UF IFAS UNIVERSITY of FLORIDA

Assessment of Non-native Plants in Florida's Natural Areas

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Assessment date 03/24/2022 Prepared by Wanamaker and Lieurance

	Epipremnum pinnatum (L.) Engl - (centipede tongavine) **CENTRAL SOUTH ZONES**	**Answer**	**Score**
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	3	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	3	
2.03	Broad climate suitability (environmental versatil+B8:B24ity)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed	y	2
3.03	Weed of agriculture	n	0
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	?	
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	?	
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens	y	1
4.07	Causes allergies or is otherwise toxic to humans	y	1
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	y	1
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	?	
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	?	
6.03	Hybridizes naturally	?	
6.04	Self-compatible or apomictic	n	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	y	1
6.07	Minimum generative time (years)	1 or fewer	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y	1
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	?	
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	?	
7.06	Propagules bird dispersed	?	
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	n	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	?	
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in U.S.	?	
	Total Score	**17**	
	Implemented Pacific Second Screening	**n/a**	
	Risk Assessment Results	**High Risk**	

section	# questions answered	satisfy minimum?
A	11	yes
B	9	yes
C	16	yes
total	36	yes

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	Epipremnum pinnatum (L.) Engl - (centipede tongavine) **NORTH ZONES**	**Answer**	**Score**
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high) North Zone: suited to Zones 8, 9 Central Zone: suited to Zones 9, 10 South Zone: suited to Zone 10	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	3	
2.03	Broad climate suitability (environmental versatil+B8:B24ity)	y	1
2.04	Native or naturalized in habitats with periodic inundation North Zone: mean annual precipitation 50-70 inches Central Zone: mean annual precipitation 40-60 inches South Zone: mean annual precipitation 40-60 inches	y	1
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	2
3.02	Garden/amenity/disturbance weed	y	2
3.03	Weed of agriculture	n	0
3.04	Environmental weed	y	4
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	?	
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	?	
4.05	Toxic to animals	y	1
4.06	Host for recognised pests and pathogens	y	1
4.07	Causes allergies or is otherwise toxic to humans	y	1
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	y	1
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	?	
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	?	
6.03	Hybridizes naturally	?	
6.04	Self-compatible or apomictic	n	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	y	1
6.07	Minimum generative time (years)	1 or fewer	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y	1
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	?	
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	?	
7.06	Propagules bird dispersed	?	
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	n	-1
8.01	Prolific seed production	n	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	?	
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in U.S.	?	
	Total Score	**12**	
	Implemented Pacific Second Screening	**n/a**	
	Risk Assessment Results	**High Risk**	

section	# questions answered	satisfy minimum?
A	11	yes
B	9	yes
C	16	yes
total	36	yes

	Reference	Source data
1.01	Epipremnum pinnatum is cultivated as an ornamental species, but we found no evidence of domestication. (1) cv. Aureum appears never to have been collected in the wild and the possibility exists that it is a horticultural selection of E. pinnatum. (2) "E. pinnatum flowers freely in the wild and in cultivation, whereas the cultivar 'Aureum' and reverted green plants are notoriously shy-flowering"...however domestication has not reduced the invasion risk posed by vegetative spread	1. Boyce (1998) The genus Epipremnum Schott (Araceae - Monsteroideae - Monstereae) in west and central Malesia. Blumea 43: 183-213. 2. Bown (2000) Aroids: Plants of the Arum Family. Timber Press, Portland, Oregon.
1.02	Skip to 2.01	
1.03	Skip to 2.01	
2.01	(1)India, China, Hong Kong, Taiwan, Indochina, Malesia (including Singapore), Tropical Australia, Pacific Islands (2) Native range includes Asia and the Pacific. The introduced range include the Caribbean (the West Indes, Lesser Antilles, Greater Antilles, Puerto Rico, the Virgin Islands), and Florida. (3) Near pan-tropical distribution, with large hubs in southern continental Asia, Malaysia, Indonesia, and Australia, and another in northern South America. (4) Uncultivated specimens have been found in at least 12 of Florida's counties, mostly in central and southern Florida. (5) Hardiness zones 10-12	1. National Parks Flora and Fauna Web. https://www.nparks.gov.sg/florafaunaweb/flora/1/3/1393. "2. Acevedo-Rodríguez P, Strong M T, 2012. Catalogue of the Seed Plants of the West Indies. Washington, DC, USA: Smithsonian Institution. 1192 pp. http://botany.si.edu/Antilles/WestIndies/catalog.htm 3. https://www.gbif.org/species/2868272 4. https://florida.plantatlas.usf.edu/Plant.aspx?id=195 (5) MOBOT http://www.missouribotanicalgarden.org/PlantFinder/PlantFinderProfileResults.aspx?basic=epipremnum
2.02	No climate matching was conducted. Default 3.	
2.03	(1) Prefers Koppen Geiger Climate Classifications Af, Am, As, and Aw, and tolerates Cs and Cw. (2) Elevations of 1-1600 meters. **NOTE: Florida is Cfa, Aw, Am, Af**	"1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 2. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121"
2.04	(1) "Naturalized robust vine of wet spots at lower elevations, especially by rivers." (2) "Geographical distribution: Southeastern Asia through Malesia to Oceania." (3) Precipitation range 55-3500 mm/year (2.165-137.8 inches).	"1. Graveson R, 2012. Plants of Saint Lucia. http://www.saintlucianplants.com/floweringplants/araceae/epipaure/epipaure.html 2. Ara, H., & Hassan, M. A. (2006). Three new records of Aroids (Araceae) for Bangladesh. Bangladesh Journal of Plant Taxonomy, 13(2), 83–91. https://doi.org/10.3329/bjpt.v13i2.581 3. 1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410"

2.05	Species is a widely cultivated ornamental. (1) Cultivated on the Galapagos. (2) Introduced to be cultivated in South Africa. (3) "E. pinnatum is widely cultivated as an ornamental plant in tropical and subtropical countries in Asia, the Pacific Islands, and West Indies (ISSG, 2012; PIER, 2012; USDA-ARS, 2012)." as reviewed by CABI	"1. Guézou, A., Trueman, M., Buddenhagen, C. E., Chamorro, S., Guerrero, A. M., Pozo, P., & Atkinson, R. (2010). An Extensive Alien Plant Inventory from the Inhabited Areas of Galapagos. PLoS ONE, 5(4), e10276. https://doi.org/10.1371/journal.pone.0010276 2. Foxcroft, L. C., Richardson, D. M., & Wilson, J. R. U. (2008). Ornamental Plants as Invasive Aliens: Problems and Solutions in Kruger National Park, South Africa. Environmental Management, 41(1), 32–51. https://doi.org/10.1007/s00267-007-9027-9 3. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/504104.
3.01	"(1) Naturalized (""quite common, becoming more common"") in Saint Lucia. (2) ""Occasionally cultivated throughout the tropics and becoming naturalized"" (3) listed as naturalized in Hawaii (4) cultivated and frequently naturalized in many tropical and subtropical regions including Colombia, Dominican Republic, Haiti, Honduras, Leeward Is., Puerto Rico, Windward Islands . (5) Epipremnum pinnatum reported outside cultivation in 9 counties in Florida	"1. Graveson R, 2012. Plants of Saint Lucia. http://www.saintlucianplants.com/floweringplants/araceae/epipaure/epipaure.html 2. Acevedo-Rodrįguez, P., & Strong, M. T. (2005). Monocotyledons and Gymnosperms of Puerto Rico and the Virgin Islands. Washington, DC: Smithsonian Institution;. 415 p. (Contributions from the United States National Herbarium; 52). http://www.fs.usda.gov/treesearch/pubs/30275 3. Hawaiian Plants and Tropical Flowers https://wildlifeofhawaii.com/flowers/1477/epipremnum-pinnatum-golden-pothos/ 4. Kew https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:87046-1 (5) Florida Plant Atlas https://florida.plantatlas.usf.edu/plant.aspx?id=195
3.02	(1) Described as a weed of rubber plantations. (2) Reported as a disturbance weed along Florida Gas Transmission Company's pipeline corridors. (3) Epipremnum pinnatum cv. aureum "A number of infestations of this plant were seen in forested areas of Niue, mostly along roads where they were probably the result of the dumping of garden cuttings." (4) Pothos vine (Epipremnum pinnatum) is a common escaped garden vine. It climbs up tree trunks and into the forest canopy, primarily in disturbed areas and along roadsides, smothering native plants.	1. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 (2) broken link on FLEPPC website, Found on Pacific Islands Ecosystems at Risk http://www.hear.org/pier/wra/pacific/epipremnum_pinnatum_htmlwra.htm (3) PIER, Institute of Pacific Islands Forestry (http://www.hear.org/pier/species/epipremnum_pinnatum_cv_aureum.htm) (4) GISD http://www.iucngisd.org/gisd/species.php?sc=1790
3.03	No evidence	

3.04	(1) Described as an "understorey invader" in Bermuda. (2) "E. pinnatum is an aggressive invasive vine. It grows forming dense colonies that engulf native vegetation, climbing from the floor of the forest to areas high into the canopies of mature trees, and shading-out native trees and shrubs in the understory of the forests" "This species has the potential to completely out-compete vegetation communities by displacing native species and changing community structures" (3) CONGENERIC INFORMATION "Pothos (Epipremnum pinnatum cv. aureum) and Syngonium are difficult to eradicate once they become established in the hardwood hammock understory. These vines pose threats to ferns when they extend runners over the ground. If unchecked, they can completely blanket fern habitat."	1. Wolsak, S., Wingate, D., & Cronk, Q. (2018). Environmental change in the terrestrial vegetation of Bermuda: Revisiting Harshberger (1905). Brittonia, 70(2), 257–275. https://doi.org/10.1007/s12228-017-9509-x 2. ISSG 2022. Global Invasive Species Database (GISD). Auckland, New Zealand: University of Auckland. http://www.issg.org/database (3) Possley J. (2004) Exotic species threaten rare ferns in Miami Dade County. WIldland Weeds Summer 2004.
3.05	***Epipremnum aureum*** is currently listed as invasive not recommended in south Florida and caution in central by the UF IFAS Assessment.	https://assessment.ifas.ufl.edu/assessments/epipremnum-pinnatum-cv-aureum/
4.01	No evidence	
4.02	No evidence.	
4.03	The family Araceae is not known to have parasitic traits.	
4.04	No evidence	
4.05	This evidence is applicable to both aureum and pinnatum (1) this common ornamental has occasionally caused vomiting and diarrhea in dogs. However, experimentally, even very large doses...failed to cause adverse effects in cattle and sheep (2-3) Oral irritation, intense burning and irritation of mouth, tongue and lips, excessive drooling, vomiting, difficulty swallowing	(1) Burrows and Tyrl (2001) Toxic Plants of North America. Iowa State University Press, Ames. (2) ASPCA GOLDEN POTHOS https://www.aspca.org/pet-care/animal-poison-control/toxic-and-non-toxic-plants/golden-pothos (3) https://wagwalking.com/condition/devils-ivy-poisoning
4.06	This evidence is applicable to both aureum and pinnatum (1) Documented host of crop pathogen Ralstonia solanacearum. (2) Phytophthora capsici (a pathogen of many crop species). (3) In a survey in 1988-91 Phytophthora meadii was isolated from Aglaonema nitidum cv. curtisii and P. [nicotianae var.] parasitica on Epipremnum aureum [E. pinnatum] and other vining ornamentals producing disease symptoms on their respective host plants similar to those occurring under natural field conditions. All plants developed leaf blight, some with stem or root rot wilted and died. (4) Epipremnum aureum found to be a host for Phytophthora capsici (1), a common crop pest, particularly for members of Solanaceae and Cucurbitaceae	1. Norman, D. J., & Yuen, J. M. F. (1998). Distinct pathotype of Ralstonia (Pseudomonas) solanacearum race 1, biovar 1 entering Florida in pothos (Epipremnum aureum) cuttings. Canadian Journal of Plant Pathology, 20(2), 171–175. (2) Wick RL, Dicklow MB. Epipremnum, a new host for Phytophthora capsici. Plant Dis. 2002 Sep;86(9):1050. doi: 10.1094/PDIS.2002.86.9.1050B. PMID: 30818541. (3) Ann, P. J. (1992). Phytophthora diseases of ornamental plants in Araceae in Taiwan. Plant Pathology Bulletin (United Kingdom). (4) Wick and Dicklow (2002) Epipremnum, a new host for Phytophthora capsici. Plant Diesease 86: 1050.

4.07	This evidence is applicable to both aureum and pinnatum (1) "The plant is poisonous when eaten and can cause minor skin irritation when touched." (2) "Almost all members of the Araceae family contain oxalate crystals which can cause irritation and itching." (3) Listed as having 2 toxicity classes-Oxalates: The juice or sap of these plants contains oxalate crystals. These needle-shaped crystals can irritate the skin, mouth, tongue, and throat, resulting in throat swelling, breathing difficulties, burning pain, and stomach upset. Call the Poison Control Center or your doctor if any of these symptoms appear following ingestion of plants. Dermatitis: The juice, sap, or thorns of these plants may cause a skin rash or irritation. Wash the affected area of skin with soap and water as soon as possible after contact. The rashes may be very serious and painful. Call the Poison Control Center or your doctor if symptoms appear following contact with the plants.	"1. ISSG (2010). Epipremnum pinnatum. Global Invasive Species Database. http://www.iucngisd.org/gisd/speciesname/Epipremnum+pinnatum 2. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 3. UC Safe and poisonous garden Plants https://ucanr.edu/sites/poisonous_safe_plants/Toxic_Plants_by_Scientific_Name_685/"
4.08	No evidence. Unlikely, often grown in moist places	
4.09	This evidence is applicable to both aureum and pinnatum "(1) Found in shady and moist conditions in the tropical rain forests or deciduous forests. (2) ""Found in primary and secondary forest, on open areas in lowland monsoon forest and rainforest,"" presence in forests suggest strong shade tolerance. (3-4) Variously described as an understorey component. (5) full shade to partial sun"	"1. Ara, H., & Hassan, M. A. (2006). Three new records of Aroids (Araceae) for Bangladesh. Bangladesh Journal of Plant Taxonomy, 13(2), 83–91. https://doi.org/10.3329/bjpt.v13i2.581 2. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 3. Pan, F., Zhang, W., Liu, S., Li, D., & Wang, K. (2015). Leaf N:P stoichiometry across plant functional groups in the karst region of southwestern China. Trees, 29(3), 883–892. https://doi.org/10.1007/s00468-015-1170-y 4. Wolsak, S., Wingate, D., & Cronk, Q. (2018). Environmental change in the terrestrial vegetation of Bermuda: Revisiting Harshberger (1905). Brittonia, 70(2), 257–275. https://doi.org/10.1007/s12228-017-9509-x 6. Horticopia 4.0 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida."
4.10	(1) "sometimes growing on rocks and on the seashore, on various media including granite, andesite and limestone" (2) E. pinnatum has the potential to grow in a wide variety of soils including clay, sandy, and loamy soils with pH ranging from 4 to 6 (3) **Soil drainage**-free, seasonally waterlogged-**Soil reaction**-acid; **Soil texture**-heavy, light, medium; **Special soil tolerances**-shallow	1. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 (2) Gilman EF, 2011. Epipremnum aureum Golden Pothos., USA: University of Florida IFAS Extension. [FPS 194.] http://edis.ifas.ufl.edu/fp194 (3) CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410

4.11	This evidence is applicable to both aureum and pinnatum (1) Life form described as 'climbing'. (2) "It climbs up tree trunks and into the forest canopy, primarily in disturbed areas and along roadsides, smothering native plants." (3) A root climber; Found creeping on trees or on stone walls. (4) "Climber plant, climbing tree up to 15 m; pre-adult plants form ground colonies, adult plant climbing"(5) Liana, high climbing, cling to tree trunks by means of adventitious roots	"1. Govaerts, R. (n.d.). World Checklist of Selected Plant Families: Royal Botanic Gardens, Kew. Retrieved March 22, 2022, from https://wcsp.science.kew.org/namedetail.do?name_id=70510 2. ISSG (2010). Epipremnum pinnatum. Global Invasive Species Database. http://www.iucngisd.org/gisd/speciesname/Epipremnum+pinnatum 3. Ara, H., & Hassan, M. A. (2006). Three new records of Aroids (Araceae) for Bangladesh. Bangladesh Journal of Plant Taxonomy, 13(2), 83–91. https://doi.org/10.3329/bjpt.v13i2.581 4. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 5. Whistler, A.W. (2000) Tropical Oramentals: a Guide. Timber Press, Inc., Portland, Oregon. 542pp. p.190"
4.12	Insufficient evidence for a yes or no (1) The "pre-adult plants form ground colonies" (2) It forms a dense mat on the forest floor	1. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121 2. Space, Waterhouse, Newfield, and Bull (2004) Invasive Plant Species on Niue Following Cyclone Heta. Report to the Government of Niue and the United Nations Development Programme.
5.01	Not an aquatic species	
5.02	(1-2) Listed in family Araceae	"1. Govaerts, R. (n.d.). World Checklist of Selected Plant Families: Royal Botanic Gardens, Kew. Retrieved March 22, 2022, from https://wcsp.science.kew.org/namedetail.do?name_id=70510 2. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121"
5.03	(1-2) Variously described as "herbaceous", no evidence of woody tissues in description.	"1. Govaerts, R. (n.d.). World Checklist of Selected Plant Families: Royal Botanic Gardens, Kew. Retrieved March 22, 2022, from https://wcsp.science.kew.org/namedetail.do?name_id=70510 2. Yuzammi, Y. (2018). The diversity of aroids (Araceae) in Bogor Botanic Gardens, Indonesia: Collection, conservation and utilization. Biodiversitas Journal of Biological Diversity, 19(1), 140–152. https://doi.org/10.13057/biodiv/d190121"
5.04	(1) Life form described as herbaceous climber, no description of corms, bulbs, etc.	1. Govaerts, R. (n.d.). World Checklist of Selected Plant Families: Royal Botanic Gardens, Kew. Retrieved March 22, 2022, from https://wcsp.science.kew.org/namedetail.do?name_id=70510
6.01	No evidence.	

6.02	(1) "Within its native range, this species reproduces sexually by seed, and vegetatively by cuttings or plant fragments. However, in many locations where it has been introduced, sexual reproduction appears to be absent or extremely rare, and plants mainly spread vegetatively." (2) E. pinnatum flowers abundantly in the wild and in cultivation	"1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 (2) Moodley, D., Procheş, Ş., & Wilson, J. R. U. (2017). Assessing and managing the threat posed by Epipremnum aureum in South Africa. South African Journal of Botany, 109, 178-188.
6.03	No evidence.	
6.04	(1) Flowers bisexual. (2) Flowers are seen beyond the native range, but seeds are not reported, which indicates the possibility E. pinnatum is not self-compatible.	"1. Acevedo-Rodríguez P, Strong M T, 2012. Catalogue of the Seed Plants of the West Indies. Washington, DC, USA: Smithsonian Institution. 1192 pp. http://botany.si.edu/Antilles/WestIndies/catalog.htm 2. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410"
6.05	(1) fruit flies (Colo- casiomyia) use the inflorescences as a breeding site during most of their life cycle, feeding on floral exudates and/or solid substances produced by the stamens, not pollen grains	1. Jiménez, P. D., Hentrich, H., Aguilar-Rodríguez, P. A., Krömer, T., Chartier, M., & Gibernau, M. (2019). A Review on the Pollination of Aroids with Bisexual Flowers1. Annals of the Missouri Botanical Garden, 104(1), 83-104.
6.06	(1) "Within its native range, this species reproduces sexually by seed, and vegetatively by cuttings or plant fragments. However, in many locations where it has been introduced, sexual reproduction appears to be absent or extremely rare, and plants mainly spread vegetatively." (2) "clasping roots densely arising from nodes and internodes" (3) "any roots or pieces left behind will sprout"	1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 2. Boyce (1998) The genus Epipremnum Schott (Araceae - Monsteroideae - Monstereae) in west and central Malesia. Blumea 43: 183-213. 3. Space, Waterhouse, Newfield, and Bull (2004) Invasive Plant Species on Niue Following Cyclone Heta. Report to the Government of Niue and the United Nations Development Programme
6.07	This evidence is applicable to both aureum and pinnatum (1) pinnatum-Top up the water as needed to ensure the node is always covered with water. After 4-6 weeks roots should form. (2) The amount of time it takes for the nodes to form roots really depends. In Summer this can happen in a matter of weeks! It can take longer in the colder months but as long as the leaves are still alive, there's no problem (3) Golden Pothos is easily propagated by tip cuttings, rooting and growing quickly, even in water. (4) To control Golden Pothos in the field, plants growing in natural areas were cut around the trunk of the tree and advantageous roots were produced and rerooted within the season.	"1. https://www.ecoorganicgarden.com.au/gardening-tips/how-to-grow-dragon-tail/. 2. https://plantgirl.com.au/blogs/plantgirl-blog/how-to-propagate-devils-ivy-epipremnum-aureum 3. Gilman (2014) Epipremnum aureum Golden Pothos EDIS FPS194 4. Personal communication with Jay Ferrell and Stephen Enloe"
7.01	(1) E. pinnatum has escaped from gardens and pathway causes listed as "garden waste disposal (2) "A number of infestations of this plant were seen in forested areas of Niue, mostly along roads where they were probably the result of the dumping of garden cuttings." (3) On Palau, "its main method of spread is through discarded garden cuttings".	1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 3. PIER, Institute of Pacific Islands Forestry (http://www.hear.org/pier/species/epipremnu m_pinnatum_cv_aureum.htm). 3. Space, Waterhouse, Miles, Tiobech, and Rengulbai (2003) Report to the Republic of Palau on Invasive Plant Species of Environmental Concern. USDA Forest Service, Institute of Pacific Islands Forestry, Honolulu.

7.02	(1-4) Generally, pothos is marketed as a ground cover or for outdoor use (climbing) in tropical areas (including Florida)	1. https://www.south-florida-plant-guide.com/golden-pothos.html 2. https://www.gardeningwithcharlie.com/how-to-grow-pothos/ 3. Gilman (2014) Epipremnum aureum Golden Pothos EDIS FPS194 4. https://gardenbeast.com/epipremnum-pinnatum-guide/ 5. https://www.ecoorganicgarden.com.au/gardening-tips/how-to-grow-dragon-tail/
7.03	(1) In its native range, birds eat the berries and disperse the seeds. Where it's become naturalized, it rarely produces fruit.	1. http://www.wildsouthflorida.com/golden.pothos.html
7.04	No evidence of structures that would facilitate wind dispersal	
7.05	No evidence	
7.06	(1) "Reproductive plants produce berries containing seeds which are eaten and dispersed by animals, mainly birds (Darwin Initiative Project, 2006)," (2) In its native range, birds eat the berries and disperse the seeds. Where it's become naturalized, it rarely produces fruit.	1. Original source could not be found. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 2. http://www.wildsouthflorida.com/golden.pothos.html
7.07	No evidence.	
7.08	No evidence	
8.01	(1) berries are 1-2 seeded (2) fruit rarely formed in cultivation (3) "E. pinnatum flowers freely in the wild and in cultivation, whereas the cultivar 'Aureum' and reverted green plants are notoriously shy-flowering" (4) Epipremnum pinnatum has fruits with two large, strongly curved seeds with a bony and ornamented testa.	1. Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu. 2. Whistler (2000) Tropical Ornamentals: a Guide. Timber Press, Portland. 3. Bown (2000) Aroids: Plants of the Arum Family. Timber Press, Portland, Oregon. 4. http://www.aroid.org/floras/
8.02	No evidence, rarely produces fruit	
8.03	This evidence is applicable to both aureum and pinnatum 1. "Hand pull vegetation...After it has resprouted from broken stems, treat with 3% Roundup and surfactant. If non-target damage is not a concern, 3% Roundup is very effective on large intact patches." 2. To control Golden Pothos in the field, plants growing in natural areas were cut around the trunk of the tree and advantageous roots were produced and rerooted within the season. (3) "applying herbicides to freshly cut stems significantly reduced plant growth" (4) Physical removal of E. pinnatum is very difficult but can be effective if done repeatedly for a long period. All rhizomes, tubers, and plant fragments must be properly disposed of from treated areas in order to avoid resprouts	"1. Langeland and Stocker (2001) Control of non-native plants in natural areas of Florida. University of Florida, IFAS Extension, SP 242 (http://edis.ifas.ufl.edu/pdffiles/WG/WG20900 .pdf). 2. Personal communication with Jay Ferrell and Stephen Enloe 3. Moodley, D., Procheş, Ş., & Wilson, J. R. U. (2017). Assessing and managing the threat posed by Epipremnum aureum in South Africa. South African Journal of Botany, 109, 178–188. https://doi.org/10.1016/j.sajb.2016.12.005 " 4. Englberger K, 2009. Invasive weeds of Pohnpei: A guide for identification and public awareness. Kolonia, Federated States of Micronesia: Conservation Society of Pohnpei, 29 pp.
8.04	This evidence is applicable to both aureum and pinnatum (1) "Spread by cuttings, it is difficult to eradicate as any roots or pieces left behind will sprout" (2) This species spreads mainly by cuttings, plant fragments, and/or discarded plants (3) To control Golden Pothos in the field, plants growing in natural areas were cut around the trunk of the tree and advantageous roots were produced and rerooted within the season.	1. http://www.hear.org/pier/nreport.htm 2. 1. CABI Invasive Species Compendium. https://www.cabi.org/isc/datasheet/50410 3. Personal communication with Jay Ferrell and Stephen Enloe
8.05	No evidence	