

Table S10 - Scoring assigned to herbaceous taxa for their suitability to seed dispersal by long-range dispersers (birds and non-flying small mammals) based on dispersion mode, with references.

Herbaceous family/taxa	Dispersion mode						Score	References
	Anemochory	Autochory	Ballistochory	Endozoochory	Exozoochory	Hydrochory		
<i>Amaranthaceae</i>							4	[5]
<i>Chenopodium album</i> L.		0		4**				
<i>Amaryllidaceae</i>							0	[1]
<i>Allium</i> sp.							0	
<i>Apiaceae</i>							0	[2]
<i>Apium nodiflorum</i> (L.) Lag.		0						
<i>Conium maculatum</i> L.	0				0	0		
<i>Daucus carota</i> L.	0				0			
<i>Daucus</i> sp.	0*				0*			
<i>Foeniculum vulgare</i> Mill.		0	0	4**				
<i>Apocynaceae</i>							0	[3,4]
<i>Vinca difformis</i> Pourr. subsp. <i>difformis</i>		0*					0*	
<i>Araceae</i>							10	[3]
<i>Arum italicum</i> Mill. subsp. <i>italicum</i>				10				
<i>Asteraceae</i>							0	[3,5]
<i>Andryala integrifolia</i> L.		0						
<i>Arctium minus</i> Bernh.					0			
<i>Aster squamatus</i> (Spreng.) Hieron.	0*							
<i>Bidens frondosa</i> L.					0			
<i>Carlina racemosa</i> L.	0*							
<i>Chondrilla juncea</i> L.	0							
<i>Conyza</i> sp.	0*							
<i>Dittrichia viscosa</i> (L.) Greuter	0							
<i>Helichrysum stoechas</i> (L.) Moench subsp. <i>stoechas</i>	0							
<i>Lactuca serriola</i> L.	0							
<i>Sonchus asper</i> (L.) Hill	0							
<i>Xanthium strumarium</i> L.	0				0	0		
<i>Boraginaceae</i>							0	[3,6]
<i>Anchusa azurea</i> Mill.							0	

<i>Echium</i> sp.	0	0		0*			
Brassicaceae						0	[3,5,7]
<i>Brassica</i> sp.	0*						
<i>Hirschfeldia incana</i> (L.) Lagr.-Foss.	0						
<i>Raphanus raphanistrum</i> L. subsp. <i>raphanistrum</i>	0		4**		0	0	
Cactaceae						10	[5,8]
<i>Opuntia ficus-indica</i> (L.) Mill.			10				
Campanulaceae						0	[3,9]
<i>Jasione montana</i> L.					0		
<i>Lobelia urens</i> L.	0						
Caprifoliaceae						10	[5,9]
<i>Lonicera periclymenum</i> L.			10				
Commelinaceae						0	[5]
<i>Tradescantia fluminensis</i> Vell.	0						
Convolvulaceae						2	[3,5]
<i>Calystegia</i> sp.					0*		
<i>Convolvulus arvensis</i> L.	0	0	4**				
<i>Cuscuta</i> sp.	0*		2***				
Cucurbitaceae						10	[5]
<i>Bryonia dioica</i> Jacq.			10				
Euphorbiaceae						0	[3,6]
<i>Euphorbia</i> sp.						0*	
Fabaceae						2	[3,10]
<i>Lotus pedunculatus</i> Cav.	0*						
<i>Lupinus</i> sp.	0		2***	0		0	
<i>Trifolium</i> sp.	0		2***	0*		0	
Gentianaceae						0	[5]
<i>Centaureum</i> sp.	0*						
Geraniaceae						0	[3]
<i>Geranium</i> sp.	0			0*			
Hypericaceae						0	[3]
<i>Hypericum</i> sp.	0*						
Iridaceae						0	[3]
<i>Iris pseudacorus</i> L.	0						

<i>Juncaceae / Cyperaceae</i>						0	[3,10,11]
<i>Cyperus alterniflorus</i> R.Br.					0*		
<i>Cyperus eragrostis</i> Lam.					0*		
<i>Cyperus longus</i> L.					0*		
<i>Juncus effusus</i> L. subsp. <i>effusus</i>	0	0			0	0	
<i>Scirpoides holoschoenus</i> (L.) Soják			4**				
<i>Lamiaceae</i>						0	[6,10,12,13]
<i>Lavandula</i> sp.						0	
<i>Lycopus europaeus</i> L.			4**		0		
<i>Mentha pulegium</i> L.		0*					
<i>Mentha</i> sp.		0*					
<i>Prunella vulgaris</i> L.		0		0			
<i>Stachys arvensis</i> (L.) L.		0					
<i>Liliaceae</i>						0	[3]
<i>Lilium</i> sp.	0*	0					
<i>Lythraceae</i>						0	[3,5]
<i>Lythrum junceum</i> Banks & Sol.		0*			0		
<i>Lythrum salicaria</i> L.					0		
<i>Lythrum</i> sp.		0*			0*		
<i>Malvaceae</i>						0	[3]
<i>Malva</i> sp.		0*					
<i>Onagraceae</i>						0	[3,5]
<i>Oenothera</i> sp.	0*						
<i>Papaveraceae</i>						0	[1,3]
<i>Fumaria</i> sp.						0	
<i>Papaver</i> sp.	0*	0					
<i>Phytolaccaceae</i>						10	[5]
<i>Phytolacca americana</i> L.			10				
<i>Plantaginaceae</i>						0	[3,5,14]
<i>Anarrhinum bellidifolium</i> (L.) Willd.		0			0		
<i>Digitalis purpurea</i> L.	0						
<i>Plantago major</i> L.		0	4**			0	
<i>Veronica anagallis-aquatica</i> L.		0*		0*		0*	
<i>Poaceae</i>						0	[3,5,14-16]

<i>Arundo donax</i> L.	0						
<i>Molinia caerulea</i> (L.) Moench	0						
<i>Paspalum distichum</i> L.	0*				0*		
<i>Phragmites australis</i> (Cav.) Trin ex.Steud.		0		4**		0	
<i>Sorghum</i> sp.					0*		
Polygonaceae						0	[3,5,10]
<i>Polygonum hydropiper</i> L.						0	
<i>Polygonum lapathifolium</i> L.		0		4**			
<i>Rumex</i> sp.						0	
Portulacaceae						0	[1]
<i>Portulaca oleracea</i> L.						0	
Primulaceae						0	[3]
<i>Lysimachia vulgaris</i> L.		0					
Rosaceae						10	[5]
<i>Agrimonia</i> sp.				10			
Rubiaceae						0	[3]
<i>Galium</i> sp.		0			0*		
Santalaceae						10	[5]
<i>Osiris alba</i> L.				10			
Scrophulariaceae						4	[3,17]
<i>Scrophularia auriculata</i> L. subsp. <i>auriculata</i>		0		4**			
Solanaceae						8	[5,6]
<i>Datura stramonium</i> L.	0			4**		0	
<i>Solanum nigrum</i> L.				10			
<i>Solanum sublobatum</i> Roem. & Schult.				8*			
<i>Solanum</i> sp.				8*			
Thymelaeaceae						10	[5]
<i>Daphne gnidium</i> L.				10			
Typhaceae						0	[3,18]
<i>Sparganium erectum</i> L.						0	
<i>Sparganium</i> sp.						0	
<i>Typha</i> sp.	0*						
Urticaceae						0	[5]
<i>Parietaria judaica</i> L.					0		

<i>Urtica</i> sp.	0				0*	
<i>Xanthorrhoeaceae</i>						0 [3]
<i>Asphodelus</i> sp.	0	0*				

*on species from the same genus

**potential for

***potential for, on species from the same genus

References:

- Li Vigni, I.; Melati, M. R. Examples of seed dispersal by entomochory. *Acta Botanica Gallica* **1999**, 146(2), 145–156. <https://doi.org/10.1080/12538078.1999.10515813>
- https://nas.er.usgs.gov/queries/GreatLakes/FactSheet.aspx?Species_ID=2669 (last accessed: 06/08/2021)
- Tavsanoğlu, Ç.; Pausas, J.G. A functional trait database for Mediterranean Basin plants. *Scientific Data* 2018 5:180135.
- <https://www.fs.fed.us/database/feis/plants/vine/vinspp/all.html#Seed%20dispersal> (last accessed: 05/08/2021)
- Royal Botanic Gardens Kew. (2021) [5] (SID). Version 7.1. Available from: <http://data.kew.org/sid/> (August 2021) (last accessed: 11/08/2021)
- Lengyel, S.; Gove, A. D.; Latimer, A. M.; Majer, J. D.; Dunn, R. R. Convergent evolution of seed dispersal by ants, and phylogeny and biogeography in flowering plants: A global survey. *Perspectives in Plant Ecology, Evolution and Systematics* **2010**, 12(1), 43–55. <https://doi.org/10.1016/j.ppees.2009.08.001>
- Minkey, D. M.; Spafford, H. Removal and Burial of Weed Seeds by Ants (*Hymenoptera: Formicidae*) From the Soil Surface of a Cropped Area in Western Australia, *Environmental Entomology* **2016**, Volume 45, Issue 5, October 2016, Pages 1199–1204, <https://doi.org/10.1093/ee/nvw093>
- Schlumpberger, B. O.; Badano, E. I. Diversity of floral visitors to *Echinopsis atacamensis* subsp. *pasacana* (*Cactaceae*). *Haseltonia* **2005**, (11), 18–26. [https://doi.org/10.2985/1070-0048\(2005\)11\[18:DOFVTE\]2.0.CO;2](https://doi.org/10.2985/1070-0048(2005)11[18:DOFVTE]2.0.CO;2)
- Aguiar, F.C.; Fabião, A.M.; Bejarano, M.D.; Merritt, D.; Nilsson, C.; Martins, M.J. (2013) FLOWBASE – a riparian plant traitbase (<http://www.isa.ulisboa.pt/proj/flowbase/>). Centro de Estudos Florestais, Instituto Superior de Agronomia, Universidade de Lisboa, Lisboa, Portugal.
- Azcárate, F. M.; Arqueros, L.; Sánchez, A. M.; Peco, B. Seed and fruit selection by harvester ants, *Messor barbarus*, in Mediterranean grassland and scrubland. *Functional Ecology* **2005**, 19(2), 273–283. <https://doi.org/10.1111/j.0269-8463.2005.00956.x>
- https://plants.usda.gov/factsheet/pdf/fs_juef.pdf (last accessed: 06/08/2021)
- <https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=2694> (last accessed: 06/08/2021)
- <https://www.cabi.org/isc/datasheet/116556> (last accessed: 06/08/2021)
- Detrain, C.; Tasse, O. Seed drops and caches by the harvester ant *Messor barbarus*: Do they contribute to seed dispersal in Mediterranean grasslands? *Naturwissenschaften* **2000**, 87(8), 373–376. <https://doi.org/10.1007/s001140050744>
- Hensen, I. Seed predation by ants in south-eastern Spain (Desierto de Tabernas, Almería). *Anales de Biología* **2002**, (24), 89–96.
- Jacquemyn, H.; Brys, R.; Neubert, M. G. Fire increases invasive spread of *Molinia caerulea* mainly through changes in demographic parameters. *Ecological Applications* **2005**, 15(6), 2097–2108. <https://doi.org/10.1890/04-1762>

17. <https://dengarden.com/gardening/Why-Do-Snapdragons-Come-Back-Each-Season-in-Different-Colors> (last accessed: 05/08/2021)
18. Kim, S. H.; Nam, J. M.; Kim, J. G. Establishment strategy of a rare wetland species *Sparganium erectum* in Korea. *Journal of Ecology and Environment* **2017**, 41(1), 1–11. <https://doi.org/10.1186/s41610-017-0045-0>