

| | |
|--|---|
| Taxon: <i>Curio × peregrinus</i> (G.Kunkel) P.V.Heath | Family: Asteraceae |
| Common Name(s): dolphin necklace dolphin plant flying dolphins Senecio hippogriff string of dolphins | Synonym(s): <i>Curio articulatus</i> x <i>Curio rowleyanus</i> <i>Senecio articulatus</i> x <i>Senecio</i> <i>Senecio</i> x <i>peregrinus</i> |

| | | |
|--------------------------------|----------------------------------|------------------------------|
| Assessor: Chuck Chimera | Status: Assessor Approved | End Date: 31 Aug 2021 |
| WRA Score: 3.0 | Designation: L | Rating: Low Risk |

Keywords: Artificial Hybrid, Succulent, Ornamental, Toxic, Spreads Vegetatively

| Qsn # | Question | Answer Option | Answer |
|-------|---|--|--------------|
| 101 | Is the species highly domesticated? | y=-3, n=0 | n |
| 102 | Has the species become naturalized where grown? | | |
| 103 | Does the species have weedy races? | | |
| 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) | Intermediate |
| 202 | Quality of climate match data | (0-low; 1-intermediate; 2-high) (See Appendix 2) | Low |
| 203 | Broad climate suitability (environmental versatility) | y=1, n=0 | n |
| 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 | ? |
| 301 | Naturalized beyond native range | y = 1*multiplier (see Appendix 2), n= question 205 | n |
| 302 | Garden/amenity/disturbance weed | n=0, y = 1*multiplier (see Appendix 2) | n |
| 303 | Agricultural/forestry/horticultural weed | n=0, y = 2*multiplier (see Appendix 2) | n |
| 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 | | |
| 403 | Parasitic | y=1, n=0 | n |
| 404 | Unpalatable to grazing animals | | |
| 405 | Toxic to animals | y=1, n=0 | y |
| 406 | Host for recognized pests and pathogens | | |
| 407 | Causes allergies or is otherwise toxic to humans | y=1, n=0 | y |

| Qsn # | Question | Answer Option | Answer |
|-------|--|---------------|--------|
| 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 | | |
| 410 | Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island) | | |
| 411 | Climbing or smothering growth habit | y=1, n=0 | n |
| 412 | Forms dense thickets | | |
| 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 | | |
| 604 | Self-compatible or apomictic | | |
| 605 | Requires specialist pollinators | | |
| 606 | Reproduction by vegetative fragmentation | y=1, n=-1 | y |
| 607 | Minimum generative time (years) | | |
| 701 | Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas) | | |
| 702 | Propagules dispersed intentionally by people | y=1, n=-1 | y |
| 703 | Propagules likely to disperse as a produce contaminant | y=1, n=-1 | n |
| 704 | Propagules adapted to wind dispersal | | |
| 705 | Propagules water dispersed | | |
| 706 | Propagules bird dispersed | y=1, n=-1 | n |
| 707 | Propagules dispersed by other animals (externally) | | |
| 708 | Propagules survive passage through the gut | y=1, n=-1 | n |
| 801 | Prolific seed production (>1000/m ²) | y=1, n=-1 | n |
| 802 | Evidence that a persistent propagule bank is formed (>1 yr) | | |
| 803 | Well controlled by herbicides | | |
| 804 | Tolerates, or benefits from, mutilation, cultivation, or fire | | |
| 805 | Effective natural enemies present locally (e.g. introduced biocontrol agents) | | |

Supporting Data:

| Qsn # | Question | Answer |
|-------|--|--|
| 101 | Is the species highly domesticated? | n |
| | Source(s) | Notes |
| | World of Succulents. (2021). Senecio 'Hippogriff' (String of Dolphins). https://worldofsucculents.com/senecio-peregrinus-dolphin-necklace/ . [Accessed 30 Aug 2021] | "Gordon Rowley believed it was a hybrid of <i>Curio articulatus</i> (formerly known as <i>Senecio articulatus</i>) and <i>Curio rowleyanus</i> (formerly known as <i>Senecio rowleyanus</i>)." |
| | Wikipedia. (2021). <i>Curio × peregrinus</i> . https://en.wikipedia.org/wiki/Curio_%C3%97_peregrinus . [Accessed 30 Aug 2021] | [Hybrid of ambiguous origin] " <i>Curio × peregrinus</i> , [1] also known as dolphin necklace, flying dolphins, string of dolphins, dolphin plant or <i>Senecio hippogriff</i> , is a succulent nothospecies of <i>Curio</i> (previously <i>Senecio</i>) in the family Asteraceae. It is often called, incorrectly, <i>Senecio peregrinus</i> , but that name was previously given, by Grisebach in 1879, to a different species from South America.[2] The name <i>Curio × peregrinus</i> was published in 1999, based on the earlier name <i>Kleinia peregrina</i> ; however, this name was not validly published.[1] The plant is a hybrid between <i>Curio rowleyanus</i> and <i>Curio articulatus</i> ." |
| 102 | Has the species become naturalized where grown? | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | NA |
| 103 | Does the species have weedy races? | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | NA |
| 201 | Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical" | Intermediate |
| | Source(s) | Notes |
| | WFO (2021). World Flora Online. Published on the Internet; http://www.worldfloraonline.org . [Accessed 30 Aug 2021] | " <i>Curio × peregrinus</i> (G.Kunkel) P.V.Heath Calyx 6(2): 54 (1999), basionym not validly publ.: This name is reported by Compositae as ambiguous" [The name <i>Curio × peregrinus</i> was published in 1999, based on the earlier name <i>Kleinia peregrina</i> ; however, this name was not validly published.[1] The plant is a hybrid between <i>Curio rowleyanus</i> and <i>Curio articulatus</i> .] |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing <i>Senecio Peregrinus</i> Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 30 Aug 2021] | "These plants come from the drier regions of southwest Africa." |

| Qsn # | Question | Answer |
|-------|--|---|
| 202 | Quality of climate match data | Low |
| | Source(s) | Notes |
| | WFO (2021). World Flora Online. Published on the Internet; http://www.worldfloraonline.org . [Accessed 30 Aug 2021] | The name <i>Curio × peregrinus</i> was published in 1999, based on the earlier name <i>Kleinia peregrina</i> ; however, this name was not validly published. The plant is a hybrid between <i>Curio rowleyanus</i> and <i>Curio articulatus</i> . |

| 203 | Broad climate suitability (environmental versatility) | n |
|-----|--|--|
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 30 Aug 2021] | "This plant doesn't tolerate frost. It's recommended for USDA hardiness zones 9b to 11b. <i>Senecio peregrinus</i> grows best at an average temperature of about 72° degrees Fahrenheit (22° C) during the warmer months. During the winter, temperatures should not drop below 50° degrees Fahrenheit (10° C)." |
| | World of Succulents. (2021). Senecio 'Hippogriff' (String of Dolphins). https://worldofsucculents.com/senecio-peregrinus-dolphin-necklace/ . [Accessed 30 Aug 2021] | "USDA hardiness zone 9b to 11 b: from 25 "F (- 3. 9 "C) to SO "F (+ 1 0 "C)." |

| 204 | Native or naturalized in regions with tropical or subtropical climates | y |
|-----|--|---|
| | Source(s) | Notes |
| | World of Succulents. (2021). Senecio 'Hippogriff' (String of Dolphins). https://worldofsucculents.com/senecio-peregrinus-dolphin-necklace/ . [Accessed 30 Aug 2021] | "Gordon Rowley believed it was a hybrid of <i>Curio articulatus</i> (formerly known as <i>Senecio articulatus</i>) and <i>Curio rowleyanus</i> (formerly known as <i>Senecio rowleyanus</i>)." [Parent species native to arid regions of southwestern Africa] |
| | WRA Specialist. (2021). Personal Communication | Cultivated in the Hawaiian Islands |
| | Imada, C. (2019). Hawaiian Naturalized Vascular Plants Checklist (February 2019 update). Bishop Museum Technical Report 69. Bishop Museum, Honolulu, HI | No evidence as of 2019 |

| 205 | Does the species have a history of repeated introductions outside its natural range? | ? |
|-----|--|---|
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 30 Aug 2021] | "It's often grown as a hanging succulent due to its slender, creeping growth." [Promoted on a number of websites. Unclear how often it is grown outdoors] |

| Qsn # | Question | Answer |
|-------|---|--------------|
| 301 | Naturalized beyond native range | n |
| | Source(s) | Notes |
| | Imada, C. (2019). Hawaiian Naturalized Vascular Plants Checklist (February 2019 update). Bishop Museum Technical Report 69. Bishop Museum, Honolulu, HI | No evidence |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| | | |
|-----|---|--------------|
| 302 | Garden/amenity/disturbance weed | n |
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| | | |
|-----|---|--------------|
| 303 | Agricultural/forestry/horticultural weed | n |
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| | | |
|-----|---|--------------|
| 304 | Environmental weed | n |
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | No evidence |

| | | |
|-----|---|---|
| 305 | Congeneric weed | y |
| | Source(s) | Notes |
| | Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall | Several Senecio species are invasive weeds. Although no species of Curio are cited in this publication, given the hybrid nature of "string of dolphins", and the ambiguous taxonomy, this question will be answered conservatively as "Yes" until additional, more determinative information becomes available. |

| | | |
|-----|--|--|
| 401 | Produces spines, thorns or burrs | n |
| | Source(s) | Notes |
| | World of Succulents. (2021). Senecio 'Hippogriff' (String of Dolphins). https://worldofsucculents.com/senecio-peregrinus-dolphin-necklace/ . [Accessed 31 Aug 2021] | [No evidence] "Senecio 'Hippogriff', also known as Curio x peregrinus or Senecio x peregrinus, is a beautiful succulent plant with leaves that look like tiny dolphins jumping out of the waves. It grows up to 6 inches (15 cm) tall. As the leaves grow, they become more and more similar, perfecting themselves as an impressive potted plant. Flowers are small, white, and form tightly compacted puffballs. They appear in the fall. Each bloom has a halo of deep red to golden yellow filaments." |

| | | |
|-----|---------------------|--|
| 402 | Allelopathic | |
|-----|---------------------|--|

| Qsn # | Question | Answer |
|-------|--|----------------------------|
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown. No evidence found |

| 403 | Parasitic | n |
|-----|--|---|
| | Source(s) | Notes |
| | World of Succulents. (2021). Senecio 'Hippogriff' (String of Dolphins). https://worldofsucculents.com/senecio-peregrinus-dolphin-necklace/ . [Accessed 31 Aug 2021] | "Senecio 'Hippogriff', also known as Curio x peregrinus or Senecio x peregrinus, is a beautiful succulent plant with leaves that look like tiny dolphins jumping out of the waves. It grows up to 6 inches (15 cm) tall. As the leaves grow, they become more and more similar, perfecting themselves as an impressive potted plant." [No evidence] |

| 404 | Unpalatable to grazing animals | |
|-----|--|--------------|
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown |

| 405 | Toxic to animals | y |
|-----|---|--|
| | Source(s) | Notes |
| | Epic Succulents. (2021). String Of Dolphins (Senecio peregrinus) – How To Care And Propagate A Super Cute Succulent! https://www.epicsucculents.com/string-of-dolphins-care-and-propagation/ . [Accessed 31 Aug 2021] | "Is String Of Dolphins Toxic To Cats And Dogs? Unfortunately, the answer is YES. String of Dolphins is toxic to cats, dogs, and other pets so you need to keep your furry friend away from this succulent. Also, ensure to keep your Dolphin Plant out of reach of curious little children as it can also be mildly toxic to humans. Symptoms of poisoning: Abdominal pain, drooling, skin irritation, weakness, vomiting, diarrhea, liver failure." |

| 406 | Host for recognized pests and pathogens | |
|-----|---|--|
| | Source(s) | Notes |
| | Epic Succulents. (2021). String Of Dolphins (Senecio peregrinus) – How To Care And Propagate A Super Cute Succulent! https://www.epicsucculents.com/string-of-dolphins-care-and-propagation/ . [Accessed 31 Aug 2021] | [Mealybugs, Aphids, & Red Spider Mites are listed among the widespread and common pests that may affect this plant] "Pests And Diseases - String of Dolphins tends to be quite a pest and disease-resistant plant, but it can still be harmed occasionally by common houseplant insects, such as mealybugs, aphids, and red spider mites. With early detection and proper treatment, however, the infestation can easily be brought under control. If you notice that your succulent has stopped growing, it is most likely due, unfortunately, to a pest invasion." |

| Qsn # | Question | Answer |
|-------|---|---|
| 407 | Causes allergies or is otherwise toxic to humans | y |
| | Source(s) | Notes |
| | Epic Succulents. (2021). String Of Dolphins (Senecio peregrinus) – How To Care And Propagate A Super Cute Succulent! https://www.epicsucculents.com/string-of-dolphins-care-and-propagation/ . [Accessed 31 Aug 2021] | [Mildly toxic] "Is String Of Dolphins Toxic To Cats And Dogs? Unfortunately, the answer is YES. String of Dolphins is toxic to cats, dogs, and other pets so you need to keep your furry friend away from this succulent. Also, ensure to keep your Dolphin Plant out of reach of curious little children as it can also be mildly toxic to humans. Symptoms of poisoning: Abdominal pain, drooling, skin irritation, weakness, vomiting, diarrhea, liver failure." |

| 408 | Creates a fire hazard in natural ecosystems | n |
|-----|---|---|
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | "As a succulent, the dolphin necklace stores water in its stems and can tolerate drought longer." [No evidence. Unlikely given succulent habit] |

| 409 | Is a shade tolerant plant at some stage of its life cycle | |
|-----|---|---|
| | Source(s) | Notes |
| | The Spruce. (2021). How to Grow and Care for String of Dolphins. https://www.thespruce.com/growing-string-of-dolphins-5089406 . [Accessed 31 Aug 2021] | "Sun Exposure: Full to partial sun" |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | [Light shade] "Grow dolphin necklace under bright, indirect sunlight. In moist conditions, it should receive partial shade. It may develop scorching when placed in full sunlight." |

| 410 | Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island) | |
|-----|---|---|
| | Source(s) | Notes |
| | The Spruce. (2021). How to Grow and Care for String of Dolphins. https://www.thespruce.com/growing-string-of-dolphins-5089406 . [Accessed 31 Aug 2021] | "Soil Type - Well-draining, cactus/succulent soil" |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | "Use well-draining potting medium or succulent potting mix. To make homemade succulent potting mix, combine the following: 1 part perlite 2 parts coarse sand 2 parts peat moss" |

| Qsn # | Question | Answer |
|-------|---|---|
| 411 | Climbing or smothering growth habit | n |
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | [Creeping, and used in hanging baskets, but no evidence of climbing or smothering growth habit] "Senecio peregrinus is a succulent with thin stems and oddly shaped leaves. It's often grown as a hanging succulent due to its slender, creeping growth." |

| | | |
|-----|--|---|
| 412 | Forms dense thickets | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | A succulent of hybrid origin commonly used in hanging baskets. Low-growing habit unlikely to form dense thickets that would impede movement. Ability to compete with or exclude other vegetation unknown. |

| | | |
|-----|---|---|
| 501 | Aquatic | n |
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | [Terrestrial, or used in hanging baskets] "a succulent with thin stems and oddly shaped leaves. It's often grown as a hanging succulent due to its slender, creeping growth." |

| | | |
|-----|--|---|
| 502 | Grass | n |
| | Source(s) | Notes |
| | USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 31 Aug 2021] | Genus: <i>Curio</i> Family: Asteraceae (alt. Compositae) Subfamily: Asteroideae Tribe: Senecioneae Subtribe: Senecioninae |

| | | |
|-----|--|---|
| 503 | Nitrogen fixing woody plant | n |
| | Source(s) | Notes |
| | USDA, Agricultural Research Service, National Plant Germplasm System. (2021). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 31 Aug 2021] | Genus: <i>Curio</i> Family: Asteraceae (alt. Compositae) Subfamily: Asteroideae Tribe: Senecioneae Subtribe: Senecioninae |

| Qsn # | Question | Answer |
|-------|---|--|
| 504 | Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers) | n |
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | "a succulent with thin stems and oddly shaped leaves." |

| | | |
|-----|---|---|
| 601 | Evidence of substantial reproductive failure in native habitat | n |
| | Source(s) | Notes |
| | Wikipedia. (2021). <i>Curio × peregrinus</i> . https://en.wikipedia.org/wiki/Curio_%C3%97_peregrinus . [Accessed 31 Aug 2021] | [NA] "The name <i>Curio × peregrinus</i> was published in 1999, based on the earlier name <i>Kleinia peregrina</i> ; however, this name was not validly published.[1] The plant is a hybrid between <i>Curio rowleyanus</i> and <i>Curio articulatus</i> ." |

| | | |
|-----|--|--|
| 602 | Produces viable seed | y |
| | Source(s) | Notes |
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | "If you're growing succulents from seed, dolphin succulents are generally easy to cultivate, just don't forget to first soak them in warm water and then cold water in order for them to germinate. After that you can plant the seeds into a container with soil." ... "Cover the container with plastic (with a few holes in it for aeration) or a similar wrapping, mist your seeds quite often in order to keep the soil slightly moist. Then wait for your seedlings to sprout. Once your seedlings are established you can move them out of the plastic covered container." |
| | The Tilth. (2021). <i>Senecio Peregrinus</i> "String of Dolphins". https://thetilth.com/senecio-peregrinus/ . [Accessed 31 Aug 2021] | " <i>Senecio peregrinus</i> can be propagated by seeds and by cuttings in spring. Seeds: First Step: Fill a pot with black peat mixed with a picex in equal parts, and then add water to the substrate. Second step: place the seeds on the surface of the substrate and then cover the seeds with a thin layer of pumice or river sand. Third step: Finally, place the pot outside, in semi-shade. Third step: water the seeds, but this time with a sprayer. Recommendation: sprinkle copper or sulfur to avoid the appearance of fungi. If all goes well, they will germinate in 2-3 weeks." |

| | | |
|-----|---|--|
| 603 | Hybridizes naturally | |
| | Source(s) | Notes |
| | Wikipedia. (2021). <i>Curio × peregrinus</i> . https://en.wikipedia.org/wiki/Curio_%C3%97_peregrinus . [Accessed 31 Aug 2021] | [An artificial hybrid. Ability to hybridize with other taxa unknown] "The plant is a hybrid between <i>Curio rowleyanus</i> and <i>Curio articulatus</i> ." |

| | | |
|-----|-------------------------------------|--|
| 604 | Self-compatible or apomictic | |
|-----|-------------------------------------|--|

| Qsn # | Question | Answer |
|-------|--|--|
| | Source(s) | Notes |
| | The Tilth. (2021). Senecio Peregrinus "String of Dolphins". https://thetilth.com/senecio-peregrinus/ . [Accessed 31 Aug 2021] | [Unknown] "Senecio peregrinus can be propagated by seeds and by cuttings in spring." |

| | | |
|------------|--|--|
| 605 | Requires specialist pollinators | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown. An artificial hybrid primarily propagated by cuttings |

| | | |
|------------|---|---|
| 606 | Reproduction by vegetative fragmentation | y |
| | Source(s) | Notes |
| | Succulents and Sunshine. (2021). Senecio peregrinus. String of Dolphins. https://www.succulentsandsunshine.com/types-of-succulents/senecio-peregrinus-string-of-dolphins/ . [Accessed 31 Aug 2021] | "As Senecio peregrinus "String of Dolphins" grows, it spreads out across the ground, or grows down out of a hanging basket." ... "To grow "String of Dolphins" from cuttings, use a sterile, sharp knife or pair of scissors. Remove a stem from the main plant, and allow it to callous for several days before placing on well-draining soil. Water whenever the soil has dried out completely." |
| | The Spruce. (2021). How to Grow and Care for String of Dolphins. https://www.thespruce.com/growing-string-of-dolphins-5089406 . [Accessed 31 Aug 2021] | "String of dolphins can be easily propagated from stem cuttings in water or soil. Take cuttings that have at least 2-3 nodes along the stem for the best chance of success. The nodes can be found at the points where the leaves emerge from the stems and are where the new roots will grow. If you are propagating stem cuttings in water, remove the leaves from the bottom node or two to ensure that the leaves don't rot. Roots should develop within a couple of weeks, at which point you can transfer the cutting to soil. If you are propagating in soil only, simply lay the stem cutting on top of the soil and ensure that the soil is kept moist until roots develop." |
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | "The plant will shoot out roots wherever it touches the soil. Take note that you can only propagate dolphin succulents from cuttings and not from their leaves. The leaves are likely to root, but no new leaves or stems will grow." |
| | WRA Specialist. (2021). Personal Communication | Able to be propagated vegetatively and root at nodes. Likely to spread vegetatively |

| | | |
|------------|--|--|
| 607 | Minimum generative time (years) | |
| | Source(s) | Notes |
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | [Unknown. Primarily propagated by cuttings, so time to maturity may be irrelevant] "The plant will shoot out roots wherever it touches the soil. Take note that you can only propagate dolphin succulents from cuttings and not from their leaves. The leaves are likely to root, but no new leaves or stems will grow." |

| | | |
|------------|---|--------------|
| 701 | Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas) | |
| | Source(s) | Notes |

| Qsn # | Question | Answer |
|-------|--|---|
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | [Could possibly be spread in garden waste, although direct evidence is lacking] "The plant will shoot out roots wherever it touches the soil. Take note that you can only propagate dolphin succulents from cuttings and not from their leaves. The leaves are likely to root, but no new leaves or stems will grow." |
| | WRA Specialist. (2021). Personal Communication | Description of seeds lacking. An artificial hybrid typically propagated by vegetative means. Unknown if seeds, if/when produced, have a pappus or other structure that could allow for attachment to clothing, shoes or fur |

| 702 | Propagules dispersed intentionally by people | y |
|-----|---|---|
| | Source(s) | Notes |
| | Plant Care Today. (2021). Dolphin Necklace Care: All About Growing Senecio Peregrinus Plant. https://plantcaretoday.com/senecio-peregrinus.html . [Accessed 31 Aug 2021] | "It's often grown as a hanging succulent due to its slender, creeping growth." [Promoted on a number of websites. Unclear how often it is grown outdoors] |

| 703 | Propagules likely to disperse as a produce contaminant | n |
|-----|--|---|
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unlikely. Typically propagated vegetatively, although some websites state that it may be propagated with seeds. |

| 704 | Propagules adapted to wind dispersal | |
|-----|---|---|
| | Source(s) | Notes |
| | Milton, J. J. (2009). Phylogenetic analyses and taxonomic studies of Senecioninae: southern African Senecio section Senecio. PhD Dissertation. University of St Andrews | [Unknown. Related taxa dispersed by wind, and external attachment] "Taken overall, the two species differ for numerous morphological traits, some of which may relate to differences in breeding system (selfing in <i>S. flavus</i> vs. outcrossing in <i>S. engleranus</i>), habitat (more arid in <i>S. engleranus</i>), and fruit dispersal (ectozoochory in addition to anemochory in <i>S. engleranus</i>)." |

| 705 | Propagules water dispersed | |
|-----|--|--|
| | Source(s) | Notes |
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | [Unknown if vegetative fragments could be moved by water] "The plant will shoot out roots wherever it touches the soil. Take note that you can only propagate dolphin succulents from cuttings and not from their leaves." |

| Qsn # | Question | Answer |
|-------|--|--|
| 706 | Propagules bird dispersed | n |
| | Source(s) | Notes |
| | Kadereit, J.W. & Jeffrey, C. (eds.). (2010). The Families and genera of vascular plants. Volume VIII. Flowering Plants. Eudicots: Asterales. Springer-Verlag, Berlin, Heidelberg, New York | [Family description] "Dispersal. The disseminules of Compositae are dispersed mainly bywind, sometimes externally by mammals, less often by ants or other agents." |
| | WRA Specialist. (2021). Personal Communication | This plant is typically propagated by vegetative means. Seeds, if produced, are not adapted for frugivory |

| | | |
|-----|---|---|
| 707 | Propagules dispersed by other animals (externally) | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Description of seeds lacking. An artificial hybrid typically propagated by vegetative means. Unknown if seeds, if/when produced, have a pappus or other structure that could allow for attachment to clothing, shoes or fur |

| | | |
|-----|---|--|
| 708 | Propagules survive passage through the gut | n |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Typically propagated vegetatively, but no evidence of consumption, or internal dispersal of viable propagules. |

| | | |
|-----|--|--|
| 801 | Prolific seed production (>1000/m2) | n |
| | Source(s) | Notes |
| | Succulent City. (2021). What You Should Know About Dolphin Succulent. https://succulentcity.com/everything-about-dolphin-succulents/ . [Accessed 31 Aug 2021] | "If you're growing succulents from seed, dolphin succulents are generally easy to cultivate, just don't forget to first soak them in warm water and then cold water in order for them to germinate. After that you can plant the seeds into a container with soil." |
| | WRA Specialist. (2021). Personal Communication | Although some websites indicate that "String of dolphins" may be propagated with seeds, the majority of websites recommend propagation by vegetative methods. No sites discuss an abundance of seed production, suggesting seed set of this artificial hybrid may be minimal or absent |

| | | |
|-----|---|---|
| 802 | Evidence that a persistent propagule bank is formed (>1 yr) | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown, although seed production may be minimal, or absent |

| | | |
|-----|--|---|
| 803 | Well controlled by herbicides | |
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown. No information on herbicide efficacy or evidence of chemical control of this species |

| Qsn # | Question | Answer |
|-------|--|--|
| 804 | Tolerates, or benefits from, mutilation, cultivation, or fire | |
| | Source(s) | Notes |
| | The Tilth. (2021). Senecio Peregrinus "String of Dolphins". https://thetilth.com/senecio-peregrinus/ . [Accessed 31 Aug 2021] | "Growing fast it may be that Senecio rowleyanus needs to be pruned, and if so, you can prune it in late winter." |
| | WRA Specialist. (2021). Personal Communication | Possibly. Ability to propagate vegetatively suggests plants may tolerate repeated cutting or pruning |

| 805 | Effective natural enemies present locally (e.g. introduced biocontrol agents) | |
|-----|---|---------|
| | Source(s) | Notes |
| | WRA Specialist. (2021). Personal Communication | Unknown |

Summary of Risk Traits:

High Risk / Undesirable Traits

- An artificial hybrid of ambiguous taxonomy; reliability of cited sources uncertain.
- Able to grow, and potentially spread, in regions with tropical climates
- Species of *Senecio*, the genus in which the putative parent species of this hybrid were once classified, have become invasive weeds
- Reported to be toxic to cats, dogs, and mildly toxic to people if ingested
- Reported to reproduce by seeds and vegetatively by cuttings and rooting at nodes
- Limited reliable information on the biology and ecology of this hybrid reduces the accuracy of risk prediction

Low Risk Traits

- A popular ornamental plant with no reports of naturalization or invasiveness elsewhere, but unclear how frequently this plant is grown outdoors
- Unarmed (no spines, thorns, or burrs)
- Most websites describe vegetative propagation of this hybrid, suggesting seed production may be limited or absent.

Second Screening Results for Herbs or Low Stature Shrubby Life Forms

(A) Reported as a weed of cultivated lands? No
Outcome = Accept (Low Risk)