

Assessment date 18 April 2016

<i>Cyclanthera pedata</i> ALL 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)	2	
2.03	Broad climate suitability (environmental versatility)	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	unk	
3.02	Garden/amenity/disturbance weed	y	2
3.03	Weed of agriculture	unk	
3.04	Environmental weed	unk	
3.05	Congeneric weed	y	2
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	unk	0
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	unk	-1
4.05	Toxic to animals	unk	0
4.06	Host for recognised pests and pathogens	y	1
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	unk	0
4.09	Is a shade tolerant plant at some stage of its life cycle	n	0
4.10	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils). North & Central Zones: infertile soils; South Zone: shallow limerock or Histisols.	unk	0
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	unk	0
5.01	Aquatic	n	0
5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	unk	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat	n	0
6.02	Produces viable seed	y	1

6.03	Hybridizes naturally	unk	-1
6.04	Self-compatible or apomictic	unk	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative propagation	unk	-1
6.07	Minimum generative time (years)	1	1
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	unk	-1
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	unk	-1
7.05	Propagules water dispersed	unk	-1
7.06	Propagules bird dispersed	unk	-1
7.07	Propagules dispersed by other animals (externally)	unk	-1
7.08	Propagules dispersed by other animals (internally)	unk	-1
8.01	Prolific seed production	unk	-1
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	n	-1
8.03	Well controlled by herbicides	unk	1
8.04	Tolerates, or benefits from, mutilation or cultivation	unk	-1
8.05		?	
Total Score			-2
Implemented Pacific Second Screening			no
Risk Assessment Results			Low

section	# questions answered	satisfy minimum?
A		8 yes
B		6 yes
C		10 yes
total		24 yes

	Reference	Source data
1.01	1. Plant World Seeds. http://www.plant-world-seeds.com/store/view_seed_item/3835 (Accessed: 5 April 2016)	1. "Well-known in the tropics and hotter countries, this herbaceous vine is grown for its edible fruit, which is predominantly used as a vegetable. It is known from cultivation only, and its large size, compared to closely related wild species, suggests that it is a fully domesticated crop going back for many centuries, evidence coming from ancient Peruvian ceramics depicting the fruits. The fully grown but still immature fruits are usually eaten cooked, as well as use in salads and pickles."; no evidence of selection for characteristics that reduce weediness
1.02		Skip to question 2.01
1.03		Skip to question 2.01
2.01	1. PERAL NAPPFAST Global Plant Hardiness. http://www.nappfast.org/Plant_hardiness/2012/PHZ%20update201230%20yr%20%20300dpi.tif (Accessed: 5 April 2016) 2. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 3. Global Biodiversity Information Facility. http://www.gbif.org/species/2874529 (Accessed: 11 April 2016) 4. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 11 April 2016) 5. US National Germplasm System. https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?12773 (Accessed: 12 April 2016)	1. Native to or prevalent in in USDA Global Plant Hardiness Zones 8-13. 2. "Range: C. and S. America - from Mexico south to Ecuador, Peru and Bolivia" 3. "Puerto Rico, Bahamas, Cuba, Haiti, Dominican Republic, St. Croix, Nicaragua, Mexico, Guatemala, Honduras, ... Costa Rica, Panama, Colombia (Antioquia, Cundinamarca, Nariño), Peru, Ecuador, Argentina (Jujuy, Salta)" 4. "USDA hardiness zone : 9-11" 5. "Asia-Temperate - China: China - Xizang, - Yunnan, Eastern Asia: Taiwan, Asia-Tropical, Indian Subcontinent: Bhutan; India; Nepal, Malesia: Malaysia, Southern America - Mesoamerica: Costa Rica; Guatemala; Honduras; Nicaragua; Panama, Northern South America: Venezuela, Southern South America: Argentina - Jujuy, - Salta, Western South America: Bolivia; Colombia; Ecuador; Peru"
2.02		No computer analysis. Native range is well known.
2.03	1. The University of Melbourne. Köppen-Geiger Climate Map of the World. http://people.eng.unimelb.edu.au/mpeel/koppen.html (Accessed: 5 April 2016) 2. Wunderlin, R.P. (1978) Flora of Panama, part IX. Family 182. Cucurbitaceae. Annals of the Missouri Botanical Garden 65: 285-368. 3. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 4. Global Biodiversity Information Facility. http://www.gbif.org/species/2874529 (Accessed: 11 April 2016) 5. US National Germplasm System. https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?12773 (Accessed: 12 April 2016)	1. Grows naturally in Köppen-Geiger Climate Zones Af, Am, Aw, BWh, BWk, BSh, Cwa, Cfa, and Cfb 2. "probably native to Andean South America" 3. "Range: C. and S. America - from Mexico south to Ecuador, Peru and Bolivia" 4. "Puerto Rico, Bahamas, Cuba, Haiti, Dominican Republic, St. Croix, Nicaragua, Mexico, Guatemala, Honduras, ... Costa Rica, Panama, Colombia (Antioquia, Cundinamarca, Nariño), Peru, Ecuador, Argentina (Jujuy, Salta)" 5. "Asia-Temperate - China: China - Xizang, - Yunnan, Eastern Asia: Taiwan, Asia-Tropical, Indian Subcontinent: Bhutan; India; Nepal, Malesia: Malaysia, Southern America - Mesoamerica: Costa Rica; Guatemala; Honduras; Nicaragua; Panama, Northern South America: Venezuela, Southern South America: Argentina - Jujuy, - Salta, Western South America: Bolivia; Colombia; Ecuador; Peru"
2.04	1. Climate Charts. World Climate Maps. http://www.climate-charts.com/World-Climate-Maps.html#rain (Accessed: 5 April 2016) 2. Wunderlin, R.P. (1978) Flora of Panama, part IX. Family 182. Cucurbitaceae. Annals of the Missouri Botanical Garden 65: 285-368. 3. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 4. Global Biodiversity Information Facility. http://www.gbif.org/species/2874529 (Accessed: 11 April 2016) 5. US National Germplasm System. https://npgsweb.ars-grin.gov/gringlobal/taxonomydetail.aspx?12773 (Accessed: 12 April 2016)	1. Native or naturalized in areas with rainfall within these ranges 2. "probably native to Andean South America" 3. "Range: C. and S. America - from Mexico south to Ecuador, Peru and Bolivia" 4. "Puerto Rico, Bahamas, Cuba, Haiti, Dominican Republic, St. Croix, Nicaragua, Mexico, Guatemala, Honduras, ... Costa Rica, Panama, Colombia (Antioquia, Cundinamarca, Nariño), Peru, Ecuador, Argentina (Jujuy, Salta)" 5. "Asia-Temperate - China: China - Xizang, - Yunnan, Eastern Asia: Taiwan, Asia-Tropical, Indian Subcontinent: Bhutan; India; Nepal, Malesia: Malaysia, Southern America - Mesoamerica: Costa Rica; Guatemala; Honduras; Nicaragua; Panama, Northern South America: Venezuela, Southern South America: Argentina - Jujuy, - Salta, Western South America: Bolivia; Colombia; Ecuador; Peru"

2.05	<p>1. Siemonsma and Piluek, eds. (1994) Plant Resources of South-East Asia. No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. Pacific Island Ecosystems at Risk. http://www.hear.org/pier/species/cyclanthera_pedata.htm (Accessed: 5 April 2016) 3. Global Biodiversity Information Facility. http://www.gbif.org/species/2874529 (Accessed: 11 April 2016)</p>	<p>1. "Native to Andean South America...Cultivated from Mexico to Peru and Ecuador and also occasionally in the Old World tropics (e.g. Malaysia, Nepal, Taiwan)." 2. Introduced to Ecuador, China, Colombia, Costa Rica, Guatemala, Honduras, Malaysia, Nicaragua, Panama, Peru, and Taiwan 3. Puerto Rico, Bahamas, Cuba, Haiti, Dominican Republic, St. Croix, Nicaragua, Mexico, Guatemala, Honduras, Bolivia (introduced), Costa Rica, Panama, Colombia (Antioquia, Cundinamarca, Nariño), Peru, Ecuador, Argentina (Jujuy, Salta), Venezuela (introduced), Tibet (introduced), China (introduced) (Yunnan (introduced)), Réunion (introduced), Nepal (introduced), trop. Africa (introduced), Bhutan (introduced), India (introduced) (Darjeeling (introduced))</p>
3.01	<p>1. Whitaker, TW (1990) Cucurbits of potential economic importance. Pp. 318-324 in DM Bates, RW Robinson, and C Jeffrey (eds) Biology and Utilization of the Cucurbitaceae. Cornell University Press, Ithaca and London. 2. Wunderlin, R.P. (1978) Flora of Panama, part IX. Family 182. Cucurbitaceae. Annals of the Missouri Botanical Garden 65: 285-368. 3. HEAR.org, Plant species introduced to Galapagos (http://www.hear.org/galapagos/invasives/topics/management/plants/projects/species.htm). 4. National Research Council (1989) Lost Crops of the Incas: Little-Known Plants of the Andes with Promise for Worldwide Cultivation. National Academy Press, Washington, D.C.</p>	<p>1. "Cyclanthera pedata is native to the New World. It is cultivated from Mexico to Peru and Ecuador, and it frequently occurs as an escape". 2. "It is probably native to Andean South America, but is commonly cultivated in the Neotropics for its edible fruit and it frequently occurs as an escape." [unclear whether naturalized outside its native range] 3. listed as introduced and present in the Galapagos [unclear whether naturalized] 4. "In Nepal, it is occasionally cultivated at about 2,000 m elevation and has escaped in places." [unclear whether naturalized]</p>
3.02	<p>1. Dave's Garden. http://davesgarden.com/guides/pf/go/97203/#b (Accessed: 11 April 2016) 2. Useful Tropical Plants. http://tropical.theferns.info/viewtropical.php?id=Cyclanthera+pedata (Accessed: 11 April 2016)</p>	<p>1."May be a noxious weed or invasive" 3. "Weed Potential: Yes"</p>
3.03		no evidence
3.04		no evidence
3.05	<p>1. Global Compendium of Weeds. http://www.hear.org/gcw/scientificnames/scinamec.htm (Accessed: 11 April 2016)</p>	<p>1. Cyclanthera hystrix, Cyclanthera integrifoliola, Cyclanthera ribiflora, and Cyclanthera tamnoides are listed as weeds</p>
4.01	<p>1. The Encyclopedia of Fruits and Nuts. https://books.google.com/books?id=cjHCoMQNkcgC&pg=PA300&lpg=PA300&dq=%22Cyclanthera+pedata%22&source=bl&ots=u-tby2L0X&sig=RP38NmfrTA29-ZKeGAN5tRqDGIs&hl=en&sa=X&ved=0ahUKEwjuy4jb_PfLAhXLMyYKHatzDOU4FBD0AqHAMAU#v=onepage&q=%22Cyclanthera%20pedata%22&f=false (Accessed: 5 April 2016)</p>	<p>1. "The fruit surface can be smooth or softly spiny"; unlikely to cause pain or discomfort</p>
4.02		no evidence
4.03		no evidence
4.04		no evidence
4.05		no evidence
4.06	<p>1. Csorba, R., E.F. Kiss, and I. Molnar (2004) Reactions of some Cucurbitaceous species to zucchini yellow mosaic virus (ZYMV). Communications in Agricultural and Applied Biological Sciences 69: 499-506. 2. Rezende (2000) Cyclanthera pedata var. edulis: new host of papaya ringspot virus-type W in Brazil. Plant Disease 84: 1155.</p>	<p>1. C. pedata was found to be a host of zucchini yellow mosaic virus, a virus causing epidemics among the Cucurbitaceae. 2. C. pedata var. edulis found to be a host for papaya ringspot virus-type W in Brazil; no evidence that Cyclanthera pedata is a significant primary or alternate host</p>

4.07	<p>1. Siemonsma and Piluek, eds. (1994) Plant Resources of South-East Asia. No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 3. Top Tropicals. https://toptropicals.com/catalog/uid/Cyclanthera_pedata.htm (Accessed: 11 April 2016)</p>	<p>1. "Young fruits are eaten, raw or cooked...Young shoots and leaves are also edible." 2. "Young fruits are eaten raw or cooked and have a similar taste to cucumbers though they are not crisp[183, 193]. Older fruits are cooked, they can be stuffed in much the same way as marrows[183, 196]. The fruit is about 6 - 15cm long[196] and 6cm wide[200]. Leaves and tender young shoots - cooked and used as greens[183, 284].", "A tea made from the seeds is used in the treatment of high blood pressure[284]." 3. "The immature fruits may be eaten raw or pickled. The young shoots and leaves may also be eaten as greens. The mature fruit are also prepared as stuffed peppers; stuffed with meat, fish or cheese and then baked - earning it's name "Stuffing Cucumber."</p>
4.08		no evidence
4.09	<p>1. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 2. Dave's Garden. http://davesgarden.com/guides/pf/go/97203/#b (Accessed: 5 April 2016)</p>	<p>1. "Requires a very warm, sunny and sheltered position in a rich well-drained soil[200]" 2. Full sun to partial shade</p>
4.10	<p>1. Plants for a Future. http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 2. Dave's Garden. http://davesgarden.com/guides/pf/go/97203/#b (Accessed: 5 April 2016)</p>	<p>1. "Suitable for: light (sandy), medium (loamy) and heavy (clay) soils and prefers well-drained soil. Suitable pH: acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland). It prefers moist soil." 2. "Requires consistently moist soil; do not let dry out between waterings"; insufficient evidence</p>
4.11	<p>1. Siemonsma and Piluek, eds. (1994) Plant Resources of South-East Asia. No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. The Encyclopedia of Fruits and Nuts. https://books.google.com/books?id=cjHCoMQNkcgC&pg=PA300&lpq=PA300&dq=%22Cyclanthera+pedata%22&source=bl&ots=u-tby2L0X&sig=RP38NmfrTA29-ZKeGAN5tRqDGIs&hl=en&sa=X&ved=0ahUKEwjuy4jb_PfLAhXLMyYKHatzDOU4FBDoAQhAMAU#v=onepage&q=%22Cyclanthera%20pedata%22&f=false (Accessed: 5 April 2016)</p>	<p>1. vigorous vine, up to 5 m long 2. "Cyclanthera plants are vigorous vines that can attain a length or 12 m and are good climbers"</p>
4.12		no evidence
5.01	<p>1. Global Biodiversity Information Facility. http://www.gbif.org/species/2874529 (Accessed: 11 April 2016)</p>	<p>1. "Habitat: not marine"</p>
5.02	<p>1. Siemonsma and Piluek, eds. (1994) Plant Resources of South-East Asia. No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. The Encyclopedia of Fruits and Nuts. https://books.google.com/books?id=cjHCoMQNkcgC&pg=PA300&lpq=PA300&dq=%22Cyclanthera+pedata%22&source=bl&ots=u-tby2L0X&sig=RP38NmfrTA29-ZKeGAN5tRqDGIs&hl=en&sa=X&ved=0ahUKEwjuy4jb_PfLAhXLMyYKHatzDOU4FBDoAQhAMAU#v=onepage&q=%22Cyclanthera%20pedata%22&f=false (Accessed: 5 April 2016)</p>	<p>1. vigorous vine, up to 5 m long 2. "Cyclanthera plants are vigorous vines that can attain a length or 12 m and are good climbers"</p>
5.03	<p>1. USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.</p>	<p>1. Cucurbitaceae; insufficient evidence</p>
5.04	<p>1. The Encyclopedia of Fruit and Nuts. https://books.google.com/books?id=cjHCoMQNkcgC&pg=PA300&lpq=PA300&dq=%22Cyclanthera+pedata%22&source=bl&ots=u-tby2L0X&sig=RP38NmfrTA29-ZKeGAN5tRqDGIs&hl=en&sa=X&ved=0ahUKEwjuy4jb_PfLAhXLMyYKHatzDOU4FBDoAQhAMAU#v=onepage&q=%22Cyclanthera%20pedata%22&f=false (Accessed: 5 April 2016) 2. Pacific Island Ecosystems at Risk. http://www.hear.org/pier/species/cyclanthera_pedata.htm (Accessed: 12 April 2016)</p>	<p>1&2. No evidence of these specialized structures</p>
6.01		no evidence

6.02	1. Stephens (2003) Achoccha - <i>Cyclanthera pedata</i> L. University of Florida, IFAS Extension, HS538 (http://edis.ifas.ufl.edu/pdf/files/MV/MV00500.pdf) 2. Pacific Island Ecosystems at Risk. http://www.hear.org/pier/species/cyclanthera_pedata.htm (Accessed: 5 April 2016)	1. "Propagation is by seeds" 2. "Propagation: Seed"
6.03		no evidence
6.04	1. Appalachian Feet. http://www.appalachianfeet.com/2010/12/13/how-to-grow-and-use-achochacaigua-a-problem-free-cucumber-substitute-wrecipes/ (Accessed: 5 April 2016)	1. "Though they do seem to be capable of self-pollination, best results are achieved with two or more plants."; insufficient evidence
6.05	1. Vogel, S. (1981) The glue-producing anther hairs of <i>Cyclanthera pedata</i> (Cucurbitaceae). <i>Plant Systematics and Evolution</i> 137: 291-316. 2. Appalachian Feet. http://www.appalachianfeet.com/2010/12/13/how-to-grow-and-use-achochacaigua-a-problem-free-cucumber-substitute-wrecipes/ (Accessed: 5 April 2016) 3. Grow Your Own. http://www.growyourown.info/page158.html (Accessed: 13 April 2016)	1. Anther hairs of <i>C. pedata</i> "aid in pollination by producing a glue which sticks the coarse pollen grains onto insect visitors". 2. "I saw plenty of beneficial syrphid flies visiting the tiny flowers in our garden." 3. "The plants produce male and female flowers in July/August and from my observations, pollination is carried out by swarms of hover flies. As hover fly larvae are voracious predators of greenfly, growing Achocha up a fence or hedge would be a good way of attracting the hover flies to your vegetable patch."
6.06		no evidence
6.07	1. Siemonsma and Piluek, eds. (1994) <i>Plant Resources of South-East Asia</i> . No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. Wunderlin, R.P. (1978) <i>Flora of Panama</i> , part IX. Family 182. Cucurbitaceae. <i>Annals of the Missouri Botanical Garden</i> 65: 285-368. 3. <i>The Encyclopedia of Fruits and Nuts</i> . https://books.google.com/books?id=cjHCoMQNkcgC&pg=PA300&lpg=PA300&dq=%22Cyclanthera+pedata%22&source=bl&ots=u-tby2L0X&sig=RP38NmfrTA29-ZKeGAN5tRqDGIs&hl=en&sa=X&ved=0ahUKEwjuy4jb_PfLAhXLMyYKHatzDOU4FBD0AQhAMAU#v=onepage&q=%22Cyclanthera%20pedata%22&f=false (Accessed: 5 April 2016)	1,2. annual 3. "Immature fruit are harvested 70-90 days from sowing and mature fruit 100-120 days from sowing"
7.01		no evidence
7.02	1. Siemonsma and Piluek, eds. (1994) <i>Plant Resources of South-East Asia</i> . No. 8. Vegetables. PROSEA, Bogor, Indonesia. 2. <i>Plants for a Future</i> . http://www.pfaf.org/user/Plant.aspx?LatinName=Cyclanthera+pedata (Accessed: 5 April 2016) 3. Top Tropicals. https://toptropicals.com/catalog/uid/Cyclanthera_pedata.htm (Accessed: 11 April 2016) 4. Plant World Seeds. http://www.plant-world-seeds.com/store/view_seed_item/3835 (Accessed: 12 April 2016)	1. "Native to Andean South America...Cultivated from Mexico to Peru and Ecuador and also occasionally in the Old World tropics (e.g. Malaysia, Nepal, Taiwan)." 2. "Young fruits are eaten raw or cooked and have a similar taste to cucumbers though they are not crisp[183, 193]. Older fruits are cooked, they can be stuffed in much the same way as marrows[183, 196]. The fruit is about 6 - 15cm long[196] and 6cm wide[200]. Leaves and tender young shoots - cooked and used as greens[183, 284].", "A tea made from the seeds is used in the treatment of high blood pressure[284]." 3. "The immature fruits may be eaten raw or pickled. The young shoots and leaves may also be eaten as greens. The mature fruit are also prepared as stuffed peppers; stuffed with meat, fish or cheese and then baked - earning it's name "Stuffing Cucumber." 4. Seeds can be purchased online
7.03		no evidence
7.04		no evidence
7.05		no evidence
7.06		no evidence
7.07		no evidence
7.08		no evidence
8.01	1. National Research Council (1989) <i>Lost Crops of the Incas: Little-Known Plants of the Andes with Promise for Worldwide Cultivation</i> . National Academy Press, Washington, D.C.	1. each fruit "containing up to a dozen seeds"; insufficient evidence

8.02	<p>1. Kew Royal Botanical Gardens. http://www.kew.org/science-conservation/millennium-seed-bank/seed-research/cyclantherapedata (Accessed: 11 April 2016)</p>	<p>1. "The seeds of this species may be Physiologically Dormant (based on other members of the same family). If germination is low, this type of seed dormancy can be overcome by mimicking the seasonal patterns of the species' native habitat. Use a moist pre-chill or pre-heat treatment (depending on local climatic conditions) or a dry after-ripening treatment, before germinating the seeds on agar, germination paper or sand at their optimum temperature. If this does not work, you can perform delicate surgery to enable the embryo to grow. Excise the tissue near the root tip."; no concrete evidence</p>
8.03		no evidence
8.04		no evidence
8.05		no evidence