TAXON: *Duguetia lanceolata A.St.-Hil.* SCORE: *-1.0* RATING: *Low Risk*

Taxon: Duguetia lanceolata A.St.-Hil. **Family:** Annonaceae

Common Name(s): pindaiba
pindaiba preta

Synonym(s): Aberemoa lanceolata (A.St.-Hil.) Warm.
Aberemoa lanceolata var. parvifolia R.E.Fr.
Duguetia lanceolata var. parvifolia (R.E.Fr.) R.E.Fr.

Assessor: Chuck Chimera **Status:** Approved **End Date:** 18 Nov 2026

WRA Score: -1.0 **Designation:** L **Rating:** Low Risk

Keywords: Tropical Tree, Edible Fruit, Shade Tolerant, Self-compatible, Mammal-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	n
301	Naturalized beyond native range	y = 1*multiplier (see Appendix 2), n = question 205	n
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	y = 1*multiplier (see Appendix 2), n = 0	y
401	Produces spines, thorns or burrs	y = 1, n = 0	n
402	Allelopathic		
403	Parasitic	y = 1, n = 0	n
404	Unpalatable to grazing animals		
405	Toxic to animals	y = 1, n = 0	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	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	n
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/m2)	y = 1, n = -1	n
802	Evidence that a persistent propagule bank is formed (>1 yr)	y = 1, n = -1	n
803	Well controlled by herbicides		
804	Tolerates, or benefits from, mutilation, cultivation, or fire		
805	Effective natural enemies present locally (e.g. introduced biocontrol agents)		

Supporting Data:

Qsn #	Question	Answer
101	**Is the species highly domesticated?**	**n**
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Distribution (Fig. 89). The Brazilian states of Minas Gerais, Parana, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and Sao Paulo. In forest or in cerrado vegetation. At elevations from sea level up to 900 m. Flowering mainly from September to December and in March, fruiting mainly from October to January, and in April and May."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is primarily a wild forest tree native to Brazil. Although its edible fruits are locally harvested and the species is occasionally cultivated as an ornamental or fruit tree, it has not undergone extensive domestication or selective breeding.

102	**Has the species become naturalized where grown?**	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	NA

103	**Does the species have weedy races?**	
	Source(s)	**Notes**
	WRA Specialist. (2026). 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**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Distribution (Fig. 89). The Brazilian states of Minas Gerais, Parana, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and Sao Paulo. In forest or in cerrado vegetation. At elevations from sea level up to 900 m."
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 16 Nov 2026]	"The native range of this species is SE. & S. Brazil. It is a tree and grows primarily in the seasonally dry tropical biome."

202	**Quality of climate match data**	**High**
	Source(s)	**Notes**
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 16 Nov 2026]	"The native range of this species is SE. & S. Brazil. It is a tree and grows primarily in the seasonally dry tropical biome."

203	**Broad climate suitability (environmental versatility)**	**n**
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"The Brazilian states of Minas Gerais, Parana, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and Sao Paulo. In forest or in cerrado vegetation. At elevations from sea level up to 900 m." [Elevation range <1000 m]

Qsn #	Question	Answer
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 16 Nov 2026]	"The native range of this species is SE. & S. Brazil. It is a tree and grows primarily in the seasonally dry tropical biome. "
	WRA Specialist. (2026). Personal Communication	Although Duguetia lanceolata occurs in several vegetation types, including tropical and subtropical forests, seasonal semideciduous forests, and Cerrado vegetation, its native distribution is largely restricted to eastern and southern Brazil. It is not considered broadly adaptable across widely differing climatic conditions.

204	Native or naturalized in regions with tropical or subtropical climates	y
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Distribution (Fig. 89). The Brazilian states of Minas Gerais, Parana, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and Sao Paulo."
	POWO (2026). Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/. [Accessed 16 Nov 2026]	"The native range of this species is SE. & S. Brazil. It is a tree and grows primarily in the seasonally dry tropical biome. "

205	Does the species have a history of repeated introductions outside its natural range?	n
	Source(s)	**Notes**
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2026). Plants of Hawai'i. http://www.plantsofhawaii.org. [Accessed 16 Nov 2026]	"Only found in cultivation"
	GBIF (2026). Duguetia lanceolata A.St.-Hil. https://www.gbif.org/taxon/37ZZS. [Accessed 16 Nov 2026]	No evidence
	iNaturalist. (2026). Duguetia lanceolata. https://www.inaturalist.org/taxa/1139125-Duguetia-lanceolata. [Accessed 16 Nov 2026]	No evidence. All observations within native range
	WRA Specialist. (2026). Personal Communication	There are no known reports of repeated introductions of Duguetia lanceolata outside its native range. The species has limited cultivation and is not widely documented in international horticultural trade.

301	Naturalized beyond native range	n
	Source(s)	**Notes**
	Gallaher, T.J., Brock, K., Kennedy, B.H., Imada, C.T., Imada, K., & Walvoord, N. (2026). Plants of Hawai'i. http://www.plantsofhawaii.org. [Accessed 16 Nov 2026]	"Only found in cultivation"
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is endemic to Brazil, and there are no known reports of naturalization outside its native range.
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence
	GBIF (2026). Duguetia lanceolata A.St.-Hil. https://www.gbif.org/taxon/37ZZS. [Accessed 16 Nov 2026]	No evidence

302	Garden/amenity/disturbance weed	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is a slow-growing native Brazilian forest tree that is occasionally cultivated as an ornamental. There are no known reports of it behaving as a garden, amenity, or disturbance weed.
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

303	Agricultural/forestry/horticultural weed	n
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is not known to behave as an agricultural, forestry, or horticultural weed. There are no documented reports of it invading or interfering with agricultural production, forestry operations, or horticultural activities.
	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**
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is not known to behave as an environmental weed. There are no documented reports of it invading natural ecosystems, displacing native vegetation, or causing environmental impacts outside its native range.
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	No evidence

305	Congeneric weed	y
	Source(s)	**Notes**
	Favareto, R., Teixeira, M. B., Soares, F. A. L., Belisário, C. M., Cabral, J. F., da Silva, E. A., Moia, T. A., & Cardozo-Filho, L. (2019). Extraction of bioactive compounds of leaves of Duguetia furfuracea (Annonaceae) using green and organic solvents. Brazilian Journal of Chemical Engineering, 36(1), 549-556	"Duguetia furfuracea (A. St.-Hil.) Benth and Hook. f. specie belongs to the Annonaceae family. It is a shrub found in the Cerrado and considered a weed by farmers for invading pastures (Lorenzi and Matos, 2002),"
	Randall, R.P. (2017). A Global Compendium of Weeds. 3rd Edition. Perth, Western Australia. R.P. Randall	"Duguetia furfuracea (St. Hil.) Benth. & Hook. Annonaceae Total N° of Refs: 2 Habit: Tree Preferred Climate/s: Subtropical, Tropical Origin: S Am Major Pathway/s: Crop Weed of: Pastures References: Brazil-W-255, Brazil-A-1763."

401	Produces spines, thorns or burrs	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	[No evidence] "Tree or rarely a shrub, (2.5-)8-20 m tall, 25-60 cm in diam. Young twigs and petioles densely covered with greyish white, stellate scales 0.2---0.4 mm in diam. Petioles 2-5 mm long, 1-2 mm in diam. Lamina narrowly elliptic to elliptic (ovate-elliptic to oblong-elliptic), (4-)6-10(-14) cm long, (l.5-)2.5-4(-5.5) cm wide, leaf index 1.9-3, coriaceous, green, shiny above, green to greenish yellow below, glabrous above, sparsely to rather densely covered with greyish-white, stellate scales 0.2---0.4 mm in diam. below, base acute to attenuate, apex acute to shortly acuminate (acumen to 5 mm long), primary vein impressed above, secondary veins straight to curved, (8-)10--15 on either side of primary vein, raised above, angles with primary veins (45-)50--70(-80)0 , loop-forming at right to obtuse angles, loops distinct, smallest distance between loops and margin 2-4 mm, tertiary veins raised on both sides."

402	Allelopathic	
	Source(s)	Notes
	WRA Specialist. (2026). Personal Communication	Unknown - Although Duguetia lanceolata seeds contain substances reported to inhibit germination, there is no direct evidence that the species produces allelopathic compounds that inhibit the germination or growth of other plants.

403	Parasitic	n
	Source(s)	Notes
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Tree or rarely a shrub, (2.5-)8-20 m tall, 25-60 cm in diam." [No evidence]

404	Unpalatable to grazing animals	
	Source(s)	Notes
	WRA Specialist. (2026). Personal Communication	Unknown. No information was found on palatability of Duguetia lanceolata to livestock or other grazing animals. Immature seeds are eaten by muriquis in São Paulo, and fruit is reported edible on herbarium labels (Maas et al. 2003), indicating palatability of reproductive parts to some wildlife. The leaves have not been evaluated as forage or browse.

405	Toxic to animals	n
	Source(s)	Notes
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"(Antimalarial.)" [No evidence of toxicity to livestock or other mammals]
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 17 Nov 2026]	"Known Hazards - None known"

Qsn #	Question	Answer
406	Host for recognized pests and pathogens	
	Source(s)	Notes
	WRA Specialist. (2026). Personal Communication	Unknown. There are no documented reports of Duguetia lanceolata serving as a host for recognized agricultural pests or plant pathogens. Extracts and essential oils from the species have demonstrated insecticidal and antifungal activity in laboratory studies.

407	Causes allergies or is otherwise toxic to humans	n
	Source(s)	Notes
	Quattrocchi, U. (2012). CRC World Dictionary of Medicinal and Poisonous Plants: Common Names, Scientific Names, Eponyms, Synonyms, and Etymology. CRC Press, Boca Raton, FL	"(Antimalarial.)" [No evidence]
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 17 Nov 2026]	"Known Hazards - None known"
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"The toxic properties have also been exploited in a direct way. The bark of D. lucida in mashed state is used for fish poisoning (Venezuela). According to Ayensu (1981) a bath from this species is used for fish poison in the West Indies (presumably Trinidad). In Brazil the bark of D. macrophylla, scraped from the stem and mixed with cold water, forms a component of arrow poison, together with materials from Strychnos and a species ofMeliaceae." [No evidence for Duguetia lanceolata]
	WRA Specialist. (2026). Personal Communication	No reports of allergy, dermatitis or poisoning in humans from Duguetia lanceolata were found in the literature or in databases consulted. The fruit pulp is eaten fresh (Maas et al. 2003). Essential oils and extracts are toxic to insect pests, and the leaves contain aporphine alkaloids, but no human toxicity data were found. Some other Annonaceae (e.g., Annona squamosa) can cause dermatitis.

408	Creates a fire hazard in natural ecosystems	n
	Source(s)	Notes
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"In forest or in cerrado vegetation." [There is no documented evidence that Duguetia lanceolata creates a fire hazard in natural ecosystems or increases the frequency or intensity of wildfires.]
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is a medium-sized forest tree (to ~17 m) of Atlantic Forest, cerrado and várzea habitats in southeastern and southern Brazil (Maas et al. 2003). No reports of it increasing fuel loads or altering fire regimes were found. Fire problems in the Atlantic Forest are associated with grass-dominated degraded pastures rather than with mature forest trees. The species is not known to be invasive or to form dense monospecific stands.

409	Is a shade tolerant plant at some stage of its life cycle	y
	Source(s)	Notes
	Huertas Urbanas. (2026). Duguetia lanceolata – Pindaíba – Rare Brazilian Annonaceae Seeds. https://www.huertasurbanas.com/product/duguetia-lanceolata-pindaiba-rare-brazilian-annonaceae-seeds-july-pre-sale/. [Accessed 17 Nov 2026]	"Bright shade or filtered light is best for young seedlings."
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 17 Nov 2026]	"Grows best in a sunny position in a well-drained soil["

Qsn #	Question	Answer
	Chagas, R. K., Oliveira Filho, A. D., Berg, E. V. D., & Scolforo, J. R. S. (2001). Tree population dynamics in a fragment of tropical montane semideciduous forest in Lavras, Minas Gerais, Brazil. Revista Árvore 25(1): 39-57	"Table 1 - Parameters of population dynamics for the 51 studied species expressed as number of individuals: N1 = initial number of individuals, N2 = final number of individuals, Mo = number of deaths, Re = number of recruits, Mo = mortality rate, Re = recruitment rate, Mu = rate of change. Ecological groups (G): TS = shade tolerant climax, EL = light demanding climax and PI = pioneer" [Duguetia lanceolata categorized in Table 1 as TS = shade tolerant climax]

410	Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)	n
	Source(s)	**Notes**
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 17 Nov 2026]	"Sandy soils at higher elevations in the Atlantic rainforest and highland semideciduous forests in both primary and secondary formations [377, 416, 419]. Forests and savannahs; at elevations from sea level to 900 metres [2108]." ... "Grows best in a sunny position in a well-drained soil [419]."
	Bananas Raras. (2026). Duguetia lanceolata. http://www.bananasraras.org/frutasrarasingles/duguetia.htm. [Accessed 17 Nov 2026]	"Tips for cultivation: Subtropical plant, resistant to frosts to -3°C (27°F), can be grown throughout the country, at any altitude; adapts to rapid drainage of soil or red clay and rich in organic matter."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is primarily associated with well-drained soils, including sandy soils in Atlantic rainforest and semideciduous forest habitats. Although it occurs in several vegetation types, there is insufficient evidence that it tolerates a particularly wide range of soil conditions.

411	Climbing or smothering growth habit	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Tree or rarely a shrub, (2.5-)8-20 m tall, 25-60 cm in diam."

412	Forms dense thickets	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"The Brazilian states of Minas Gerais, Parana, Rio de Janeiro, Rio Grande do Sul, Santa Catarina, and Sao Paulo. In forest or in cerrado vegetation." [No evidence]
	Souza, J. P. N. de, Barbosa, L. L., Ribeiro, F. C., & Barbosa, G. A. L. (2024). Análise da composição florística e parâmetros fitossociológicos em um fragmento de floresta estacional semidecidual montana [Analysis of the floristic composition and phytosociological parameters in a fragment of montane semideciduous seasonal forest]. Revista FT, 28(134). https://doi.org/10.5281/zenodo.11326603. [Accessed]	Tabela 1: Número de fustes total e por hectare, divididos por espécie e porfamília botânica na área 3" [Low densities in forest surveys. In a semideciduous-forest fragment inventory, D. lanceolata is listed with 3 stems total, equal to 6 stems per hectare, among 56 Annonaceae stems. That is a scattered tree, not a thicket former.]

501	Aquatic	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	[Terrestrial] "At elevations from sea level up to 900 m."

502	Grass	n

Qsn #	Question	Answer
	Source(s)	Notes
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	Annonaceae

503	Nitrogen fixing woody plant	n
	Source(s)	Notes
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Annonaceae" [Duguetia lanceolata belongs to the family Annonaceae, which is not recognized as a nitrogen-fixing plant family. There is no evidence that this species forms nitrogen-fixing symbiotic associations with bacteria.]

504	Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)	n
	Source(s)	Notes
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Tree or rarely a shrub, (2.5-)8-20 m tall, 25-60 cm in diam."

601	Evidence of substantial reproductive failure in native habitat	n
	Source(s)	Notes
	Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group. (2019). Duguetia lanceolata. The IUCN Red List of Threatened Species 2019: e.T143320537A143320539. https://dx.doi.org/10.2305/IUCN.UK.2019-1.RLTS.T143320537A143320539.en. [Accessed 16 Nov 2026]	"This tree species has a very wide distribution, large population, is not currently experiencing any major threats and no significant future threats have been identified. This species is therefore assessed as Least Concern."

602	Produces viable seed	y
	Source(s)	Notes

Qsn #	Question	Answer
	de Credo Assis, K. C., Geraldo, G. S., Guardabaxo, C. M. S., Baquião, E. M., Rezende, B. N., & de Resende Maciel, A. L. (2020). Scarification and gibberellic acid in the germination and initial development of pindaíba (Duguetia lanceolata ST Hil). Revista Agrogeoambiental, 12(3): 11-20	"Duguetia lanceolata St. Hill is a species native to the Atlantic Forest. Its seeds contain substances that have a germination inhibiting effect. In view of the above, the present work aimed to evaluate the influence of gibberellic acid and mechanical scarification on germination and seedling development of the D. lanceolata. This work was developed at IFSULDEMINAS - Campus Muzambinho, MG, Brazil. The seeds were obtained from fruits collected from adult plants. The experimental design was in randomized blocks, in a 5x2 factorial scheme with three replications with eighteen plants per plot. The treatments consisted of different concentrations of gibberellic acid (0, 5, 10, 15 and 20 mg L-1) and mechanical scarification (presence and absence). Leaf number, stem diameter and germination percentage were evaluated. The data were subjected to analysis of variance, the significant difference between treatments being determined by the F test and later, the qualitative variables were analyzed by the Scott-Knott test, and the quantitative variables by regression, both at the 5% level. The gibberellic acid and scarification do not influence the stem diameter and the number of seedling leaves. There was a linear increase in the percentage of germination with increasing doses of gibberellic acid up to the concentration 20.0 mg L-1 when scarification did not occur (35.19%). Quadratic behavior occurred with gibberellin doses when the seeds undergo mechanical scarification with a maximum dosage of 10.0 mg L-1 and corresponding germination of 42.59%. Mechanical scarification promoted an increase in germination when GA3 was not applied, and at the dosage of 10.0 mg L-1."
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 18 Nov 2026]	"Propagation "Seed - it loses viability quickly and should be sown within a month of harvesting[419]. The seed germinates better if it is mechanically scarified prior to sowing. Sow in a nursery bed or individual containers, covering with 1cm of soil[419]. Germination rates are usually low, occurring within 60 - 120 days[419]. Transplant seedlings into individual containers when 4 - 6cm tall, then plant out into their permanent positions 8 - 9 months later[419]."

603	Hybridizes naturally	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown – There are no documented reports of natural hybridization involving Duguetia lanceolata. Although the species has been taxonomically studied and its pollination biology investigated, there is insufficient information to determine whether it naturally hybridizes with other species.

604	Self-compatible or apomictic	y
	Source(s)	**Notes**
	Paulino Neto, H. F. (1999). Biologia de reprodução de Annonaceae em Matas do Brasil Central [Undergraduate thesis, Universidade Federal de Uberlândia]. Repositório Institucional UFU	"Duguetia lanceolata e Xylopia aromatica são autocompatíveis" ("Duguetia lanceolata and Xylopia aromatica are self-compatible").
	Pang, C. C., & Saunders, R. M. (2014). The evolution of alternative mechanisms that promote outcrossing in Annonaceae, a self-compatible family of early-divergent angiosperms. Botanical Journal of the Linnean Society, 174(1), 93-109	"There is unequivocal evidence of self-compatibility, with at least some fruit set after artificial self-pollination, in all the major phylogenetic lineages of the family (Table 1) including: subfamily Anaxagoreoideae (Anaxagorea A.St.-Hil.); subfamily Annonoideae tribes Annoneae (Asimina Adans.), Bocageeae (Cymbopetalum Benth. and Porcelia Ruiz & Pav.), Duguetieae (Duguetia A.St.-Hil.),"

605	Requires specialist pollinators	n

Qsn #	Question	Answer
	Source(s)	**Notes**
	Silberbauer-Gottsberger, I., Gottsberger, G., & Webber, A. C. (2003). Morphological and functional flower characteristics of New and Old World Annonaceae with respect to their mode of pollination. Taxon, 52(4), 701-718	"The Brazilian Atlantic forest species Duguetia lanceolata has day-active flowers that lack thermogenesis (as Guatteria foliosa). A young 6 m tall individual was observed. The immature flowers have green sepals and red petals, which are ca. 4 cm long and change to deep-red in their active reproductive phases. The developing flowers never open because the petals remain closed over the flower center in both the pistillate and staminate stages. With the onset of anthesis, the flowers emit a pleasant fruity odor which, as anthesis progresses, changes to a scent reminiscent of rotting fruits. When the flowers are in the female phase, the yellowish stigmas are secretory. In the diurnal staminate phase, the red anthers detach and the white pollen is released. Nitidulidae, the main pollinators, were often seen inside the pollination chamber."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is pollinated by beetles, but there is no evidence that it requires a particular specialized pollinator species for successful reproduction. Its pollination appears to be associated with a broader group of insect visitors.

606	**Reproduction by vegetative fragmentation**	**n**
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Vegetative reproduction in D. jlagellaris occurs through shoots ("saplings") formed at the end of inflorescence flagella (Berg & Steward P19895; Maas et al. 7776)." [Duguetia lanceolata is primarily propagated by seed. There are no documented reports of natural vegetative reproduction through root suckering, rhizomes, stolons, or other vegetative structures.]
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 18 Nov 2026]	[No evidence] "Propagation Seed - it loses viability quickly and should be sown within a month of harvesting[419]. The seed germinates better if it is mechanically scarified prior to sowing. Sow in a nursery bed or individual containers, covering with 1cm of soil[419]. Germination rates are usually low, occurring within 60 - 120 days [419]. Transplant seedlings into individual containers when 4 - 6cm tall, then plant out into their permanent positions 8 - 9 months later [419]."

607	**Minimum generative time (years)**	**>3**
	Source(s)	**Notes**
	Bananas Raras. (2026). Duguetia lanceolata. http://www.bananasraras.org/frutasrarasingles/duguetia.htm. [Accessed 18 Nov 2026]	" The seedlings in fields grow 30 cm (1 foot) per year during the first 2 years after planting, then grow more rapidly. The fruit begins in the age of 5 to 8 years, depending on soil and cultural treatments."
	Veliyath Gardens. (2026). Pindaiba Fruit Plant (Duguetia Lanceolata). https://veliyathgarden.com. [Accessed 18 Nov 2026]	"Bloom Time/Fruiting: 3 to 4 Years"

701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	**n**
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Seed dispersal in Duguetia is zoochorous, the main dispersal agents being monkeys, squirrels, and scatterhoarding rodents. The majority of the functionally-syncarpous fruits in Duguetia is ligneous and inconspicuously brown-colored at full maturity; some become fleshy when fully ripe and tum into yellow or red. The latter are dispersed by large monkeys which swallow the seeds together with the pulp, and defecate the unharmed seeds at considerable distance from the fruiting tree."

Qsn #	Question	Answer
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata produces relatively large seeds within fleshy fruits that are primarily dispersed by birds and terrestrial animals. Its propagules lack specialized structures for attachment to animals, clothing, or equipment, and there are no documented reports of accidental dispersal through human activities.

702	Propagules dispersed intentionally by people	y
	Source(s)	**Notes**
	Trade Winds Fruit. (2026). Duguetia lanceolata - Pindaiba Seeds. https://www.tradewindsfruit.com. [Accessed 18 Nov 2026]	"1 seed per pack. An extremely rare Brazilian fruit instantly recognizable for its bright red, segmented skin. Related to the sugar apple, the Pindaiba has creamy flesh said to be smooth and delicious. Medium sized tree, but can grow to 50-60 feet in the wild. Unknown cold tolerance. Seeds are fresh, cannot be stored and should be planted on receipt. "
	WRA Specialist. (2026). Personal Communication	Seeds of Duguetia lanceolata are sold internationally to rare-fruit collectors (Tradewinds Fruit; Huertas Urbanas; both online seed vendors), and plants are offered by specialist nurseries (Veliyath Gardens). In Brazil the species is recommended for landscaping and for planting in degraded areas (Lorenzi 1992, cited in Paulino Neto 1999), and its seed germination has been studied for nursery production (Assis et al. 2020). Trade is small-scale and the species is described as rare in cultivation.

703	Propagules likely to disperse as a produce contaminant	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Seeds obovoid, 18-22 mm long, 8-10 mm in diam., acute, yellowish-brown, dull." [Duguetia lanceolata is not a commercial crop, and no reports of its seeds or plants occurring as contaminants of produce, seed lots or nursery stock were found. The seeds are large (18-22 mm; Maas et al. 2003) and contained in fleshy fruit, making them unlikely to be overlooked in shipments. International movement is limited to deliberate sales of seeds to collectors.]

704	Propagules adapted to wind dispersal	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Fruit green, maturing red in vivo, subglobose, 4-6 cm in diam., basal collar composed of 7-14 connate, sterile carpels, 8-18 mm in diam., protruding or not below the fruit, fertile carpels 30--80, obtrulloid to obovoid, 20--30 mm long, 10--15 mm in diam., free, areoles shallowly pyramidal, 5-10 mm high, 4-6-ribbed, obtuse, apex blunt orapiculate (apicule 1-2 mm long), glabrous. Seeds obovoid, 18-22 mm long, 8-10 mm in diam., acute, yellowish-brown, dull."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata produces relatively large seeds enclosed in fleshy fruits and lacks specialized structures for wind dispersal.

705	Propagules water dispersed	n
	Source(s)	**Notes**

Qsn #	Question	Answer
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Seed dispersal in Duguetia is zoochorous, the main dispersal agents being monkeys, squirrels, and scatterhoarding rodents. The majority of the functionally-syncarpous fruits in Duguetia is ligneous and inconspicuously brown-colored at full maturity; some become fleshy when fully ripe and tum into yellow or red. The latter are dispersed by large monkeys which swallow the seeds together with the pulp, and defecate the unharmed seeds at considerable distance from the fruiting tree."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is primarily dispersed by animals (zoochory). Its relatively large seeds are enclosed in fleshy fruits, and there is no documented evidence that its propagules are adapted for flotation or dispersal by water.

706	Propagules bird dispersed	
	Source(s)	**Notes**
	Deus, F. F., Vale, V. S., Schiavini, I., & Oliveira, P. E. (2014). Diversity of reproductive ecological groups in semideciduous seasonal forests. Bioscience Journal 30 (6): 1885-1902	[Possibly No] "Appendix 1 – Woody species observed in semideciduous forests remnants of the Triangulo Mineiro region and their reproductive ecological groups. The categories used for pollination systems were: SMI - small insects (small bees, flies and wasps); LGB - large bees; WIN - wind; VSI - very small insects; BUT - butterflies; BAT - bats; MOT - moths; BTL - beetles; NID - not identified. For the sexual systems the categories were: DIO: dioecious; MON: monoecious; HER: hermaphrodite; NID – not identified. And for fruit and seed dispersal systems, the categories were: ORN - birds; MAM - non-flying mammals; CHI - bats; ANE - wind, AUT - autochory; NID – not identified. *Allien species spontaneous in the region." [The study by Deus et al. (2014) specifically classified Duguetia lanceolata as dispersed by non-flying mammals, not birds. In Appendix 1 (page 1897), the species is listed as MAM for dispersal, while birds are classified separately as ORN.]

707	Propagules dispersed by other animals (externally)	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Fruit green, maturing red in vivo, subglobose, 4-6 cm in diam., basal collar composed of 7-14 connate, sterile carpels, 8-18 mm in diam., protruding or not below the fruit, fertile carpels 30--80, obtrulloid to obovoid, 20--30 mm long, 10--15 mm in diam., free, areoles shallowly pyramidal, 5-10 mm high, 4-6-ribbed, obtuse, apex blunt orapiculate (apicule 1-2 mm long), glabrous. Seeds obovoid, 18-22 mm long, 8-10 mm in diam., acute, yellowish-brown, dull." [The relatively large seeds are enclosed in fleshy fruits and lack specialized structures for attachment to animal fur or feathers. There are no documented reports of external animal dispersal.]

708	Propagules survive passage through the gut	y
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Seed dispersal in Duguetia is zoochorous, the main dispersal agents being monkeys, squirrels, and scatterhoarding rodents. The majority of the functionally-syncarpous fruits in Duguetia is ligneous and inconspicuously brown-colored at full maturity; some become fleshy when fully ripe and tum into yellow or red. The latter are dispersed by large monkeys which swallow the seeds together with the pulp, and defecate the unharmed seeds at considerable distance from the fruiting tree."

Qsn #	Question	Answer
801	**Prolific seed production (>1000/m2)**	n
	Source(s)	**Notes**
	Maas, P. J. M., Westra, L. Y. Th., Chatrou, L. W., & collaborators. (2003). Duguetia (Annonaceae). Flora Neotropica, 88, 1-274	"Fruit green, maturing red in vivo, subglobose, 4-6 cm in diam., basal collar composed of 7-14 connate, sterile carpels, 8-18 mm in diam., protruding or not below the fruit, fertile carpels 30--80, obtrulloid to obovoid, 20--30 mm long, 10--15 mm in diam., free, areoles shallowly pyramidal, 5-10 mm high, 4-6-ribbed, obtuse, apex blunt orapiculate (apicule 1-2 mm long), glabrous. Seeds obovoid, 18-22 mm long, 8-10 mm in diam., acute, yellowish-brown, dull."
	WRA Specialist. (2026). Personal Communication	Duguetia lanceolata is a large-seeded tree (seeds 14-22 mm; Martins 2008; Maas et al. 2003) that produces only a small quantity of viable seeds each year (Lorenzi 1992, cited in Paulino Neto 1999). Fruit set in controlled pollinations was low under all treatments (Paulino Neto 1999), and germination of seeds is low even after treatment (Assis et al. 2020). No data suggesting seed rain approaching 1,000 per m² were found.

802	**Evidence that a persistent propagule bank is formed (>1 yr)**	n
	Source(s)	**Notes**
	Tropical Plants Database, Ken Fern. (2026). Duguetia lanceolata.https://tropical.theferns.info/viewtropical.php?id=Duguetia+lanceolata. [Accessed 18 Nov 2026]	"Seed - it loses viability quickly and should be sown within a month of harvesting[419]. The seed germinates better if it is mechanically scarified prior to sowing."
	WRA Specialist. (2026). Personal Communication	There is no documented evidence that Duguetia lanceolata forms a persistent soil seed bank. Available propagation information indicates that its seeds are poorly tolerant of drying and have a reported storage period of less than six months. However, seed survival under natural soil conditions has not been directly investigated.

803	**Well controlled by herbicides**	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown. No information on herbicide efficacy or chemical control of this species

804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown. No information on resprouting, coppicing, or response to cutting, tillage or fire was found for Duguetia lanceolata.

805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	
	Source(s)	**Notes**
	WRA Specialist. (2026). Personal Communication	Unknown

Summary of Risk Traits:

High-risk traits

Well suited to tropical and subtropical climates
Native to a tropical or subtropical region
Has a congeneric weed (Duguetia furfuracea)
Shade tolerant at some life stage
Produces viable seed
Self-compatible
Seeds spread intentionally by people (rare-fruit trade, landscaping)
Seeds survive passage through animal guts

Low-risk traits

Not naturalized or weedy anywhere outside its native range
Narrow climate and soil tolerance
Slow to mature (more than 3 years)
No vegetative reproduction
Not dispersed by wind, water, animal fur or feathers, or as a contaminant
Low seed output and no persistent seed bank
No spines, not parasitic, not climbing or thicket-forming
Not toxic to animals or humans, and not a fire hazard