

Taxon: *Capparis mitchellii* Lindl.

Family: Capparaceae

Common Name(s):
desert caper
wild orangeSynonym(s): *Busbeckea mitchellii* F.Muell.

Assessor: Chuck Chimera

Status: Assessor Approved

End Date: 28 Apr 2023

WRA Score: -1.0

Designation: L

Rating: **Low Risk**Keywords: **Spiny Shrub, Palatable Foliage, Edible Fruit, Self-Fertile, Animal-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)	Intermediate
202	Quality of climate match data	(0-low; 1-intermediate; 2-high) (See Appendix 2)	High
203	Broad climate suitability (environmental versatility)	y=1, n=0	y
204	Native or naturalized in regions with tropical or subtropical climates	y=1, n=0	n
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		
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	y
402	Allelopathic		
403	Parasitic	y=1, n=0	n
404	Unpalatable to grazing animals	y=1, n=-1	n
405	Toxic to animals	y=1, n=0	n
406	Host for recognized pests and pathogens		
407	Causes allergies or is otherwise toxic to humans	y=1, n=0	n
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)	y=1, n=0	y

Qsn #	Question	Answer Option	Answer
411	Climbing or smothering growth habit	y=1, n=0	n
412	Forms dense thickets	y=1, n=0	n
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	y=1, n=-1	y
605	Requires specialist pollinators	y=-1, n=0	n
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	n
706	Propagules bird dispersed		
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
708	Propagules survive passage through the gut	y=1, n=-1	y
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	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
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	[No evidence of domestication] "Distribution Drier inland parts of all Australian states except Tasmania, extending from central Australia to near the eastern coast in the drier parts of Queensland."
102	Has the species become naturalized where grown?	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	NA
103	Does the species have weedy races?	
	Source(s)	Notes
	WRA Specialist. (2023). 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
	Gardening With Angus. (2023). Capparis mitchellii - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 26 Apr 2023]	"Climate Zone: Warm temperate, Cool temperate, Mediterranean, Semi-arid, Arid"
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Distribution Drier inland parts of all Australian states except Tasmania, extending from central Australia to near the eastern coast in the drier parts of Queensland."
202	Quality of climate match data	High
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Drier inland parts of all Australian states except Tasmania, extending from central Australia to near the eastern coast in the drier parts of Queensland."
203	Broad climate suitability (environmental versatility)	y
	Source(s)	Notes

Qsn #	Question	Answer
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	<ul style="list-style-type: none"> • Latitude. Main occurrence: 20-34°S. Range: 15-34°S. • Altitude. Main occurrence: 40-515 m. Climate. The principal distribution lies in the hot semi-arid and warm arid climatic zones. Some populations occur in the hot arid zone in central and Western Australia, while those in eastern and northern Queensland lie in the warm sub-humid zone. The mean temperature of the hottest month is 24-36°C and the mean minimum of the coolest month 5-11°C. Frosts occur in most inland localities and average 1-23 annually. The 50 percentile rainfall is 120-630 mm, the 10 percentile 55-430 mm and the lowest on record 21-285 mm. Rainfall incidence varies from a moderate summer maximum in the north to a well-defined winter maximum in the south. In semi-arid areas rainfall distribution is variable from year to year. The annual average number of raindays is 15-60."
	Australian Native Plant Society. (2020). <i>Capparis mitchellii</i> . https://anpsa.org.au/plant_profiles/capparis-mitchellii/ . [Accessed 28 Apr 2023]	"C.mitchellii is unlikely to be suited to humid, summer rainfall areas."
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 27 Apr 2023]	"Climate Zone: Warm temperate, Cool temperate, Mediterranean, Semi-arid, Arid"

204	Native or naturalized in regions with tropical or subtropical climates	n
	Source(s)	Notes
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 26 Apr 2023]	"Climate Zone: Warm temperate, Cool temperate, Mediterranean, Semi-arid, Arid"
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2023). Plants of Hawai'i. http://www.plantsofhawaii.org.. [Accessed 26 Apr 2023]	No evidence in the Hawaiian Islands

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	Cultivated and sold by some Australian nurseries online, but it is unclear how widely this plant may have been introduced outside its native range.

301	Naturalized beyond native range	n
	Source(s)	Notes
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2023). Plants of Hawai'i. http://www.plantsofhawaii.org.. [Accessed 28 Apr 2023]	No evidence
	GBIF Secretariat (2023). <i>Capparis mitchellii</i> Lindl. GBIF Backbone Taxonomy. Checklist dataset. https://www.gbif.org/species/5601837 . [Accessed 28 Apr 2023]	No evidence

302	Garden/amenity/disturbance weed	n
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Qsn #	Question	Answer
	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	
	Source(s)	Notes
	Simmonds, H., Holst, P. & Bourke, C. (2000). The palatability, and potential toxicity of Australian weeds to goats. Rural Industries Research and Development Corporation, Barton, Australia	"The palatability* of weeds (not necessarily endemic to Australia) to goats when the weeds are grown in Australia." [Capparis mitchellii included in this publication of "weeds" with no evidence or description of negative impacts. It is also classified as having high palatability, which would suggest its presence in pastures or grazing lands would be desirable. Presence of spines may make it unwanted, or classified as a weed, in some situations]
	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
	GBIF Secretariat (2023). <i>Capparis mitchellii</i> Lindl. GBIF Backbone Taxonomy. Checklist dataset. https://www.gbif.org/species/5601837 . [Accessed 28 Apr 2023]	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	.Capparis decidua classified as a "Weed of: Cotton, Orchards & Plantations". Capparis spinosa classified as a "Weed of: Cereals". A number of other Capparis species have also been classified as weeds of agriculture.

401	Produces spines, thorns or burrs	y
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Habit: tall shrub or small spreading tree, 2-6 m tall; bark black, deeply fissured; young branches downy, bearing recurved spines."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	Unknown. No evidence found.

Qsn #	Question	Answer
403	Parasitic	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Habit: tall shrub or small spreading tree, 2-6 m ta ll; bark black, deeply fissured; young branches downy, bearing recurved spines." [No evidence]

404	Unpalatable to grazing animals	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"The foliage is palatable and eaten by stock. The fruits have a pleasant to sickly smell and taste a little like passionfruit."
	Simmonds, H., Holst, P. & Bourke, C. (2000). The palatability, and potential toxicity of Australian weeds to goats. Rural Industries Research and Development Corporation, Barton, Australia	[Capparis mitchellii categorized as H = High palatability] "The palatability* of weeds (not necessarily endemic to Australia) to goats when the weeds are grown in Australia. H = high; M = moderate; L = low; N = not known to be eaten."

405	Toxic to animals	n
	Source(s)	Notes
	Simmonds, H., Holst, P. & Bourke, C. (2000). The palatability, and potential toxicity of Australian weeds to goats. Rural Industries Research and Development Corporation, Barton, Australia	"The potential toxicity of weeds to goats." [Capparis mitchellii - □ no known risk]
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"Wild orange is an excellent fodder tree both when eaten in situ and when lopped during droughts; the leaves are relished by sheep, cattle and goats. Webb (1948) notes that this species has been suspected of poisoning stock but feeding tests have proved negative and generally no problems would be expected under normal conditions."
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	[No evidence] "The foliage is palatable and eaten by stock. The fruits have a pleasant to sickly smell and taste a little like passionfruit. They are edible, reported to be quite tasty, although astringent and have a slight kerosene-like after-taste."
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	No evidence

406	Host for recognized pests and pathogens	n
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Pests and diseases. The species is a host tree for the caper white butterfly larvae, which may cause severe defoliation (Wrigley and Fagg 1988)."
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"The fruit of wild orange has a pleasant to sickly smell and the pulp is said to have been eaten by the aborigines (Maiden, 1889; Cleland, 1966). It is quite astringent (Beadle, 1972) and is often infested with larvae of the caper white butterfly."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes

Qsn #	Question	Answer
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 26 Apr 2023]	[No evidence] "Related to capers, it has large fluffy white to cream flowers followed by green fruit. When the fruit ripens, the skin goes a dull purple to orange colour. The flesh becomes yellow to orange and soft, with a fragrant smell. It is eaten raw, or used in cooking, and is high in Vitamin C. The seeds are peppery, so are usually discarded."
	Anderson, E. (2016). <i>Plants of Central Queensland: Identification and Uses of Native and Introduced Species</i> . CSIRO Publishing, Clayton South, Australia	[No evidence] "The foliage is palatable and eaten by stock. The fruits have a pleasant to sickly smell and taste a little like passionfruit. They are edible, reported to be quite tasty, although astringent and have a slight kerosene-like after-taste."
	Quattrocchi, U. (2012). <i>CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology</i> . CRC Press, Boca Raton, FL	No evidence

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). <i>Plants of Western New South Wales</i> . CSIRO Publishing, Collingwood, Australia	"Wild orange usually occurs as scattered individuals." [Scattered distribution suggests contribution to fire risk or fuel load would be negligible.]
	Anderson, E. (2016). <i>Plants of Central Queensland: Identification and Uses of Native and Introduced Species</i> . CSIRO Publishing, Clayton South, Australia	[Tolerates fire. No evidence of increase fire risk] "The new growth on adult trees after fire can also look like the growth on young plants."

409	Is a shade tolerant plant at some stage of its life cycle	
	Source(s)	Notes
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 28 Apr 2023]	"Light: Sunny, Light shade"
	Tropical Plants Database, Ken Fern. (2023). <i>Capparis mitchellii</i> . https://tropical.theferns.info/viewtropical.php?id=Capparis+mitchellii . [Accessed 28 Apr 2023]	"Requires a well-drained soil and a position in full sun"
	Daleys Fruit Tree Nursery. (2023). Wild Orange. https://www.daleysfruit.com.au/Wild-Orange-Capparis-mitchellii.htm . [Accessed 28 Apr 2023]	"Sun or Shade Full (Sun:80%-100%)"
	Anderson, E. (2016). <i>Plants of Central Queensland: Identification and Uses of Native and Introduced Species</i> . CSIRO Publishing, Clayton South, Australia	[Occurs in open, presumably high-light environments] "A wide range of soils in open savanna woodlands and grassland."

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	Notes
	Australian Native Plant Society. (2020). <i>Capparis mitchellii</i> . https://anpsa.org.au/plant_profiles/capparis-mitchellii/ . [Accessed 28 Apr 2023]	"It is reported to tolerate a range of well-drained soils and will grow in alkaline soils."
	Anderson, E. (2016). <i>Plants of Central Queensland: Identification and Uses of Native and Introduced Species</i> . CSIRO Publishing, Clayton South, Australia	"A wide range of soils in open savanna woodlands and grassland."
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 26 Apr 2023]	"Ph Level: Acid, Neutral, Alkaline Soil Type: Sandy, Sandy loam, Clay loam, Poor soil"

Qsn #	Question	Answer
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Physiography and soils. Most of the distribution occurs on the Interior Lowlands physiographic division. This extends in the east to central parts of the Eastern Uplands and in the north to the Lander-Barkly plains and west in the Pilbara within the Western Plateau division. The topography varies from plains, drainage lines, levees and banks of major rivers, terraces away from major, low tablelands or undulating country to sandstone plateaux, ironstone ridges and dissected ranges. It occurs on sandy or skeletal soils with high organic content, yellow, brown or grey podzols, rarely solodic soils, cracking clay and sandy red and yellow earths. Soils on alluvial plains include deep alluvials with grey or brown cracking clays and non-calcic brown soils with sandy surfaces (Beadle 1981; Neldner 1984; Story 1967). The species is common on texture-contrast soils with thin sandy surface and neutral subsoils."

411	Climbing or smothering growth habit	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Young plants are straggly, tangled, somewhat vine-like and very thorny, while older plants have several erect branches and fewer thorns."
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	[Scrambling during early stages of growth] "Before the main stems develop, the branches may scramble up adjacent trees, assisted by the spines at the base of the leaves; small-leaved spiny growth also develops on stems of older trees where shoots have been heavily grazed."

412	Forms dense thickets	n
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Both <i>C. mitchellii</i> and <i>C. lasianthos</i> are widespread, but not gregarious. They grow as scattered individuals, rather than many individuals within the type."
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"Wild orange usually occurs as scattered individuals."

501	Aquatic	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	[Terrestrial] "Habitat A wide range of soils in open savanna woodlands and grassland."

502	Grass	n
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2023). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 26 Apr 2023]	Capparaceae

503	Nitrogen fixing woody plant	n

Qsn #	Question	Answer
	Source(s)	Notes
	USDA, Agricultural Research Service, National Plant Germplasm System. (2023). Germplasm Resources Information Network (GRIN-Taxonomy). National Germplasm Resources Laboratory, Beltsville, Maryland. https://npgsweb.ars-grin.gov/ . [Accessed 26 Apr 2023]	Capparaceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Habit: tall shrub or small spreading tree, 2-6 m tall; bark black, deeply fissured; young branches downy, bearing recurved spines."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	"Distribution Drier inland parts of all Australian states except Tasmania, extending from central Australia to near the eastern coast in the drier parts of Queensland." [No evidence]
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Natural occurrence. <i>C. mitchellii</i> is distributed in central Australia in the Northern Territory, central and southern Queensland, western New South Wales and northern South Australia. It has a restricted distribution in the Pilbara region of Western Australia."
	GBIF Secretariat (2023). <i>Capparis mitchellii</i> Lindl. GBIF Backbone Taxonomy. Checklist dataset. https://www.gbif.org/species/5601837 . [Accessed 28 Apr 2023]	IUCN status - Least Concern

602	Produces viable seed	y
	Source(s)	Notes
	Ruiz Talonia, L. F. (2016). Ecology of seed germination for broad-acre restoration of native vegetation on cracking clay vertosols. PhD Dissertation. University of New England, Armidale NSW	"18Appendix 5.1 List of all seedlots used in this research, their viability (percentage), seed age at the time of testing, and optimum temperature for germination based on statistical analyses of deviance. Taxonomic nomenclature as in Australia's Virtual Herbarium (AVH 2015)" [<i>Capparis mitchellii</i> - Viability (%) 81.5]
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"Establishment: Propagation is by cuttings or seed (Wrigley and Fagg 1988). If propagating by seed, the seeds must be physically removed from the mature fruit and cleaned, as they are naturally indehiscent. No pre-germination treatment is required."
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 26 Apr 2023]	"Propagation Method: Seed"

603	Hybridizes naturally	
	Source(s)	Notes

Qsn #	Question	Answer
	Inocencio, C., Rivera, D., Ma Concepción Obón, Alcaraz, F., & Barreña, J.-A. (2006). A Systematic Revision of <i>Capparis</i> Section <i>Capparis</i> (Capparaceae). <i>Annals of the Missouri Botanical Garden</i> , 93(1), 122-149	[Unknown. Hybrids documented in genus] "Hybrids have been reported from different areas in which presumably hybrid swarms occur between two different <i>Capparis</i> species growing together. Hybrids are frequent in Iraq and neighboring countries of the Near East (Blakelock & Townsend, 1980), shadowing the distinction between species. The most relevant interspecific hybrid, for its economic uses, is <i>C. spinosa</i> , which is also the type "species" of the genus. It occurs spontaneously in populations of <i>C. orientalis</i> growing close to those of <i>C. sicula</i> in the western Mediterranean (Inocencio, 2001). Only this nothotaxon has been widely taken into cultivation. There have been no reported intersectional hybrids within <i>Capparis</i> subgenus <i>Capparis</i> , although <i>Capparis ovata</i> subsp. <i>myrtifolia</i> seems to be an intermediate between <i>C. ovata</i> subsp. <i>ovata</i> and <i>C. inermis</i> and, therefore, presumably their hybridogen. <i>Capparis ovata</i> is here restricted to the Algerian type and those populations closely related in morphology that extend from Morocco to Chad."

604	Self-compatible or apomictic	y
	Source(s)	Notes
	Daleys Fruit Tree Nursery. (2023). Wild Orange. https://www.daleysfruit.com.au/Wild-Orange-Capparis-mitchellii.htm . [Accessed 28 Apr 2023]	"Plants required to Pollinate 1 (Self Pollinating)"
	Doran, J. C. & Turnbull, J. W. (1997). <i>Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics</i> . ACIAR Monograph No. 24. Canberra, Australia	[Perfect flowers] "Inflorescence 1-4 large flowers in the upper axils, on stalks 3-4 cm long. The flower has 4 white or creamy petals, 2.5-3 cm long, with numerous stamens on stalks 3-4 cm. The style is 5.5-7.5 cm long with a pubescent ovary 5 mm deep."

605	Requires specialist pollinators	n
	Source(s)	Notes
	Kubitzki, K. & Bayer, C. (eds.). (2003). <i>The Families and genera of vascular plants. Volume V. Flowering Plants. Dicotyledons: Capparales, Malvales and Non-betain Caryophyllales</i> . Springer Verlag, Berlin, Heidelberg, New York	"In the large genera <i>Cleome</i> and <i>Capparis</i> bees, hummingbirds, hawkmoths, and bats are involved in pollination."
	Maurya, S., Cornejo, X., Lee, C., Kim, S. Y., & Choudhary, R. K. (2023). Molecular phylogenetic tools reveal the phylogeographic history of the genus <i>Capparis</i> L. and suggest its reclassification. <i>Perspectives in Plant Ecology, Evolution and Systematics</i> , 58, 125720	"Most <i>Capparis</i> species are nocturnal and mainly pollinated by moths or bees, having long proboscis (Jacobs, 1965; Dafni et al., 1987), which directly correlate with the length of the gynophore and depth of the nectar sac (outer sepals)."

606	Reproduction by vegetative fragmentation	n
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). <i>Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics</i> . ACIAR Monograph No. 24. Canberra, Australia	"Establishment: Propagation is by cuttings or seed (Wrigley and Fagg 1988). If propagating by seed, the seeds must be physically removed from the mature fruit and cleaned, as they are naturally indehiscent. No pre-germination treatment is required."
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 28 Apr 2023]	"Propagation Method: Seed"

607	Minimum generative time (years)	>3
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Qsn #	Question	Answer
	Source(s)	Notes
	Daleys Fruit Tree Nursery. (2023). Wild Orange. https://www.daleysfruit.com.au/Wild-Orange-Capparis-mitchellii.htm . [Accessed 28 Apr 2023]	"Time to Fruit/Flower/Harvest 4-5 Years"

701	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)	n
	Source(s)	Notes
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"Fruit a large globular berry, about 5 cm diameter, smooth or warty, sweet-smelling when ripe and frequently exuding gum as a result of insect attack, borne on a long (4-6 cm) often curved stalk; seeds 10 mm long, embedded in a pulp enclosed in the thick skin, which hardens on ripening." [No evidence. No means of external attachment]
	Low, T. (2017). What the giants ate. Australian Geographic. https://www.australiangeographic.com.au/topics/wildlife/2017/03/what-the-giants-ate-diet-of-australias-megafauna/ . [Accessed 27 Apr 2023]	"The native orange (<i>Capparis mitchellii</i>) of inland Australia also has big round fruits, although these are drab when ripe, with an alluring aroma. Fruit-eating birds don't use smell to find food, so these fruits seem designed for mammals. Native oranges grow in many arid areas without flying foxes or possums, and they sport hooked spines that could tear flying fox wings. Their seeds could well have been moved by diprotodons and other large mammals."

702	Propagules dispersed intentionally by people	y
	Source(s)	Notes
	Australian Native Plant Society. (2020). <i>Capparis mitchellii</i> . https://anpsa.org.au/plant_profiles/capparis-mitchellii/ . [Accessed 28 Apr 2023]	"This species is not widely cultivated but should be suitable for gardens in dry climates."
	WRA Specialist. (2023). Personal Communication	Cultivated, but apparently uncommon, outside its native range.

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	Notes
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"Fruit a large globular berry, about 5 cm diameter, smooth or warty, sweet-smelling when ripe and frequently exuding gum as a result of insect attack, borne on a long (4-6 cm) often curved stalk; seeds 10 mm long, embedded in a pulp enclosed in the thick skin, which hardens on ripening." [No evidence and unlikely given fruit and seed size]

704	Propagules adapted to wind dispersal	n
	Source(s)	Notes
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"Fruit a large globular berry, about 5 cm diameter, smooth or warty, sweet-smelling when ripe and frequently exuding gum as a result of insect attack, borne on a long (4-6 cm) often curved stalk; seeds 10 mm long, embedded in a pulp enclosed in the thick skin, which hardens on ripening." [Fleshy-fruited]
	Low, T. (2017). What the giants ate. Australian Geographic. https://www.australiangeographic.com.au/topics/wildlife/2017/03/what-the-giants-ate-diet-of-australias-megafauna/ . [Accessed 27 Apr 2023]	"The native orange (<i>Capparis mitchellii</i>) of inland Australia also has big round fruits, although these are drab when ripe, with an alluring aroma. Fruit-eating birds don't use smell to find food, so these fruits seem designed for mammals. Native oranges grow in many arid areas without flying foxes or possums, and they sport hooked spines that could tear flying fox wings. Their seeds could well have been moved by diprotodons and other large mammals."

Qsn #	Question	Answer
705	Propagules water dispersed	n
	Source(s)	Notes
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). Plants of Western New South Wales. CSIRO Publishing, Collingwood, Australia	"HABITAT: Variable, often in woodlands on sandy to clay loam soils, less common on rocky hillsides but apparently confined to these areas in the far west; occasionally extends onto clay soils. Occurs within a variety of vegetation communities but is probably most frequent in those dominated by bumble box and white cypress pine." [Unlikely given distribution and fruit presumably adapted for frugivory.]
	Low, T. (2017). What the giants ate. Australian Geographic. https://www.australiangeographic.com.au/topics/wildlife/2017/03/what-the-giants-ate-diet-of-australias-megafauna/ . [Accessed 27 Apr 2023]	"The native orange (<i>Capparis mitchellii</i>) of inland Australia also has big round fruits, although these are drab when ripe, with an alluring aroma. Fruit-eating birds don't use smell to find food, so these fruits seem designed for mammals. Native oranges grow in many arid areas without flying foxes or possums, and they sport hooked spines that could tear flying fox wings. Their seeds could well have been moved by diprotodons and other large mammals."

706	Propagules bird dispersed	
	Source(s)	Notes
	Gardening With Angus. (2023). <i>Capparis mitchellii</i> - Native Orange. https://www.gardeningwithangus.com.au/capparis-mitchellii-native-orange/ . [Accessed 27 Apr 2023]	"Attracts Wildlife: Bees, Seed eating birds, Other insects"
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"The fruit is a globose to spherical berry, deep green, 2-7.5 cm in diameter, smooth or covered with irregular wart-like protuberances, hairy to glabrous, on a stalk 4-8 cm long. It contains several 10-mm-long seeds, deeply embedded in pulp enclosed by the thick outer skin." [Fleshy-fruited. Possibly capable of being dispersed by frugivorous birds, although there is speculation that their aroma evolved to be dispersed by larger, extinct animals in Australia]
	Low, T. (2017). What the giants ate. Australian Geographic. https://www.australiangeographic.com.au/topics/wildlife/2017/03/what-the-giants-ate-diet-of-australias-megafauna/ . [Accessed 27 Apr 2023]	"The native orange (<i>Capparis mitchellii</i>) of inland Australia also has big round fruits, although these are drab when ripe, with an alluring aroma. Fruit-eating birds don't use smell to find food, so these fruits seem designed for mammals. Native oranges grow in many arid areas without flying foxes or possums, and they sport hooked spines that could tear flying fox wings. Their seeds could well have been moved by diprotodons and other large mammals."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics. ACIAR Monograph No. 24. Canberra, Australia	"The fruit is a globose to spherical berry, deep green, 2-7.5 cm in diameter, smooth or covered with irregular wart-like protuberances, hairy to glabrous, on a stalk 4-8 cm long. It contains several 10-mm-long seeds, deeply embedded in pulp enclosed by the thick outer skin." ... "If propagating by seed, the seeds must be physically removed from the mature fruit and cleaned, as they are naturally indehiscent." [No evidence that protuberances cause fruit to adhere to fur, feathers or other surfaces. Seed also lack means of external attachment]

708	Propagules survive passage through the gut	y
	Source(s)	Notes

Qsn #	Question	Answer
	Cunningham, G.M., Mulham, W.E., Milthorpe, P.L. & Leigh, J.H. (2011). <i>Plants of Western New South Wales</i> . CSIRO Publishing, Collingwood, Australia	"Fruit a large globular berry, about 5 cm diameter, smooth or warty, sweet-smelling when ripe and frequently exuding gum as a result of insect attack, borne on a long (4-6 cm) often curved stalk; seeds 10 mm long, embedded in a pulp enclosed in the thick skin, which hardens on ripening."
	Low, T. (2017). <i>What the giants ate</i> . Australian Geographic. https://www.australiangeographic.com.au/topics/wildlife/2017/03/what-the-giants-ate-diet-of-australias-megafauna/ . [Accessed 26 Apr 2023]	"The native orange (<i>Capparis mitchellii</i>) of inland Australia also has big round fruits, although these are drab when ripe, with an alluring aroma. Fruit-eating birds don't use smell to find food, so these fruits seem designed for mammals. Native oranges grow in many arid areas without flying foxes or possums, and they sport hooked spines that could tear flying fox wings. Their seeds could well have been moved by diprotodons and other large mammals." [Presumably capable of surviving passage through the guts of large frugivores. In the Hawaiian Islands, pigs, and possibly larger game birds, might serve the role as dispersers]

801	Prolific seed production (>1000/m2)	n
	Source(s)	Notes
	Doran, J. C. & Turnbull, J. W. (1997). <i>Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics</i> . ACIAR Monograph No. 24. Canberra, Australia	"The fruit is a globose to spherical berry, deep green, 2-7.5 cm in diameter, smooth or covered with irregular wart-like protuberances, hairy to glabrous, on a stalk 4-8 cm long. It contains several 10-mm-long seeds, deeply embedded in pulp enclosed by the thick outer skin." [No evidence. Fruit and seeds relatively large and unlikely to reach such high densities under natural conditions or in cultivation.]

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	Notes
	Nano, C., & Clarke, P. (2011). How do drought and fire influence the patterns of resprouting in Australian deserts? <i>Plant Ecology</i> , 212(12), 2095-2110	"Table 4 Categorisation of 225 woody species recorded in 385 sample plots of <i>Triodia</i> grassland or <i>Acacia</i> shrubland habitats in central Australia" [<i>Capparis mitchellii</i> - Propagule persistence = P- = species without propagule persistence]
	Doran, J. C. (1997). Seed, nursery practice and establishment. ACIAR Monograph Series, 24, 59-88	"Table 4.1. Summary of seed viability, pretreatment, suitable temperatures and periods for laboratory germination, and time in the nursery to reach plantable size" [<i>Capparis mitchellii</i> - Pretreatment = A = no pretreatment required]

803	Well controlled by herbicides	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species.

804	Tolerates, or benefits from, mutilation, cultivation, or fire	y
	Source(s)	Notes
	Nano, C., & Clarke, P. (2011). How do drought and fire influence the patterns of resprouting in Australian deserts? <i>Plant Ecology</i> , 212(12), 2095-2110	"Table 4 Categorisation of 225 woody species recorded in 385 sample plots of <i>Triodia</i> grassland or <i>Acacia</i> shrubland habitats in central Australia" [<i>Capparis mitchellii</i> - Vegetative persistence = R+ = resprouter]
	Doran, J. C. & Turnbull, J. W. (1997). <i>Australian Trees and Shrubs: species for land rehabilitation and farm planting in the tropics</i> . ACIAR Monograph No. 24. Canberra, Australia	"The species is thought to have a fairly long lifespan (Stannard and Condon 1958), and is capable of regenerating by coppice."

Qsn #	Question	Answer
	State Herbarium of South Australia. (2023). Electronic Flora of South Australia species Fact Sheet. <i>Capparis mitchellii</i> . http://www.flora.sa.gov.au . [Accessed 26 Apr 2023]	[Coppices] "Shrubs or trees to 10 m tall; branches densely covered with appressed hairs, or with spreading hairs and stout recurved spines on coppice and juvenile shoots"
	Anderson, E. (2016). Plants of Central Queensland: Identification and Uses of Native and Introduced Species. CSIRO Publishing, Clayton South, Australia	[Tolerates fire] "The new growth on adult trees after fire can also look like the growth on young plants."

805	Effective natural enemies present locally (e.g. introduced biocontrol agents)	
	Source(s)	Notes
	WRA Specialist. (2023). Personal Communication	Unknown

Summary of Risk Traits:

Capparis mitchellii is a species of flowering plant in the family Capparaceae, commonly known as wild orange or desert caper. It is native to Australia and can be found in various habitats, including woodland, scrubland, and rocky outcrops. The plant typically grows as a shrub or small tree and can reach a height of up to 5 meters. It has thick, leathery leaves and produces fragrant white flowers that bloom from spring to summer. The fruit is a small, round, green or yellow berry that is edible and has a tangy flavor. Young branches possess spines that aid them in climbing into adjacent trees. In the Hawaiian Islands, the fruit may potentially be consumed and dispersed by pigs, or other frugivorous animals, but there are no reports that this plant has naturalized or become invasive anywhere in the world.

High Risk / Undesirable Traits

- Could grow, and potentially spread, in regions with tropical climates.
- Listed as a weed in a few publications, but no impacts have been reported or described.
- Other *Capparis* species are reported to be crop weeds.
- Young branches downy, bearing recurved spines.
- Tolerates many soil types (i.e., not substrate limited).
- Reproduces by seeds.
- Reported to be self-fertile.
- Seeds dispersed by frugivorous animals, possibly including birds, and through intentional cultivation.
- Coppices and resprouts after cutting and fire.

Low Risk Traits

- No reports of naturalization or invasiveness, but it is unclear how widely it has been cultivated outside its native range.
- Highly palatable
- Non-toxic
- Grows best in high light environments (dense shade may inhibit spread).
- Reaches maturity in 4-5 years.
- Relatively large, indehiscent fruit, and seeds unlikely to be accidentally dispersed.