Taxon: Halleria lucida L. **Family:** Stilbaceae

Common Name(s): African honeysuckle
notsung
tree fuchsia
white olive

Synonym(s): Halleria abyssinica Jaub. & Spach

Assessor: Chuck Chimera **Status:** Assessor Approved **End Date:** 22 Jan 2018

WRA Score: 8.0 **Designation:** H(HPWRA) **Rating:** High Risk

Keywords: Tropical Tree, Naturalized, Fast-Growing, Suckers, Bird-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	y
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	y
302	Garden/amenity/disturbance weed		
303	Agricultural/forestry/horticultural weed		
304	Environmental weed	n=0, y = 2*multiplier (see Appendix 2)	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	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

Qsn #	Question	Answer Option	Answer
409	Is a shade tolerant plant at some stage of its life cycle	y=1, n=0	y
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	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		
605	Requires specialist pollinators		
606	Reproduction by vegetative fragmentation	y=1, n=-1	y
607	Minimum generative time (years)	1 year = 1, 2 or 3 years = 0, 4+ years = -1	2
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		
704	Propagules adapted to wind dispersal	y=1, n=-1	n
705	Propagules water dispersed		
706	Propagules bird dispersed	y=1, n=-1	y
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/m2)		
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**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	[No evidence of domestication] "Halleria lucida has been in cultivation for many years. It was featured by Burman in 1739. William Burchell recorded it in his diary for February 1811 as growing in the Government Gardens in Cape Town, and in 1815 it was illustrated in Curtis' BotanicalMagazine from a specimen that was growing in a greenhouse in England."

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. 2018. Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. 2018. 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**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"Halleria lucida is found in coastal and karroid scrub, deep evergreen forest, forest margins, forested ravines, rocky mountain slopes, near rivers and on stream banks from the Cape Peninsula in the south in a strip up the eastern coast of South Africa, through the Eastern Cape to Lesotho, the eastern Free State, KwaZulu-Nataland Swaziland where it turns inland and roughly follows the escarpment into Mpumalanga, Gauteng and the Northern and North West Province. It also occurs in isolated pockets in Zimbabwe."
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Preferred Climate/s: Mediterranean, Subtropical, Tropical"

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	

203	**Broad climate suitability (environmental versatility)**	**y**
	Source(s)	**Notes**

Qsn #	Question	Answer
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"Halleria lucida is tough and easy to grow, and thrives under many different conditions. It is fast growing, and performs best in well-drained nutrient-rich loam with water provided all year round although it tolerates periods of drought. It is relatively hardy to frost (zone 9: minimum -7 °C/ 20 °F) but requires protection when young."
	Dave's Garden. 2018. Tree Fuchsia, African Honeysuckle, Hilarious Lucy, White Olive, Wild Fuchsia - Halleria lucida. https://davesgarden.com/guides/pf/go/111595/. [Accessed 22 Jan 2018]	"Hardiness: USDA Zone 9a: to -6.6 °C (20 °F) USDA Zone 9b: to -3.8 °C (25 °F) USDA Zone 10a: to -1.1 °C (30 °F) USDA Zone 10b: to 1.7 °C (35 °F) USDA Zone 11: above 4.5 °C (40 °F)"
	Trade Winds Fruit. 2018. Tree Fuchsia - Halleria lucida. http://www.tradewindsfruit.com/content/tree-fuchsia.htm. [Accessed 22 Jan 2018]	"Hardy to at least 20F, possibly lower." ... "Grows well in mildly arid climates. Water during warm months, but the tree will tolerate some drought. Grow in full sun or part shade. Grow in well drained soil. "
	Tropicos.org. 2018. Missouri Botanical Garden. http://www.tropicos.org/. [Accessed 22 Jan 2018]	Halleria lucida - collected at elevations ranging from 1200 m [06°59'00"S] to 2700 m [09°11'00"S]. Elevation range at tropical latitudes exceeds 1000 m, demonstrating environmental versatility

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	Loffler, L. & Loffler, P. 2005. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	"Swaziland has a typically subtropical climate with summer rains (October–March) and distinct seasons." ... "Halleria lucida ... Distribution: Widespread in the west, with patches in central and southern Swaziland."

205	Does the species have a history of repeated introductions outside its natural range?	?
	Source(s)	**Notes**
	Wilcox, M., Bradshaw, C., & Cameron, E. (2004). Woody plants of the Auckland Domain. Blumea, 18, 431-440	"African honeysuckle (Halleria lucida) has become naturalized"
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"Halleria lucida has been in cultivation for many years. It was featured by Burman in 1739. William Burchell recorded it in his diary for February 1811 as growing in the Government Gardens in Cape Town, and in 1815 it was illustrated in Curtis' Botanical Magazine from a specimen that was growing in a greenhouse in England."

Qsn #	Question	Answer
301	**Naturalized beyond native range**	**y**
	Source(s)	**Notes**
	Wilcox, M., Bradshaw, C., & Cameron, E. (2004). Woody plants of the Auckland Domain. Blumea, 18, 431-440	"African honeysuckle (Halleria lucida) has become naturalized"
	Cameron, E. K. 1996. African honeysuckle (Halleria lucida) naturalised. Auckland Botanical Society Journal 52(1): 48-49	"While looking for epiphytic Moreton Bay figs (Ficus macrophylla) in the Auckland Domain (see Cameron 1997) I discovered a shrub which was previously unrecorded as naturalised in New Zealand. It was a 3 m tall African honeysuckle (Halteria lucida Scrophulariaceae) in the head of an old 8 m tall jelly palm (Butia capitata) just north of the Watson Bequest."

302	**Garden/amenity/disturbance weed**	
	Source(s)	**Notes**
	Seaman, P. (2006). Environmental Management Strategy: Krantzkloof Nature Reserve, a Case Study. MSc Thesis. University of KwaZulu-Natal, Durban, South Africa	"B. bubaline and H. lucida, Tree Fuschia, Fig. 2-12, are regarded as "weedy" species that establish themselves during early successional stages. They become subcanopy trees in the understory of forests."
	Wells, M. J. (1986). Catalogue of problem plants in Southern Africa. Botanical Research Institute, Republic of South Africa	"Halleria lucida ... KIND OF WEED: Pastoral (natural) ... UNDESIRABLE CHARACTERISTICS: Competitive (space, light, water, nutriment), replacing preferred vegetation (grass), contaminant (seed)" [A native tree regarded as a pasture weed. Impacts unspecified]
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Halleria lucida L. Scrophulariaceae Total N° of Refs: 6 Global Risk Score: 2.4 Rating: Low Habit: Tree Preferred Climate/s: Mediterranean, Subtropical, Tropical Origin: Africa Major Pathway/s: Contaminant, Crop, Herbal, Ornamental Dispersed by: Humans References: South Africa-AZW-121, New Zealand-UW-280, New Zealand-N-823, New Zealand-U-919, Lesotho-AZW-121, New Zealand-U-2048."

303	**Agricultural/forestry/horticultural weed**	
	Source(s)	**Notes**
	Wells, M. J. (1986). Catalogue of problem plants in Southern Africa. Botanical Research Institute, Republic of South Africa	"Halleria lucida ... KIND OF WEED: Pastoral (natural) ... UNDESIRABLE CHARACTERISTICS: Competitive (space, light, water, nutriment), replacing preferred vegetation (grass), contaminant (seed)" [A native tree regarded as a pasture weed. Impacts unspecified]

Qsn #	Question	Answer
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**	
	Source(s)	**Notes**
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Halleria elliptica Thunb. Scrophulariaceae Total N° of Refs: 1 Major Pathway/s: Ornamental Dispersed by: Humans References: Australia--, Australia-Q-1123" [Q - Quarantine Weed Species prohibited entry under a countries quarantine laws, either because it's not present or present and under a managerment program.]

401	**Produces spines, thorns or burrs**	**n**
	Source(s)	**Notes**
	Hyde, M.A., Wursten, B.T., Ballings, P. & Coates Palgrave, M. (2018). Flora of Zimbabwe: Species information: Halleria lucida. http://www.zimbabweflora.co.zw/speciesdata/species.php?species_id=151010. [Accessed 18 Jan 2018]	[No evidence] "Straggling shrub or tree up to 12 m with drooping sub-quadrangular branches. Leaves opposite, broadly ovate, 4.5–10 cm long, leathery, hairless, minutely glandular-punctate beneath; margin shortly serrate-crenate; petiole 4–12 mm long. Flowers in clusters on the older leafless branches and trunk on pedicels 10–14 mm long with pair of bracteoles below the middle. Corolla orange-yellow to brownish-red, 25–33 mm long, tube curved, widening above to 6–10 mm, unequally 4-lobed. Stamens long exserted. Style 20–38 mm long. Fruit an ovoid to subglobose berry, 12–18 mm long, blackish-purple when ripe."

402	**Allelopathic**	
	Source(s)	**Notes**
	Sunmonu, T. O., & Van Staden, J. (2014). Phytotoxicity evaluation of six fast-growing tree species in South Africa. South African Journal of Botany, 90, 101-106	[Potentially Yes] "Results from our study clearly revealed that aqueous extracts of the tested tree species namely V. sieberiana, A. adianthifolia, B. saligna, C. Kraussii, H. lucida and R. melanophloeos exhibited various degrees of phytotoxicity including inhibition of seed germination, reduction of radicle and plumule lengths aswell as alterations in chlorophyll content and enzyme activities."

403	**Parasitic**	**n**
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"This is an evergreen tree or large shrub, often multi-stemmed, with a spreading crown and attractive glossy bright green foliage on arching and drooping branches." [No evidence]

404	**Unpalatable to grazing animals**	**n**

Qsn #	Question	Answer
	Source(s)	**Notes**
	Seaman, P. (2006). Environmental Management Strategy: Krantzkloof Nature Reserve, a Case Study. MSc Thesis. University of KwaZulu-Natal, Durban, South Africa	"In the wild the leaves are browsed by game."
	Odendaal, P. D. (1983). Feeding habits and nutrition of bush buck in the Knysna forests during winter. South African Journal of Wildlife Research 13(2), 27-31	"Table 1 Food plants of bush buck in the Knysna forests determined by analysis of the stomach contents of 25 males" [Includes Halleria lucida - 24% frequency]
	Odendaal, P. B. (1977). Some aspects of the ecology of bushbuck (Tragelaphus scriptus Pallas 1776) in the Southern Cape. MSc Thesis. Stellenbosch University, Stellenbosch, South Africa	"TABLE 6 •. Food plants of bushbuck in the Southern cape" [Halleria lucida* = identified in rumen content]
	CJM Growers. 2017. Halleria lucida – Tree Fuchsia. http://cjmgrowers.co.za/halleria-lucida/. [Accessed 22 Jan 2018]	"The leaves are browsed by game and livestock, while the fruits are eaten by various small, fruit eating bird species, especially White-eyes."

405	Toxic to animals	n
	Source(s)	**Notes**
	Seaman, P. (2006). Environmental Management Strategy: Krantzkloof Nature Reserve, a Case Study. MSc Thesis. University of KwaZulu-Natal, Durban, South Africa	"In the wild the leaves are browsed by game." [No evidence]
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"Not only is Halleria lucida an attractive tree and an asset to any garden, it is also one of the best bird attracting trees." [No evidence]
	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	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Musvuugwa, T., Dreyer, L. L., & Roets, F. (2016). Future danger posed by fungi in the Ophiostomatales when encountering new hosts. Fungal Ecology, 22, 83-89	"The Ophiostomatales contain pathogens that threaten forests world-wide. Global trade increases encounters with new hosts, with potential devastating consequences.We assessed the danger posed by the movement of Ophiostomatales between different host trees in South Africa. We tested the pathogenicity of five fungal species from native South African trees, and three from exotic trees, on various native and exotic trees. To evaluate the potential of fungi to move to new hosts, we investigated the strength of their associations with arthropod vectors. Results indicate that many fungal species are pathogens of newly encountered and distantly related hosts. Encounters of pathogens with new hosts are less likely when host plants are distantly related, and outside the host range of boring beetle vectors, which also reduces the chances of vectoring by phoretic mite associates. However, pathogens associated with numerous mite species and wounds are more likely to encounter new hosts and pose future threats." ... "The wound-associated species G. roseus and O. pluriannulatumlike were pathogenic on several tree species. G. roseus was pathogenic on the non-native A. mearnsii and E. grandis as well as on the native R. melanophloeos and C. dentata. This species was recently isolated from several native hosts, including C. dentata, Halleria lucida, Pterocelastrus tricuspidatus, Trichocladus crinitus and O. capensis ssp. macrocarpa (Musvuugwa, 2014)."

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	**Notes**
	Loffler, L. & Loffler, P. 2005. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	"General: The stems are used for making hoe handles and the fruit is eaten locally."
	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

Qsn #	Question	Answer
408	**Creates a fire hazard in natural ecosystems**	**n**
	Source(s)	**Notes**
	FynbosFire. 2018. Firescaping your Garden. http://fynbosfire.org.za/news/all/firescaping-your-garden/. [Accessed 22 Jan 2018]	"Plants for firescapes - Although no plant is fireproof, many plants have features that minimise the extent to which they contribute to the spread of veld fires. Landscaping with fire retardant plants or plants that resprout after a fire is part of an overall fire defense plan. Choose from a range of firewise indigenous plants including:" ... "Forest trees for perimeter: Wild almond (Brabejum stellatifolium), rooiels (Cunonia capensis), tree fuchsia (Halleria lucida), Cape holly (Ilex mitis) and Cape beech (Rapanaea melanophloeos)"
	van Wilgen, B. W., Richardson, D. M., Kruger, F. J., & van Hensbergen, H. J. (eds.). 1992. Fire in South African Mountain Fynbos: Ecosystem, Community and Species Response at Swartboskloof. Springer-Verlag	[No evidence in this publication] "The tall forest communities are found on stabilized boulder screes below the sandstone cliffs and in the riparian zone of the upper reaches of the streams." ... "The cover of canopy trees is about 80%. The subcanopy is dominated by Halleria lucida, May tenus acuminata (Celastraceae), Podocarpus elongatus and Rapanea melanophloeos (Myrsinaceae) and has an average canopy cover of 63%."

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	**Notes**
	Seaman, P. (2006). Environmental Management Strategy: Krantzkloof Nature Reserve, a Case Study. MSc Thesis. University of KwaZulu-Natal, Durban, South Africa	"... fast growing (1 m per year) in the sun or shade."
	Trade Winds Fruit. 2018. Tree Fuchsia - Halleria lucida. http://www.tradewindsfruit.com/content/tree-fuchsia.htm. [Accessed 22 Jan 2018]	"Grow in full sun or part shade."
	Scott, S. L. (2013). Feeding ecology of birds in a mist belt forest in South Africa. MSc Thesis. University of the Witwatersrand, Johannesburg, South Africa	"Halleria lucida is often an understory plant, but was a canopy species in this study."
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"It can be used to provide shade, or can itself be planted in shade as an under-storey tree."
	Dave's Garden. 2018. Tree Fuchsia, African Honeysuckle, Hilarious Lucy, White Olive, Wild Fuchsia - Halleria lucida. https://davesgarden.com/guides/pf/go/111595/. [Accessed 22 Jan 2018]	"Sun Exposure: Full Sun Sun to Partial Shade"

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	y
	Source(s)	**Notes**
	CJM Growers. 2017. Halleria lucida – Tree Fuchsia. http://cjmgrowers.co.za/halleria-lucida/. [Accessed 22 Jan 2018]	"It is able to grow in a wide variety of soil types and conditions, from sandy to loamy, but optimum growth will occur in well-drained, slightly acidic, fertile soil (humus / compost enriched). Relatively water-loving, and prefers a steady supply of water all year round."

411	Climbing or smothering growth habit	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"This is an evergreen tree or large shrub, often multi-stemmed, with a spreading crown and attractive glossy bright green foliage on arching and drooping branches."

412	Forms dense thickets	n
	Source(s)	**Notes**
	Bleher, B., Potgieter, C. J., Johnson, D. N., & Böhning-Gaese, K. (2003). The importance of figs for frugivores in a South African coastal forest. Journal of Tropical Ecology, 19(4), 375-386	"Appendix 1. Plant species in fruit from July 1997 to July 1998 ... Halleria lucida ... Density (ha-1) = 1.32" [No evidence of dense stands in this study]
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	[No evidence] "Halleria lucida is found in coastal and karroid scrub, deep evergreen forest, forest margins, forested ravines, rocky mountain slopes, near rivers and on stream banks from the Cape Peninsula in the south in a strip up the eastern coast of South Africa, through the Eastern Cape to Lesotho, the eastern Free State, KwaZulu-Nataland Swaziland where it turns inland and roughly follows the escarpment into Mpumalanga, Gauteng and the Northern and North West Province. It also occurs in isolated pockets in Zimbabwe."

501	Aquatic	n
	Source(s)	**Notes**
	Loffler, L. & Loffler, P. 2005. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	[Terrestrial] "Habitat: Evergreen forest, grassland, rocky slopes, stream banks, and forested ravines."

502	Grass	n
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 18 Jan 2018]	Family: Stilbaceae Altfamily: Retziaceae

503	Nitrogen fixing woody plant	n
	Source(s)	**Notes**
	USDA, ARS, Germplasm Resources Information Network. 2018. National Plant Germplasm System [Online Database]. http://www.ars-grin.gov/npgs/index.html. [Accessed 18 Jan 2018]	Family: Stilbaceae Altfamily: Retziaceae

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Hyde, M.A., Wursten, B.T., Ballings, P. & Coates Palgrave, M. (2018). Flora of Zimbabwe: Species information: Halleria lucida. http://www.zimbabweflora.co.zw/speciesdata/species.php?species_id=151010. [Accessed 22 Jan 2018]	"Straggling shrub or tree up to 12 m with drooping sub-quadrangular branches. Leaves opposite, broadly ovate, 4.5–10 cm long, leathery, hairless, minutely glandular-punctate beneath; margin shortly serrate-crenate; petiole 4–12 mm long." [No evidence]

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	**Notes**
	Loffler, L. & Loffler, P. 2005. Swaziland Tree Atlas—including selected shrubs and climbers. Southern African Botanical Diversity Network Report No. 38. SABONET, Pretoria, S.A.	"Halleria lucida ... Abundance: Common ... Conservation Status: Least Concern"
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"Halleria lucida is assessed as Least Concern (LC) according to the Red List of South African Plants (http://redlist.sanbi.org)."

602	Produces viable seed	y
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"Halleria lucida is easily propagated by seed, and cuttings. It can also be propagated by truncheon cuttings or layering and transplants readily."

603	Hybridizes naturally	
	Source(s)	**Notes**
	WRA Specialist. 2018. Personal Communication	Unknown. No evidence found

604	Self-compatible or apomictic	
	Source(s)	**Notes**
	Stirton, C. H. (1977). A note on the flowers of Halleria lucida. Bothalia, 12(2), 223-224	"Studies of sunbirds (Cinnyris spp.) feeding on the nectar of flowers of Halleria lucida L. suggest that partial protandry may be operative in the breeding system of this cauliflorous tree. Attention is drawn to certain anomalies depicted in published botanical drawings. These anomalies are discussed in relation to the sequential development of the androecium and gynoecium in live flowers. Colins colius, the speckled coly, is reported to eat the fruits of Halleria lucida. This bird also feeds on nectar after piercing the base of the corolla tube."

605	Requires specialist pollinators	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Stirton, C. H. (1977). A note on the flowers of Halleria lucida. Bothalia, 12(2), 223-224	"Halleria lucida L. is one of the few cauliflorous trees in South Africa (Marloth, 1932). The massed red tubular flowers are visited regularly by various species of sunbirds (Cinnyris) and sugarbirds (Anthobaphes) and this has led to the belief that pollination is ornithophilous (Marloth, 1932. Vogel. 1954)."
	Mensah, S., Veldtman, R., & Seifert, T. (2017). Potential supply of floral resources to managed honey bees in natural mistbelt forests. Journal of Environmental Management, 189: 160-167	"Table 1 Important honey bee plant species with respective RFVI (relative forage value index);" [Includes Halleria lucida. Unknown if bees are effective pollinators]
	CJM Growers. 2017. Halleria lucida – Tree Fuchsia. http://cjmgrowers.co.za/halleria-lucida/. [Accessed 22 Jan 2018]	"The flowers, being rich in nectar, attract Sunbirds and other nectar-feeders, and also lure a wealth of insect life – honeybees, wasps, beetles and butterflies among others."
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"The nectar-rich flowers attract sunbirds and other nectar-feeding birds that pollinate the flowers. "
	Milewski, A.V. 2000. Why succulent flowers seldom produce succulent fruits. Veld & Flora 86(2): 80-81	"The only species of tree or tall shrub in the south-western Cape that uses birds for pollination as well as seed-dispersal is Halleria lucida. However, the sunbirds that pollinate the mainly red flowers of this honeysuckle are not among the birds that usually eat its dark purple fruits."

606	Reproduction by vegetative fragmentation	y
	Source(s)	**Notes**
	Wells, M. J. (1986). Catalogue of problem plants in Southern Africa. Botanical Research Institute, Republic of South Africa	"REPRODUCTION VIA: Seeds, stem-suckers"
	Cameron, E. K. 1996. African honeysuckle (Halleria lucida) naturalised. Auckland Botanical Society Journal 52(1): 48-49	"The multi trunked cultivated African honeysuckle is c.7 m tall by c.10 m across. Sucker shoots were frequent at the base of the plant."

607	Minimum generative time (years)	2
	Source(s)	**Notes**
	Seaman, P. (2006). Environmental Management Strategy: Krantzkloof Nature Reserve, a Case Study. MSc Thesis. University of KwaZulu-Natal, Durban, South Africa	"The orange to dark red tubular flowers (plate S-8), appearing after 2 years, hang on small stalks and are seen mainly in dense bunches on the trunk and old woody branches."
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"Young plants may flower for the first time in their second year. "

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

Qsn #	Question	Answer
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	[No evidence, and no means of external attachment] "The fruits are eaten by fruit-eating birds, that then disperse the seeds that are in the jelly-like flesh of the fruits." ... " It is also one of the best bird attracting trees. With Halleria lucida in your garden, the nectar-feeding sunbirds will be one of your most frequent visitors, and the berries will attract fruit-eating birds." ... "Clusters of 10 mm diameter spherical green berries that turn juicy and black when ripe, follow the flowers (August onwards). These are edible, but never tasty, not even when ripe. They have a sickly sweet taste and tend to dry the mouth. The seeds are very small black flakes in the jelly-like flesh of the fruit."

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	Trade Winds Fruit. 2018. Tree Fuchsia - Halleria lucida. http://www.tradewindsfruit.com/content/tree-fuchsia.htm. [Accessed 22 Jan 2018]	"An attractive and interesting member of the foxglove family (unrelated to fuchsia's) appreciated for its ornamental flowers and edible fruits. Fruits are not generally well-regarded, but are edible and sweet to the mouth."

703	Propagules likely to disperse as a produce contaminant	
	Source(s)	**Notes**
	Wells, M. J. (1986). Catalogue of problem plants in Southern Africa. Botanical Research Institute, Republic of South Africa	"UNDESIRABLE CHARACTERISTICS: Competitive (space, light, water, nutriment), replacing preferred vegetation (grass), contaminant (seed)" [Possibly Yes. Details on seed contamination not provided]

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"The fruits are eaten by fruit-eating birds, that then disperse the seeds that are in the jelly-like flesh of the fruits." ... " It is also one of the best bird attracting trees. With Halleria lucida in your garden, the nectar-feeding sunbirds will be one of your most frequent visitors, and the berries will attract fruit-eating birds."

705	Propagules water dispersed	
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"Halleria lucida is found in coastal and karroid scrub, deep evergreen forest, forest margins, forested ravines, rocky mountain slopes, near rivers and on stream banks from the Cape Peninsula in the south in a strip up the eastern coast of South Africa, through the Eastern Cape to Lesotho ..." [Occurrence along streams and rivers suggests possible movement by water]

706	Propagules bird dispersed	y
	Source(s)	**Notes**

Qsn #	Question	Answer
	Bleher, B., Potgieter, C. J., Johnson, D. N., & Böhning-Gaese, K. (2003). The importance of figs for frugivores in a South African coastal forest. Journal of Tropical Ecology, 19(4), 375-386	"Appendix 1. ... Halleria lucida ... Animals eating fruits = pp Pogoniulus pusillus" [The red-fronted tinkerbird, Pogoniulus pusillus formerly known as the red-fronted tinker barbet is a small African barbet]
	Cameron, E. K. 1996. African honeysuckle (Halleria lucida) naturalised. Auckland Botanical Society Journal 52(1): 48-49	"On 13 June this plant was in full flower and covered in green succulent almost spherical fruit up to 10 (15) mm long by 9 (15) mm wide which turn black when ripe. The paucity of black fruit I attribute to birds probably eating the ripe fruit." ... "Judging from its size the epiphyte in the Canary Island palm could well be over 20 years old. Several frugivorous bird species in the Domain could potentially transfer the seeds up into the nearby palms. While briefly watching the cultivated African honeysuckle blackbirds silvereyes and tui visited the plant. Blackbirds were eating the fruit silvereyes getting nectar from the flowers I did not see whether the tui was after the fruit or flowers or both."
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"The fruits are eaten by fruit-eating birds, that then disperse the seeds that are in the jelly-like flesh of the fruits." ... " It is also one of the best bird attracting trees. With Halleria lucida in your garden, the nectar-feeding sunbirds will be one of your most frequent visitors, and the berries will attract fruit-eating birds."

707	Propagules dispersed by other animals (externally)	n
	Source(s)	**Notes**
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	[Dispersed internally] "The fruits are eaten by fruit-eating birds, that then disperse the seeds that are in the jelly-like flesh of the fruits."

708	Propagules survive passage through the gut	y
	Source(s)	**Notes**
	Milewski, A.V. 2000. Why succulent flowers seldom produce succulent fruits. Veld & Flora 86(2): 80-81	"Halleria lucida can be sown even by white-eyes because its fruit-pulp contains many small seeds."
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 18 Jan 2018]	"The fruits are eaten by fruit-eating birds, that then disperse the seeds that are in the jelly-like flesh of the fruits." [Presumably yes]

801	Prolific seed production (>1000/m2)	
	Source(s)	**Notes**
	Scott, S. L. (2013). Feeding ecology of birds in a mist belt forest in South Africa. MSc Thesis. University of the Witwatersrand, Johannesburg, South Africa	"Table 4. The relative abundance (RA; %) of flowers (FL) and fruit (FR) produced per plant species in winter (W) and summer (S) that are available to birds as a food source." [Halleria lucida produces 1,452.5 ± 891.6 flowers/tree in the winter. Seed density unknown]

802	Evidence that a persistent propagule bank is formed (>1 yr)	
	Source(s)	**Notes**

Qsn #	Question	Answer
	Royal Botanic Gardens Kew. (2018) Seed Information Database (SID). Version 7.1. Available from: http://data.kew.org/sid/. [Accessed 22 Jan 2018]	"Halleria lucida L. Orthodox? 0.315g Germ"
	Mbambezeli, G. & Notten, A. 2002. Halleria lucida L. PlantZAfrica. SANBI. http://pza.sanbi.org/halleria-lucida. [Accessed 22 Jan 2018]	"Seed should germinate within 6 weeks."
	Trade Winds Fruit. 2018. Tree Fuchsia - Halleria lucida. http://www.tradewindsfruit.com/content/tree-fuchsia.htm. [Accessed 22 Jan 2018]	"Seeds generally take 6-12 weeks to germinate, though occasionally longer."
	Teketay, D., & Granström, A. (1995). Soil Seed Banks in Dry Afromontane Forests of Ethiopia. Journal of Vegetation Science, 6(6), 777-786	[Longevity of seed bank unknown] "App. 1. Quantity of viable seeds in soil samples from the four sites (germination trials and soil sieving combined" [Halleria lucida - S = seed bank type; P = persistent seed bank]

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	WRA Specialist. 2018. 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**
	Adie, H., Kotze, D. J., & Lawes, M. J. (2017). Small fire refugia in the grassy matrix and the persistence of Afrotemperate forest in the Drakensberg mountains. Scientific Reports, 7(1), 6549	"Table S4. List of tree species recorded from forest and refuge sites at Royal Natal." [Halleria lucida - Fire response = Resprouter]

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. 2018. Personal Communication	Unknown

Summary of Risk Traits:

High Risk / Undesirable Traits
• Elevation range exceeds 1000 m, demonstrating environmental versatility
• Grows in tropical climates
• Naturalized in New Zealand (but no evidence from Hawaiian Islands to date)
• Regarded as weedy, & a potential weed of pasture, in native range
• Shade tolerant
• Tolerates many soil types
• Reproduces by seeds & vegetatively by suckering
• Reaches reproductive maturity in 2 years
• Seeds dispersed by birds & intentionally by people
• Able to resprout after fires

Low Risk Traits
• Unarmed (no spines, thorns, or burrs)
• Palatable to browsing animals
• Non-toxic
• Ornamental
• Primarily bird-pollinated (may limit seed set)