Taxon: Crinum asiaticum

Family: Amaryllidaceae

Common Name(s): Asiatic poisonbulb
crinum
poisonbulb
spider lily

Synonym(s): Bulbine asiatica (L.) Gaertn.
Crinum amabile Donn ex Ker Gawl.
Crinum brevifolium Roxb.
Crinum toxicarium var. asiaticum (L.) Herb.

Assessor: HPWRA OrgData **Status:** Approved **End Date:** 20 Nov 2025

WRA Score: 3.0 **Designation:** L **Rating:** Low Risk

Keywords: Perennial Herb, Naturalized, Toxic Properties, Bulbs, Water DIspersed

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)	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	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	y
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n = question 205	y
302	Garden/amenity/disturbance weed	y = 1*multiplier (see Appendix 2), n = 0	n
303	Agricultural/forestry/horticultural weed	y = 2*multiplier (see Appendix 2), n = 0	n
304	Environmental weed	y = 2*multiplier (see Appendix 2), n = 0	n
305	Congeneric weed		
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	y = 1, n = -1	y
405	Toxic to animals	y = 1, n = 0	y
406	Host for recognized pests and pathogens	y = 1, n = 0	n
407	Causes allergies or is otherwise toxic to humans	y = 1, n = 0	y
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

Qsn #	Question	Answer Option	Answer
410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y = 1, n = 0	y
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	y
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	y = 1, n = -1	n
605	Requires specialist pollinators	y = -1, n = 0	y
606	Reproduction by vegetative fragmentation	y = 1, n = -1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	3
701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	y = 1, n = -1	n
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	y = 1, n = -1	n
705	Propagules water dispersed	y = 1, n = -1	y
706	Propagules bird dispersed	y = 1, n = -1	n
707	Propagules dispersed by other animals (externally)	y = 1, n = -1	n
708	Propagules survive passage through the gut	y = 1, n = -1	n
801	Prolific seed production (>1000/m2)	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	y = 1, n = -1	y
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
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Seashores, sandy places near river banks. Fujian, Guangdong, Guangxi, Taiwan. The Chinese plant is widely cultivated as an ornamental and is used medicinally." [No evidence]
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[No evidence of domestication] "There is an enormous range of variation within C. asiaticum: plants may be rather dwarf to quite large, the foliage may be green or variously tinged with bronze or purple, and the flowers may be either pure white or flushed with pink or purple outside. Growing conditions have something to do with this variability, as do genetics.565 In an attempt to sort out the variation in C. asiaticum, many names have been published in the botanical and horticultural literature, but the nomenclature is confusing. In Hawai'i, cultivated plants with reddish or purple-tinged foliage and flowers have been named C. asiaticum var. traubii O. & I. Degener."

102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2025). Personal Communication	NA

103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2025). 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"	High
	Source(s)	Notes
	Flora of North America Editorial Committee. (2003). Flora of North America: North of Mexico, Volume 26. Magnoliophyta: Liliidae: Liliales and Orchidales. Oxford University Press, Oxford, UK	"Flowering summer--fall. Wet areas; 0--100 m; introduced; Fla., La.; tropical Asia. Crinum asiaticum is a robust and highly variable species that is distinguished by its very broad leaves. The bulb is reputed to be poisonous."
	POWO (2025). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 17 Nov 2025]	"Native to: Andaman Is., Assam, Bangladesh, Bismarck Archipelago, Borneo, Cambodia, China Southeast, Christmas I., Cocos (Keeling) Is., Fiji, Gilbert Is., India, Japan, Jawa, Korea, Laos, Lesser Sunda Is., Malaya, Maldives, Maluku, Mauritius, Myanmar, Nansei-shoto, New Caledonia, New Guinea, New South Wales, Nicobar Is., Norfolk Is., Northern Territory, Ogasawara-shoto, Philippines, Queensland, Rodrigues, Réunion, Samoa, Seychelles, Solomon Is., South China Sea, Sri Lanka, Sulawesi, Sumatera, Taiwan, Thailand, Vanuatu, Vietnam "

Qsn #	Question	Answer
202	Quality of climate match data	High
	Source(s)	Notes
	POWO (2025). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 17 Nov 2025]	"Native to: Andaman Is., Assam, Bangladesh, Bismarck Archipelago, Borneo, Cambodia, China Southeast, Christmas I., Cocos (Keeling) Is., Fiji, Gilbert Is., India, Japan, Jawa, Korea, Laos, Lesser Sunda Is., Malaya, Maldives, Maluku, Mauritius, Myanmar, Nansei-shoto, New Caledonia, New Guinea, New South Wales, Nicobar Is., Norfolk Is., Northern Territory, Ogasawara-shoto, Philippines, Queensland, Rodrigues, Réunion, Samoa, Seychelles, Solomon Is., South China Sea, Sri Lanka, Sulawesi, Sumatera, Taiwan, Thailand, Vanuatu, Vietnam "

203	Broad climate suitability (environmental versatility)	n
	Source(s)	Notes
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 17 Nov 2025]	"Zone: 9 to 11"
	Flora of North America Editorial Committee. (2003). Flora of North America: North of Mexico, Volume 26. Magnoliophyta: Liliidae: Liliales and Orchidales. Oxford University Press, Oxford, UK	[Low elevation southern latitudes] "lowering summer--fall. Wet areas; 0--100 m; introduced; Fla., La.; tropical Asia."

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	Notes
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	"Crinum asiaticum is naturalized on O'ahu, where it has been observed naturalizing in coastal areas on the windward side of the island. The main population examined by the author consisted of around 20 plants growing amongst driftwood from wet sandy soil within 10 meters of the ocean (Figure 2). Further populations exist on the beach at Ahupua'a 'O Kahana State Park nearby. Crinum asiaticum is also naturalized on the north shore of Kaua'i, based on observations from iNaturalist [link], but has not yet been collected. Crinum asiaticum was imported to Hawai'i as an ornamental and is still widely grown in gardens across the islands (Staples & Herbst 2005). It has been present on O'ahu since at least 1928 (F.B.H. Brown 1468)."
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"One of the common crinums in Hawai'i, C. asiaticum is native to tropical Southeast Asia. It has been dispersed widely by humans and is now cultivated the world over."

205	Does the species have a history of repeated introductions outside its natural range?	y
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"One of the common crinums in Hawai'i, C. asiaticum is native to tropical Southeast Asia. It has been dispersed widely by humans and is now cultivated the world over."

301	Naturalized beyond native range	y
	Source(s)	Notes

Qsn #	Question	Answer
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	"Crinum asiaticum var. sinicum is a perennial herb that produces one or more umbels with white, long-tubed, salverform fragrant flowers. C. asiaticum often grows near rivers and is naturally distributed in southeastern Asia and Oceania. It is widely cultivated as an ornamental in tropical and subtropical regions and has extensively escaped cultivation in both hemispheres (WCSP 2016)."
	Smith, A.C. (1979). Flora Vitiensis Nova - A New Flora of Fiji (Spermatophytes Only). Volume 1. Pacific Tropical Botanical Garden, Lawai, HI	"The species is widely cultivated and also naturalized; in Fiji it is found on sandy beaches and other coastal areas and is a popular plant in villages. It will thrive at elevations of 800 m. or more."
	Faccenda, K. (2024). Report of 24 new naturalized weeds across the islands of Hawai'i. Bishop Museum Occasional Papers 156: 71-110	[O'ahu and Kaua'i] "Crinum asiaticum is naturalized on O'ahu, where it has been observed naturalizing in coastal areas on the windward side of the island. The main population examined by the author consisted of around 20 plants growing amongst driftwood from wet sandy soil within 10 meters of the ocean (Figure 2). Further populations exist on the beach at Ahupua'a 'O Kahana State Park nearby. Crinum asiaticum is also naturalized on the north shore of Kaua'i, based on observations from iNaturalist [link], but has not yet been collected. Crinum asiaticum was imported to Hawai'i as an ornamental and is still widely grown in gardens across the islands (Staples & Herbst 2005). It has been present on O'ahu since at least 1928 (F.B.H. Brown 1468). Material examined. O'AHU: Along Hwy 83 about 1 km N of Swanzy Beach Park, about 10 m from beach, coastal, about 20 plants seen, naturalized and spreading, 1 m, 21.557790, -157.866925, 23 Aug 2022, K. Faccenda & T. Chapin 2687."

302	Garden/amenity/disturbance weed	n
	Source(s)	**Notes**
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 20 Nov 2025]	"It has escaped cultivation and naturalized in parts of Florida, Louisiana and California. " [No detrimental impacts described]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[Includes in a list of weeds of unspecified impacts] "References: Federated States of Micronesia-N-230, United States of America-N-101, United States of America-W-179, Mozambique-nC-943, Eastern Caribbean-N-1742, Argentina-I-983, -I-, India-R-1984, Argentina-W-1977, Fiji-W-1977, Kiribati-W-1977, Marshall Islands-W-1977, Micronesia (Federated States of)-W-1977, Nauru-W-1977, Niue-W-1977, Palau-W-1977, Tonga-W-1977, Tuvalu-W-1977."

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] "References: Federated States of Micronesia-N-230, United States of America-N-101, United States of America-W-179, Mozambique-nC-943, Eastern Caribbean-N-1742, Argentina-I-983, -I-,India-R-1984, Argentina-W-1977, Fiji-W-1977, Kiribati-W-1977, Marshall Islands-W-1977, Micronesia (Federated States of)-W-1977, Nauru-W-1977, Niue-W-1977, Palau-W-1977, Tonga-W-1977, Tuvalu-W-1977."
	WRA Specialist. (2025). Personal Communication	There is no strong evidence that it is a significant "weed" in agriculture (e.g., crops) or forestry (e.g., plantations), based on published extension or impact-assessment literature.

304	Environmental weed	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[No evidence] "References: Federated States of Micronesia-N-230, United States of America-N-101, United States of America-W-179, Mozambique-nC-943, Eastern Caribbean-N-1742, Argentina-I-983, -I-, India-R-1984, Argentina-W-1977, Fiji-W-1977, Kiribati-W-1977, Marshall Islands-W-1977, Micronesia (Federated States of)-W-1977, Nauru-W-1977, Niue-W-1977, Palau-W-1977, Tonga-W-1977, Tuvalu-W-1977."
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 20 Nov 2025]	No evidence
	Global Invasive Species Database (2025). https://www.iucngisd.org/gisd/. [Accessed 20 Nov 2025]	No evidence

305	Congeneric weed	
	Source(s)	**Notes**
	CABI. (2025). CABI Compendium Invasive Species. https://www.cabidigitallibrary.org/product/qi. [Accessed 20 Nov 2025]	"Crinum bulbispermum can have a negative economic impact in non-native countries due to its invasiveness. It is considered a weed in arable land as it actively competes with cultivated plants."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[This and other species listed as weeds of unspecified impacts] "Crinum bulbispermum (Burm. f.) Milne- Redh. & Schweick. Liliaceae - Amaryllidaceae Synonym/s (n° of refs): Crinum longifolium (L.) Thunb. (1) Total N° of Refs: 8 Toxic - Habit: perennial Herb Preferred Climate/s: Mediterranean Origin: Africa Major Pathway/s: Crop, Herbal, Ornamental Dispersed by: Humans References: United States of America-N-101, Portugal-N-1006, Europe-N-819, Global-W-1324, Eastern Caribbean-N-1742, Colombia-W-1977, Portugal-W-1977."
	Global Invasive Species Database (2025). https://www.iucngisd.org/gisd/. [Accessed 20 Nov 2025]	No evidence
	WRA Specialist. (2025). Personal Communication	Potentially. Other Crinum species, such as C. bulbispermum and C. zeylanicum, have naturalized outside their native ranges, and while C. bulbispermum is documented as invasive in some areas, most species spread slowly via bulbs and are only potentially weedy depending on local conditions, warranting cautious use in sensitive ecosystems.

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs perennial, stout. Bulbs narrowly cylindric. Leaves 20--30, dark green, linear-lanceolate, ca. 100 × 7--12 cm, margin undulate, apex acuminate, sharply pointed. Flowering stem erect, nearly as long as leaves. Umbel 10--24-flowered; bracts linear, 3--7 mm; involucres 2, lanceolate, 6--10 cm, membranous. Flowers fragrant; pedicel 0.5--2.5 cm. Perianth salverform; tube greenish white, straight, 7--10 cm × ca. 2 mm; lobes white, linear, 4.5--9 × 0.6--0.9 cm, apex acuminate. Stamens reddish; filament 4--5 cm; anther linear, more than 1.5 cm, apex acuminate. Ovary fusiform, less than 2 cm. Capsule subglobose, 3--5 cm in diam. Seed often 1."

402	Allelopathic	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Goswami, S., & Ray, S. (2020). Comparative assessment of allelopathic herbicidal actions and total phenolics content of seven Indian medicinal plants. bioRxiv 2020.12.23.423709; doi: https://doi.org/10.1101/2020.12.23.423709. [Accessed]	[Potentially. Extracts demonstrate allelopathic properties] "Allelopathy is a vital ecological process that influences the dynamics of ecological succession, structure, and composition of plant communities. The present study aimed to evaluate a comparative account of allelopathic inhibitory actions in relation to total phenolic contents of aqueous extracts from seven traditionally used medicinal plants of India. Triticum aestivum and Cicer arietinum seedlings were used to test seed germination inhibition, seedling growth retardation and branch root sprouting inhibition. Allium cepa root tip cells were used for mitotic index inhibition and abnormal cell percentage analysis. The correlation between the total phenolics content and allelopathic activities was analyzed. The different extracts show the varied degree of allelopathic inhibitory activity. Out of these seven used extracts, Crinum asiaticum leaf extract (CaLAE) showed the highest allelopathic inhibitory action and it could reduce 94.3 and 79.59% root and shoot growth respectively at 96 h of treatment (1 mg/mL) and that was increased to 96.18 and 93.78% respectively with 2 mg/mL. The quantitative phytochemical analysis also revealed that CaLAE also possess relatively higher amounts of total phenolics. The growth retardation effects of the extract are in accordance with the mito-depression and increased chromosomal abnormality in A. cepa root tip cells. In conclusion, Crinum asiaticum may be considered as a prospective source of allelochemicals for plant growth regulation and a source of commercial herbicidal products."

403	Parasitic	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	""Herbs perennial, stout. Bulbs narrowly cylindric. Leaves 20--30, dark green, linear-lanceolate, ca. 100 × 7--12 cm, margin undulate, apex acuminate, sharply pointed." [Amaryllidaceae. No evidence]

404	Unpalatable to grazing animals	y
	Source(s)	**Notes**
	Varun, M., D'Souza, R., Kumar, D., & Paul, M. S. (2011). Bioassay as monitoring system for lead phytoremediation through Crinum asiaticum L. Environmental monitoring and assessment, 178(1), 373-381	"Crinum asiaticum was used as a probable tool for phytoremediation as this is a bulbous perennial plant with great adaptability to proliferate and grow for years together with high biomass production, non-palatability, extensive root system, and presence of bound water in the form of sticky substance for efficient water economy, without requiring any special agronomic input. "
	WRA Specialist. (2025). Personal Communication	Crinum asiaticum is thought to be largely unpalatable to grazing animals. It contains alkaloids that can be toxic if ingested, which may reduce its consumption by livestock such as cattle, goats, and sheep. This potential unpalatability could allow it to persist in pastures and unmanaged areas once established.

405	Toxic to animals	y
	Source(s)	**Notes**
	Spoerke, D.G. & Smolinske, S.C. (1990). Toxicity of Houseplants. CRC Press, Boca Raton, FL	"Ingestion - The raw bulbs may cause nausea, persistent vomiting, and diarrhea if ingested.7•8 There are few case reports of poisonings in the medical literature. The symptoms seen should be much like those of Narcissus, with early onset of symptoms and a duration of several hours."

Qsn #	Question	Answer
	Knight, A. (2007). A Guide to Poisonous House and Garden Plants. CRC Press, Boca Raton, FL	"Risk Assessment: This attractive garden plant, and occasionally potted houseplant, has rarely caused poisoning in animals, but it has the potential to do so. Clinical Signs: Vomiting, excessive salivation, abdominal pain, diarrhea, and difficulty in breathing, are associated with the phenanthridine alkaloids present in the lily family. If large quantities of the leaves and bulb are consumed, depression, ataxia, seizures, and hypotension may develop. Poisoning is rarely fatal, and can generally be treated symptomatically."

406	Host for recognized pests and pathogens	n
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Perhaps the most common pest of crinums is the red spider mite, which can damage the foliage and young inflorescences, forming rust red scabby patches and causing unsightly deformation of the flowers; they (and also thrips) can be controlled with the appropriate insecticides."
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 18 Nov 2025]	"Problems Grasshoppers may chew on the foliage. Mealy bugs, nematodes, slugs and snails are occasional visitors. Anthracnose. "

407	Causes allergies or is otherwise toxic to humans	y
	Source(s)	**Notes**
	Knight, A. (2007). A Guide to Poisonous House and Garden Plants. CRC Press, Boca Raton, FL	"Several phenanthridine alkaloids including lycorine, crinamine, and haemanthamine have been identified in the leaves, stems, and bulbs of Crinum species [1,2]. The phenanthridine alkaloids are present in many of the Liliaceae, most notably in the Narcissus group. The alkaloids have emetic, hypotensive, and respiratory depressant effects, and cause excessive salivation, abdominal pain, and diarrhea. Calcium oxalate raphides may also contribute to the digestive symptoms."
	Nelson, L. S., Balick, M. J. (2020). Handbook of Poisonous and Injurious Plants. United States: Springer US, New York, NY	[Toxic if large amounts are ingested] "Toxic Part: All parts of the plant are toxic, particularly the bulb. Toxin: Lycorine and related phenanthridine alkaloids (see Narcissus). Clinical Findings:Toxicity is uncommonly reported in humans.Ingestion of small amounts produces few or no symptoms.Large exposures may cause nausea, vomiting, abdominal cramping, diarrhea, dehydration, and electrolyte imbalance."

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Herbs perennial, stout." ... "Seashores, sandy places near river banks." [There is no evidence that Crinum asiaticum significantly contributes to fire risk in natural ecosystems. The plant has succulent, high-moisture leaves and bulbs, which are generally not highly flammable.]

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	**Notes**
	Whistler, W.A. (2000). Tropical Ornamentals: A Guide. Timber Press, Portland, OR	"Fertile, moist soils in sunny or partially shaded places are preferred."

Qsn #	Question	Answer
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 20 Nov 2025]	"Sun: Full sun to part shade"
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"They adapt to any light regime from full sun to rather heavy shade."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Crinum asiaticum is quite salt tolerant and does well in gardens near the ocean, but it is truly at its best when grown in rich, fertile soil with ample moisture."
	Bulb Society. (2024). Crinum: A Comprehensive Guide to the Plant. https://bulbsociety.org/crinum-species-and-varietiesthe/. [Accessed 20 Nov 2025]	"Crinum prefers well-drained, moist soils and is often found in wetlands, along riverbanks, or in coastal regions. They can tolerate a range of soil types, from sandy to clay, but thrive best in rich, organic matter."
	Whistler, W.A. (2000). Tropical Ornamentals: A Guide. Timber Press, Portland, OR	"Fertile, moist soils in sunny or partially shaded places are preferred."
	Floridata. (2025). Crinum asiaticum. https://floridata.com/plant/35. [Accessed 20 Nov 2025]	"Grand crinum lily is happy in just about any type of well drained soil>"

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Plant to 8' tall and as broad; bulb with neck to 8-12" long. Lvs spreading; blades strap-shaped, not channeled, 3-4' ≈ 3-5", apex taperingacute. Infl a 20-50-flwd umbel, scape 1.5-2' tall; pedicels short or none. Flws radially symmetrical, erect, salver-shaped, fragrant; cor tube straight, 3-4" long, lobes linear, 2.5-3" long, 0.25-0.4" wide; style as long as stam. Frt irregularly globose, grayish green, apex without beak. Seeds 6 or less."

412	Forms dense thickets	
	Source(s)	**Notes**
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 19 Nov 2025]	" Plants will spread over time to form large colonies."
	Hintze, J. (2012). Propagating Crinum bulbils. GardenDrum. https://gardendrum.com/2012/04/17/propagating-crinum-bulbils/. [Accessed 19 Nov 2025]	"By the way, this is why you find thickets of these plants growing together, in their natural environment, which can be a beautiful sight when they are in flower." [Generic desciption]
	WRA Specialist. (2025). Personal Communication	Possibly, although evidence of dense, naturally occurring thickets was not found

501	Aquatic	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	[Terrestrial] "Seashores, sandy places near river banks."

Qsn #	Question	Answer
502	Grass	n
	Source(s)	Notes
	POWO (2025). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 18 Nov 2025]	Family Amaryllidaceae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	POWO (2025). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 18 Nov 2025]	Family Amaryllidaceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	y
	Source(s)	Notes
	Whistler, W.A. (2000). Tropical Ornamentals: A Guide. Timber Press, Portland, OR	"HERB, perennial, coarse, to 1.5 m high (5 ft) with a thick stem to 50 cm high (20 in), arising from a bulb."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"One of the common crinums in Hawai'i, C. asiaticum is native to tropical Southeast Asia. It has been dispersed widely by humans and is now cultivated the world over." [No evidence]

602	Produces viable seed	y
	Source(s)	Notes
	Whistler, W.A. (2000). Tropical Ornamentals: A Guide. Timber Press, Portland, OR	"Propagate by offsets or seeds. Fertile, moist soils in sunny or partially shaded places are preferred."
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Propagation of crinums is usually by seed, removal of offsets from around mature plants, or division of large clumps. The peculiar enlarged seeds have a corky outer coating, allowing them to float well, an apparent adaptation for dispersal by water. Germinating them requires plenty of moisture."
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	"Seeds floated and the seed germination rates of the seeds experiencing 0-day soaking, 4-day soaking and 12-day soaking were 46.7%, 50.0% and 43.3% respectively. The three soaking treatments did not significantly differed in germination rate (Wald $\chi 2 = 0.187$, df = 2, P = 0.911), suggesting that soaking for 12 days did not even significantly reduce seed vigour."

Qsn #	Question	Answer
603	Hybridizes naturally	
	Source(s)	Notes
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	[Possibly Yes] "In Hawai'i a few distinct Crinum species are cultivated. A much greater number of what appear to be spontaneous hybrids and color variants are found throughout the state.565 These all belong to the complex of large, tropical Asian species, which seem to cross-pollinate freely when brought together in cultivation. There are many intermediates between C. asiaticum, C. pedunculatum, and C. augustum as described here."

604	Self-compatible or apomictic	n
	Source(s)	Notes
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	"This plant does not perform autonomous selfing and shows poor self-compatibility." ... "Flowers did not produce seeds without pollinators and were only poorly self-compatible (Self-Incompatibility Index = 0.69)."

605	Requires specialist pollinators	y
	Source(s)	Notes
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	"The floral syndrome implied a specialised pollination system involving hawkmoths with proboscises of approximately 8 cm in length or longer. Its flowers did attract hawkmoths with relatively long proboscises (Fig. 2; Table 2). However, swallowtail butterflies were also frequent visitors, depositing pollen grains as effectively as hawkmoths (Fig. 5). Flowers did not produce seeds without pollinators and were only poorly self-compatible (Self-Incompatibility Index = 0.69). No pollen limitation was found in 2019 (Pollen Limitation Index = 0.08) (Fig. 4)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Missouri Botanical Garden. (2025). Crinum asiaticum . https://www.missouribotanicalgarden.org/PlantFinder/. [Accessed 18 Nov 2025]	"Propagate by offsets, division or seed. Outdoor plants spread in the garden by suckers to form substantial clumps."

607	Minimum generative time (years)	3
	Source(s)	Notes
	Archer, R. H. (2004). Crinum L. PlantZAfrica. SANBI. https://pza.sanbi.org/crinum. [Accessed 19 Nov 2025]	"If seedlings are kept growing throughout the winter months, they will reach flowering size sooner. First flowering can be expected after three (C. macowanii) to eight years (C. graminicola)."

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Hurrell, J. A., & Delucchi, G. (2007). Amaryllidaceae adventicias en la Argentina. Boletín de la Sociedad Argentina de Botánica, 42(3-4), 313-319	"Las semillas son corchosas, tienen diseminación hidrocora: perduran flotando 1-2 semanas." [The seeds are corky, they have hydrochorous dispersal: they last floating for 1-2 weeks.]

Qsn #	Question	Answer
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	[No evidence] "The dispersal distance by sexual reproduction was significantly longer than that by vegetative reproduction (U = 0, P < 0.001); the former was approximately 7 times longer than the latter (Fig. 1). Bulbils could not be spontaneously separated from the main bulb, such that they always grew next to the main bulb. In contrast, fruits were shed from infructescence when they ripened, providing an opportunity to move away from the parental plant."

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	Whistler, W.A. (2000). Tropical Ornamentals: A Guide. Timber Press, Portland, OR	"Crinum asiaticum the most commonly cultivated species of the genus, is native to tropical Asia but is widely cultivated for its umbels of large white flowers that make it one of the most easily recognized tropical ornamentals."
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"One of the common crinums in Hawai'i, C. asiaticum is native to tropical Southeast Asia. It has been dispersed widely by humans and is now cultivated the world over."

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	[No evidence] "Major Pathway/s: Herbal, Ornamental Dispersed by: Humans"

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule subglobose, 3--5 cm in diam. Seed often 1." [Water dispersed]

705	Propagules water dispersed	y
	Source(s)	**Notes**
	Kienholz, R. (1926). An Ecological-Anatomical Study of Beach Vegetation in the Philippines. Proceedings of the American Philosophical Society, 65(5), 58-100	"Crinum asiaticum (Plate II., Figs. 2, 2a). This amyrillidaceous plant with its large leaves grows on the upper beach with Scaevola, Wedelia, and Sophora, and likewise it may be found within or at the edges of mangrove swamps, or along brackish streams. It frequents the more open type of mangrove swamp which borders brackish rivers rather than the dense mangrove swamp formed by the typical mangrove species. Its fruits are often cast up on the beach by waves. Its leaves are large, linear, and thickened to a heavy midrib full of large air chambers."
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	"Given that C. asiaticum var. sinicum often occurs near rivers or streams, seed dispersal by water seems particularly probable. Adaptations of seeds to dispersal by water may be common in the genus Crinum (Bjorå et al. 2006)."
	Hurrell, J. A., & Delucchi, G. (2007). Amaryllidaceae adventicias en la Argentina. Boletín de la Sociedad Argentina de Botánica, 42(3-4), 313-319	"Las semillas son corchosas, tienen diseminación hidrocora: perduran flotando 1-2 semanas." [The seeds are corky and dispersed hydrochorically: they remain floating for 1-2 weeks.]

706	Propagules bird dispersed	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	[No evidence of animal dispersal] "Fruit coats were dry, membranaceous and translucent. Seed coats were dry and chartaceous, not fleshy. Fruits therefore did not seem to provide any edible tissues for animals and we have never found signs of being gnawed by any animals."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	**Notes**
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	[No evidence. No means of external attachment] "The dispersal distance by sexual reproduction was significantly longer than that by vegetative reproduction (U = 0, P < 0.001); the former was approximately 7 times longer than the latter (Fig. 1). Bulbils could not be spontaneously separated from the main bulb, such that they always grew next to the main bulb. In contrast, fruits were shed from infructescence when they ripened, providing an opportunity to move away from the parental plant. Fruit coats were dry, membranaceous and translucent. Seed coats were dry and chartaceous, not fleshy. Fruits therefore did not seem to provide any edible tissues for animals and we have never found signs of being gnawed by any animals. Seeds floated and the seed germination rates of the seeds experiencing 0-day soaking, 4-day soaking and 12-day soaking were 46.7%, 50.0% and 43.3% respectively."

708	Propagules survive passage through the gut	n
	Source(s)	**Notes**
	Huang, Y., Liu, L. Y., Liu, C. Q., Lu, Q. B., Gong, Q. B., Cai, B., & Hu, X. H. (2021). Diverse large lepidopteran pollinators promote the naturalisation of Crinum asiaticum in invaded and disturbed habitats, despite apparent floral specialisation. Plant Systematics and Evolution, 307(2), 23.	[No evidence of animal consumption or dispersal] "Fruit coats were dry, membranaceous and translucent. Seed coats were dry and chartaceous, not fleshy. Fruits therefore did not seem to provide any edible tissues for animals and we have never found signs of being gnawed by any animals."

801	Prolific seed production (>1000/m2)	n
	Source(s)	**Notes**
	Wu, Z. Y. & Raven, P. H. (eds.). (2000). Flora of China. Vol. 24 (Flagellariaceae through Marantaceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis	"Capsule subglobose, 3--5 cm in diam. Seed often 1."
	Staples, G.W. & Herbst, D.R. (2005). A Tropical Garden Flora - Plants Cultivated in the Hawaiian Islands and Other Tropical Places. Bishop Museum Press, Honolulu, HI	"Frt irregularly globose, grayish green, apex without beak. Seeds 6 or less."
	Geerinck, D.J.L. 1993. Flora Malesiana. Series I, Spermatophyta: Flowering plants. Volume 11, part. 2: 353-373. Amaryllidaceae (including Hypoxidaceae). Rijksherbarium / Hortus Botanicus, Leiden, The Netherlands	"Seeds 1-5 per cell."
	WRA Specialist. (2025). Personal Communication	No evidence. Produces relatively large, few-seeded fruits

Qsn #	Question	Answer
802	**Evidence that a persistent propagule bank is formed (>1 yr)**	
	Source(s)	**Notes**
	WRA Specialist. (2025). Personal Communication	Based on available evidence from Crinum seed biology and the lack of any documentation of long-term viability, C. asiaticum is unlikely to form a persistent propagule bank (>1 year).

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	WRA Specialist. (2025). Personal Communication	Unknown. No information on herbicide efficacy or use of chemicals to control this species

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	y
	Source(s)	**Notes**
	Miss Smarty Plants. (2025). How to Prune Crinum Lily. http://misssmartyplants.com/how-to-prune-crinum-lily/. [Accessed 20 Nov 2025]	"The final step to prune crinum lilies is to remove the green leaves that have visible crinum rust on the tips. It probably wouldn't hurt anything to leave them, but while going through the effort to clean these up it makes sense to do it really well and get as much as possible. I still use my folding saw for this; it cuts through really easily and doesn't leave gnarled edges on the leaves. My advice on this part is to be aggressive. Crinum lilies are very tough plants and will grow back quickly."

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. (2025). Personal Communication	Unknown

Summary of Risk Traits:

In progress