in the wet season." [Short-lived habit suggests that plant will flower early; and ability to complete its life cycle in the wet season suggests that the plant behaves like an annual]
701	2006. Verloove, F.. Catalogue of neophytes in Belgium (1800-2005). Scripta Botanica Belgica. 39: 1-89.	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "Likewise, greenhouse weeds are also included even if their survival outside the greenhouse area is unlikely at present. In Belgium the spontaneous flora of greenhouses has never been studied in detail so far (contrary to several other European countries; see for instance: Kuitunen & Lahtonen 1994 for Finland or Galera and Ratyńska 1999 for Poland). Hence, only some occasional records are included (for instance Acalypha indica, Laportea aestuans, Phyllanthus tenellus or Pilea hyalina). They are probably of minor importance but a future naturalization, outside the greenhouse area, can never be totally excluded."
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? No] "Several species are grown as ornamentals for their attractively marked foliage." [No evidence that Pilea hyalina is intentionally grown for ornamental purposes]
703	2006. Verloove, F.. Catalogue of neophytes in Belgium (1800-2005). Scripta Botanica Belgica. 39: 1-89.	[Propagules likely to disperse as a produce contaminant? Yes. Nursery introduction] "Likewise, greenhouse weeds are also included even if their survival outside the greenhouse area is unlikely at present. In Belgium the spontaneous flora of greenhouses has never been studied in detail so far (contrary to several other European countries; see for instance: Kuitunen & Lahtonen 1994 for Finland or Galera and Ratyńska 1999 for Poland). Hence, only some occasional records are included (for instance Acalypha indica, Laportea aestuans, Phyllanthus tenellus or Pilea hyalina). They are probably of minor importance but a future naturalization, outside the greenhouse area, can never be totally excluded."
705	1989. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Propagules water dispersed? Yes] "A succulent-stemmed plant of moist sites and along water courses; completing its life cycle in the wet season." [Adaptation to riverine habitat suggests seeds or propagules are water dispersed]
705	1989. Hirth, K./Pinto, G.L./Hasemann, G. (eds.). Archaeological Research in the El Cajon Region, Volume 1: Prehistoric Cultural Ecology. University of Pittsburgh Latin American Archaeology Publications, Pittsburgh, PA	[Propagules water dispersed? Presumably Yes] "The reader may note that some plants on the circum-riverine list, e.g., Eryngium foetidum, Inga vera, Pachyrhizus erosus, Pilea hyalina, and Sida acuta are also on the secondary growth/agricultural community list. These plants that have adapted to the periodic upheavals of life along the watercourses and are likewise adapted to land disturbed by man. It seems quite likely that many of the plants found in secondary growth originated from the riverine habitat." [Adaptation to riverine habitat suggests seeds or propagules are water dispersed]
706	2000. Harvey, C.A.. Windbreaks Enhance Seed Dispersal into Agricultural Landscapes in Monteverde, Costa Rica. Ecological Applications. 10(1): 155-173.	[Propagules bird dispersed? No] "Pilea hyalina ... Dispersal Mode = gravity (G)"
707	1989. Burger, W. (ed.). Flora Costaricensis. Fieldiana: Botany. 40: 1-291.	[Propagules dispersed by other animals (externally)? Unknown] "Fruit 0.3-0.5 mm. long, ovoid to broadly ellipsoid in outline, thick-lenticular with narrowed margins, drying yellowish brown or pale brown." [Although not documented, the seeds are small enough that they could potentially get caught in or adhere to fur, hooves, or mud on animals]
707	1999. Judd, W.S./Campbell, C.S./Kellogg, E.A./Stevens, P.F.. Plant Systematics: A Phylogenetic Approach. Sinauer Associates, Inc., Sunderland, MA	[Propagules dispersed by other animals (externally)? Unknown] "The fruits may be eaten by birds, or dispersed by external transport on hair or feathers, by wind, or by ballistic methods." [Urticaceae family description. No direct evidence documented for Pilea hyalina]



708	1989. Burger, W. (ed.). <i>Flora Costaricensis</i> . Fieldiana: Botany. 40: 1-291.	[Propagules survive passage through the gut? Unknown] "Fruit 0.3-0.5 mm. long, ovoid to broadly ellipsoid in outline, thick-lenticular with narrowed margins, drying yellowish brown or pale brown." [Unknown, but seeds not adapted for internal dispersal & probably not likely to be consumed]
801	1952. Standley, P.C./Steyermark, J.A.. <i>Flora of Guatemala—Part III</i> . Fieldiana, Botany Series. 24(3): 396–430.	[Prolific seed production (>1000/m <sup>2</sup> )? Unknown] "Plants annual, the stems erect, mostly simple, succulent and almost transparent, 40 cm. high or less, glabrous; stipules minute, deciduous; leaves of a pair subequal, the slender petioles 4 cm. long or less, the blades thin, rhombic-elliptic or broadly ovate, 1-6 cm. long, 1-3.5 cm. wide, acute, obtuse or broadly cuneate at the base, coarsely serrate, sparsely pilose or villous above, glabrous beneath, with numerous linear cystoliths; flower spikes 2-4 in the axils of almost all the leaves, 2.5 cm. long or less, androgynous, the staminate flowers very few, the pistillate flowers crowded in numerous almost contiguous glomerules; achenes ovate, 0.4 mm. wide." [No estimates of seed production or seed densities found]
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	1994. Conover, C.A./Stamps, R.H.. Controlling Artillery Plant ( <i>Pilea microphylla</i> ) with Herbicides. CFREC-Apopka Research Report RH-94-7. University of Florida/IFAS, Gainesville, FL <a href="http://mrec.ifas.ufl.edu/foilage/resrpts/rh_94_7.htm">http://mrec.ifas.ufl.edu/foilage/resrpts/rh_94_7.htm</a>	[Well controlled by herbicides? Probably Yes] "In both experiments, best results were obtained from Ronstar® 50 WP (Tables 2 through 5). Artillery plants growing in full sun or 60% shade were almost dead two weeks after Ronstar was applied and no new growth had appeared eight weeks after plants were sprayed. Two weeks after spraying, artillery plant treated with Roundup exhibited significant phytotoxic symptoms. However, eight weeks after treatments were made, seed germination and plant regrowth had occurred in Roundup® sprayed containers and artillery plant was covering nearly 50% of the growing medium surface in containers under full sun or 60% shade." [Refers to control of very weedy related species <i>P. microphylla</i> , but similarity in morphology suggests that <i>P. hyalina</i> would be similarly susceptible to herbicides]
804	2005. Staples, G.W./Herbst, D.R.. <i>A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places</i> . Bishop Museum Press, Honolulu, HI	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown] "Creeping herb, rooting freely from nodes"[every fragment with a node can root to form a new plant, but unknown if <i>P. hyalina</i> shares this ability]
805	2012. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]